



**Comments on the Applicant's Responses
to the Examining Authority's
First Written Questions**

**for the
Royal Society for the Protection of Birds
and Suffolk Wildlife Trust**

**Submitted for Deadline 3
24 June 2021**

Planning Act 2008 (as amended)

In the matter of:

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

**Planning Inspectorate Ref: EN010012
RSPB Registration Identification Ref: 20026628
Suffolk Wildlife Trust Registration Identification Ref: 20026359**

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Comments on the Applicant's Responses to the Examining Authority's First Written Questions

The RSPB and Suffolk Wildlife Trust have provided comments below on the Applicant's responses to questions¹ where these are relevant to the issues raised in our Written Representations submitted at Deadline 2² and we have further comment to make.

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
General and cross-topic questions			
G.1.32	<p>Permanent SSSI Crossing In paragraphs 2.2.135 and 2.2.136 of [AS-181] the crossing bridge is said to be 30m long and 45m wide, in paragraphs 2.7.7 and 2.7.9 of [AS-202] the crossing bridge is said to be approximately 40m long and 40m wide and in paragraph 3.2.3 of the FRA Addendum [AS157] the bridge is said to be 30m wide. In the plan SZC-SZ0100-XX-000-DRW-100205 [PDA-005] it is 40m long and 30m wide. Confirm the following:</p> <p>(i) The length of the proposed bridge (north /south); and</p> <p>(ii) The width of the proposed bridge at soffit level (east/west).</p> <p>Please update the plans to record the conclusion.</p>	<p>(i) The distance between the bank seats located at either end of the bridge would be approximately 30m. Please refer to Section A-A of Drawing SZC-SZ0100-XX000-DWG-100205 [PDA-005]. This is considered to be consistent with paragraph 2.2.135 of [AS-181]. This is replicated at Paragraph 3.4.35 of [AS-202].</p> <p>(ii) The width of the proposed bridge (east/west) at crest level would be 40m during the construction phase. Please refer to Section B-B of Drawing SZC-SZ0100-XX000-DWG-100207 [PDA-005].</p> <p>In response to ecological concerns raised by stakeholders, SZC Co. has further optimised the design and proposes to reduce the width of the bridge to approximately 15m once the power station has been built. This would be achieved by removing part of the bridge deck. It is also proposed to raise the soffit level of the bridge in response to stakeholder feedback. Updated indicative plans and further details will be submitted at Deadline 4. Requirement 12C of the draft DCO (Doc Ref. 3.1(C)) will be updated at the same time to secure primary mitigation.</p>	<p>We welcome the proposal to reduce the width of the bridge to approximately 15m once the power station has been built. However, we note that the Applicant proposes to submit updated indicative plans and further details at Deadline 4. We are concerned that only indicative plans will be submitted at Deadline 5 and without full details potential impacts cannot be adequately considered and assessed.</p> <p>We also highlight that Deadline 5 is after the biodiversity ISHs on 15 and 16 July where this issue may arise. We therefore request detailed plans are submitted to the Examination at the earliest opportunity and if possible before the ISH, with adequate time for parties to consider.</p>

¹ The Applicant's Responses to the Examining Authority's First Written Questions (ExQ1) - Volume 1 [\[REP2-100\]](#)

² Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [\[REP2-506\]](#)

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
G.1.33	<p>Permanent SSSI Crossing Explain in detail why the width of the crossing needs to be around 40m at crest level given only the permanent access road will remain at operation.</p>	<p>SZC Co. has further examined whether the crossing needs to retain a width of 40m in its permanent operation. As stated in response to Question G.1.32, in response to feedback from stakeholders following the January 2021 change application, SZC Co. commissioned a design review to determine if the structure could be optimised to further reduce impacts on Sizewell Marshes SSSI. This included consideration of the adaptive design. SZC Co. now proposes to reduce the width of the bridge to approximately 15m once the power station has been built. This would be achieved by removing part of the bridge deck. Updated indicative plans and further details will be submitted at Deadline 4. Requirement 12C of the draft DCO (Doc Ref. 3.1(C)) will be updated at the same time to secure primary mitigation.</p>	<p>We welcome the proposal to reduce the width of the bridge to approximately 15m once the power station has been built. However, we note that the Applicant proposes to submit updated indicative plans and further details at Deadline 4. We are concerned that only indicative plans will be submitted at Deadline 5 and without full details potential impacts cannot be adequately considered and assessed.</p> <p>We also highlight that Deadline 5 is after the biodiversity ISHs on 15 and 16 July where this issue may arise. We therefore request detailed plans are submitted to the Examination at the earliest opportunity and if possible before the ISH, with adequate time for parties to consider.</p>
G.1.34	<p>Permanent SSSI Crossing A number of IP's have referred to a crossing option of a three span bridge, that was considered at Stage 2 consultation. This is outlined in Appendix D7 [APP-072]. In Table 7.2 of that document it sets out the relative merits of a number of options including a three span bridge. This three span bridge option is stated to have the least land take from the SSSI and also has the least width of 35.5m, which includes the temporary bridge that</p>	<p>(i) The triple-span bridge is not proposed because of its substantial effect on the construction programme. This is because it would delay the movement of bulk earthworks from the deep excavation to the Temporary Construction Area. The 6-12 month programme saving benefits of the proposed SSSI Crossing are considered to outweigh the impact caused by the permanent loss of a small additional area of the Sizewell Marshes SSSI. The triple span bridge is estimated to take 35 weeks to provide its first crossing (a short term modular bridge), compared with 17 weeks for the proposed solution. During the 18- week delay associated with the triple span bridge, no bulk earthworks at all can be transported to the Temporary Construction Area. The second milestone under the triple-span bridge option would be when the temporary triple-span bridge is complete next to the modular bridge. This is when full-size haul vehicles can use the SSSI Crossing. It would take approximately 30 weeks longer in total to reach the point where full-size haul vehicles, which have a much greater carrying capacity, can use the triple span bridge compared with the proposed solution. The final milestone is when the</p>	<p>As detailed in our Written Representations submitted at Deadline 2³ we are still unconvinced about the Applicant's justification for the choice of the SSSI crossing option rather than a triple span bridge to cross Sizewell Marshes SSSI, despite the higher land take from the SSSI. In addition we are concerned that this larger loss of the SSSI (even with the reduced width in operation as currently proposed) compared to the triple span bridge option has not been adequately considered nor that the Applicant has minimised all possible impacts to the SSSI and its features.</p>

³ Paragraphs 3.31 – 3.49 Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [\[REP2-506\]](#)

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
	<p>would be ultimately removed. The current proposal has a final footprint width of 70m. This width is greater than any option in that previous consultation and presumably has a higher land take from the SSSI especially as there would be no removal of temporary incursion into the SSSI. Provide:</p> <p>(i) Explanation in detail why the three span bridge approach in the Stage 2 consultation is no longer being proposed, given the implications for the SSSI set out in Table 7.2 and Table 7.3; and</p> <p>(ii) The estimated land take of the current single span bridge proposal.</p>	<p>SSSI Crossing is complete. The proposed solution can be constructed in a total of approximately 55 weeks, whereas the triple-span bridge option would take more than twice as long (approximately 108 weeks in total). Whilst full-size vehicles can use the crossing from the second milestone, the capacity for bulk earthworks movements is substantially constrained because the temporary triple-span bridge would need to be shared with other construction-related vehicles whilst the permanent triplespan bridge is under construction. Overall, the effect of constraints to bulk earthworks movements that would be caused by implementing the triple span bridge option is a 6-12 month delay to the overall construction programme of SZC.</p> <p>(ii) The permanent SSSI land-take for the proposed SSSI Crossing, as defined by the footprint of the embankments located at either end, is approximately 0.21ha. The permanent SSSI land-take for the triple span bridge option, as defined by the footprint of its (smaller) embankments and areas of permanent ground improvement required for the temporary bridge, is approximately 0.19ha. This area of ground improvement is included in the permanent land take even though the temporary bridge would be removed, because the works would have been so extensive that the land could never have feasibly become SSSI status again. Works would have included substantive piling, overlaid with a reinforced granular stone load transfer platform. The platform would have needed to extend up to the central span to create a working area for construction activity. Further to the above, SZC Co's response to question G.1.32 states that in response to ecological concerns raised by stakeholders, SZC Co. now propose to constrain the width of the bridge to approximately 15m once the power station has been built. This is narrower than the width of the triple span bridge, which would have been approximately 18.5m. Narrowing the proposed bridge post-construction substantially reduces long-term ecological impacts on the SSSI, which are mainly associated with shading.</p>	<p>Whilst the land take might be only 0.02ha more (approximately 10% more) with the proposed design re-adjustment, the shading effect due to the intricacy of the design differences may lead to significantly more fragmentation. It is welcomed that the proposal for <u>operational</u> width is reduced to 15 metres and we note that one of the other options - the triple-span bridge is 18.5 metres, we query whether the 18.5 metres allow more light than the 15 metres? The differences might be important in terms of what vegetation colonises. Crucially what is needed are detailed designs and impact assessments.</p> <p>The Applicant has stated</p> <p><i>This area of ground improvement [that would be required for the temporary bridge for the three span bridge option] is included in the permanent land take even though the temporary bridge would be removed, because the works would have been so extensive that the land could never have feasibly become SSSI status again.</i></p> <p>This suggests the area of land required for the two "Bailey" style temporary crossings⁴ for the proposed SSSI crossing option and any land now proposed to be released when the crossing width is reduced from 40m to 15m post construction will also never feasibly become SSSI status again. We request the Applicant assesses the impacts of</p>

⁴ ES Volume 1 Environmental Statement Addendum Chapter 2 Main Development Site ([AS-181](#)) 2.2.144

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
			the proposed crossing option on these areas of land and submits the assessment to the Examination at the earliest opportunity.
G.1.37	<p>Permanent SSSI Crossing – Adaptive Sea Defence Paragraph 2.2.134 of [AS-181] states that by 2090 the maximum crest height of the SSSI crossing is likely to need to be increased to 10.5m AOD. Provide: (ii) An explanation of the monitoring process to ensure the adaptive defence is delivered when required and how this process is secured within the DCO</p>	<p>(ii) The Coastal Processes Monitoring and Mitigation Plan (Volume 3, Appendix 2.15.A of the ES Addendum [AS-237]) states that Sizewell Marine Technical Forum (MTF) has been established 'to facilitate open and transparent dialogue between SZC Co. and the statutory environmental bodies (and their advisors) relating to marine monitoring of the SZC Project'. Paragraph 7.1.37 in the Main Development Site Flood Risk Assessment [AS-018] confirms that the impacts of climate change on sea level rise would be monitored and assessed at set intervals (e.g. 10 years) to determine the trajectory of the projections (e.g. in terms of sea level rise or increased storminess) and consider whether there is any change from either the currently considered projections or the climate change guidance as applied within the Application. The Applicant notes that the periodic safety review would aid in the decision-making process regarding whether and when there is a need to raise the sea defences. An explanation of how this is secured is set out below</p>	<p>We note that Schedule 11 of the Draft Deed of Obligation explains in item 10.</p> <p><i>MARINE TECHNICAL FORUM 10.1 The Marine Technical Forum shall operate in accordance with the Marine Technical Forum Terms of Reference unless otherwise agreed by the members of the Marine Technical Forum.</i></p> <p>We question whether the governance and operating procedures of the Marine Technical Forum are clearly understood at this stage and whether it is sufficient, as questioned by the ExA to not at least have details of how the adaptive defence is to be delivered, within the DCO. We would also question whether it is adequate to leave so much to be determined at a later stage. For confidence to be placed on the DCO processes and measures, more detail should be required now for review and so the ExA can receive comments from the interested parties.⁵</p>
Alternatives			
AI.1.36	<p>Electrical connection to the National Grid substation The ES Appendix 8.4 A Site Selection Report indicates that the 4 and</p>	<p>(i)The only underground solution that could achieve the required power ratings, meet requirements for inspection and maintenance access, and avoid the buildings and structures required within the Sizewell C site would be to install cables in dedicated galleries. However, detailed investigation has</p>	<p>We have set out our position regarding the principle of SSSI loss in detail in our Written Representations⁶, submitted at Deadline 2. We welcome the Applicant's recognition that the</p>

⁵ We support comments made by ESC concerning the governance in section 1.2 of its [EN010012-004369-DL2 - East Suffolk Council - Responses to the ExA's Written Questions \(ExQ1\).pdf](#) ([planninginspectorate.gov.uk](#)) for example, in response to CG.1.3 (iii), (vi) and CG.1.4 (ii).

⁶ Paragraphs 3.21 – 3.30 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)]

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	<p>5 pylon and undergrounding options were assessed at Stage 4. The four pylon option was the preferred option.</p> <p>(i) Notwithstanding the details provided in the Site Selection Report, please explain further the safety issues and significant safety and programme-related risks associated with the construction and operation of an underground cable option that specifically apply to this location?</p> <p>(ii) Why could any adverse impact on the SSSI not be satisfactorily overcome by mitigation?</p>	<p>shown that there are no feasible options available to introduce additional galleries within the constraints of the site. Construction of an underground gallery solution for Unit 1 would not be feasible. The proximity of Unit 1 to Sizewell B means that constructability and space constraint issues are not surmountable. Construction of an underground gallery solution for Unit 2 could be considered but would not be acceptable due to the impacts on safety and construction schedule. It is also considered that the knock-on impacts on the environment would be unacceptable. Accommodating the gallery within the site could only be achieved by increasing the size of the main platform to the north, resulting in further loss of the Sizewell Marshes SSSI. In addition, the construction schedule would be prolonged by a significant period of time as there would still be insufficient space for all the excavations required to construct the gallery without halting or severely disrupting other construction activities. Furthermore, the reduced reliability of a cable connection introduces nuclear safety concerns, contradicting the need to ensure that risk is As Low As Reasonably Practicable (ALARP). Nuclear safety could be degraded compared to Hinkley Point C, which is not acceptable. A more detailed examination into the safety and programme related risks are set out in the Power Export Connection Technical Recommendation Report at Appendix 5E of this chapter.</p> <p>(ii) The underground cable option would result in additional permanent land take of the Sizewell Marshes SSSI. Although compensatory habitats would be put in place to offset the loss of reedbeds, ditches and wet woodlands from the SSSI based on the layout in the DCO proposals, the extent of compensatory habitats has not got an embedded 'contingency' to offset the additional habitat loss which would be associated with the undergrounding solution. If the undergrounding solution were progressed, the net habitat loss would not be fully compensated for and this would increase the magnitude of effect on SSSI habitats to significant adverse. This would represent a conflict with paragraph 5.3.7 of NPS EN-1, which requires development, as a general principle, to aim to avoid significant harm to biodiversity. Moving the northern edge of the platform northwards to accommodate the underground galleries would also reduce the retained SSSI corridor west of the SSSI crossing. SZC Co has already been challenged by all</p>	<p>assessed (and not preferred) undergrounding option would result in significant (and in our view unacceptable) impacts on Sizewell Marshes SSSI, including increasing the extent of permanent land take to an extent that the compensation provided for SSSI loss would be inadequate, and further constraining the SSSI corridor to the west of the SSSI crossing. We therefore agree with the Applicant that these proposals should not be taken forward.</p>

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		ecological stakeholders on the potential fragmentation effects of introducing the design for the SSSI Crossing at the eastern end of the retained SSSI corridor. Narrowing the retained SSSI corridor to the west of the SSSI crossing would reduce the value of the corridor by: reducing the habitat extent; reducing its functional width to any animals moving through the corridor; and, by bringing both construction and operational disturbance closer to the retained Leiston drain.	
Amenity and recreation			
AR.1.3	Mitigation In light of the comments from ESC in their [RR-0342] is it agreed a financial contribution to the Suffolk Coast RAMS is an appropriate way of mitigating for the recreational disturbance likely to arise from the accommodation campus as suggested by ESC?	SZC Co. has agreed with ESC to provide the financial contribution to the Suffolk Coast RAMS set out in their relevant representation [RR-0342] (£149,912). The purpose of this funding is to mitigate for the recreational disturbance at European sites that could potentially be caused by construction workers residing at the accommodation campus and the Land East of Eastlands Industrial Estate (LEEIE) caravan site. SZC Co. consider that this is a robust and highly precautionary contribution because the calculations at paragraphs 1.67 and 1.68 of ESC's RR-0342: 1. Do not allow for the fact that the Zone B tariff of £321.22 per dwelling used in ESC's calculation (from the Suffolk Coast Recreational Disturbance Avoidance and Mitigation Strategy (RAMS)66) is based on there being more than one person residing in each dwelling on average. If the average residential occupancy was 2.4 people for example, this would equate to £133.84 per person and a lower RAMS contribution for accommodation campus and LEEIE based workers. 2. ESC's RAMS calculation assumes full occupancy for a 10 year lifespan of the campus on a precautionary basis (see paragraph 1.67 of ESC's RR-0342). 3. Construction workers at the accommodation campus and LEEIE have a different profile to typical residents and would use European sites for recreation substantially less than the general public for reasons summarised below. As described at the second bullet point in paragraph 3.3.10 of the Recreational Disturbance Evidence Base (Shadow HRA Report Volume 1 Appendix E Annex A [APP-148]), the workforce will be dominated by men	See Appendix 2b to our Written Representations ⁷ for our critique of the predictions of increased recreational visits to designated sites from the construction workforce, including comments on the assumptions around recreational behaviour of construction workers made as part of the assessment. As discussed further below and in our comments on the Minsmere Monitoring and Mitigation Plan (also submitted at Deadline 3), we welcome the production of the Plan and the additional mitigation measures proposed, including the RAMS payment, but continue to advocate the provision of Suitable Alternative Natural Greenspace (SANG) to provide additional mitigation for the increased number of residents in the area during the construction period and note our support for Natural England's comments on this issue ⁸ .

⁷ Liley, D. & Saunders, P. (2020b) Review of Sizewell C application documents and evidence in relation to recreation impacts. Unpublished report by Footprint Ecology. Appendix 2b to the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506] Section titled "Predictions of changes in visitor use"

⁸ Key issue 29 in Natural England's Written Representations [REP2-153]

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		<p>aged 20-50, based on the national breakdown of people employed in the construction industry, and the key sport/recreation characteristics for this demographic group are as follows:</p> <ul style="list-style-type: none"> • preference and higher than national average participation in organised/formal sport - main reason is to meet friends; • football and gym are overwhelmingly favoured as activities. The provision of formal recreation facilities for construction workers comprising a gym at the accommodation campus and sports facilities including a full-size 3G football pitch and two MUGAs at Alde Valley School adjacent to Leiston Leisure Centre is described in paragraphs 3.4.218 to 3.4.220 and 3.4.262 to 3.4.264 of Volume 2, Chapter 3 (Description of Construction) of the ES (Doc Ref. 6.14(A)); • work commitments are a significant reason for not undertaking recreation activity; and • other than sport, these groups are less likely to take part in recreation and leisure activities outside of the home. <p>The majority of construction workers will work in shifts, limiting the time when all workers may be looking to undertake recreation activity (first bullet point in paragraph 3.3.10 of the Recreational Disturbance Evidence Base (Shadow HRA Report Volume 1 Appendix E Annex A [APP-148])). Indicative shift patterns are shown in section 1.3 of the Code of Construction Practice Part B(Doc Ref. 8.11(B)). A proportion of shifts will be during the day with 'time off' during the hours of darkness when recreational resources at European sites are likely to be less attractive to construction workers because they are remote and unlit. Construction workers based in the accommodation campus and LEEIE would live alone because families would not be allowed to stay at the campus or at the LEEIE (first bullet point in paragraph 3.3.8 of the Recreational Disturbance Evidence Base (Shadow HRA Report Volume 1 Appendix E Annex A [APP-148])) describes this for campusbased workers; families would also not be allowed to stay at the LEEIE caravan site). The majority of these construction workers are likely to return home at weekends/at the end of their working period (paragraphs</p>	

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		<p>3.3.8 and 3.4.20 and of the Recreational Disturbance Evidence Base (Shadow HRA Report Volume 1 Appendix E Annex A [APP-148]). It is during these periods that construction workers would be more likely to go for walks or cycle, when they will not be in the Sizewell C area and will not visit the European sites that could be affected during the construction of Sizewell C. Another reason why the agreed RAMS payment is considered robust and highly precautionary is because it is based on residents at typical dwellings, some of which would have dogs. Dogs are a key source of potential disturbance to wildlife at European sites, and also exercising dogs is a key reason to go for regular walks. Construction workers based at the accommodation campus (paragraph 3.3.18 of the Recreational Disturbance Evidence Base (Shadow HRA Report Volume 1 Appendix E Annex A [APP-148])) and LEEIE would not be allowed dogs at their accommodation. Therefore, dogs would not be a potential source of harm from this source, and these workers would not be undertaking regular (e.g. daily) dog walks. East Suffolk RAMS payments in East Suffolk are intended to provide funding to mitigate for all potential harm due to recreational disturbance at European sites. For the Sizewell C Project, in addition to the RAMS payment SZC Co. is proposing a suite of other mitigation measures for construction workers and for people who may be displaced from the area around the construction site to European sites including:</p> <ul style="list-style-type: none"> • A new informal car park accessed off the B1122, a surfaced footpath, and approximately 27 hectares of new open access land, including areas where dogs will be allowed to be exercised off lead at Aldhurst Farm (paragraphs 1.2.26 and 1.2.38 of the updated Rights of Way and Access Strategy in Volume 2, Appendix 15I of the ES submitted at Deadline 2 (Doc Ref. 6.3 15I(A)). This car park would be increased to 20 spaces early in the construction phase to allow for additional users of the recreational access network, and funding provision for this is to be included in the Deed of Obligation. • Improvements to Kenton Hills car park including additional spaces, management of vegetation and signage (paragraphs 1.2.24 and 1.2.39 of the updated Rights of Way and Access Strategy in Volume 2, Appendix 15I of the ES submitted at Deadline 2 (Doc Ref. 6.3 15I(A)) . This would provide up to 15 	

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		<p>additional parking spaces allowing for greater use of the recreational access network including the permissive footpath network in Kenton Hills.</p> <ul style="list-style-type: none"> • SZC Co. is in discussion with SCC and ESC on projects which would enhance the right of way and access network, that lie outside the DCO site boundary, which will be funded by SZC Co. through the Deed of Obligation (a draft Deed of Obligation is provided in Doc Ref. 8.17(C)). These will include a number of enhancements outside European sites which will make recreational resources more attractive to use, helping to reduce displacement of people to European sites. <p>Monitoring and Mitigation Plans for European sites are being developed by SZC Co. in consultation with Natural England, the RSPB and the National Trust, setting out how mitigation measures will be implemented where necessary, to ensure that recreational disturbance due to additional visitors arising from Sizewell C does not cause Adverse Effects on the Integrity (AEol) of European sites. Two draft Monitoring and Mitigation Plans will be submitted into examination at an appropriate deadline and provide further detail. The first is submitted at deadline 2 (see the draft Minsmere Monitoring and Mitigation Plan – Walberswick European Sites and Sandlings (North) European Site (Doc Ref. 9.15)). These plans and the RAMS payment RAMS are elements of a broad mitigation package which will ensure that Sizewell C does not cause any AEol of European sites.</p>	
AR.1.12	<p>Displacement of Tourists/Visitors The National Trust [RR-877] and RSPB [RR-1059] indicate that they do not consider the displacement of tourists and visitors from the current pattern of visiting has been undertaken in a way which could be regarded as</p>	<p>(i) Please see response in Appendix 6A – Response to ExQ1 AR.1.12 to this chapter.</p> <p>(ii) Two monitoring and mitigation plans are in preparation, in consultation with Natural England, the National Trust and RSPB and other stakeholders and drafts are to be submitted at an appropriate deadline. These are:</p>	<p>(i) See Appendix 2b to our Written Representations⁹ for our critique of the predictions of increased recreational visits to designated sites from displaced visitors and from the construction workforce. See also our comments on the Shadow HRA Second Addendum¹⁰, also submitted at Deadline 3, for our comments on the implications of the</p>

⁹ Liley, D. & Saunders, P. (2020b) Review of Sizewell C application documents and evidence in relation to recreation impacts. Unpublished report by Footprint Ecology. Appendix 2b to the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506] Section titled "Predictions of changes in visitor use"

¹⁰ Shadow HRA Second Addendum [REP2-032]

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	<p>precautionary, it could therefore underestimate the effects on both the National Trust land at Dunwich, and the RSPB Minsmere site but also elsewhere: (i) Please respond to this concern. (ii) The National Trust and RSPB are seeking a commitment to mitigation, monitoring of activity and potential compensation – please advise on any progress that has been made in this regard.</p>	<ul style="list-style-type: none"> • Minsmere Monitoring and Mitigation Plan- Walberswick European Sites and Sandlings (North) European Site, a draft is submitted at Deadline 2 (Doc Ref. 9.15); and • Monitoring and Mitigation Plan for Sandlings (Central) and Alde, Ore and Butley Estuaries European Sites (to be submitted at a future deadline). <p>SZC Co. has held consultation meetings with Natural England, the National Trust and RSPB to discuss these plans, and Natural England, the National Trust and RSPB have provided comments on drafts of the Minsmere Monitoring and Mitigation Plan - Walberswick European Sites and Sandlings (North) European Site which have been addressed in the plan submitted at Deadline 2 (Doc Ref. 9.15). Monitoring of recreational use and disturbance at European sites to inform the need for further mitigation is an important part of these plans. SZC Co. is commissioning surveys of existing recreational users of European sites, which we are aiming to commence in early summer 2021, and will be continued during the pre-construction period to record current levels of use. Surveys will be continued during the construction and early operational phases to record changes to inform the need for mitigation and the potential nature of any such mitigation, as set out in the plans submitted or to be submitted. A response on the assessment of tourism effects and the proposed Resilience Funds for RSPB Minsmere and National Trust Dunwich Heath is set out in response to Question SE.1.13 in Chapter 23 (Part 6) of this report. Discussions are ongoing with both parties to agree the scope and quantum of these funds which will be secured in the Schedule 13 of the Deed of Obligation (latest draft Doc Ref. 8.17(C)).</p>	<p>projected uplift in additional visits arising from the revised calculations.</p> <p>(ii) We welcome the production of the Minsmere Mitigation and Monitoring Plan¹¹ for recreational impacts and our comments on this have also been submitted at Deadline 3. In summary, we are pleased that our recommendations regarding monitoring locations and mitigation measures have been included in the Plan. We have made some further comments around the further development of this Plan, but we note that our main remaining concern is around the need for the Applicant to provide SANGs (alongside the measures in this Plan) to provide further mitigation of the impacts of the increased number of residents in the area, again noting our support for Natural England's comments on this issue¹².</p> <p>We also note the need for a similar recreational monitoring and mitigation plan for the Alde-Ore Estuary SPA and Ramsar site and the southern part of the Sandlings SPA. We understand that such a plan is under development¹³ and look forward to the opportunity to comment at a future Deadline.</p>

¹¹ Minsmere Monitoring and Mitigation Plan [REP2-118]

¹² Key issue 29 in Natural England's Written Representations [REP2-153]

¹³ As indicated in paragraphs 2.2.8 and 2.4.5 of the Shadow HRA Second Addendum [REP2-032]

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
Biodiversity and ecology (terrestrial and marine)			
Bio.1.13	<p>[APP-394] (Southern Park and Ride) – para 7.6.46. This asserts that because effects on bats are individually not significant they would not create significant inter-relationship effects. The same conclusion is reached at para 7.6.54 in relation to decommissioning. Are these justifiable conclusions? Cannot plural non-significant effects result in one or more significant inter-relationship (or in combination) effect? If the answer is yes, please will the Applicant explain what the inter-relationship effects would be. This is another question which affects a number of documents in the terrestrial ecology chapters of the ES (e.g. [APP-425] paras 7.6.116 and 7.6.161 – the Two Village Bypass) and it should be addressed for each of the cases where it occurs.</p>	<p>A standardised approach to the assessment of inter-relationship effects has been taken across each of the terrestrial ecology and ornithology assessments presented within the ES that follows the methods of assessment set out within Volume 1, Appendix 6J of the ES [APP-171]. Therefore, the assessment presented considers the magnitude of impacts and value/sensitivity of resources/receptors that could be affected in order to classify effects. In the case of the inter-relationship assessment, consideration has been given to the combined magnitude of the different impacts of the proposed development on an individual important ecological feature to identify the inter-relationship effect on the important ecological feature. Inter-relationship effects are known to be difficult to quantify, and in respect of bats several approaches have been employed to ensure potential impacts are mitigated and then to draw assessment conclusions.</p> <p>Firstly, for each impact and for all sites, mitigation is proposed to reduce the resultant effect to a level at which individual impacts are not considered likely to have a significant effect. For example, at each site, given the lighting and noise control measures which will be in place, the risks of individual effects arising at any one time are greatly reduced. In turn, this reduces the likelihood of adverse noise and lighting effects occurring simultaneously and so minimising the potential for significant adverse in-combination or inter-relationship effects.</p> <p>Secondly, as is outlined in Volume 3, Appendix 2.9.B of the ES Addendum [AS-208], a comparable site, Hinkley Point C, was assessed, and the success of the approaches on that site to address noise and lighting impacts were reviewed. This provides additional evidence that in-combination impacts could be kept to a level that will not result in a significant in combination effect.</p>	<p>As acknowledged in the Applicant's response '<i>inter-relationship effects are known to be difficult to quantify</i>' and it is therefore necessary, in our view, for a precautionary approach to be adopted.</p> <p>Our concerns over the assessment of inter-relationship (synergistic) effects are outlined in our Written Representations submitted at Deadline 2¹⁴.</p> <p>For the main development site, there appears to be no in-combination assessment for light, noise and physical fragmentation (e.g. felling of Goose Hill woodland) all together and there has been no attempt to understand the interrelationship between noise and light, especially the likely direct correlation between construction task specific intensive lighting and subsequent noise.</p> <p>For the Sizewell Link Road, little has been done to understand the combined impacts of light, noise and fragmentation together.</p> <p>Our concerns over the data adequacy and analysis, proposed mitigation, lack of confidence that the habitat creation will effectively compensate habitat loss, and the efficacy of the proposed monitoring are detailed at length in our</p>

¹⁴ Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)] Sizewell Link Road: paragraph 3.665. Main development site: paragraphs: 3.727-8

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
		<p>Thirdly, for the main development site, new habitats which are not impacted by noise or light have been created. This will minimise the potential impact upon species populations across the wider EDF Energy estate.</p> <p>Fourthly, for several sites, a suite of monitoring is proposed within the Terrestrial Ecology Monitoring and Mitigation Plan [REP1-016], secured by Requirement 4 of the draft DCO (Doc Ref. 3.1(C)), which will allow any individual impacts or any unforeseen individual or in-combination impacts to be identified and addressed by remedial measures. In summary, inter-relationship effects on bats relating to noise, lighting and habitat loss are considered to be 'not significant' due to the primary and tertiary mitigation measures that are embedded into the scheme design. With the implementation of primary/tertiary mitigation and secondary mitigation (monitoring), residual effects (individually, minor adverse or negligible) are not considered to be significant and the inter-relationship of these residual effects, in this instance at the southern park and ride, is not considered to be significant.</p> <p>For barbastelle on the main development site, a moderate adverse (significant) effect is predicted during construction arising from habitat fragmentation. This is due to the proposed removal of an area (Goose Hill plantation woodland) known to be utilised by barbastelle between areas to the north-east and south-west of the construction area. There are retained and new commuting areas through the site meaning that bats will be able to traverse the site, however, one part of the site (Goose Hill) known to be used by barbastelle will be fragmented. This is not considered an in-combination effect, as it is the removal of the habitat in this area that is the primary cause of the fragmentation. As outlined in the updated bat assessment, Volume 3, Appendix 2.9.B of the ES Addendum [AS-208], in paragraph 8.2.120, the in-combination effect of the lighting and noise upon bats utilising the retained and created commuting routes is considered not significant for the main development site.</p>	<p>Written Representations submitted at Deadline 2¹⁵.</p> <p>In response to the Applicant's second point, Hinkley C does not have a comparable bat population from which to base conclusions on potential impacts or effectiveness of mitigation as noted in our Written Representations submitted at Deadline 2¹⁶.</p>

¹⁵ Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)] Paragraphs 3.622-3.762

¹⁶ Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)] Paragraph 3.626

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Bio.1.19	<p>[APP-461] – Sizewell Link Road In para 7.6.83 dealing with the effect of light on bats of light, the ExA is told that some bats avoid lit areas; the prey of some bats – eg moths for barbastelle – may be negatively affected; and that artificial light may attract insects, thus depriving other areas. Then the ExA reads (para 7.6.84) “For these reasons the bat assemblage in this location is likely to have a low sensitivity to increases in light levels”. Please will the Applicant unpack this conclusion which does not seem to follow from the preceding material. Is there other material in the ES which the ExA should consider? There is similar but sometimes slightly different reasoning e.g. in the chapter on the freight management facility. Please will the Applicant address this question in relation to those chapters as well, pointing to each of the relevant paragraphs being referred to.</p>	<p>In an earlier paragraph 7.5.4 of Volume 6, Chapter 7 of the ES [APP-461], the primary mitigation in relation to lighting impacts is defined as follows in relation to the Sizewell link road: “The route of the proposed development would be mostly unlit, thereby maintaining a dark corridor, minimising the potential impacts to nocturnal species. To ensure road safety, lighting would be provided at the A12 and B1122 roundabouts. The remaining junctions would have low minor road flows and be similar to existing unlit rural junctions and would be unlit to minimise light spill. Operational lighting design would be compliant with relevant highway standards, and where possible would be chosen to limit stray light. Guidance within the latest Institution of Lighting Professionals Guidance Note: Bats and artificial lighting in the UK26 27 would be followed as far as possible. These measures would minimise impacts on nocturnal species, such as bats that may use the nearby tree lines, or habitats for roosting or foraging, and would also maximise the use of reinstated ‘bat crossing points’”. Similarly, tertiary mitigation is defined in paragraph 7.5.8 as follows: “Construction lighting, where required, would be provided at the minimum luminosity and would be designed, positioned and/or directed so as not to unnecessarily intrude on adjacent ecological receptors or habitats. Such measures could include (but not limited to) shielding of luminaires to reduce backward spill of light or use of sensors or timing devices to automatically switch off lighting where appropriate and provision of closed boarded fencing where the site abuts retained woodland. This would minimise impacts on nocturnal species such as bats that may use the nearby tree lines or habitats for commuting, roosting or foraging.” A later paragraph 7.6.83 provides general context to the ways in which artificial lighting affects bats, both positive (e.g. foraging around light sources) or negative (e.g. light avoidance). The mitigation outlined above, will minimise the potential adverse impacts identified. The conclusion drawn in paragraph 7.6.84 and is quoted in the question is that ‘For these reasons the bat assemblage in this location is likely to have a low sensitivity to increases in light levels’. This is based primarily on the extent of the proposed lighting,</p>	<p>We agree with the ExA the conclusion does not follow from the preceding material presented in the ES. We stated our concerns over the <u>assessment</u> and <u>mitigation</u> of lighting impacts on bats in our Written Representations submitted at Deadline 2¹⁷.</p> <p>The Applicant’s response to Bio.1.19 notes <i>‘Guidance within the latest Institution of Lighting Professionals Guidance Note: Bats and artificial lighting in the UK26 27 would be followed as far as possible’</i>.</p> <p>As stated in our Written Representations submitted at Deadline 2¹⁸ the use of the phrase ‘reasonably practicable’ with regard to lighting and other statements suggest that health and safety will determine lighting levels during construction, and implementing adaptive mitigation for impacts on bats may be impossible in practice.</p>

¹⁷ Paragraphs 3.622- 3.762of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [\[REP2-506\]](#) Impact assessment: paragraphs 3.646- 3.652 and 3.707- 3.728. Mitigation: 3.741-3.749

¹⁸ Paragraphs 3.650-3.651 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [\[REP2-506\]](#)

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		<p>which is minimal and will be designed to minimise attraction of insects (with warm light with no UV content). The only locations with lighting on the proposed Sizewell link road are the A12 and B1122 roundabouts, with other areas being kept dark. Given this, the sensitivity of bats to the proposed lighting is considered low. The sentence would perhaps have been more appropriately phrased as 'For these reasons the bat assemblage in this location is likely to have a low sensitivity to the lighting proposed'.</p> <p>This phraseology is used elsewhere in the ES in relation to bats and lighting and in each in case the intent is the same, that being to explain that the sensitivity of bats to the proposed lighting is low, as follows: In relation to the rail elements of the Sizewell C Project (Volume 9, Chapter 7 of the ES [APP-555]), the assessment follows the same logic. Paragraph 7.5.4 states: "Operational lighting would be limited to the B1122 (Abbey Road) level crossing and the level crossing at Buckleswood Road. The remaining rail route extension would be unlit. The lighting design for the proposed development would use light fittings chosen to limit stray light. These measures would minimise impacts on nocturnal species such as bats that may use the nearby tree lines or habitats for roosting or foraging". Paragraph 7.5.7 then states: "...temporary construction lighting would be controlled to minimise light spill on surrounding habitats. The lighting design would use light fittings chosen to limit stray light and minimise impacts on sensitive species. The lighting would also be designed to minimise the visibility from sensitive receptors off-site. This would minimise impacts on nocturnal species such as bats that may use the nearby tree lines or habitats for commuting, roosting or foraging". Paragraphs 7.6.45 and 7.6.46 then outline the potential impacts upon bats resulting from lighting in the absence of mitigation. The assessment of the sensitivity of the bats is in relation to the proposed lighting, which will be designed to minimise both attraction of insects and minimise avoidance of lit areas (with warm light with no UV content), by reducing light spill and keeping the majority of areas dark. For the northern park and ride (Volume 3, Chapter 7 of the ES [APP-363]), primary mitigation, as described in section 7.5 of this chapter, includes a 20m buffer between the site and Little Nursery Wood. The operational lighting design will ensure that light levels along the eastern edge of Little Nursery</p>	

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		<p>Wood do not exceed 0.1 lux. Close-boarded fence would be installed to prevent light-spill into adjacent Little Nursery Wood. The lighting design for the proposed development would use light fittings chosen to limit stray light. Paragraph 7.6.40 outlines the potential impact to bats in the absence of mitigation. Considering the mitigation which will be in place, including light of a colour designed to minimise impacts to bats, sensitivity to the proposed lighting is considered low.</p> <p>For the southern park and ride (Volume 4, Chapter 7 of the ES [APP-394]), it is stated in Table 7.3 that 'Primary mitigation (described in section 7.5) has been included so that there is a 10 metre (m) buffer between the proposed development, and any external woodland, and a close-boarded fence wherever the proposed development abuts woodland. The operational lighting design has ensured that light levels at the red line boundary do not exceed 0.1lux'. The potential impacts outlined in paragraph 7.6.26 present the impacts in the absence of mitigation. Considering the mitigation in place, including light of a colour designed to minimise impacts to bats, the sensitivity of bats to the proposed lighting is considered low. For the main development site (Volume 2, Chapter 14 of the ES [AS-033]), the Lighting Management Plan (Volume 2, Appendix 2B of the ES [APP-182]) and the updated bat impact assessment, included in Volume 3, Appendix 2.9.B of the ES Addendum [AS208], outlines how light will be controlled. In line with these documents, the impact for lighting has been assessed as minor adverse (not significant). For the two village bypass (Volume 5, Chapter 7 of the ES [APP-425]), Primary mitigation is defined in paragraph 7.5.4 as: "The route of the proposed development would be mostly unlit, thereby maintaining a dark corridor and minimising the potential impacts to nocturnal species. To ensure road safety lighting would be provided at the A12 western roundabout and the A12/A1094 eastern roundabout extending north to highlight the junction to approaching vehicles. The remaining junctions would have low minor road flows, and be similar to existing unlit rural junctions, and would therefore be unlit to minimise light spill. Operational lighting design would be compliant with relevant highway standards and where possible would be chosen to limit light spill. Guidance within the latest Institution of Lighting Professionals Guidance Note: Bats and artificial lighting</p>	

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		<p>in the UK28 29 would be followed as far as possible. These measures would minimise impacts on nocturnal species such as bats that may use the nearby tree lines or habitats for roosting or foraging." Tertiary mitigation is stated in paragraph 7.5.7 as: "Construction lighting, where required, would be provided at the minimum luminosity and would be designed, positioned and/or directed so as not to unnecessarily intrude on adjacent ecological receptors or habitats. Such measures could include (but not limited to) shielding of luminaires to reduce backward spill of light or use of sensors or timing devices to automatically switch off lighting where appropriate and provision of closed boarded fencing where the site abuts retained woodland. This would minimise impacts on nocturnal species such as bats that may use the nearby tree lines or habitats for commuting, roosting or foraging."</p> <p>Paragraphs 7.6.85 and 7.6.86 outline potential impacts from lighting in the absence of mitigation. The potential impacts outlined in paragraph 7.6.26 present the impacts in the absence of mitigation. Considering the mitigation in place, including light of a colour designed to minimise impacts to bats, sensitivity of bats to the proposed lighting is considered low. For the Yoxford roundabout site (Volume 7, Chapter 7 of the ES [APP-494]), primary mitigation is stated in paragraph 7.4.38 as: "Operational phase lighting would be designed to achieve a balance between providing lighting appropriate for all road users whilst seeking to minimise light-spill into adjacent habitats. Operational lighting design will be compliant with relevant highway standards and use light fittings chosen to limit stray light. Guidance within the latest Institution of Lighting Professionals (ILP) Guidance Note: Bats and artificial lighting in the UK30 31 would be followed as far as possible."</p> <p>Considering the nature of the Yoxford roundabout works, impacts from lighting are considered not significant. For the freight management facility, (Volume 8, Chapter 7 of the ES [APP-523]), primary mitigation (in paragraph 7.5.4) states: "Lighting would be provided at the perimeter, and parking areas, for security and safety reasons. Lanterns would utilise LED based light fittings to ensure energy efficiency with zero-degree tilt, and lighting columns along the perimeter would use demountable shields to reduce backward spill of light. To further assist on mitigating obtrusive light, a Central Management System has been proposed for the lighting which would be capable of dimming of parts of the site independently from other parts (with the site</p>	

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		<p>envisaged to be divided in 6-8 main sections), as usage changes through the day. Guidance within the latest Institution of Lighting Professionals Guidance Note³² 33 would be followed as far as possible. These measures would minimise impacts on nocturnal species such as bats that use the nearby tree lines or habitats for roosting or foraging.” Paragraphs 7.6.25 and 7.6.26 outline the potential impacts to bats from lighting in the absence of mitigation. Considering the mitigation proposed, the sensitivity of the bats to the proposed lighting is considered low.</p>	
Bio.1.28	<p>Please could Mr Taylor expand and explain the points made in [RR-0792] on the headings (i) Cooling Water Systems and (ii) Ecology. Please use the document numbers from the Examination Library and give the relevant paragraph numbers.</p>	<p>The Applicant makes the following comments: Cooling Water Systems: The Hinkley Point C (HPC) project has identified that installation of an Acoustic Fish Deterrent (AFD) system is not feasible nor required from an environmental perspective and is seeking to vary the Water Discharge Activity (WDA) permit to remove the need to install an AFD. The Environment Agency position is that the AFD is required to ensure no impact on the Severn Estuary European Marine Site (under the Habitats Regulations). An appeal against non-determination of the WDA permit variation is currently in progress with an inquiry start date of 8 June. The Sizewell C Project has not proposed an AFD system on the basis that it is not required to mitigate the effects of the proposed cooling water system. In any event, determination of the DCO application will be based on the environmental information submitted with the application and is independent of the appeal process at HPC. The cooling water system intake and outfall tunnels are buried several tens of metres below the seabed and will be constructed by tunnel boring machines. They can have no impact on coastal processes. Four cooling water intake heads (2 per intake tunnel) and two cooling water outfall heads will be placed >3k from the shore, beyond the SizewellDunwich Bank and will not impact coastal processes (as detailed in Section 20.10 of Volume 2, Chapter 20 (Coastal Geomorphology and Hydrodynamics) of the ES [APP311]). Dredged material will be disposed of locally in a designated disposal area to be licenced by the Marine Management Organisation (MMO) (as described in Schedule 20 of the draft DCO (Doc Ref. 3.1(C)). Sediment quality has been</p>	<p>We stated our concerns that an AFD has not been proposed for the Application in our Written Representations submitted at Deadline 2¹⁹ and requested that evidence and case studies around the use of AFDs are presented in order to consider this more fully.</p> <p>We also recommend that figures comparing levels of predicted impingement and entrainment with and without an AFD are provided in order to assess its potential efficacy and inform the consideration of their inclusion within the mitigation proposals.</p> <p>We support the comments of the Environment Agency²⁰ on their concerns around under-estimation of fish mortality and Natural England²¹ around the potential for long term impacts of fish depletion on SPA designation bird species and of both the EA and NE on the need to reconsider the provision of an AFD for this Application.</p>

¹⁹ Paragraph 3.545 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506]

²⁰ Paragraphs 8.5 and 8.6 of the Environment Agency's Written Representation [REP2-135]

²¹ Key issue 30 in Natural England's Written Representations [REP2-153]

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		<p>tested to demonstrate that there would be no impact on the local ecology and additional sediment sampling and analysis will need to be conducted prior to disposal. The proposed development has considered and assessed the potential impacts from dredge-related activities and the construction and operation of the cooling water system on marine ecology and fisheries receptors in Sections 22.6 to 22.11 in Volume 2, Chapter 22 (Marine Ecology and Fisheries) of the ES [APP-317] and the residual effects including mitigation measures are detailed in Section 22.13 of [APP-317], as updated by Volume 1, Chapter 2 of the ES Addendum [AS-181]. The potential impact of the cooling water system on coastal geomorphology and hydrodynamics receptors is assessed in Section 20.10 of Volume 2, Chapter 20 (Coastal Geomorphology and Hydrodynamics) of the ES [APP-311]. The effects of future climate change and warming sea temperatures in relation to thermal discharges is also considered in Sections 22.6 to 22.11 in [APP-317] for marine ecology and fisheries receptors. As stated in [APP-317], future entrainment temperatures were considered for the following scenarios accounting for predicted future warming based on UK Climate Projections 09 (UKCP09) rather than UKCP18 as future sea temperatures are not included in the current UKCP18 marine climate predictions. The potential impacts from the proposed development activities during construction, commissioning and operational phases on marine receptors (including designated features) from an Environmental Impact Assessment (EIA) context have been considered and assessed in [APP-311, APP-314, APP-317 and AS-181]. Designated features in the shadow Habitats Regulations Assessment (HRA) [APP-145], as updated by the shadow HRA Addendum [AS-173], are assessed in a HRA context against the conservation objectives of each relevant designated site.</p> <p>Ecology An assessment of effects on terrestrial ecology and ornithology is presented within Volume 2, Chapter 14 [AS-033] and Volumes 3-9, Chapter 7 of the ES [APP-363, APP-394, APP-425, APP-461, APP-494, APP-523, APP-555] with additional information submitted to the Examining Authority as summarised within the ES Addendum [AS-181 to AS-188]. Whilst SZC Co. recognises that there will be impacts on terrestrial ecology and ornithology, the Project has sought to minimise effects, where possible, and embed mitigation and enhancements within design. During construction, works will be carefully managed to minimise impacts on ecology. Species-specific</p>	

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		<p>mitigation plans and method statements have been developed for all protected species found to be using the site. Following completion of construction works, the temporary construction area at the main development site would be restored to a new landscape founded on the concept of establishing the Suffolk Coast and Heaths AONB landscape in microcosm, by creating a mosaic of some of its most valued habitats. Once fully established, this habitat 'mosaic' would have a higher biodiversity value than the existing habitats, specifically as existing extensive arable areas would be replaced with new grasslands, heathland, woodlands and scrub. Further details are set out in the Main Development Site Design and Access Statement [APP-585 to APP-587 and Doc Ref. 8.1Ad2] and the Outline Landscape and Ecology Management Plans for the main development site [REP1-010], two village bypass [AS-262 and AS-263] and the Sizewell link road [AS-264 and AS-265]. Once the habitats are established, the Biodiversity Net Gain Reports (refer to the updated reports included within [REP1-004 ,REP1-017, REP1-018, and REP1-019] demonstrate that a net gain of over 19% across the development would be achieved.</p>	
Bio.1.32	<p>Many IPs raise concerns about the shingle beach, including that it is a County Wildlife Site. Please will the Applicant and NE include in their SoCG the following: (a) a summary of the Applicant's view of the effects on the shingle beach;</p> <p>(b) a summary of NE's view of the same;</p> <p>(c) a statement of areas of disagreement; and</p>	<p>SZC Co. would like to clarify the position presented in the ES on amount of habitat loss from the Suffolk Shingle Beaches CWS. The 38.83ha mentioned in paragraph 14.7.187 of Volume 2, Chapter 14 of the ES [AS-033] refers to the size of the entire CWS and not the amount of habitat lost. The construction of the new coastal defences, as well as the establishment of the Sizewell C main platform, would require the removal of the existing habitats within the footprint of these structures. The loss of habitats is estimated to be of approximately 2.91ha of vegetated shingle and 4.04ha of vegetated sand dunes from within the CWS (approximately 18% of the designated area). Primary mitigation, described in paragraph 14.7.188 [AS-033] would store existing surface layers of shingle and sand substrate (and seedbank) to place on the new coastal defence to allow re-establishment and recolonization of habitats. Therefore, in the short term, habitat loss is expected to be temporary. Re-instated habitats would approximately amount to 3.95ha of</p>	<p>We support East Suffolk Council's response to this question²². We have also provided comments on the Preliminary Design and Maintenance Requirements for SZC SCDF Report²³ as part of our Deadline 3 submissions raising further questions in line with our Written Representation²⁴ e.g. paras 3.100 and 3.108 on the potential shortcomings with the Applicant's conclusions on these issues.</p>

²² East Suffolk Council Deadline 2 Submission - Responses to the ExA's Written Questions (ExQ1) [[REP2-176](#)]

²³ 9.12 One dimensional modelling of Soft Coastal Defence Feature (SCDF) - Revision 1.0 [[REP2-115](#)]

²⁴ Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)]

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	(d) a statement of what measures should in the view of (a) the Applicant and (b) NE be taken to overcome any disagreement.	<p>vegetated shingle and 5.08ha of vegetated sand dune (paragraph 14.7.86). Paragraph 14.7.188 describes the success of re-instating coastal habitats following the construction of Sizewell B. A 2008 report 'Environmental Product Declaration of electricity from Sizewell B nuclear power station'³⁸ notes that: "The shingle beach in front of the power station was extensively disturbed during construction. The area has been restored and replanted with plant communities taken from the site prior to construction, propagated and then replanted. No regular, comparable botanical monitoring has subsequently been undertaken so it is difficult to assess the success of the project and many factors may have influenced the plant communities which are now present." While this report does not assess the success of the re-instatement compared with preconstruction habitats, surveys undertaken on the coastal habitats east of Sizewell B on behalf of Suffolk Wildlife Trust in 2003 (Volume 2, Annex 14A3.3 of the ES [APP-229]) recorded a mosaic of vegetation communities within the shingle habitat which included species indicative of vegetated shingle such as Sea Pea (<i>Lathyrus japonicus</i>). While this survey does not elude to the success of the re-establishment of habitats following Sizewell B, they are of similar make up and contiguous with habitats to the north and south of the survey area and therefore success can be assumed. A new coastal defence will be constructed and will also comprise a sacrificial shingle barrier with sandy cap in front of the new main sea defence, used to defend the Sizewell C power station. The role of the sacrificial dune would be to minimise coastal erosion and release sediment to the beach face, which would only be activated during a storm event. It is likely that the dune would occasionally be eroded and require repair in order to maintain its volume (as detailed in paragraph 14.4.12 of Volume 2, Chapter 14 of the ES [AS-033]).</p>	
Bio.1.47	[APP-224] – para 14.4.10 bullet 5 – primary mitigation, the SSSI crossing. Please will the Applicant submit a set of drawings showing the location, plan, elevations, sections and design of the SSSI crossing , together with the context,	A full set of drawings relating to the current single span bridge proposals included in the Accepted Changes (April 2021) [PDA-004 and PDA-005] were submitted in response to the Rule 17 letter of 25 February 2021 [PD-012]. However, as stated in the answer to Question G.1.32 in Chapter 2 (Part 1) of this report, in response to feedback from stakeholders following the Accepted Changes (April 2021), a design review was commissioned to determine if the structure could be optimised to further reduce impacts on Sizewell Marshes SSSI. In response to ecological concerns raised by	We welcome the proposal to reduce the width of the bridge to approximately 15m once the power station has been built. However, we note that the Applicant proposes to submit updated indicative plans and further details at Deadline 4. We are concerned that only indicative plans will be submitted at Deadline 5 and without full details

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	<p>ecological and landscape. It is appreciated that the design is a work in progress, but the location, plan, elevations and sections of what is proposed should be capable of being fixed now. If this has been done further to the Rule 17 letter of 25 February 2021 [PD-012] there is no need to duplicate the material. Please however submit any material not sent in response to [PD-012] and also state the Examination Library reference(s) for the material which was submitted.</p>	<p>stakeholders, SZC Co. has further optimised the design and proposes to reduce the width of the bridge to approximately 15m once the power station has been built. This would be achieved by removing part of the bridge deck. It is also proposed to raise the soffit level of the bridge in response to stakeholder feedback. Updated indicative plans and further details will be submitted at Deadline 4. Requirement 12C of the draft DCO will be updated at the same time to secure primary mitigation. Appendix 7E of this chapter provides three figures which provide the ecological context to the location of the crossing. A new set of figures will be provided for Deadline 4 to align with updated design details referred to above.</p>	<p>potential impacts cannot be adequately considered and assessed.</p> <p>We also highlight that Deadline 5 is after the biodiversity ISHs on 15 and 16 July where this issue may arise. We therefore request detailed plans are submitted to the Examination at the earliest opportunity and if possible before the ISH, with adequate time for parties to consider.</p>
Bio.1.48	<p>[APP-224], para 14.4.11, bullet 1. Marsh harrier foraging habitat.</p> <p>Please will the Applicant set out the following in one document:</p> <p>(a) The significance of the marsh harrier – this should cover policy, legal, ecological and any other relevant aspects</p> <p>(b) How it is affected by the Proposed Development?</p> <p>(c) the areas over which it forages over the Minsmere South Levels and Sizewell</p>	<p>Responses to the points raised in this question are provided in Appendix 7F²⁵ of this chapter.</p>	<p>The RSPB and SWT have set out our concerns regarding the level of compensation provided by the currently proposed 48.7ha area of dry habitats within the EDF Estate in our Written Representations submitted at Deadline 2²⁶. Specifically, we have raised concerns about the level of uplift in prey provision that can be achieved through the management of dry habitats and the uncertainty around the Applicant's calculations of the number of small mammals (key prey species for marsh harriers) that can be provided by this area.</p>

²⁵ Responses to Examining Authority's Written Questions (ExQ1) Volume 3 – Appendices Part 3 [REP2-110]

²⁶ Pages 81 – 96 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506]

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
	<p>Marshes SSSI and any other areas where its foraging, breeding or other activities are likely to be affected by the proposed development</p> <p>(d) where the permanent foraging habitat referred to in this bullet "is being established and enhanced within the northern part of the EDF Energy estate"</p> <p>(e) the need for and role of any other areas for marsh harriers which are proposed (including Westleton)</p> <p>(f) state clearly whether the fen meadow compensation areas at Halesworth and Benhall (and if the change request is accepted also at Pakenham) play any role in relation to the marsh harrier.</p> <p>(g) How the SofS should decide whether the area at Westleton is required and whether its compulsory acquisition is justified. (In this regard the Applicant is also referred to the Secretary of State's decision</p>		<p>We agree with Natural England's comments in their Relevant Representations²⁷ and repeated in their response to question BIO.1.49²⁸ that wetland habitat creation is likely to provide optimal compensatory habitat with greater certainty of success (with regard prey provision for marsh harrier) than the management of dry habitats. However, wetland creation and establishment takes time and any habitats created now may not be fully functional by the time construction commences, hence our concerns about the proposed conversion of c10% of the current compensation area to wet habitats raised in our Written Representations and in our comments on the Marsh Harrier Habitat Report²⁹, also submitted at Deadline 3.</p> <p>Therefore, our position remains that wetland habitat would represent the most beneficial habitat provision for foraging marsh harriers with a greater certainty of success as compensation, but based on current timelines, the <u>replacement</u> of any of the currently proposed dry habitat compensation with wet habitats would not be desirable unless it can be made functional by the time construction commences. If this is not possible we advocate for wet habitat creation <u>in addition</u> to the currently proposed dry habitats, as in the longer term, this would provide greater</p>

²⁷ Natural England's Relevant Representation [[RR-0878](#)]

²⁸ Natural England's Response to the ExA's Written Questions (ExQ1) [[REP2-152](#)]

²⁹ Marsh Harrier Habitat Report [[REP2-119](#)]

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
	<p>letter on Hornsea Three, Section 6.)</p> <p>(g) Any uncertainties over the success of replacement foraging (or other) areas for the marsh harrier and the probabilities of success</p> <p>(h) conclusions in relation to the marsh harrier and the relevant policy, legal and ecological aspects. (i) For the avoidance of doubt, this document should cover but not be limited to s.40 of the Natural Environment and Rural Communities Act 2008, s.28G of the Wildlife and Countryside Act 1981, environmental assessment and the Habitats Regulations, EN-1 and EN-6.</p>		<p>benefits for the marsh harrier population, whilst retaining the maximum potential compensatory provision from the dry habitats currently proposed (albeit we argue that this potential is lower than the Applicant suggests).</p> <p>For clarity, we also note and agree with the Applicant's point³⁰ that the wetland habitats at Aldhurst Farm are not likely to benefit foraging marsh harriers from Minsmere as this would require overflight of the construction area, which has been assessed to represent a 'barrier' to marsh harrier flight activity.</p>
Bio.1.57	<p>[APP-224], section C.a.a.c, especially paras 14.7.62; 65 and 67. (a) It appears that avoiding hydrological effects on Minsmere European Site (sic) is dependent on careful monitoring and control measures. Please explain where these are described and how they are secured in the DCO and / or the s.106 agreement.</p>	<p>(d) SZC Co. notes that the Shoreline Management Plan (SMP) policy⁴² for the wider coast (MIN12.3 and MIN12.4) in the vicinity of Minsmere Sluice is managed realignment, whereas the position for Minsmere Sluice is for it to be maintained. Consistent with the policy stated in the SMP, the Environment Agency refurbished Minsmere Sluice in 2013 and this work was completed with a 50 year design life. This is the current policy for coastal management that the Sizewell C Project will need to comply with.</p>	<p>(b) We note and support NE's response provided in their relevant representation and repeated in response to ExA Written Question Bio.1.57³¹ <i>groundwater impacts in relation to the Minsmere to Walberswick sites within our Relevant Representations (PINS ref: RR-0878, our ref: 306236, dated 30th Sep 2020): The drainage strategy and code of construction practice will mitigate against issues of increased discharge or run-off from the MDS during construction and</i></p>

³⁰ Response to Bio.1.105 in the Applicant's Responses to the Examining Authority's First Written Questions (ExQ1) - Volume 1 [REP2-100]

³¹ Natural England Deadline 2 Submission - Response to the ExA's Written Questions (ExQ1) [REP2-152]

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
	<p>This should include how they are to be funded. Cross-referencing to the Mitigation route map would also be helpful. Is "Minsmere European Site" (e.g in para 14.7.67) intended to refer to all the European designations – SAC, SPA and Ramsar? There are several uses of the phrase in the singular in the Chapter and in questions below. (b) Is NE content with these measures? (d) The ExA notes that some IPs have suggested the lifetime of the sluice is shorter than the lifetime of the Proposed Development. Please will the Applicant and NE comment on that, indicating whether they agree and what action is needed in relation to that, if any, is needed to ensure the Proposed Development does not have any likely significant effect.</p>		<p><i>operation. However, there is an important assumption here that the Drainage Strategy and Code of Construction Practice will be rigorously implemented. We recommend that these mitigation measures are secured in the requirements of the DCO. We advise that there is unlikely to be significant hydrological impacts on the following sites:</i></p> <ul style="list-style-type: none"> • <i>Minsmere to Walberswick Heath and Marshes SAC</i> • <i>Minsmere-Walberswick SPA</i> • <i>Minsmere-Walberswick Ramsar site</i> • <i>Minsmere-Walberswick SSSI</i> <p>Therefore, it is imperative that the measures proposed in the Outline Drainage Strategy are rigorously implemented to ensure continued protection of the neighbouring Minsmere to Walberswick SAC, SPA, Ramsar site and SSSI and Sizewell Marshes SSSI.</p> <p>We have provided a response to the Outline Drainage Strategy³² as part of our Deadline 3 submission identifying a number of items still to be resolved.</p> <p>(d) Our understanding is that all the flood modelling presented has been developed on the basis of the existing drainage including the Minsmere Sluice and does not account for the eventuality of the Minsmere Sluice being</p>

³² 6.3 Updated Volume 2 Chapter 2 Appendix 2A of the Environmental Statement - Outline Drainage Strategy - Revision 2.0 [REP2-033]

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
			<p>potentially unavailable for drainage from 2063 onwards. We also note that gravity drainage of the sluice may be impeded by sea level rise effects ahead of this time. We believe the Applicant's answer has not acknowledged the considerations for hydrological impacts and that their answer addresses coastal processes, which is not relevant to this question. We would welcome further clarification on this, as the potential hydrological impacts relate to the concerns raised in our Written Representation.</p>
Bio.1.65	<p>Sizewell Marshes SSSI [APP-224] para 14.7.134. Recreation of fen meadow habitat.</p> <p>[Para 1] Please will the Applicant explain the results of the further work to maximise the likelihood of successful fen meadow habitat. If successful establishment cannot be guaranteed, what does the Applicant propose? The ExA recognise that habitat proposed in the change request at Pakenham is what appears to be a fallback. If the change request in relation to Pakenham is accepted, what is the likelihood of success there and</p>	<p>The answer to this question is presented in three sections below.</p> <p>In response to the first paragraph: The further work referred to in paragraph 14.7.134 of Volume 2, Chapter 14 of the ES [AS-033] is detailed in a Fen Meadow Strategy [Section 2.9D of AS-209]. The Fen Meadow Strategy [AS-209] has been prepared to define SZC Co's commitment to provide appropriate compensation measures to mitigate for the loss of fen meadow habitat through the creation of compensatory fen meadow habitats, and the provision of a contingency fund. The Fen Meadow Strategy [AS-209] provides the following:</p> <p>Section 4 describes studies undertaken to date (i.e. the Fen Meadow Compensation Study [APP-258]) to identify potential compensation sites, which comprised two phases:</p> <ul style="list-style-type: none"> • Phase 1 comprised a desk based screening exercise which identified five sites for further investigation [Paragraph 4.1.2-4.1.4 in AS-209] • Site No. 10 – Aldecar Lane (Benhall site, in part) • Site No. 11 – Watering Lane (Benhall site, in part) • Site No. 28 – Blyth Road (Halesworth site) 	<p>We consider the Fen Meadow Strategy does not fully explain 'the results of the further work to maximise the likelihood of successful fen meadow habitat' as requested by the ExA because the monitoring studies are ongoing. The Applicant proposes to submit a first draft of the Fen Meadow Plan later in the Examination and the <u>full monitoring results</u> and final Plan will not be available until after the close of the Examination. This is one of many significant concerns over the fen meadow strategy detailed in our Written Representations submitted at Deadline 2³³.</p> <p>We note and support Natural England's conclusion that their fundamental concern over the permanent loss of SSSI fen meadow habitat may not be resolved³⁴. Due to the many concerns</p>

³³ Paragraphs 3.67 – 3.86 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506]

³⁴ Natural England's Written Representations [REP2-153], paragraph 3.21

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
	<p>what is to happen if that also is unsuccessful?</p> <p>[Para 2] How should the SofS decide whether the area at Pakenham is required and whether their compulsory acquisition is justified. (In this regard the Applicant is also referred to the Secretary of State's decision letter on Hornsea Three, Section 6.)</p> <p>[Para 3] The Applicant and NE will be aware that this is fen meadow issue on which NE have stated in their relevant representation [RR-0878] that they have fundamental concerns which it may not be possible to overcome in the form of the proposals at 30 September 2020. The ExA has asked for an SoCG with NE to cover all matters raised by NE. There is clearly a significant difference between NE and the Applicant. The ExA hopes that NE and the Applicant can come to an agreed position. If the position leaves NE's concern in place the ExA expects the different positions to be fully</p>	<ul style="list-style-type: none"> • Site No. 33 – Stratford St Andrew, and • Site No. 54 – Pakenham, <ul style="list-style-type: none"> • Phase 2 concluded that each of the sites visited had good potential for the development of fen meadow [Paragraphs 4.1.5-4.1.8 in AS-209]. Detailed site investigations are underway at each site (Paragraph 4.1.9 AS-209); <p>Section 4 [AS-209] also describes the development of a Fen Meadow Plan [Paragraph 4.1.10 – 4.1.11 in AS-209].</p> <ul style="list-style-type: none"> • The Fen Meadow Plan will be developed over a series of three reports, with the final Plan drawing upon 12 months of monitoring. The final plan will be submitted for approval, as detailed [Paragraph 4.1.11 in AS-209]. As stated at 4.1.11, it is proposed that the first draft of the Fen Meadow Plan is submitted later in the examination process. <p>Section 5 of the Fen Meadow Strategy [AS-209] outlines the approach for delivering compensatory fen meadow habitat, the interfaces with stakeholders and the monitoring and remedial actions which will be deployed to maximise the chances of successfully establishing the habitat [Paragraphs 5.1.1 – 5.1.15 of AS-209].</p> <p>Section 6 of the Fen Meadow Strategy [AS-209] describes the Test of Success [Paras 6.1.1-6.1.4 in AS-209], and Section 7 described contingency provisions.</p> <p>This Applicant is confident that it will be able to create the appropriate quantum of compensatory fen meadow habitats given the suitability of the sites, in order to further ensure the loss is adequately compensated for, and to recognise the risks which might arise outside of Sizewell C's control, contingency provisions are also detailed [Paragraphs 7.1.2- 7.1.3 in AS-209]. Evidence for successful establishment of fen meadows is provided in the answer to question Bio.1.86.</p> <p>The Pakenham site is not a 'fallback' site and forms an integral part of the proposals in the Fen Meadow Strategy [AS-209] and has the same status as</p>	<p>about adequacy, we strongly agree contingency measures should be put in place now and recommend proposals are submitted to the Examination, so that they can be taken account of by the ExA³⁵.</p> <p>We also agree with Natural England the potential impacts from the proposed Pakenham Fen site on the features of the adjacent Pakenham Meadows SSSI and the potential effects of the proposed Benhall compensation site on the Snape Wetlands (Abbey Farm compensation site) should be assessed³⁶.</p> <p>We dispute that Appendix 7H referred to in the answer to question Bio.1.86 contains 'evidence for successful establishment of fen meadows' as claimed by the applicant.</p> <p>The only example of fen meadow (re)creation that the Applicant is able to provide (at Thelnetham) sounds like it has not so far been successful because of dense rush growth & colonisation by Common Reed i.e. they have not been able to provide an example of successful (re)creation of fen-meadow.</p> <p>As the Applicant also points out, a key requisite for the creation & maintenance of botanically-rich fen meadow is having suitable hydrology &</p>

³⁵ Natural England's Written Representations [[REP2-153](#)] key issue 49

³⁶ Natural England's Written Representations [[REP2-153](#)] key issue 49

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
	<p>explained and argued in the SoCG. To the extent that they are not, the response to these questions should set them out, but the ExA prefers to see the arguments in one place, rather than in several documents.</p> <p>The setting out of positions and arguments in an SoCG should not stop the parties from continuing to resolve issues and find common ground</p>	<p>the two sites at Benhall and Halesworth. It has been included to increase the quantum of fen meadow delivered, as a result of further engagement with stakeholders and to address their concerns [Paragraphs 4.1.6 in AS-209]. The Pakenham site has good potential for fen meadow habitat (there are two areas of existing fen meadow vegetation already present). As well as increasing the quantum of compensatory fen meadow that is created, the use of multiple sites will also reduce any risks of overall delivery as individual sites (or parts of sites) may have unforeseen constraints or not respond to the management interventions. An understanding of the factors which will determine success and evidence for successful establishment of fen meadows at other locations, both of which give SZC Co. confidence that the habitats will be successfully created, are provided in the answer to Question Bio.1.86 in this chapter.</p> <p>However, should the fen meadow habitat creation not be successful, the contingency provisions referred to in paragraphs 7.1.1-7.1.3 of the Fen Meadow Strategy [AS-209] will apply.</p> <p>In response to the second paragraph: The Pakenham site has been included to increase the quantum of fen meadow delivered, as a result of further engagement with stakeholders and to address their concerns [Paragraph 4.1.6 in AS-209]. Specifically, the stakeholders including Natural England [RR-0878] expect the compensatory habitat to extend to nine times the area of fen meadow to be lost from the Sizewell Marshes SSSI. This will require up to 4.5 hectares of replacement habitat. During the Phase 2 investigation, areas of potential for fen meadow habitat were identified as being a primary locus (the area with the greatest potential for fen meadow), or a potential additional area (an area with lower potential within which there was greater uncertainty of success). A total of 3.2ha of primary locus for fen meadow was identified on the Benhall and Halesworth sites (Volume 2, Appendix 14C4 of the ES [APP-258]). Stakeholder feedback was that this was insufficient and needed to be increased. Therefore, the Pakenham site has been included, which increases the primary locus for fen meadow by 4.9 hectares, to a total of 8.1 hectares. It is not envisaged that it is possible to deliver fen meadow across all parts of each of the primary loci (see comments on risk above). As noted above the Pakenham site is a third site with the same status as the</p>	<p>suitable water chemistry. In Section 1.2.9 of Appendix H they state:</p> <p><i>'However this is now achieved via providing a clear water source (where possible) and topsoil removal'.</i></p> <p>The phrase 'providing a clear water source (where possible)' seems pretty ambiguous. Is the water source of suitable chemical composition and what does 'where possible' mean?</p> <p>We agree with the Applicant the Fen Meadow Strategy [AS-209] should be secured via way of draft Requirement 14.A of the draft DCO, however our view is that a detailed Strategy should be provided now to give the ExA confidence as to the possibility of (re) creation.</p>

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
		<p>original two sites and is not a 'fallback' site. The Fen Meadow Strategy [AS-209] requires that 4.5ha is delivered across any combination of the three sites.</p> <p>The Applicant does not envisage the Secretary of State needing to decide whether the Pakenham site is required in preference to the Halesworth or Benhall sites, as the sites have the same status. All three sites are required under the Fen Meadow Strategy [AS209] to deliver the quantum requested by Natural England and others and to reduce risks.</p> <p>In response to the third paragraph: The Natural England relevant representation [RR-0878] requested that the Applicant commit to both a fen meadow strategy and the creation of fen meadow habitat. SZC Co. has subsequently submitted the Fen Meadow Strategy [AS-209] in which it commits to creation of compensatory fen meadow habitat and SZC Co will continue to work with Natural England to present an agreed position on fen meadow during the examination and record this through the SoCG process.</p> <p>It is proposed that the Fen Meadow Strategy [AS-209] would be secured via way of draft Requirement 14.A of the draft DCO (Doc Ref. 3.1(C)).</p>	
Bio.1.72	<p>[APP-224] – Construction, Inter-relationship effects, paras 14.7.222 – 223.</p> <p>Please explain the level of significance of inter-relationship effects and how the manipulation of water levels referred to in para 14.7.223 is secured in the DCO / s.106 and the tests and criteria for intervention.</p>	<p>There is potential for the inter-relationship effect to be significant in the absence of the mitigation stipulated. Due to the mitigation measures which have been detailed, the inter-relationship effects are not anticipated to be significant. In the absence of mitigation, the botanical assemblage of the Sizewell Marshes SSSI could be affected and potential changes to local hydrology and air quality could act together to cause changes to vegetation structure, type and composition which could be significant and adversely affect the nationally important site. The local hydrological changes are considered to be the most significance. Para 14.7.278 of Volume 2, Chapter 14 of the ES [AS-033] states that the fen meadow habitats within the Sizewell Marshes SSSI have been subject to a long running monitoring programme undertaken on behalf of the Suffolk Wildlife Trust and SZC Co. During</p>	<p>Our concerns over potential hydrological impacts on the fen meadow habitats within the Sizewell Marshes SSSI are detailed in our Written Representations submitted at Deadline 2³⁷.</p> <p>We also refer the ExA to the detailed consideration of the issues in Friends of the Earth and their Experts (Dr Rob Low, Dr David Mould and Jon Graham) Written Representations³⁸: "A critical review of Sizewell C Co's site characterisation, impact assessment, and proposals for impact mitigation, in relation to</p>

³⁷ Paragraphs 3.247 – 3.252 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)]

³⁸ Suffolk Coastal Friends of the Earth Written Representation [REP2-463] [A critical review of Sizewell C Co's site characterisation, impact assessment, and proposals for impact mitigation, in relation to risks posed to the ecohydrological integrity of Sizewell Marshes SSSI](#)

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
		<p>construction and operation of Sizewell C, this monitoring programme would continue, in particular recording the extent of the two sensitive plant assemblages within the Grade 1 and 2 fen meadow, namely low growing species and species indicative of nutrient poor conditions. The botanical monitoring is secured through the Terrestrial Ecology Monitoring and Mitigation Plan (TEMMP) [REP1-016] that was submitted at Deadline 1 and is secured under Requirement 4 of the draft DCO (Doc Ref. 3.1(C)); the approach and the potential interventions are described in Table 3.1.</p> <p>The Fen Meadow Strategy included at Appendix 2.9.D of the ES Addendum [AS-209] outlines the approach for delivering compensatory fen meadow habitats. It states that an Environment Review Group would be established under the terms of the Draft Deed of Obligation (Doc Ref. 8.17(C)) and would be responsible for overseeing the establishment of the compensatory habitat works including the delivery of the Fen Meadow Plan. The Fen Meadow Strategy [AS-209] also established an approach to site establishment and ongoing management between years 2 and 5 and years 6 and 10 which include monitoring of water levels and habitat monitoring. Continued hydrological monitoring is proposed, as outlined in Volume 3, Appendix 2.14.A (Water Monitoring and Response Strategy) of the ES Addendum [AS-236]. This states that the purpose of continued monitoring is to demonstrate that changes in the water environment are consistent with the impact assessment. The Water Monitoring and Response Strategy [AS-236], together with and Requirement 7 of the draft DCO (Doc Ref. 3.1(C)), commits to the development of a Water Monitoring Plan, which would include trigger/action levels to be agreed with stakeholders. Recognising that timely intervention will be required if an unacceptable change is observed, the strategy sets out the approach to mitigation. The Water Monitoring and Response Strategy defines the specific measures that will be secured by Requirement 7 of the draft DCO (Doc Ref. 3.1(C)) and which will be incorporated into a water monitoring plan, along with the relationship to the environmental permits and licences that would be necessary. The Water Monitoring Plan would be prepared by SZC Co. and submitted to East Suffolk Council for their approval, following consultation with relevant stakeholders. Together these provide a</p>	<p>risks posed to the ecohydrological integrity of Sizewell Marshes SSSI.”</p>

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
		robust and effective framework of controls for the management of water levels for the duration of the project.	
Bio.1.77	<p>Wet woodland strategy [APP-224] – para 14.7.272. Please will the Applicant explain how it will choose between the three opportunities at para 14.7.271 and explain where the detail of those proposals is set out. In relation to the wet woodland strategy proposed in para 14.7.272, it seems to the ExA at this stage that this is likely to need to be secured by a requirement, which is likely to have to incorporate goals, criteria and tests (and is likely to be complex). Please will the Applicant and Natural England, address this in the SoCG for Deadline 2. The ExA notes that the Mitigation Route Map [APP-616] MDS TE42 states that the Applicant “will develop further its wet woodland strategy in discussion with Natural England and other ecological stakeholders”. Please will the Applicant and Natural England indicate progress on that, here or in the SoCG?</p>	<p>The Applicant shared a draft Wet Woodland Strategy with ecological stakeholders, discussed this in a workshop, revised the document as appropriate and submitted the strategy into Deadline 1 [REP1-020]. The consensus was reached that the preferable approach is to provide additional wet woodland (above the 0.7ha proposed on site) at the Fen Meadow compensation sites, although not at the expense of fen meadow habitats proposed at these locations. This approach avoids the need to use newly created reedbed habitats, which would have habitat value in their own right, and purposely transition them to wet woodland. With the confirmation that the Pakenham site now forms part of the application, the Applicant can confirm that under the Wet Woodland Strategy [REP1-020], at least 2.36ha of wet woodland (to create a total of 3.06ha, with the 0.7ha on site provision) would be delivered at Benhall and / or Pakenham. At both sites areas of wet Alder woodland are immediately adjacent to the sites and could be extended into the site by manipulating water levels and/or or by some local shallow excavation of topsoil. The Applicant will seek to agree the Wet Woodland Strategy [REP1-020] with Natural England via the SoCG. The Applicant confirms that the Wet Woodland Strategy [REP1-020] is suitable for securing under requirement and a draft requirement 14B in the draft DCO (Doc Ref. 3.1(C)) is designed for this purpose.</p>	<p>Our concerns over the Wet Woodland Strategy are detailed in our Written Representations, submitted at Deadline 2³⁹.</p> <p>We agree with Natural England that DCO requirement 14B should include timing for approval of a wet woodland strategy before vegetation clearance commences⁴⁰. We also raised concerns the wet woodland will not be functional for at least 10 years following loss of the SSSI habitat in our Written Representations submitted at Deadline 2⁴¹. Compensation habitat should be functional before habitat loss occurs.</p>

³⁹ Paragraphs 3.87 – 3.91 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506]

⁴⁰ Natural England's Written Representations [REP2-153] Part III

⁴¹ Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506], paragraphs 3.399–3.489

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
Bio.1.78	<p>Mitigation and monitoring for plants and habitats [APP-224] para 14.7.274, para 14.7.280. Is there a threshold for requiring local mitigation measures? Who are the "local land managers"? What happens if they do not agree to the measures? Where is this secured? The ExA would like to understand the way in which the monitoring and any measures needed, depending on the results of the monitoring, are to be secured in the DCO / s.106, how the work is to be regulated, what are the current criteria and how they are kept under review if appropriate. The ExA would be grateful if ESC and SCC in particular would explain how they see enforcement working. NE should also give their view.</p>	<p>Impacts of Local (or below) 'significance' are dealt with through the implementation of best practice measures and mitigation to avoid and minimise adverse effects. As detailed in the methodology sections of each of the Environmental Statement chapters, the CIEEM approach has been adopted. However, a threshold has been set at Local Level (or lower) that effects would not be significant due to the best practices approaches to be implemented as noted above. These are detailed in the CoCP (Doc Ref. 8.11(B)), TEMMP [REP1-016] and oLEMP [REP1-010] and secured by Requirements 7, 4 and 14 of the draft DCO (Doc Ref. 3.1(C)) respectively. The TEMMP [REP1-016] has been informed by stakeholder feedback and the oLEMP [REP1-010] will be further detailed in the Landscape and Ecology Management Plan that will be prepared alongside the landscape details secured by Requirement 14 of the draft DCO (Doc Ref. 3.1(C)). These documents will also be supplemented by protected species licensing conditions (where appropriate).</p> <p>For the associated development sites, any mitigation or enhancements on third party land which is to be returned to landowners would be secured as set out in the Draft Deed of Obligation (Doc Ref. 8.17(C)). However, the majority of the mitigation measures implemented would be located within the operational scheme boundary to safeguard these ecological requirements. On the main development site, these measures would remain within EDF Energy ownership and control.</p>	<p>As set out in our Written Representation submitted at Deadline 2⁴² we are concerned by so much detail within plans and strategies being left for after the Examination. For the ExA to be able to reply on e.g. mitigation measures they must be able to judge whether they are ecologically, legally and financially feasible and able to be secured.</p> <p>A particular concern is with mitigation and enhancements on third party land where agreement with the landowner has yet to be secured (for example, the Minsmere Monitoring and Mitigation Plan⁴³ for recreational pressure) and what would happen if that third party landowner refused.</p> <p>We would suggest that this also applied to protected species licensing requirements and any conditions associated with them.</p>
Bio.1.86	<p>[APP-224] – para 14.8.44 and elsewhere (e.g. para 14.8.50) which address some of the effects on invertebrate assemblies in Compartment 3 and the fen meadow strategy. This is Appendix 14C4, [APP-258]. Fen meadow recreation</p>	<p>Response to first para: No response from the Applicant is required.</p> <p>Response to second para: Although no response from the Applicant is required, the following clarification is made in respect of these observations:</p> <p>The comments referred to in the second paragraph were made in the context of the key characteristics for the potential sites, and that 'Ideally, the chosen site will not require significant engineering/construction activities' as indicated in Section 1.2 of the Fen Meadow Compensation Study [APP-258].</p>	<p>As mentioned above (Bio.1.65) we question whether Appendix 7H contains the 'evidence for successful establishment of fen meadows' claimed by the Applicant. The only example of fen meadow (re)creation that the Applicant is able to provide (at Thelnetham) sounds like it has</p>

⁴² Paragraphs 4.38 – 4.39 and 4.81 – 4.86 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)]

⁴³ Minsmere Monitoring and Mitigation Plan [[REP2-118](#)]

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
	<p>and a fen meadow strategy are important components of the Sizewell C project.</p> <p>[Para 2] Whilst [APP-258] examines potential sites and makes recommendations, the ExA notes that for one of the selected sites included in the Application, it says there would be water management difficulties and that the site is "less preferable" (Site 11, part of the Benhall proposal) and that in all cases the site recommendations are "subject to the results of further studies and detailed conceptualisation". In the case of Pakenham (Site 54 and part of the change request) "there are significant issues relating to groundwater supply and to the poor condition of surface peats".</p> <p>[Para 3] The ExA is also having difficulty seeing where in the document [APP-258] a strategy is set out. It appears rather to be a site selection report.</p> <p>[Para 4] Please will the Applicant say what further</p>	<p>The Fen Meadow Strategy, provided in Volume 2, Appendix 14C4 of the ES[AS-209] however indicates SZC Co's preparedness to undertake more invasive works than the concluding statement of Section 1.2 of the Fen Meadow Compensation Study [APP-258] suggests.</p> <p>Response to third para: The ExA is directed to the Fen Meadow Strategy [AS-209], which has been prepared to define SZC Co's commitment to provide appropriate compensation measures to mitigate for the loss of fen meadow habitat through the creation of compensatory fen meadow habitats, and the provision of a contingency fund.</p> <p>Response to fourth para: Paragraphs 4.1.1 – 4.1.12 of the Fen Meadow Strategy [AS-209] detail:</p> <ul style="list-style-type: none"> • the studies undertaken to date to identify potential fen meadow compensation sites, • the further studies on-going on the fen meadow sites; <p>and</p> <ul style="list-style-type: none"> • the development of a Fen Meadow Plan, which will be developed over a series of three reports, with the final Plan drawing upon 12 months of monitoring. <p>The final plan will be submitted for approval, as detailed [Paragraph 4.1.11 in AS-209].</p> <p>Response to fifth para: No response from the Applicant is required.</p> <p>Response to sixth para: This answer is provided in Appendix 7H of this chapter.</p>	<p>not so far been successful (as commented on in more detailed above – Bio1.65)</p> <p>To repeat this is one of many significant concerns over the fen meadow strategy detailed in our Written Representations submitted at Deadline 2¹ and support Natural England's conclusion that fundamental concerns over the permanent loss of SSSI fen meadow habitat may not be resolved¹.</p> <p>We agree with Natural England the Fen Meadow Plan should be provided now and not left to a requirement given the importance of that information in determining significance of impacts to a nationally important SSSI⁴⁴.</p>

⁴⁴ Natural England's Written Representations [[REP2-153](#)], key issue 49

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	<p>studies and conceptualisations have been carried out, where they may be found if they have been carried out, and what is the strategy. Please will the Applicant also submit a summary which should include, with hyperlinks to relevant documents in the Examination Library. If the summary could be limited to 2,000 words that would be helpful.</p> <p>[Para 5] Please will Natural England give their view on the fen meadow strategy, its role within the Application both for invertebrates and as a whole, and on document [APP-238]. At for example paras 14.8.44 and 45 of [APP-224] the Applicant concludes that for Compartment 3 the loss of habitat including fen meadow is minor adverse and not significant as a result of the inclusion of a fen meadow strategy said to be set out at [APP238]. There is a similar conclusion for Compartment 12 (where the land take is much less).</p> <p>[Para 6] Please will both the Applicant and Natural England give relevant examples of</p>		

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	successful recreation of fen meadow habitats, comment on them explaining how they are relevant any difficulties found in the process, and how they were overcome (or not).		
Bio.1.95	<p>[APP-224] – para 14.10.32, re natterjack toads. This refers the reader to a “natterjack toad mitigation strategy (Appendix 14C7A of this volume) as well as a draft Natural England European Protected Species licence (Appendix 14C7B of this volume)”. These are listed in the Examination Library as [APP-262] and [APP-263] respectively. Those however appear to be two identical set of Figures relating to natterjack toads but which are not a strategy nor a draft licence. Please will the Applicant clarify and point the ExA to where the documents referred to in para 14.1.32 may be found in the Application documents. Para 14.10.42 also refers to the strategy and licence. The Applicant will appreciate that the SofS requires the ExA to report on whether there is an impediment to such licenses</p>		Our concerns relating to inadequacy of the proposed mitigation are detailed in our Written Representations submitted at Deadline 2 ⁴⁵ .

⁴⁵ Page 150-154 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [\[REP2-506\]](#)

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	being granted subsequently by Natural England.		
Bio.1.97	[APP-224] – para 14.10.44 – natterjack toad monitoring programme . Where is this secured? For how long will monitoring continue? Is NE content the period is appropriate?	The natterjack toad monitoring programme is described in the Terrestrial Ecology Monitoring and Mitigation Plan (TEMMP) [REP1-016], submitted at Deadline 1 and secured by Requirement 4 of the draft DCO (Doc Ref. 3.1(C)) (see also Question Bio 1.96 of this chapter). In the event any further monitoring is required, over and above that defined in the TEMMP [REP1-016] (see Table 4.3), by the terms of the Protected Species Licence, then the additional monitoring is secured via the licence conditions. Monitoring will secure for the construction period and for 5 years in the Sizewell C operational phase, which could be extended if required by the Environment Review Group. A draft licence was submitted as part of the DCO application as Volume 2, Appendix 14C7B of the ES [APP-252] and updated as part of the ES Addendum as Appendix 2.9.C3 and 2.9.C4 [AS-209]. However, the draft licence has been updated to include improved hibernation and resting site features, developed following engagement with Natural England which have also been designed with further consideration given to the AONB and landscape setting. The updated draft licence will be submitted to Natural England and submitted to examination at Deadline 3.	Our concerns relating to inadequacy of the proposed mitigation and monitoring are detailed in our Written Representations submitted at Deadline 2 ⁴⁶ . We confirm we reviewed the TEMMP and the draft licence and considered the points referred to in the Applicant's response for our Written Representations.
Bio.1.108	[APP-224] paras 14.12.25 and 14.12.39; also paragraph 14.12.166. Marsh harrier . (a) Notwithstanding the provision of habitat referred to in para 14.12.24, and the conclusion of no significant effect in para 14.12.25 the Applicant proposes further marsh harrier foraging habitat at Westleton. What is the effect on the assessment of effect at para 14.12.25 and why has it been	The following responses are provided in relation to each of the points raised by the ExA: (a) Marsh harrier foraging habitat in EIA context: The potential for providing compensatory habitat at Westleton is not related to the issues considered in paragraphs 14.12.24 and 14.12.25 of Volume 2, Chapter 14, of the ES [AS-033]. These paragraphs concern the loss of wetland habitat in the Sizewell Marshes SSSI and the mitigation provided in relation to the wider marsh harrier population by the wetland habitats created at Aldhurst Farm. (b) Wintering marsh harrier and additional foraging habitat: The additional foraging habitat referred to in paragraph 14.12.39 of Volume 2, Chapter 14, of the ES [AS-033], which would become available to wintering marsh harrier (as well as breeding marsh harriers), is the 48.7ha of compensatory foraging	We have no additional comments in relation to points (a) and (b). Our comments on BIO.1.48 (above) are relevant to point (c). With regard point (d), we raised concerns about constraints affecting the compensatory habitats in our Written Representations submitted at Deadline 2 ⁴⁷ , including concerns about construction noise affecting the compensation area itself.

⁴⁶ Page 150-154 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506]

⁴⁷ Paragraphs 3.454 – 3.473 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506]

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	<p>omitted? Please will NE also comment. (b) When we get to para 14.12.39 and the discussion of wintering marsh harrier, additional marsh harrier habitat is described, but evidently not the habitat at Westleton. Please will the Applicant clarify what is being referred to and why it is not referred to at para 14.12.25. (c) Please will the Applicant set out a short statement of the totality of new marsh harrier habitats already created, or to be created with cross-references to the paragraphs of Chapter 14 [APP-224] where they are referred to and a conclusion as to their function and result in mitigating effects. This should deal with conclusions not only under EIA but also under HRA. (d) When we get to inter-relationship effects from construction at paragraph 14.12.166 the report states: "The main interrelationship effect identified is that some of the habitat creation that has already been undertaken or is in the process of being undertaken may be</p>	<p>habitat within the EDF Energy estate, which is located in the northern part of the EDF Energy estate. Details of this foraging habitat are provided above in the response to Bio.1.107, as well as in the response to Bio 1.48, and are as shown in Figures 6.3 – 6.5 in the Shadow HRA Report [APP-145]. This habitat is not referred to in paragraph 14.12.25 of Volume 2, Chapter 14, of the ES [AS-033] because it is Aldhurst Farm which provides the specific mitigation for the loss of wetland habitat in the Sizewell Marshes SSSI, as explained in the responses to Questions Bio 1.105 and Bio 1.107 in this chapter and this is also relevant to wintering (as well as breeding) marsh harriers.</p> <p>(c) Totality of new marsh harrier habitat to be created:</p> <p>(i) Compensatory foraging habitat within the EDF Energy estate The key area of habitat creation for marsh harrier is the 48.7ha of compensatory foraging habitat within the EDF Energy estate, located immediately adjacent to the north-east of the main development site (and detailed in the responses to Questions Bio 1.48 and Bio.1.107 in this chapter). The location of this area is shown in Figures 6.3 – 6.5 in the Shadow HRA Report [APP-146]. This compensatory habitat is aimed specifically at increasing the foraging resource available to marsh harrier during construction, via habitat management, that will increase both the abundance and availability of a range of potential prey species. The requirement for this area of compensatory foraging habitat arises from the conclusion in Section 8.8 d) v. (at paragraph 8.8.557) of the Shadow HRA Report [APP-145] that the possibility of an adverse effect on the Minsmere-Walberswick SPA breeding marsh harrier population resulting from noise and visual disturbance associated with the construction activities at the main development site cannot be discounted. This potential effect arises from predictions of the 'loss' of wetland foraging resource during the construction period to SPA marsh harrier due to displacement and a possible barrier effect (which is assumed to prevent access to the entire Sizewell Marshes SSSI). It is considered that the assessment is highly precautionary in predicting the extent of the foraging resource which would be 'lost' (both in terms of the area affected and the assumed duration over the entire construction period,</p>	<p>Whilst we note the Applicant's additional refinement of the modelling of these potential effects based on more detailed timelines, we are concerned that construction timelines are typically prone to slippage and that the Construction Noise Assessment⁴⁸ itself notes the lack of certainty regarding timelines as a constraint, therefore we still consider that noise effects on the compensation area during construction cannot be ruled out.</p>

⁴⁸ ES Vol 2 Ch. 11 Noise and Vibration Appendix 11B Construction Noise Assessment [APP-204]

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	<p>compromised initially by noise disturbance during the first two phases of the construction programme. This may prevent usage by breeding and foraging bird species temporarily for the first two to three years of construction". Whilst this is concluded to be a minor adverse not significant effect, please will the Applicant spell out the reasoning in relation to the marsh harrier.</p>	<p>with predictions based on modelled noise levels for the worstcase phases of construction which will not actually extend over the full (approximately) 10 year period). The predicted displacement and barrier effect occur on habitats which are functionally linked to the SPA, as opposed to any habitats within the SPA (or Ramsar site) itself. It is considered that this 48.7ha area of compensatory foraging habitat will be sufficient to compensate for the potential loss of foraging resource which is predicted to occur. The justification for this is set out in paragraphs 8.8.245 – 8.8.260 in the Shadow HRA Report [APP-145])</p> <p>(ii) Westleton As described in the response at (a) above, the marsh harrier compensatory foraging habitat created within the EDF Energy estate is considered sufficient to compensate for the potential loss of foraging resource to the Minsmere-Walberswick SPA (and Ramsar site) population. The Westleton site would only form part of the habitat compensation proposals and only in the shadow HRA context, if the Secretary of State determines that additional habitat is required to compensate for the potential habitat loss. If the SoS agrees with the Applicant that the permanent marsh harrier foraging habitat within the EDF Energy estate is sufficient compensation, it would follow that the area of additional land at Westleton is not required. In those circumstances the Applicant would expect the SoS to omit Work No. 8 (Marsh Harrier Habitat, Westelton) from the DCO and not to include powers for the compulsory acquisition of that land. The Westleton site would not be required in any circumstance related to the EIA and the landtake impacts of wetlands from Sizewell Marshes and related impacts on marsh harriers. The compensatory habitats for those impacts are provided by the new Aldhurst Farm wetlands explained immediately below and in responses to Questions Bio 1.105 and 1.107 in this chapter.</p> <p>(iii) Aldhurst Farm See response to Questions Bio 1.105 and 1.107 in relation to Aldhurst Farm. The new Aldhurst Farm wetlands lie to the south of the proposed temporary construction area and are not part of the marsh harrier habitat compensation area in the HRA context. This is because marsh harriers nesting in the SPA at Minsmere would have to overfly the 'barrier' formed by the TCA to forage at Aldhurst Farm. However, the new Aldhurst Farm</p>	

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		<p>reedbeds have supported breeding marsh harriers since 2019 and so the new habitats have helped to increase the local population. This is likely to increase the resilience of the local population to any possible adverse impacts of construction of Sizewell C. In the EIA context, the Adlhurst Farm wetlands can be regarded as providing successful compensatory habitats for marsh harriers as a species.</p> <p>(d) Interrelationship effects and construction noise disturbance: In relation to marsh harrier, the issue of potential noise disturbance compromising the benefits from habitat creation is relevant to the 48.7ha area of compensatory foraging habitat immediately adjacent to the north east of the main development site. During phase 1 and (to a much lesser extent) phase 2 of the construction period there is limited encroachment of the modelled 70dB LAmax noise contour onto this area of compensatory habitat (see Figures 8.3 and 8.4 of the Shadow HRA Report [APP- 147]). The 70dB LAmax noise contour represents the threshold noise level above which displacement of foraging marsh harrier may occur. As a consequence of this, construction noise for the north-east part of the main development site was examined in more detail by considering the different construction phases within a series of narrower timescales. This more detailed investigation demonstrated that the maximum extent of encroachment of the 70dB LAmax noise contour onto the area of compensatory habitat was considerably less than as estimated in Figure 8.3 of the Shadow HRA Report [APP-147], whilst the duration of any significant encroachment (e.g. > 2ha of the total area) was for a relatively short part of phases 1 and 2 of the construction period. This detailed investigation of the predicted noise emissions on the area of compensatory habitat is described in paragraphs 8.8.188, 8.8.189, and 8.8.195 – 8.8.197 of the Shadow HRA [APP-145], with the maximum predicted extent of encroachment of the 70dB LAmax noise contour onto this area shown in Figure 8.9 of the Shadow HRA Report [APP-147]. The conclusion of a minor adverse, not significant, effect for marsh harrier in the ES in relation to these interrelationship effects is on the basis of these more detailed investigations of potential noise disturbance.</p>	

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Bio.1.115	Noise levels, Barbastelle – para 14.13.88 – adopting 65dB as the level for foraging impacts. Is this at 8 kHz? If not, please will the Applicant explain.	For foraging and commuting bats, the volume of noise at a frequency of 22kHz+ is considered as this is considered likely to impact upon the ability of bats to echolocate and interfere with this behaviour. 8khz is utilised for roosting bats. Approaches to assessing the impact of noise is provided in further detail in the updated bat impact assessment at Volume 3, Appendix 2.9.B of the ES Addendum [AS-208].	Our concerns over the assessment of impacts to bats are detailed in our Written Representations submitted at Deadline 2 ⁴⁹ .
Bio.1.116	Noise levels and roosts, barbastelle – Table 14.40 and para 14.13.95. The table uses 60dB as the threshold, but para 14.13.95 uses 65dB. Which is correct please and will the Applicant explain why.	These are typographical errors and in this paragraph the threshold of 60dB should have been referenced given that this is discussing roosting impacts. All assessments of noise upon roosting and foraging/commuting bats are presented with updated noise contours in updated bat impact assessment at Volume 3, Appendix 2.9.B of the ES Addendum [AS-208]. This is should be referred to for the corrected figures.	We noted discrepancies in noise thresholds between AS-208 ⁵⁰ and AS-033 ⁵¹ (which superseded AS-224) and consider it important to have confidence the correct noise thresholds are used for impact assessments on bats. Please could the Applicant confirm the data and figures in the updated bat impact assessment ⁵² are correct and where this assessment supersedes the impact assessment in AS-033.
Bio.1.119	Barbastelle Para 14.13.121. (a) predicting the impacts from lighting with proposed mitigation. It is stated that this cannot be done accurately and that monitoring is proposed. Will the Applicant please comment on the appropriateness of this in the light of the case law in R v Cornwall County Council ex	(a) Paragraph 14.13.121 of Volume 2, Chapter 14 of the ES [AS-033] states 'it is not possible to accurately predict the impact from lighting once the mitigation measures proposed (as outlined in The Bat Mitigation Strategy Appendix 14C1A of this volume) are applied. As such, a suite of monitoring measures is proposed throughout the construction phase. These are outlined in the Bat Non-licenced Method Statement (Appendix 14C1B of this volume)'. The intent of paragraph 14.12.121 was to provide context for the assessments that follow and to acknowledge the difficulty in determining the future behaviour of bats to the proposed lighting. As stated in Stone (2013) ⁴⁸ it is important to note that this paragraph is intended to outline	We question the adequacy of the information collected to inform judgement on the likely response of bat populations to lighting. We detailed our concerns over data adequacy, analysis and assessment of impacts from lighting on bats and the proposed mitigation in our Written Representations submitted at Deadline 2 ⁵³ . We are also concerned that uncertainties relating to faunal responses to lighting have not been addressed ⁵⁴ .

⁴⁹ Paragraphs 3.622- 3.762of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506]

⁵⁰ 6.14 vol3 Chap2 ES Addendum Terrestrial Ecology & Ornithology Appendices 2.9A-2.9D [AS-208] updated bat impact assessment

⁵¹ ES Volume 2 Main Development Site Chapter 14 Terrestrial Ecology and Ornithology [AS-033]

⁵² 6.14 vol3 Chap2 ES Addendum Terrestrial Ecology & Ornithology Appendices 2.9A-2.9D [AS-208] updated bat impact assessment

⁵³ Paragraphs 3.622- 3.762 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506] Data adequacy and analysis: paragraphs 3.629-3.638, 3.666-3.685. Impact assessment: paragraphs 3.646- 3.652 and 3.707- 3.728. Mitigation: 3.741-3.749

⁵⁴ Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506] paragraphs 3.658-3.660, 3.716-3.723, 3.727-8 and 3.759

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	<p>parte Hardy (2001) Env LR 473 and subsequent cases including R (on the application of PPG11 Ltd) v Dorset County Council [2003] EWHC 1311, R v Rochdale Metropolitan Council (ex parte Milne) [2001] Env LR 22. The ExA would find it helpful if the Applicant would also comment on the remarks of the Examining Authority on this subject in the recommendation report on the Northampton Gateway NSIP - TR050006 - (largely at paras 11.4.20 and following). (b) Para 14.13.140 concludes, despite this uncertainty, that "Overall, once mitigation is applied, the impact of lighting on the barbastelle population would have a minor adverse effect which is considered to be not significant". How is this conclusion justified in the light of para 14.12.121? (c) There is a similar point at paras 14.13.223 – 225 (d) The point occurs again at para 14.14.69 in relation to water voles, which states that a monitoring programme "would be required for water vole to</p>	<p>how uncertainties relating to faunal responses to lighting will be addressed and this should have been made clearer within the text.</p> <p>Predicting the impacts of lighting on bats: This is an emerging and complex area of research with many knowledge gaps remaining. There are many aspects of ecological light pollution which are yet to be investigated, such as the impacts of polarized light on wildlife (Horvath et al. 2009)⁴⁹, and so a precautionary approach is important.</p> <p>Paragraph 14.12.121 would have more appropriately been phrased as follows: 'It is not possible to quantify precisely the impact from lighting on bats.....However it is possible to use professional judgement to draw conclusions in relation to the likely response of bat populations, without being able to precisely quantify that response'.</p> <p>An extensive suite of surveys have been conducted to ascertain the likely environmental effects arising as a result of the Sizewell C Project. The Applicant considers that the information presented in the Volume 2, Chapter 14 of the ES [AS-033] is sufficient for a decision maker to determine likely significant effects, and is in line with accepted practice. An appropriate level of assessment of lighting and related impacts has been made. and the gathering of information by means of the resultant monitoring. There is sufficient information to enable an informed judgment to be reached on that matter. The monitoring in the TEMMP [REP1-016] is not to provide further understanding in relation to the impact of lighting, but to confirm that the assessment which was conducted was accurate and that mitigation measures proposed (which are in line with accepted practice) are successful in mitigating impacts. The proposed approach does not therefore give rise to any conflict with the principle established in the ex p Hardy case. The courts have made clear that the issue addressed in ex p Hardy is to be distinguished from circumstances in which the purpose of the relevant provision is to gather information after the grant of consent so as to inform mitigation measures etc. A condition or requirement imposed for the latter purpose is</p>	<p>The Applicant quoted an example that barbastelle have been observed foraging within 25 metres of street lights (pers. comm., Ian Davidson-Watts) and yet (Bio 1.124), 'where lighting is proposed parallel to commuting routes/flightpaths a 10 metre buffer zone will be left'.</p> <p>Given this applies to many areas across the site of importance (e.g. Ash Wood), we question how a buffer of only 10 metre can be considered adequate based on the Applicant's expert's observations.</p> <p>This plus other challenges with predicting possible impacts (which we do appreciate) continue to cause us concerns. Whilst we of course understand the need for and use of professional judgment, and welcome further surveying, monitoring and offer of more mitigation if needed, we do question the Applicant's statement in its response to aspects of the Rochdale Envelope caselaw</p> <p>"it is considered that in respect of Sizewell C, the ES [AS-033⁵⁵] and the ES Addendum [AS-208⁵⁶] do present the necessary data and assessment to 'identify and mitigate the 'likely significant effects'', with the monitoring proposed to identify effects that are not foreseeable from the</p>

⁵⁵ ES Volume 2 Main Development Site Chapter 14 Terrestrial Ecology and Ornithology [AS-033]

⁵⁶ 6.14 vol3 Chap2 ES Addendum Terrestrial Ecology & Ornithology Appendices 2.9A-2.9D [AS-208] updated bat impact assessment

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	<p>determine any long-term impact on the water vole populations, to assess the effectiveness of the mitigation and to inform any changes that may be required to the management of habitats". (e) When dealing with (c) and (d) the Applicant should please address the questions asked at (a) and (b) to the specific factual circumstances and differences in (c) and (d).</p>	<p>entirely lawful and legitimate (see R v. Rochdale MBC, ex p. Milne [2001] Env LR 22, per Sullivan J at paras. 114 and 132; R (Jones) v. Mansfield DC [2003] EWHC 7 (Admin); and R (PPG 11 Ltd.) v. Dorset County Council [2003] EWHC 1311). It is therefore considered that the proposed approach to monitoring and mitigation of impacts on barbastelle roosts is not contrary to the case law referred to in this question.</p> <p>R v Rochdale Metropolitan Council (ex parte Milne) [2001] Env LR 22 is considered to have some relevance to the question 1.119. This case is in relation to evidence which was provided to outline 'likely significant effects' that was challenged by the Applicant. As in R v Rochdale Metropolitan Council (ex parte Milne) [2001] Env LR 22, it is considered that in respect of Sizewell C, the ES [AS-033] and the ES Addendum [AS-208] do present the necessary data and assessment to 'identify and mitigate the 'likely significant effects'', with the monitoring proposed to identify effects that are not foreseeable from the project, resulting from the paucity of applicable studies and unpredictability of faunal receptors.</p> <p>The recommendation document for Northampton Gateway NSIP - TR050006 refers to the information provided in relation to a project to allow a decision maker to determine the likely significant effects. Within the Application, all surveys and assessments to inform the impact assessment have been undertaken according to current best practice and understanding have been conducted and reported as part of the ES and the subsequent updated bat impact assessment include in the ES Addendum [AS-208]. (b)(c)(e)</p> <p>The statement in 14.13.140 concludes: 'Overall, once mitigation is applied, the impact of lighting on the barbastelle population would have a minor adverse effect which is considered to be not significant'. It is not considered that this conflicts with the statement in paragraph 14.12.121 of Volume 2, Chapter 14 of the ES [AS-033] for the same reasons as given above under (a) and with the suggested revisions to paragraph 14.12.121.</p>	<p>project, resulting from the paucity of applicable studies and unpredictability of faunal receptors."</p> <p>And whether a precautionary approach has been taken at this stage. Our concerns over the Applicant's approach are detailed in our Written Representations submitted at Deadline 2⁵⁷ and we conclude '<i>Due to inherent uncertainty over noise and light impacts on barbastelle, there is a lack of a precautionary approach around key areas of the site.</i>'⁵⁸</p> <p>We note the proposed mitigation measures and monitoring. Our concerns over the proposed mitigation and lack of a detailed monitoring strategy are detailed in our Written Representations submitted at Deadline 2⁵⁹. For example, '<i>3.663 A monitoring protocol needs to consider the ecology of the key bat populations and how they behave at different ages and stages in the breeding cycle. It needs to consider what are the actual impacts on barbastelle and Natterer's bat and how they reflect those predicted in the ES.</i></p> <p><i>3.681 In our view, there needs to be a condition in place on the development that a detailed Bat Monitoring Strategy is produced prior to any construction taking place, with clear objectives, as a headline of maintaining a breeding</i></p>

⁵⁷ Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506] paragraphs 3.622- 3.762

⁵⁸ Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506] Data adequacy and analysis: paragraph 3.759

⁵⁹ Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506] paragraphs 3.622- 3.7629

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		<p>The approach of the Sizewell C ES is to incorporate best practice and utilise precautionary assessment of the impact from lighting. Within the assessment in Volume 2, Chapter 14 of the ES [AS-033], the impact assessment in relation to lighting is considered to have applied the level of information that could be reasonably expected at this stage. The monitoring is designed to confirm the effectiveness of the best practice mitigation employed to address the effects (as such mitigation is expected to be effective), but where wider research is not entirely conclusive. Few peer reviewed studies have been conducted specifically in relation to the impact of lighting on barbastelle, however available information has been consulted, and there are examples / observations of barbastelles foraging 25m from street lights where vegetation screening is present (communication with barbastelle ecologist Ian Davidson-Watts). Therefore, it is considered that the proposed dark corridors will allow impacts to be controlled, however the ES acknowledges monitoring will need to confirm the success of the implemented mitigation. This is a strength of the application approach, wherein any impacts which are not foreseeable under current understanding can be identified and addressed.</p> <p>The monitoring proposed in the TEMMP [REP1-016] for bats does provide some opportunity for remedial actions, e.g. to reduce lighting levels, but these measures are to provide confidence that active mechanisms are in place and are secured to ensure that impacts are controlled, rather than a reliance being placed on them. The primary mechanism of lighting control will be via the relevant section of the Lighting Management Plan [APP-182], which is secured by Requirement. The monitoring will also support any necessary modifications to mitigation that can be made to achieve or further the objectives of the mitigation strategy. Clearly updating surveys etc over time for various stages (i.e. licensing) is also appropriate, however the overall impacts and mitigation strategy has been developed with the significant level of survey information gained to date that provides confidence in the effectiveness of the mitigation, and the assessment of no significant effect. The paragraphs 14.13.222 – 14.13.225 are presented below: '14.13.222 Given the duration of the construction phase, there is the potential for</p>	<p><i>population of barbastelle. This should include protocols for monitoring, method statements, identification of triggers for light and noise impacts (for further mitigation) and evidence based examples of possible future mitigation and must be secured through the DCO. Funding for possible future mitigation must be secured through the DCO.'</i></p>

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		<p>artificial lighting to reduce the ability of the light-averse Natterer's bat to use and move between habitats within the site and the immediate surroundings.</p> <p>14.13.223 It is not possible to accurately predict the impact from lighting once the mitigation measures proposed (as outlined in The Bat Mitigation Strategy Appendix 14C1A of this volume) are applied. As such, a suite of monitoring measures is proposed throughout the construction phase. These are outlined in the Bat Non-licenced Method Statement (Appendix 14C1B of this volume).</p> <p>14.13.224 In addition, control measures, including directional lighting, light attenuation and monitoring are proposed as outlined in the bat non-licensed method statement (Appendix 14C1B of this volume). 14.13.225 Overall, the impact of lighting on the Natterer's bat population would have a minor adverse effect, which is considered to be not significant.'</p> <p>Paragraph 14.13.222 outlines the potential impact upon Natterers' bats in the absence of mitigation. ext paragraph, 14.13.223 acknowledges the known limitations in current understanding of the impacts of lighting on certain faunal receptors, but as for barbastelle, a suite of mitigation measures (in line with accepted practice are proposed), and the monitoring as outlined in the TEMMP [REP1-016] will allow for any unforeseen effects to be captured and addressed. The suggested revisions to paragraph 14.12.121 described under (a) are again relevant in this case. Paragraph 14.13.224 is a brief outline of some of the construction phase mitigation which will achieve the low light levels required, as specified and evidenced within the Lighting Management Plan [APP-182]. As such, it is not considered that these statements are contradictory, or that the case law stated in question (a) is applicable.</p> <p>(d)(e)</p> <p>In relation to the paragraph 14.14.69 of Volume 2, Chapter 14 of the ES [AS-033], the statement that the monitoring programme 'would be required for water vole to determine any long-term impact on the water vole populations, to assess the effectiveness of the mitigation and to inform any changes that may be required to the management of habitats' does not refer</p>	

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		<p>to monitoring in order to address an deficiency with the baseline data used to inform the EIA or mitigation. As such, the case law in R v Cornwall County Council ex parte Hardy (2001) Env LR 473 is not applicable in this instance. The mitigation proposed follows accepted practice although the response to mitigation of a species such as water vole, with dynamic population cycles, cannot be predicted with precision, given the variables involved. Given this, monitoring is proposed to monitor the success of the mitigation measures, accepting the inherent uncertainty when dealing with faunal receptors. This is a precautionary approach to allow any required interventions to unforeseen outcomes to be addressed and to ensure favourable conservation status of water voles is achieved. For example, the creation of water vole habitats at Aldhurst Farm will need to be maintained in a state that ensures the long term viability of the population. This maintenance is outlined in the existing management plan for the site, but will also need to be informed by monitoring, as it may also need to take into account changes relating to climate, unforeseen events, or public disturbance.</p>	
Bio.1.122	<p>Para 14.13.287 refers to roosts already created and to be created. Please explain how and where the provision and maintenance is secured.</p>	<p>The commitments made in relation to monitoring of sites, habitats and species and also the monitoring of the success of mitigation measures such as habitat establishment and bat boxes are described in the Terrestrial Ecology Monitoring and Mitigation Plan (TEMMP) [REP1-016], submitted at Deadline 1 and secured under Requirement 4. The Applicant believes that this document serves to address the question in full. In response to example given left and specifically in relation to bats, for the main development site, the approach is defined in Table 4.4, on page 45, as follows [adapted from table format]: 'Construction (Years 1-12 inclusive): Bat boxes and the bat barn will be monitored on an annual basis during the construction phase. The surveys will be to confirm presence/ absence and the species assemblage present. [Undertaken] Annually in September All monitoring will be conducted by an appropriately licensed bat ecologist. Monitoring will consist of a check of the feature for evidence of use, such as droppings, smoothing, feeding remains, smell, staining and bat fly (Nycteribiid) pupae. Locations will include: • Sites where roosts are known to be present, e.g., Natters roost</p>	<p>Although para 14.13.287⁶⁰ refers to Leisler's bat and Nathusius' pipistrelle we do wish to comment since the Applicant's response is also relevant to barbastelle and Natterer's bats. We highlighted our concerns over the adequacy of roost provision in our Written Representations submitted at Deadline 2⁶¹.</p>

⁶⁰ Volume 2 Main Development Site Chapter 14 Terrestrial Ecology and Ornithology [APP-224]

⁶¹ Bats paragraphs 3.622- 3.762 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506] specifically paragraphs 3.661, 3.744, 3.751- 3.754

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		<p>identified in 2020 (>40 bats in each box) • Monitoring of bat boxes erected for barbastelle already (45 boxes distributed already around the site). • Any newly installed bat boxes to mitigate for any further identified roost loss in trees. Temperature and humidity data loggers will be placed inside the bat barn to measure the environmental conditions match those within the structures where roosts have previously been identified. Success criteria will include the uptake of occupation by bats and whether the number of bats present increases or remains consistent throughout the construction phase. In the event of the bat boxes not being occupied within three years of installation, consideration will be given to moving them to alternative sites nearby, to be determined by a licensed bat ecologist. In the event of the bat barn not being occupied within three years of installation, consideration will be given to modifications which might be acceptable within the context of the DCO, with the modifications to be determined by a licensed bat ecologist and in agreement with Natural England.' The proposed approach to monitoring of the bat boxes and the bat barn during the operational phase is then described in the next row of the table.</p>	
Bio.1.124	<p>Para 14.13.470 on inter-relationship effects contains the following somewhat Delphic assessment: "However, it is possible to state that when increased levels of task-specific lighting do correlate with higher noise levels, these events are likely to be of short duration relative to the construction period and are unlikely to be more significant than either impact pathway in isolation". Please will the Applicant state unequivocally its view on the</p>	<p>As explained in the answer to Question Bio 1.13 in this chapter, a standardised approach to the assessment of inter-relationship effects has been taken across the each of the terrestrial ecology and ornithology assessments presented within the ES that follows the methods of assessment set out within Volume 1, Chapter 6 of the ES [APP-177] and the terrestrial ecology and ornithology specific assessment methodology in Volume 1 Appendix 6J of the ES [APP-171]. The assessment presented considers the magnitude of impacts and value/sensitivity of resources/receptors that could be affected in order to classify effects. In the case of the inter-relationship assessment, consideration has been given to the combined magnitude of the different impacts of the proposed development on an individual important ecological feature to identify the inter-relationship effect on the important ecological feature.</p> <p>Inter-relationship effects are known to be difficult to quantify, and in respect of bats several approaches have been employed to ensure potential impacts</p>	<p>We outline our concerns over the assessment of inter-relationship effects on bats in our Written Representations submitted at Deadline 2⁶².</p> <p>The Applicant answer to Bio.1.119 quotes an example that barbastelle have been observed foraging within 25 metres of street lights (pers. comm., Ian Davidson-Watts) and yet (Bio 1.124), <i>'where lighting is proposed parallel to commuting routes/flightpaths a 10 metre buffer zone will be left'</i>. Given this applies to many areas across the site of importance (e.g. Ash Wood), we question how a buffer of only 10 metre can be considered</p>

⁶² Bats paragraphs 3.622- 3.762of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506] specifically paragraphs 3.665 and 3.727-8

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	likelihood and significance of the impact.	<p>are mitigated and then to draw assessment conclusions. Firstly, for each impact and for all sites, mitigation is proposed to reduce the resultant effect to a level at which individual impacts are not considered likely to have a significant effect. Secondly, for the main development site, as is outlined in the Updated bat impact assessment included at Volume 3, Appendix 2.9.B of the ES Addendum [AS-208], a comparable site, Hinkley Point C, was assessed, and the success of the approaches on that site to address noise and lighting impacts were reviewed. This provides additional evidence that in-combination impacts could be kept to a level that will not result in a significant in combination effect. Thirdly, for the main development site, new habitats which are not impacted by noise or light have been created. This will minimise the potential impact upon species populations across the wider EDF Energy estate. Fourthly, for several sites, including the main development site, a suite of monitoring is proposed within the TEMMP [REP1-016], secured by Requirement 4, which will allow any individual impacts or any unforeseen individual or in-combination impacts to be identified and addressed by remedial measures. The assessment relies on the robust available data, and the overall impacts and mitigation strategy were developed with the significant level of survey information gained to date, which that provides confidence in the effectiveness of the mitigation proposed based on current best practice and research. However, there is limited research available for some impacts on some bat species, particularly in combination effects and bats, as living things, do not always behave as expected. Finally, the potential of high levels of light and noise occurring at the same time was considered. The statement in paragraph 14.13.470 [AS-033] refers to the nature of noise and lighting in relation to construction activity. High levels of noise are primarily anticipated during the daytime, when the majority of on-site activity will occur. Lighting, as outlined in the Lighting Management Plan (Volume 2, Appendix 2B [APP-182]) will be controlled through a number of measures, stated below (relevant sections of paragraphs 8.2.79 – 8.2.89 in Volume 3, Appendix 2.9.B of the ES Addendum [AS208]):</p> <ul style="list-style-type: none"> • All lighting installed shall have some form of control to suit the tasks being undertaken and ensure energy is not wasted with lights being in operation 	adequate based on the Applicant's expert's observations.

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		<p>24hrs a day. • In general task lighting will only be used during specific times at specific locations and will typically be provided by portable units which will have manual switching. If the units are to be in place for a prolonged period it would be beneficial for the unit to have a photo electric control cell which will automatically turn the lighting on at dusk and off again at dawn when natural lighting levels have increased or reached pre-determined levels. • Ambient lighting – Ambient lighting will be more permanent and will be required to operate dusk to dawn, so the most suitable method of control will be via a photo electric control cell possibly with pre-programmed dimming or via a central management system (CMS). • Access control points – At access control points there will be the need to boost the ambient lighting when there is the need to undertake an inspection etc. This would best be controlled via a local switch either at the check point or in a control centre. It is important to consider the light source when instant boost lighting is required as most light sources other than LED will need some form of run up time to reach full output. • Where lighting in proximity to a bat roost or commuting route/flightpath is unavoidable then, in addition to the points made [in the Mitigation Measures section], the following additional mitigation measures shall be adopted for both fixed and temporary lighting: o use a light source that has a narrow spectrum with no UV content; o use a warm colour temperature (2700K and below); and o use a tuneable LED luminaire. • Where the interconnected network crosses a lit area these areas shall be kept dark by introducing a gap in the lighting design where safe to do so. For example, if they are dissected by a road, a gap of approximately 30m will be left beyond the design spacing of any lighting. Where lighting is proposed parallel to commuting routes / flightpath a 10m buffer zone will be left. Given the lighting and noise control measures which will be in place, listed above, the risks of individual effects arising at any one time are greatly reduced. In turn, this reduces the likelihood of adverse noise and lighting effects occurring simultaneously and so minimising the potential for significant adverse in-combination or inter-relationship effects. In summary, inter-relationship effects on bats relating to noise, lighting and habitat loss are considered to 'not significant' due to the primary and tertiary mitigation measures that are embedded into the scheme design. With the implementation of primary/tertiary mitigation and secondary mitigation</p>	

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		<p>(monitoring), residual effects (individually, minor adverse or negligible) are not considered to be significant and the inter-relationship of these residual effects, is not considered to be significant. For barbastelle on the main development site, a moderate adverse (significant) effect is predicted during construction arising from habitat fragmentation. This is due to the proposed removal of an area (Goose Hill plantation woodland) known to be utilised by barbastelle between areas to the north-east and south-west of the construction area. There are retained and new commuting areas through the site meaning that bats will be able to traverse the site, however, one part of the site known to be used by barbastelle will be fragmented. This is not considered an in-combination effect, as it the removal of the habitat in this area that is the primary cause of the fragmentation. As outlined in the updated bat assessment, Volume 3, Appendix 2.9.B of the ES Addendum [AS-208], in paragraph 8.2.120, the in-combination effect of the lighting and noise upon bats utilising the retained and created commuting routes is considered not significant.</p>	
Bio.1.125	<p>Bats, operation, monitoring. Para 14.13.515 explains that "If bat boxes have not been occupied within three years of installation, consideration would be given to moving them to alternative sites nearby, to be determined by a licensed bat ecologist". Please explain where this is secured, the objectivity of the assessment and the enforcement of the result of the "consideration".</p>	<p>The commitments made in relation to monitoring of sites, habitats and species and also the monitoring of the success of mitigation measures such as habitat establishment and bat boxes are described in the Terrestrial Ecology Monitoring and Mitigation Plan (TEMMP) [REP1-016], submitted at Deadline 1 and secured under Requirement 4. The Applicant believes that this document serves to address the question in full.</p> <p>Further details are given in the response to Questions Bio 1.122 and Bio 1.145 in this chapter and are relevant here.</p>	<p>The TEMMP paragraph 4.5.7 notes <i>'Bat boxes in retained woodland areas will be monitored on an annual basis during the construction phase of Sizewell C from one year after installation. Boxes will continue to be monitored for five-years beyond the completion of construction. This monitoring will clarify the presence/absence of bats and the use of the bat boxes. Further details are provided in Table 4.4 below.'</i></p> <p>Table 4.4. notes <i>'In the event of the bat boxes not being occupied within three years of installation, consideration will be given to moving them to alternative sites nearby, to be determined by a licensed bat ecologist.'</i></p>

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
			In our view the Applicant should explain the objectivity of the assessment and enforcement of the result of the 'consideration' to answer the ExA question. The Applicant should explain the process for reviewing and moving bat boxes and ensuring they are in suitable locations.
Bio.1.133	<p>Biodiversity net gain</p> <p>[APP-425] – Table 7.3 – consultation responses, RSPB, 23 Sept 2019.</p> <p>Please will the Applicant set out a specific response to each of the points raised by the RSPB.</p>	<p>The responses are set out under each of the points made by the RSPB, here in italics:</p> <p>1. RSPB 'We are concerned about the proximity of Foxburrow Wood CWS. Whilst it is difficult to determine from the map, we assume there will be no net loss from the site. Even so, in our view the likely impact would require mitigation.'</p> <p>The Applicant's Response- Foxburrow Wood CWS ancient woodland will be retained in its entirety. A buffer distance of 15m from earthworks would be applied to prevent impacts to the trees on the edge of the woodland. Some limited footpath works would however be required at the edge of this zone.</p> <p>2. RSPB: 'A cut through, with ancillary footbridge for the public footpath would, in our view, not be enough to mitigate impact and the loss of ecological functionality across the landscape. Therefore, we strongly advise the construction of a green bridge at this location to help retain connectivity with several locally important hedge lines.'</p> <p>The Applicant's Response SZC Co. has considered the design of the proposed Foxburrow Wood footbridge in light of discussions with and representations from the RSPB and Suffolk Wildlife Trust summarised in Volume 5, Chapter 7 of the ES [APP-425].</p> <p>Whilst a green bridge would be of some ecological benefit, the inclusion of a green bridge would not link or re-establish a linkage between two areas of existing high value, such as two areas of designated ancient woodland or a County Wildlife Site (CWS). The ancient woodland of Foxburrow Wood is of</p>	<p>Please note these comments should be attributed to Suffolk Wildlife Trust from its Stage 4 consultation response.</p> <p>SWT and the RSPB continued to advocate the provision of an innovatively designed green bridge linking Foxburrow Wood County Wildlife Site with the woodland to the west in paragraph 3.811 of our Written Representations submitted at Deadline 2⁶³ as this would provide habitat enhancements for protected species of bats and birds.</p> <p>Please refer to our comments on net gain in section 5 of our Written Representations submitted at Deadline 2⁶⁴.</p>

⁶³ Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506]

⁶⁴ Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506] section 5

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		<p>high value but the existing small areas of (non-ancient) woodland and mature trees in the Farnham Hall area to which it would become linked have no special designation, either nationally or locally (it is not a County Wildlife Site (CWS)).</p> <p>As a result, a green bridge would not serve to lessen the significance of any of the adverse ecological effects identified in the ES. Given it would not re-establish existing links between two high value habitats, and the ES demonstrates a net gain in biodiversity overall, it was not considered that a green bridge is necessary in ecological terms.</p> <p>In terms of landscape and visual impacts of the proposed Foxburrow Wood footbridge, the landscape and visual impact assessment chapter in the ES (Volume 5, Chapter 6) [APP-421] predicts significant landscape effects during construction and for the medium-long term once the two village bypass is operational. The planting mitigation proposed will, once matured, be sufficient to screen the footbridge from the wider landscape. This is unlikely to be achieved until Year 15 but 15 years is relative to the fact that the bridge would be a permanent structure and a legacy benefit of the scheme.</p> <p>The propose footbridge has been designed to be as small as possible, but within Design Manual for Roads and Bridges (DMRB) guidelines, to limit its visual impact. Whilst a green bridge may blend into the landscape sooner than the proposed planting will allow, the additional scale of such a structure would provide little overall benefit, given it would not reconnect two high value habitats.</p> <p>The Green Bridge Guidance published by the Landscape Institute in January 2016 following research commissioned by Natural England presents several types of wildlife bridges, which are significantly more substantial in size than the proposed Foxburrow Wood footbridge. It states that green bridges aiming to achieve connections at a landscape / ecosystem level should be over 80m in width. Where the aim is to achieve connections for species at a population level, the bridge should be around 50m wide (published guidance recommendations range from 25m-80m, with an average of 50m). As a general rule, a width to length ratio over 0.8 is recommended.</p>	

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
		<p>Given the Foxburrow Wood footbridge has been designed to be as short a structure as possible to limit its impacts, the above 0.8 ratio would mean that the 43m long footbridge would need to be 34.4m in width to be a viable green bridge in accordance with the guidance, which would make it a substantially larger structure. Given the visual impact of the proposed footbridge would be greatly reduced once the proposed mitigation planting has matured, and that this planting has been assessed to result in a net gain in biodiversity, the benefits of upgrading to a green bridge would be marginal.</p> <p>The additional scale of the structure would not appear to provide enough of a benefit to be a reasonable alternative to the proposed Foxburrow Wood footbridge. It is also likely to take longer to construct (at much greater cost) which could have a negative impact on programme overall but also on the reopening of the existing footpath crossing the two village bypass, and other PRow connections in the vicinity. There are, therefore, significant disbenefits to a Green Bridge to weigh against a marginal benefit.</p> <p>3. RSPB: 'The drainage infiltration basins will need habitat surveys and protected species surveys prior to works. However, we believe these basins could be designed in such a way as to provide opportunities for Net Gain and request that careful thought is given to this.'</p> <p>The Applicant's Response- Pre-construction surveys will be carried out across all sites. Planting and landscaping design will be of such to maximise Net Gain opportunities and are aligned with the Biodiversity Net gain Report [REP1-018]. The oLEMP [AS-263] and TEMMP [REP1-016] include long-term management and monitoring measures.</p> <p>4. RSPB: 'The areas of grass could be planted with wild flower and/or pollen and nectar mixes and managed in a sensitive way.'</p> <p>The Applicant's Response- This point is covered in the bullet above</p> <p>5. RSPB: 'There are also options to include skylark plots. Again, careful thought over the long-term management of these areas could contribute to Net Gain.'</p>	

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
		<p>The Applicant's Response- The oLEMP [REP1-010] and the TEMMP [REP1-016] include long-term management and monitoring approaches and are aligned as relevant with the Biodiversity Net Gain Report [REP1-018]. The proposed habitats along the road corridor, which include acid and neutral grasslands are likely to be suitable for foraging skylarks, but they are probably unlikely to nest within the fenced boundaries of the highway. The proposed approach to enhancing the flood plain grasslands around the River Alde is likely to be more valuable to nesting skylarks.</p> <p>6. RSPB: 'We also have significant concerns on the loss of ecological connectivity along the river corridor as a result of the crossing. More detail is required to determine this and we expect mitigation in terms of mammal passes and related protected species surveys.'</p> <p>The Applicant's Response- Section 7.6.118 specifies mitigation to be implemented to minimise and / or avoid fragmentation effects such as the offsetting of the bridge abutments and the retention of the River Alde channel banks as well as the provision of other mitigation such as the inclusion of an otter ledge to ensure the area is passable at times of high-flow. A second pass for mammals will also be provided through the eastern embankment of the River Alde overbridge.</p> <p>7. RSPB: 'Furthermore, more evidence is required to understand how the bypass might affect hydrology and the relationship between the river and its floodplain and consequently, the local wet meadows. If there is an effect, considerable effort will be needed to meet Net Gain, over and above what is currently being proposed.'</p> <p>The Applicant's Response- Section 7.6.118 defines the mitigation to be implemented to minimise impacts upon the local hydrological features and to retain (or improve where practicable) value for local biodiversity. A full hydrological assessment is provided in Volume 5, Chapter 12 [APP-441]. An updated Biodiversity Net Gain Report for the two village bypass [REP1-018] was submitted at Deadline 1.</p>	
Bio.1.144	[APP-425] – para 7.6.154 – habitat loss and fragmentation, bats. Road crossing points for	The structures described as resembling 11kv transmission lines on the A11 near Thetford are 'Bat gantries', which can be ineffective. These structures are not proposed in the construction or operational phases for the two	We recommended the design and location of road crossing points for bats should follow best

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
	<p>bats are mentioned. It has been widely reported that the bat hop-overs (which are often said to resemble 11kv transmission lines) on the A11 near Thetford are ineffective. Please will the Applicant point the ExA to where in the ES the measures are described and any evidence in the ES of their demonstrable success elsewhere. Is the "not significant" assessment justified?</p>	<p>village bypass or the Sizewell link road. Bat 'hop-overs' are proposed and are advocated as a simple method to guide bats safely across roads. The aim of hop-overs is to maintain existing bat commuting routes and to increase or keep the bats at height above the traffic when they cross the road. A hop-over consist of tall trees, preferably deciduous trees, as close to the road margins as possible (with due consideration for vehicle safety) on either side of a road to narrow the gap in the bat commuting route which is created by the new road. In ideal circumstances and in the longer term, the canopy meets over the road to create a continuous canopy. This approach is more viable for single carriageway roads (as in the proposed two village bypass and the Sizewell link road) rather than dual carriageways. Planters containing trees are proposed to maintain connectivity at night during the construction period.</p>	<p>practice in our Written Representations submitted at Deadline 2⁶⁵.</p>
<p>Bio.1.145</p>	<p>[APP-425] – para 7.7.8 – monitoring and bat boxes.</p> <p>This paragraph states: "If bat boxes have not been occupied by year 5 following installation, consideration would be given to moving them to alternative sites nearby, to be determined by a licensed bat ecologist". It is one of a number of examples where the following questions arise:</p> <p>(i) where is this secured? (ii) what are the criteria? (iii) how are disputes settled? (iv) what happens if the boxes are not occupied in their new locations.</p>	<p>The commitments made in relation to monitoring of sites, habitats and species and also the monitoring of the success of mitigation measures such as habitat establishment and bat boxes are described in the Terrestrial Ecology Monitoring and Mitigation Plan (TEMMP) [REP1-016], submitted at Deadline 1 and secured under Requirement 4. The Applicant believes that this document serves to address the question in full including the point (ii) around disputes</p> <p>In response to example given left and specifically in relation to bats, for the associated development sites, the approach is defined in Table 5.2, on page 67, as follows:</p> <p>Construction (Years 1-3):</p> <p>'Bat boxes will be monitored on an annual basis during the construction phase.</p> <ul style="list-style-type: none"> • The surveys will be to confirm presence/ absence and the species assemblage present. <p>Annually in September (optimal time)</p>	<p>The TEMMP paragraph 4.5.7 notes</p> <p><i>'Bat boxes in retained woodland areas will be monitored on an annual basis during the construction phase of Sizewell C from one year after installation. Boxes will continue to be monitored for five-years beyond the completion of construction. This monitoring will clarify the presence/absence of bats and the use of the bat boxes. Further details are provided in Table 4.4 below.'</i></p> <p>Table 4.4. notes <i>'In the event of the bat boxes not being occupied within three years of installation, consideration will be given to moving them to alternative sites nearby, to be determined by a licensed bat ecologist.'</i></p>

⁶⁵ Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)] paragraphs 3.739-40

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
	Please will the Applicant address these questions for each place where these proposals are made in the ES and Application documentation.	<ul style="list-style-type: none"> • All monitoring will be conducted by an appropriately licensed bat ecologist. • Monitoring will consist of a check of any bat boxes installed for evidence of use, such as droppings, smoothing, feeding remains, smell, staining and bat fly (Nycteribiid) pupae. • Requirements as detailed in the draft non-licensable method statement or Natural England Bat Development Licence. • Success criteria will include the uptake of occupation by bats, the number of bats present increases or remains consistent throughout the construction phase. • In the event of the bat boxes not being occupied within three years of installation, consideration will be given to moving them to alternative sites nearby, to be determined by a licensed bat ecologist.' <p>Operation (Years 4-8):</p> <p>'Boxes will continue to be monitored for five-years beyond the completion of construction.</p> <ul style="list-style-type: none"> • The surveys will be to confirm presence/ absence and the species assemblage present. • Annually in September (optimal time) • All monitoring will be conducted by an appropriately licensed bat ecologist. • Monitoring will consist of a check of any bat boxes installed for evidence of use, such as droppings, smoothing, feeding remains, smell, staining and bat fly (Nycteribiid) pupae. • Requirements as detailed in the draft non-licensable method statement or Natural England Bat Development Licence. • Success criteria will include occupation by bats and the number of bats present increases or remains constant. • In the event of the bat boxes not being occupied within three years of installation, consideration will be given to moving them to alternative sites nearby, to be determined by a licensed bat ecologist.' 	<p>In our view the Applicant should explain the objectivity of the assessment and enforcement of the result of the 'consideration' to answer the ExA question.</p> <p>We request details of the process for reviewing bat box location and ensuring bat boxes are in suitable locations.</p>
Bio.1.154	[APP-461] – para 7.5.4 third bullet, fourth tirt. Should the reference be to the East Suffolk Line? Ninth bullet – reads:	The answer to Question Bio 1.144 is also directly relevant. The structures described as resembling 11kv transmission lines on the A11 near Thetford are 'Bat gantries', which can be ineffective and these are not proposed in the construction or operational phases for the two village bypass or the Sizewell	We recommended the design and location of road crossing points for bats should follow best

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
	<p>"Crossing points (bat hop-overs) to facilitate the passage of bats across the road alignment have been incorporated in the design where foraging or commuting routes have been identified".</p> <p>What is the evidence for the success of these facilities? It has been widely reported that the bat hop-overs (which resemble 11kv transmission lines) on the A11 near Thetford are ineffective. See e.g. https://www.bbc.com/news/uk-england-34605886 What measures are to be used on the SLR and what evidence is there of success elsewhere? Please will the Applicant comment and explain why the measures proposed are likely to be successful. Is a "not significant" effect assessment justified?</p>	<p>link road. Bat 'hop-overs' are proposed and are advocated as a simple method to guide bats safely across roads. The aim of hop-overs is to maintain existing bat commuting routes and to increase or keep the bats at height above the traffic when they cross the road. A hop-over consist of tall trees, preferably deciduous trees, as close to the road margins as possible (with due consideration for vehicle safety) on either side of a road to narrow the gap in the commuting route which is created by the new road. In ideal circumstances and in the longer term, the canopy meets over the road to create a continuous canopy. Given the road widths, this approach is more viable for single lane highways rather than dual carriageways.</p> <p>As stated in Altringham and Berthinussen, although the effectiveness of bat hop-overs has not been assessed, Russell et al. (2009) observed that bat flights across a 20m road gap were at greater heights where bats approached the road along flight routes with taller roadside vegetation and Berthinussen & Altringham (2012b) found a positive correlation between road-crossing height and the height of the roadside embankment. Planters containing trees are proposed to maintain connectivity at night during the construction period.</p>	<p>practice in our Written Representations submitted at Deadline 2⁶⁶.</p>
Bio.1.260	<p>Biodiversity net gain Please will the Applicant set out its understanding of the Government's current policy on biodiversity net gain. Please will Natural England and ESC do the same. In ESC's case, please will it include its own policy as well.</p>	<p>A summary of legislation and policy is provided in the cover note for the latest reports.</p> <p>Please see Appendix 7M of this chapter. The '25 Year Plan for the Environment and the National Planning Policy Framework' requires new developments to identify and pursue opportunities for securing measurable net gains for biodiversity and for the wider environment. The Environment Bill 2019-2021 which was first introduced on 15 October 2019, was re-</p>	<p>As we have said in our Written Representations, submitted at Deadline 2⁶⁷, we agree planning decisions should minimise impacts on and provide net gains for biodiversity [NPPF⁶⁸, paragraph 170 and 175d] however as paragraph 175, NPPF also clearly states development likely to have an adverse effect on a SSSI should not</p>

⁶⁶ Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506] paragraphs 3.739-40

⁶⁷ Paragraph 5.17 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506]

⁶⁸ [National Planning Policy Framework](#)

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
	<p>In all cases, please provide the necessary references and internet addresses.</p>	<p>introduced to parliament following a general election on 30 January 2020. The Environment Bill is viewed as helping deliver the government's manifesto commitment to 'delivering the most ambitious environmental programme of any country'. The Environment Bill introduces a mandatory requirement for biodiversity net gain for new developments to ensure that they enhance biodiversity and create new green spaces for local communities to enjoy. Integrating biodiversity net gain into the planning system will provide a step change in how planning and development is delivered.</p> <p>The Environment Bill 2019-202188 has passed its second reading in the House of Commons and is has been at reporting stage since 26 January 2021. The Bill still needs to undergo a third reading in the House of Commons and be passed to the House of Lords. In the reporting stage amendments to the Bill can still be made.</p> <p>The Environment Bill in its present form includes a mandatory Biodiversity Net Gain of 10% for development and this needs to be maintained for a minimum of 30 years. National Significant Infrastructure Projects (NSIP) are excluded from mandatory Biodiversity Net Gain.</p> <p>Biodiversity Net Gain cannot be used to mitigate for the loss of habitats in statutory designated sites or irreplaceable habitats such as Ancient Woodland.</p> <p>The NPPF, sets out how the planning system should protect and enhance nature conservation interests. Section 15, paragraph 170d discusses biodiversity net gain. The relevant parts include: Planning policies and decisions should contribute to and enhance the natural and local environment by:</p> <ul style="list-style-type: none"> • minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures; 	<p>normally be permitted unless the benefits clearly outweigh its likely impact:</p> <p><i>'When determining planning applications, local planning authorities should apply the following principles:</i></p> <p><i>a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;</i></p> <p><i>b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;'</i></p> <p>As we have said in our Written Representations, submitted at Deadline 2⁶⁹, and in the RSPB's Relevant Representations⁷⁰ we do not agree the Application can achieve net gain due to direct</p>

⁶⁹ Paragraphs 5.12 - 5.19 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)]

⁷⁰ Relevant Representation from the Royal Society for the Protection of Birds [[RR-1059](#)]

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
		<p>Then paragraph 174b, to protect and enhance biodiversity and geodiversity, states plans should: • promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species: and identify and pursue opportunities for securing measurable net gains for biodiversity</p> <p>Finally, paragraph 175d, which specifies the approach to be used when determining planning applications, local planning authorities are expected to apply the following principles:</p> <ul style="list-style-type: none"> • development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity. 	<p>adverse impacts on Sizewell Marshes SSSI from loss of a significant proportion of the SSSI.</p> <p>We agree with Natural England's views regarding mitigation and compensation for impacts on species and sites⁷¹ and raised these concerns in our Written Representations submitted at Deadline 2⁷². We therefore strongly support their advice that:</p> <p><i>'it is imperative that the project as a whole avoids, mitigates and/or compensates for impacts on sites and species of existing high value which sit outside the BNG considerations'</i></p> <p>and</p> <p><i>'there should be a clear distinction in the project documents as to which habitats are being created for mitigation and/or compensation purposes and which are being delivered as BNG uplift. We advise that such clarity is needed to avoid double counting.'</i></p>
Bio.1.264	<p>Executive summary. The achievement of the scores is reliant on creation and management plans.</p> <p>Please specify where these are secured in the DCO and which they are of the plans submitted.</p>	<p>The achievement of the scores is reliant on the Outline Landscape and Ecology Management Plans (oLEMPs). The oLEMP for the main development site [REP1-010] is secured via draft Requirement 14. The LEMPs in respect of the two village bypass site [AS-263] and Sizewell link road site [AS-264] are secured via draft Requirement 22A, where they are referred to as 'Ecology Management Plans'. These include management plans for the target habitats and these habitats are in accordance with the habitats assessed in the BNG Reports [REP1-018 and REP1-017]. The Undertaker, acting on behalf of the</p>	<p>We agree the achievement of the metric scores is reliant on habitat creation and management plans. We detailed our concerns that the Applicant does not appear to have identified a legal mechanism for securing a 10% metric score in their mitigation strategy in our Written Representations submitted at Deadline 2⁷³.</p>

⁷¹ Key issue 23 in Natural England's Written Representations [[REP2-153](#)]

⁷² Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)], paragraphs 3.524-3.545

⁷³ Paragraphs 5.42 – 5.49 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)]

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
		Applicant, will be required to establish and manage the required habitats in general accordance with the oLEMPs and LEMPs.	
Bio.1.265	Executive summary – “It is recommended that post planning, additional surveys are undertaken”. Where is this secured in the DCO?	This comment is not present in the latest reports [REP1-004 ,REP1-017, REP1-018, and REP1-019]. Further survey work has now been undertaken and is reported in the updated report.	We detailed our concerns that the biodiversity value of existing habitats has not been adequately considered and taken account of in our Written Representations submitted at Deadline 2 ⁷⁴ . It is our view that further surveys are required to establish the baseline biodiversity value of existing habitats and that this requirement should be secured within the DCO.
Bio.1.268	Para 2.10 – recommendation to conduct “ground-truthing surveys”. (i) Where is that secured; (ii) what happens if they show the net biodiversity calculation is wrong?	This comment is not present in the latest reports [REP1-004 ,REP1-017, REP1-018, and REP1-019]. Further survey work has now been undertaken and is reported in the updated report.	<p>(i) We detailed our concerns that the biodiversity value of existing habitats has not been adequately considered and taken account of in our Written Representations submitted at Deadline 2⁷⁵. It is our view that further surveys are required to establish the baseline biodiversity value of existing habitats.</p> <p>(ii) We detailed our concerns relating to the Applicant's approach to biodiversity net gain in our Written Representations submitted at Deadline 2⁷⁶.</p> <p>We do not agree the Application can achieve net gain due to direct adverse impact on Sizewell Marshes SSSI from loss of a significant proportion of the SSSI, nor the amount claimed by the Applicant.</p>

⁷⁴ Paragraph 5.50 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [\[REP2-506\]](#)

⁷⁵ Paragraph 5.50 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [\[REP2-506\]](#)

⁷⁶ Paragraph 5.6 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [\[REP2-506\]](#)

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
Bio.1.269	Para 2.10 "Should a target be set for percentage net gain of biodiversity units, it is recommended that ...". Has such a target been set, is it in the DCO and if so, where? Is the remainder of this assumption met?	The BNG assessments have been undertaken on a voluntary exercise. NSIPs are also currently excluded from any future mandatory requirement, based on the current proposals within the Environment Bill ⁹⁰ (see also Bio 1.260 above). These assessments have been undertaken to address stakeholder requests and no targets have been set. Updated Biodiversity Net Gain Reports [REP1-004 ,REP1-017, REP1-018, and REP1-019] clarify this position.	In our Written Representations submitted at Deadline 2 ⁷⁷ we concluded, based on our concerns and the information available at present, we do not agree the Application can achieve net gain due to direct adverse impact on Sizewell Marshes SSSI from loss of a significant proportion of the SSSI, nor the amount claimed by the Applicant.
Bio.1.270	<p>Para 5.1 and Table 13.</p> <p>(i) Please clarify which are the "interventions" referred to a being changed.</p> <p>(ii) Have not some of the changes already been made, for example the Aldhurst Farm areas?</p> <p>(iii) If so, is it valid to take them into account?</p>	<p>(i) Details of the off-site interventions are presented in sections 2.3.3 to 2.3.8 and Figures 1 and 2 of the updated main development site report [REP1-004].</p> <p>(ii) Changes have already been made in some of these areas (see also Bio 1.51 above) as advanced creation of habitats is considered best practice. This approach minimises development effects by ensuring mitigation or compensatory habitats are either partially or fully established prior to construction impacts occurring. The baseline in the BNG assessments was taken prior to any habitat mitigation or compensation works relating to Sizewell C taking place.</p> <p>(iii) This approach is valid and is in accordance with Natural England approaches which encourage habitat creation measures in advance of development. The approach improves the value of the habitats and minimises effects related to landtake of habitats (discussed in BNG cover note (Appendix 7M of this chapter) and main development site executive summary [REP1-004]). This approach is also in accordance with Natural England's consultation response⁹¹, which states the proposal 'to include an option within the final Metric that will enable Time to Target Condition to be reduced by the relevant number of years to take account of habitats created ahead of a development.' This approach, using historic baseline states has been used for the assessments undertaken for Sizewell C.</p>	<p>(ii) and (iii) We raised concerns the baseline policy is directly at odds with the biodiversity gain system to be introduced by the Environment Bill in our Written Representations submitted at Deadline 2⁷⁸.</p> <p>The Applicant's policy to apply different on-site baseline data dates to each on-site delivery area, all of them prior to the point of planning application (paragraph 2.3.2 to 2.3.8 of REP1-004) is at odds with Schedule 5 of the Bill which has no provision for different baseline data dates across the on-site delivery areas. As there is currently no biodiversity site gain register, it would not be possible for the Applicant to claim an earlier baseline for off-site delivery under the biodiversity gain system.</p>

⁷⁷ Paragraphs 5.12 – 5.19 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)]

⁷⁸ Paragraph 5.52 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)]

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
Bio.1.272	Conclusion – para 10. Post-planning additional surveys are recommended to inform detailed design, habitat creation and management plans. Where is this secured in the DCO?	This comment is not present in the updated reports [REP1-004 ,REP1-017, REP1-018, and REP1-019]. Further survey work has now been undertaken to address these matters and is reported in the updated reports.	We detailed our concerns that the biodiversity value of existing habitats has not been adequately considered and taken account of in our Written Representations submitted at Deadline 2 ⁷⁹ . It is our view that further surveys are required to establish the baseline biodiversity value of existing habitats.
Coastal geomorphology			
CG.1.0	<p>Impacts on coastal processes</p> <p>The ES V II, Chapter 20 [APP-311], identifies potential impacts on coastal change. The Change Request provided additional information in relation to coastal geomorphology and hydrodynamics including the draft Coastal Processes Monitoring and Mitigation Plan appended to the ES Addendum. In the light of EN-1, paragraphs 5.5.7 and 5.5.10 and EN6 paragraph 3.8.5, please demonstrate how the decision-maker can be satisfied in relation to the changed application:</p> <p>(i) That the potential impacts would be minimised;</p>	<p>(i) The design process for the elements likely to affect coastal processes that have been altered by the Accepted Changes (April 2021) have taken full cognisance of the need to minimise impacts on coastal processes. - The temporary BLF has been designed with widely spaced piles so that it is transmissive (i.e. does not block) to currents and waves. The chosen design, one of four consulted on, is the longest and minimises impacts on coastal processes by removing the need for navigational dredging and placing the head far enough offshore to minimise impacts on the beach (refer to the Preliminary Design and Maintenance Requirements for the Sizewell C Soft Coastal Defence Feature report; Doc Ref. 9.12)</p> <p>(ii) (The Coastal Processes Monitoring and Mitigation Plan (MMP) (Volume 3, Appendix 2.15.A of the ES Addendum) [AS-237]), to be approved under Requirement (7A) of the draft DCO and Marine Licence Condition (17) (Doc Ref. 3.1(C)) details the methods to monitor erosion of the SCDF and defines levels at which recharge is required.</p> <p>The Coastal Processes MMP includes monitoring and management actions for potential impacts of the two BLFs, the two Fish Recovery and Return outfalls, the Combined Drainage Outfall, and the main cooling water intake and outfall heads to ensure that no significant effects on coastal processes occur throughout the life of Sizewell C.</p>	<p>(i) We question why the Applicant has referenced the Preliminary Design and Maintenance Requirements for the Sizewell C Soft Coastal Defence Feature Report (Doc Ref. 9.12) , as the Report contains no reference to the temporary BLF (presumably because it is scheduled for the temporary BLF to be removed before the SCDF is constructed).</p> <p>(ii) The Applicant's response does not cover as set out in section 6.3 of the Coastal Processes MMP that more work is to be done to define the levels at which recharge is required.</p> <p>As per our SoCG⁸⁰ with the Applicant, we have highlighted that no mitigation management for the FRR and CDO has been described and they have advised that it is not needed. We question this and the response now given. Also, we do not believe that mitigation for impacts of BLFs has been accurately defined if required.</p>

⁷⁹ Paragraph 5.50 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506]

⁸⁰ 9.10.24 Initial Statement of Common Ground - Royal Society for the Protection of Birds and Suffolk Wildlife Trust - Revision 1.0 [REP2-088]

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
	ii) That the proposed development will be resilient to coastal erosion and deposition, taking account of climate change, during the project's operational life and any decommissioning period.		
CG.1.1	Impacts on coastal processes A number of IPs have expressed concern that the scheme could inhibit sediment flow or have an adverse impact on coastal processes at other locations. In the light of NPS EN-1, paragraph 5.5.11, please explain how the decision-maker could be satisfied that any impacts of the project on coastal processes would be managed to minimise adverse impacts on other parts of the coast.	As described in response to question CG.1.0, a Coastal Processes Monitoring and Mitigation Plan (MMP) has been developed ensure any impacts on coastal processes will be detected and managed. See Volume 3, Appendix 2.15.A of the ES Addendum [AS237]).	As per our Written Representation ⁸¹ , we still see no evidence of how any impact detected via the monitoring proposed on the Minsmere SAC to the north of the Application site can be managed, therefore we question the Applicant's response.
CG.1.2	Impacts on coastal processes The EA [RR-0373] in relation to the residual uncertainty associated with predicting future changes to the geomorphology of the greater Sizewell Bay, as well as to key driving processes such as sea level rise and wave climate, considers this to be mitigated by SZC's commitment to	(i) As stated in the CG.1.1 response, the Coastal Processes MMP is secured as a DCO Requirement 7A and a Marine Licence Condition 17A (Doc Ref. 3.1(C)), so failure to comply with it is enforceable by the ESC and MMO. The operation and funding of the Marine Technical Forum (MTF) is secured by the Deed of Obligation (see Schedule 11, Paragraph 10) (Doc Ref. 8.17(C)). (ii) The proposed detailed design of the HCDF is complete and the details are provided in Sizewell C Coastal Defences Design Report (Doc Ref. 9.13). Final design will be subject to approval by ESC in consultation with MMO by way of Requirement 12B on the draft DCO (Doc Ref. 3.1(C)).	(i) We note that Schedule 11 of the Draft Deed of Obligation explains in item 10: <i>'MARINE TECHNICAL FORUM 10.1 The Marine Technical Forum shall operate in accordance with the Marine Technical Forum Terms of Reference unless otherwise agreed by the members of the Marine Technical Forum.'</i>

⁸¹ Paragraph 3.146 – 3.153 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)]

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
	<p>continued engagement with the Marine Technical Forum of regulators as part of the Monitoring and Mitigation Plan (MMP):</p> <p>(i) Please confirm that the MMP and proposed means of enforcement would provide sufficient security in that respect, particularly in relation to the agreement and funding of specialists to closely monitor the evolution of the coastline and agree and implement the most appropriate measures to manage any unforeseen impacts.</p> <p>(ii) Please indicate when it is anticipated that the detailed design process for the Hard Coastal Defence Feature (HCDF) will take place and how that process would be appropriately appraised and approved?</p>		<p>We question whether the governance and operating procedures of the Marine Technical Forum are clearly understood at this stage.</p> <p>As per our Written Representation we do not agree that the Applicant has defined methods to implement the most appropriate measures to manage any unforeseen impacts, especially with regard to the Minsmere SAC to the north of the Application site.</p> <p>(ii) As per our accompanying submission for Deadline 3 in response to the Sizewell C Coastal Defences Design Report (Doc Ref. 9.13) we do not agree that the proposed detailed design for the HCDF features, particularly the Northern Mound, could be described as complete.</p>
CG.1.3	<p>Impacts on coastal processes The East Suffolk Council [RR-0342] indicates that the draft MMP prepared by SZC Co. is currently under consultation with key stakeholders in parallel with the DCO process. There are several points of contention</p>	<p>(i) SZC Co. agrees, and is of the view that it has followed the precautionary approach. (see SoCG; Ref. 9.10.12) The extents set out in the Coastal Processes MMP (Volume 3, Appendix 2.15.A of the ES Addendum [AS-237]) are always larger than the predicted impacts, to allow for uncertainty. An example is the permanent BLF piles with proposed monitoring extents 7-11 times larger than the predicted scour impact. The difference in spatial extent between the predicted impacts and monitored area will be included in Table 1 in the next version of the Coastal Processes MMP (to be submitted to the</p>	<p>(i) As per our Written Representation⁸², we cannot agree that the Applicant has applied a precautionary approach in relation to the Minsmere frontage, as there is no route agreed or proposed mitigation should the monitoring</p>

⁸² Paragraph 3.124 – 3.127 & 3.146 – 3.156 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)]

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
	<p>between ESC and SZC Co. In relation to the identified points of contention between ESC and SZC: (i) Is it agreed that a precautionary principle should be applied to assumptions on potential future critical requirements including Impact Assessments, incomplete designs, and the extent of the area to be monitored?</p> <p>(vi) Please comment further on the proposal for an independent body to monitor the MMP, and to direct SZC Co. mitigation and compensation requirements.</p>	<p>ExA at Deadline 4). If the impact footprint exceeds the monitored area, the spatial extent will be adjusted accordingly. That is, the Coastal Processes MMP will take an adaptive approach to monitoring.</p> <p>(vi) SZC Co. does not support the suggestion of an independent body to monitor the Coastal Processes MMP and to direct SZC Co. mitigation and compensation requirements. The Coastal Processes MMP is secured as a DCO Requirement and a Marine Licence Condition which are ultimately enforceable only by the ESC and MMO, respectively. The Coastal Processes MMP will be reviewed by the Marine Technical Forum (MTF) which is secured and funded through the Draft Deed of Obligation (Doc Ref. 8.17(C)). SZC Co feels this is the appropriate mechanism for management of the Coastal Processes MMP as the MTF brings together all relevant agencies and expertise.</p>	<p>detect an unexpected impact even within the area identified, let alone if that area is expanded.</p> <p>We support East Suffolk Council's response to this question⁸³.</p> <p>(vi) We note that Schedule 11 of the Draft Deed of Obligation explains in item 10:</p> <p><i>'MARINE TECHNICAL FORUM 10.1 The Marine Technical Forum shall operate in accordance with the Marine Technical Forum Terms of Reference unless otherwise agreed by the members of the Marine Technical Forum.'</i></p> <p>We question whether the governance and operating procedures of the Marine Technical Forum are clearly understood at this stage. We therefore remain concerned about the Applicant's approach to this element of the project.</p>
CG1.23	<p>Impacts on coastal processes NE [RR-0478] makes specific comments on the Coastal Geomorphology and Hydrodynamics report within the application, and sets out additional information or evidence that it requires or which needs clarification including how the various</p>	<p>(i) Firstly, it is important to note that no part of the Sizewell C development will cause a direct adverse effect on the vegetated shingle – the only link from Sizewell C to shingle communities are natural coastal processes. Adverse effects will occur due to natural reduction in beach volumes already taking place. The annual vegetation communities are maintained by the natural beach volume and form; so, by supporting these (as agreed by NE) via natural processes, the measures (additional sediment supply to the southern Minsmere frontage from the SCDF) will support the potential re-establishment of those communities.</p>	<p>(i) As per our Written Representation⁸⁴, we do not agree that there is no risk to the vegetated shingle. We also have provided research papers in our Written Representations submitted at Deadline 2⁸⁵ that question and show that the vegetated shingle communities have not been lost, as is consistently repeated by the Applicant, so it is incorrect to assert that they will be potentially re-established.</p>

⁸³ East Suffolk Council Deadline 2 Submission - Responses to the ExA's Written Questions (ExQ1) [[REP2-176](#)]

⁸⁴ Paragraph 3.94 - 3.136 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)]

⁸⁵ Paragraph 3.135

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
	<p>beach measures would avoid an adverse effect and maintain condition of SAC foreshore annuals vegetation communities; the extent to which the measures would also reduce the risk to SAC/SPA habitats in Minsmere Valley behind the barrier beach; the impact of the coastal defence measures on the dune County Wildlife Site and how the loss of most of the site would be mitigated or offset within the footprint of the HCDF and SCDF; how the coast protection of the development site would enhance the wider coastal natural environment, including its form, function, and ability of coastal habitats to contribute to climate change resilience and nature recovery, as part of the Government's 25 Year Environment Plan. Please comment on the points raised by NE and provide the additional information/clarity sought.</p>	<p>However, more importantly in regards to the issue raised by NE is that these measures, and the means by which they will be delivered, will be provided in the Coastal Processes MMP (Volume 3, Appendix 2.15.A of the ES Addendum [AS-237]. The latest draft of the Coastal Processes MMP was submitted at the Application Change Request in January 2021, although the detailed methodology for the various mitigation measures has yet to be confirmed. Before works can begin, the Coastal Processes MMP requires approval under DCO Requirement 7A and Marine Licence 17 (Doc Ref. 3.1(C)) and that approval process will require consultation with NE. SZC Co is working with NE (and other MTF members) to progress the Coastal Processes MMP, and will need to demonstrate that methods will not adversely affect the feature.</p> <p>...none of the possible mitigation approaches would involve direct placement of sediment on the supra-tidal beach within European sites. It is, therefore, reasonable at this time to assume that direct effects on qualifying features can be avoided and that approval of the Coastal Processes MMP can secure management and control measures necessary such that direct effects on the SAC that could negatively affect condition (e.g. through vehicle movements) are avoided.</p> <p>(iii) The area of the Sizewell Beaches CWS which will be lost to temporary landtake is 6.95ha, which represented by 18% of the total (38.83ha), so it is incorrect to characterise this as the loss of most of the site. However, the area within the order limits will be entirely removed during the establishment of the new defences with habitats reestablished over the top of the defences once these are in place, as explained in the ES at paragraph 14.4.16 of Volume 2, Chapter 14 [AS-033], using similar approaches to those which were successfully used for the establishment of similar habitats on the Sizewell B frontage....The area of replacement vegetated beach habitats will be 5.09 ha of coastal sand dunes and 3.95 ha of coastal vegetated shingle (see Main Development Site Biodiversity Net Gain Report, as updated), which is marginally greater than the area of the CWS subject to landtake. Volume</p>	<p>The Applicant's response and the Preliminary Design and Maintenance Requirements for SZC SCDF Report submitted at Deadline 2⁸⁶: section 9.12 does indicate its conclusion that the beach will be protected by provision of coarse grain shingle, but it is still not apparent how this will mimic natural processes in the absence of the proposed development and how it will interact with the supratidal shingle and sand.</p> <p>The research papers provided in our Written Representation⁸⁷ and our comments on comments on the Preliminary Design and Maintenance Requirements for SZC SCDF Report submitted at D2 shown how dynamic this shoreline is and how the communities fluctuate. It is not clear why the stability that the Applicant's management practice will introduce will definitely benefit these dynamic communities.</p> <p>We remain concerned that the means by which this will be delivered through the Coastal Processes Monitoring and Mitigation will not be agreed until later in the process and we do not believe this is satisfactory for such an important element of the Application.</p> <p>As per our Written Representation⁸⁸ we remain concerned of the potential of indirect effects (e.g.</p>

⁸⁶ One dimensional modelling of Soft Coastal Defence Feature (SCDF) - Revision 1.0 [REP2-115] e.g. sections 2.2 & 2.4

⁸⁷ Paragraph 3.97 - 3.98 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506]

⁸⁸ Paragraph 3.107 - 3.123 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506]

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
		<p>2, Chapter 14 of the ES [AS-033] identifies a significant adverse effect associated with the impacts to the CWS because of the loss, albeit initially temporary, of 18% of habitat which is considered of national importance and the effect of habitat reinstatement in context with future sea level rise, which is likely to be more susceptible to erosion. Further information can be found in Preliminary Design and Maintenance Requirements for the Sizewell C Soft Coastal Defence Feature report (Doc Ref. 9.12).</p>	<p>improved stability of the beach adversely affecting the dynamic environments of supra-tidal shingle that support the most valuable flora and invertebrate assemblages of the protected sites. The monitoring programme⁸⁹ seeks to monitor this, but we cannot see any evidence of a viable mitigation strategy should an impact be identified</p> <p>In addition our view is that a higher level of detail is required in the DCO to secure monitoring and mitigation (should it be possible to mitigate) proposed and provide confidence to the ExA that methods to ensure the protection of the SAC are possible and secured..</p> <p>Currently we believe there is too much uncertainty with the current approach.</p> <p>(iii) Given that the order limits extend to the entire frontage of the proposed development site well below mean low water (MLW) and out to sea, we would welcome clarification of the intention to entirely remove the area within the Application order limits as proposed by the Applicant in their response to the ExA question.</p> <p>The retention of the beach is featured in much of the Application⁹⁰ so we had assumed the entirety of the area would not be removed as part of the</p>

⁸⁹ Set out in Volume 2 Main Development Site Chapter 20 Coastal Geomorphology and Hydrodynamics Appendix 20A Coastal Geomorphology and Hydrodynamics: Synthesis for Environmental Impact Assessment [APP-312] Section 7

⁹⁰ e.g. section 15.5.11, 15.6.116-117, 15.6.197, 15.6.219 of 6.3 Volume 2 Main Development Site Chapter 15 Amenity and Recreation [APP-267]

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
			<p>construction phases. We do not believe that the area proposed for replacement beach habitats can be restored and therefore question whether this can be guaranteed to contribute to the Biodiversity Net Gain contribution⁹¹. We are also concerned at the huge reduction in total biodiversity unit value of sparsely vegetated coastal habitats (-94%) as detailed in our Written Representations, submitted at Deadline 2¹. Reference to the Preliminary Design and Maintenance Requirements for the Sizewell C Soft Coastal Defence Feature report (Doc Ref. 9.12)⁹². Section 2.1, page 14 says <i>'Over time, the erosion rates there may be lessened, supratidal shingle may accumulate and annual vegetated drift line species may colonise (as observed at Sizewell B)</i>. Section 2.2 page 16 states <i>facilitating potential re-colonisation of the supratidal habitat within the county wildlife site.'</i></p> <p>Therefore, we believe that the further information does not provides the evidence required. Nor provides the clarification requested by the ExA as to how the various beach measures would avoid an adverse effect and maintain condition of the SAC, how measures would reduce the risk to SAC/SPA habitats in Minsmere Valley and how the loss of most of the site would</p>

⁹¹ ES Volume 2 Main Development Site Chapter 14 Terrestrial Ecology and Ornithology Appendix 14E Biodiversity Net Gain Report (REP1-004) paragraph 4.1.37 and table 13

⁹² 9.12 One dimensional modelling of Soft Coastal Defence Feature (SCDF) - Revision 1.0 [[REP2-115](#)]

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
			be mitigated or offset within the footprint of the HCDF and SCDF.
CG.1.24	<p>Impacts on coastal processes</p> <p>(ii) In relation to the assessed new significant benefit associated with the changes, please explain in detail the basis for that conclusion.</p>	<p>(ii) The increased volume may evolve into supra-tidal deposits and lead to re-establishment of the annual vegetated drift lines habitat, which was destroyed by natural coastal erosion in 2010-2011 (Volume 2, Appendix 20A of the ES [APP312]).</p>	<p>As per our Written Representation⁹³ and associated Deadline 3 submission on Preliminary Design and Maintenance Requirements for SZC SCDF the assertion that annual vegetated drift lines habitat can be re-established is questionable as it has been present since 2011 and, as per our comments on the Preliminary Design and Maintenance Requirements for SZC SCDF report we have concerns over the likelihood of the evolution of supra-tidal deposits capable of supporting this vegetation assemblage.</p>
CG.1.25	<p>Impacts on coastal processes</p> <p>(i) Please indicate whether any other components should be monitored?</p>	<p>Furthermore, the monitoring programme is designed to be flexible and adaptive and can be extended (both in terms of spatial extent and duration) if impacts are observed to grow beyond the monitoring zone, as stated in the response to CG.1.3.</p>	<p>The crucial issue (that the Applicant does acknowledge) for us is that the CPMMP may have to be extended but there is only reference to monitoring requirements and not mitigation. As mentioned above as far as we can see there does not appear to be a viable mitigation strategy for the SAC interest north of the Application site despite acknowledging in response to CG1.24 <i>'On the south Minsmere frontage (up to a few hundred metres north of Sizewell C), natural transport and deposition of SCDF sediments would increase beach volume and thereby slow the rate of retreat of the shingle barrier, preventing or reducing overtopping, and seawater ingress to the Minsmere south levels.'</i> The Applicant appears not to have demonstrated that by increasing beach volumes with coarser</p>

⁹³ Paragraph 3.133 - 3.135 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506]

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
			grain material in the SCDF this will benefit the SAC feature and what they will do to address this if monitoring shows it not to be the case.
Cumulative impact and transboundary			
Cu.1.42	Cumulative effects with other plans etc [APP-578] Para 4.8.33 – bats – this conclusion of no significant effect relies on an explicit assumption. How likely is that assumption to hold good?	<p>Paragraph 4.8.33 of Volume 10, Chapter 4 of the ES [APP-578] states that ‘Assuming the appropriate mitigation measures are implemented across all developments, and landscape design begins to sufficiently establish, minor adverse cumulative effects are anticipated which are considered not significant’. Within this statement, reference to all developments is to those identified within paragraph 4.8.21. The implementation of mitigation measures referenced within the planning applications of the cumulative schemes would be enforced by East Suffolk Council through planning conditions and the Section 106 agreements of these schemes. In addition, all bats in the UK are protected under Council Directive 92/43/EEC 1992 on the conservation of natural habitats and of wild fauna and flora (the European Council (EC) ‘Habitats Directive’) through their inclusion in Annex IV (animal and plant species of community interest in need of strict protection), as transposed into the UK legislation by the Conservation of Habitats and Species Regulations 2017. Therefore, where relevant protected species licensing requirements will apply and will be enforced by Natural England. For compliance with legislation, it is envisaged that all of the cumulative schemes would also apply at least the following tertiary mitigation in addition to any specific mitigation identified within their application documents:</p> <ul style="list-style-type: none"> - tool-box talks to be provided to contractors; - minimising vegetation clearance, particularly around site margins; and - undertaking pre works checks and surveys. 	<p>We stressed the need to consider cumulative and in-combination effects in our Written Representations submitted at Deadline 2⁹⁴.</p> <p>Table 10.1 of the Updated Bat Impact Assessment⁹⁵ outlines primary and secondary mitigation, and concludes significant residual effect of habitat fragmentation on barbastelle in the construction phase of the main development site. We dispute the effectiveness of the proposed mitigation in our Written Representations submitted at Deadline 2⁹⁶.</p> <p>The ‘cumulative’ [in-combination] assessment in paragraph 4.8.33 of APP-578 considers ‘bats’ whereas it should consider effects on individual bat species. Assessment of cumulative effects in-combination with other projects would surely also conclude significant residual effect of habitat fragmentation on barbastelle in the construction phase.</p>

⁹⁴ Section 4 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)]

⁹⁵ Volume 3 Chapter 2 of the ES Addendum Terrestrial Ecology & Ornithology Appendices 2.9A-2.9D (AS-208) Updated Bat Impact Assessment Table 10.1

⁹⁶ Section 4 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)] paragraphs 3.622- 3.762 (in particular 3.626, 3.641-44, 3.636-51, 3.656-64, 3.680-3.686, 3.716-26, 3.737- 3.762)

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
		Given the enforcement of the mitigation requirements by East Suffolk Council and any relevant licensing and legislative requirements, it is considered to be a reasonable assumption that the appropriate mitigation measures will be implemented across all developments, and landscape designs will sufficiently establish.	
Draft Development Consent Order			
DCO.1.80	R7. (i) How is the proper implementation of the water levels management plan to be enforced?	<p>The Water Monitoring and Response Strategy [AS-236] for the main development site ensures that the water monitoring plans which will be approved by East Suffolk Council secure all of the measures necessary to mitigate the impacts associated with the Sizewell C Project. This includes the works and mitigation measures which are in the Applicant's control.</p> <p>In addition to these measures a memorandum of understanding with ENGL, RSPB and the Applicant is being developed which seeks to ensure that the current water level management regime, including responsibilities, continues to operate in the existing way. Requirement 7 has been amended to refer to the correct strategies.</p>	Although the Applicant proposes that water level management can be achieved by a memorandum of understanding with the RSPB (in its response) we are not satisfied at present that this will be appropriate or sufficient to address the concerns we have with regard to potential effects in the Minsmere catchment.
Marine water quality and sediment			
Ma.1.8	<p>Para 21.6.166, Section C.d.d.b. The PNEC (Predicted No Effect Concentration) for bromoform is 5µg/l as a 95th percentile (para 21.6.160). The average concentration from 10 power stations is 16.3 µg/l, with range of 1-43 µg/l (para 21.6.164). How does the ES conclude that discharges which are on average four times the PNEC and up to almost nine times are minor adverse, not significant?</p>	The values quoted in paragraph 21.6.165 of Volume 2, Chapter 21 of the ES [AS-034] represent concentrations at the point of discharge and in discrete plume areas for other power stations. The predicted bromoform discharge at Sizewell C (reported at paragraph 21.6.161) intersects an area of 52 hectares at the surface and 0.15 hectares at the seabed based on 95th percentiles. Exceedance areas of 10s to 100s of hectares for a discharge during the spring and summer months only is judged to be of medium/low magnitude (paragraph 21.3.40). Bromoform is volatile and short-lived and the waters off Sizewell are well mixed leading to a conclusion of low sensitivity. Low sensitivity receptor experiencing a medium impact (paragraph 21.3.44) is predicted to experience a minor adverse effect that is judged as not significant. This judgement is made in the context of water quality which is evaluated against specific benchmark values. However, benchmark	We wish to highlight our concerns raised in our Written Representations submitted at Deadline 2 ⁹⁷ around the need for greater consideration of impacts of bromoform on bird features of the Outer Thames Estuary, Minsmere-Walberswick and Alde-Ore Estuary SPAs through effects on fish prey species and potential for direct toxicity to birds. We support Natural England's comments ⁹⁸ that further assessment of these issues is required. Please note that similar concerns also apply to the discharge of hydrazine during

⁹⁷ Paragraphs 3.557 – 3.560 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)]

⁹⁸ Key issue 33 in Natural England's Written Representations [[REP2-153](#)]

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
		<p>thresholds, for example Environmental Quality Standards (EQS), are applied to trigger further ecological investigation and do not necessarily infer sensitivity of all receptor groups (paragraph 21.3.36). Further assessment of the potential influence of the predicted bromoform concentration plumes upon specific receptor groups is therefore evaluated in the Marine Ecology and Fisheries ES chapter (see paragraphs 22.6.333 to 22.6.337 of Volume 2, Chapter 22 of the ES [AS-035]).</p>	<p>commissioning and operation (also noted by Natural England⁹⁹).</p>
<p>Noise and vibration</p>			
<p>NV.1.95</p>	<p>Night-time noise The RSPB indicate that the assessment of effects from night-time noise on bats and other sensitive creatures has not been adequately assessed and consider additional noise modelling would need to be carried out.</p> <p>(i) Please respond to this concern.</p> <p>(ii) Do you agree with the concerns expressed by the RSPB</p>	<p>The Applicant disputes the RSPB's conclusion. The information which presents the baseline data and impact assessment of noise upon ecological receptors is presented in Volume 2, Chapter 14 of the ES [APP-224]. This was informed by data presented in the noise and vibration chapter (Volume 2, Chapter 11 of the ES [APP-202]) and additional noise modelling, particularly of high frequency noise (in relation to the impact to bats). With regards to bats, the impact of night-time noise upon bats is considered in detail within the Volume 2, Chapter 14 of the ES [APP-224] and the updated bat impact assessment in Volume 3, Chapter 2, Appendix 2.9B of the ES Addendum [AS208]). Paragraphs 8.2.22 – 8.2.61 in Volume 3, Chapter 2, Appendix 2.9B of the ES Addendum [AS-208]) present the assessment of potential impacts to bats resulting from the noise modelling results, including setting thresholds for impacts. The assessment utilises high frequency modelling at 22khz+ and 8khz+ to determine the potential impact of noise throughout the phases of the construction upon roosting, foraging and commuting bats. Within the updated bat impact assessment in Volume 3, Chapter 2, Appendix 2.9B of the ES Addendum [AS-208]), figures are presented which display the potential levels of high frequency noise upon bats at different Phases of the construction. This information is utilised to inform the impact assessment. The impact assessment utilises available information and current practice to assess the impact on bats. Within the mitigation measures defined, current good practice has been followed and the assessment is informed by a comprehensive suite of surveys. However, as stated in paragraph 8.2.37 in</p>	<p>We still consider the assessment of effects from night-time noise on bats and other sensitive creatures has not been adequately assessed and consider additional noise modelling should be carried out.</p> <p>Our concerns relating to the assessment of the effects from night-time noise on bats are detailed in our Written Representations submitted at Deadline 2¹⁰⁰. We confirm we reviewed the documents referenced in the Applicant's response and considered those points for our Written Representations.</p>

⁹⁹ Key issue 35 in Natural England's Written Representations [REP2-153]

¹⁰⁰ Paragraphs 3.622- 3.762 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506]

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
		<p>Volume 3, Chapter 2, Appendix 2.9B of the ES Addendum [AS208]), 'there are gaps in the assessment (for example in some cases the volume of noise was measured at frequencies that bats cannot hear) or the studies are not applicable to the assessment of potential impacts to bats resulting from construction'. The assessment relies on the best available data, and the overall impacts and mitigation strategy were developed with the extensive level of survey information gained to date, which provides confidence in the effectiveness of the mitigation proposed, based on current best practice and research. However, there is limited research available for some impacts on some bat species, and bats, as living things, do not always behave as expected. Given this, the Terrestrial Ecology Monitoring and Mitigation Plan (TEMMP), submitted at Deadline 1 [REP1-016] and secured under Requirement 4 has been prepared. The measures within this document will identify any unforeseen effects of the construction through noise upon bats. This will allow any required remedial actions to address this to be implemented. Overall, the approach to mitigation and impact assessment relating to bats and noise is considered well supported and the assessment of no significant effect from noise is considered robust.</p>	
Socio-economic			
SE.1.13	<p>Displacement of Visitors. The RSPB [RR-1059] express concern that the ES does not adequately assess the impacts on visitor numbers and consequently appropriate mitigation for such affects has yet to be provided and subsequently delivered by an appropriate mechanism through the DCO. Please respond to these concerns and advise on the latest position in respect of any ongoing discussions with the RSPB.</p>	<p>A response on the adequacy of assessment of visitors, addressing additional pressure from displaced recreational visitors and the potential for construction workers to visit RSPB Minsmere is set out in response to question AR.1.12. SZC Co. recognises the importance of the inbound tourist economy within and around the Suffolk coast, and has undertaken an assessment of the effects of the Sizewell C Project on tourism, in-line with the requirements of National Policy Statement EN-1, as part of Volume 2, Chapter 9 (Socio-economics) of the ES [APP-195]. This sets out that there is limited empirical evidence that the Sizewell C Project would lead to a quantifiable reduction in visitor numbers, a change in visitor behaviour, expenditure or business viability in the sector over and above normal variation, particularly when a Tourism Fund is applied. The use of a Tourism Fund for marketing, promotion, and other projects to the benefit of the image of tourism at the Suffolk coast is considered an effective way of providing precautionary mitigation for perceived risks as demonstrated by</p>	<p>Please see our response to AR.1.12 regarding the assessment of additional recreational pressure on RSPB Minsmere. As stated in the Applicant's response, discussions regarding the Resilience Fund are ongoing.</p>

Question ref.	Question	Applicant's response	Comments from RSPB and Suffolk Wildlife Trust
		<p>experience at Hinkley Point C – where similar concerns of effects were raised by Interested Parties, but have not manifested into actual effects on tourism in Somerset – has provided evidence for the positive effect of a Tourism Fund used to promote and market the area and provide information to visitors and prospective visitors. Monitoring of business confidence through governance, as well as public datasets such as tourist-sector employment⁶ and tourism spend⁷, has shown no adverse effect on the Somerset tourist economy from the construction activity at Hinkley Point C where a Tourism Fund has been applied. A paper setting out further details on Sizewell C's consideration of ex-ante stated preference surveys, and experiential evidence of the effectiveness of a Tourism Fund drawing on Hinkley Point C evidence is included as an Appendix 23A of this chapter (Response Paper – Tourism – Ex-ante Stated Preference Surveys and Hinkley Point C Evidence). In some cases, where effects on sensitive receptors cross-cut socio-economic and environmental topic areas and there are multiple potential effects which would benefit from comprehensive and holistic mitigation, separate Resilience Funds (see Draft Deed of Obligation, Schedule 13 (Doc Ref. 8.17(C)) are proposed, including one for RSPB Minsmere and one for National Trust Dunwich Heath. This will ensure that the activities funded through those measures do not overlap but can complement the plans, programmes and projects supported by the proposed Tourism Fund (and other funds, where applicable). Regular discussions are ongoing with RSPB and it is understood that they would like their Resilience Fund to focus on paying visitors. The scope and quantum of potential measures has not yet been agreed but is under discussion.</p>	

Appendix 1: Comments on Appendix M Biodiversity Net Gain Reports Covering Note [submitted in Applicant's response to ExQ1 Bio.1.260]¹⁰¹

- 1.1. Table 1 of Appendix M refers to the National Planning Policy Framework (NPPF) (2019)¹⁰². As we have noted in our Written Representations, submitted at Deadline 2¹⁰³, planning decisions should minimise impacts on and provide net gains for biodiversity (NPPF, paragraph 170 and 175d)¹⁰⁴ however paragraph 175 also clearly states development likely to have an adverse effect on a SSSI should not normally be permitted unless the benefits clearly outweigh its likely impact

When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

- 1.2. As we have said in our Written Representations, submitted at Deadline 2¹⁰⁵, and in our Relevant Representations¹⁰⁶ we do not agree the Application can achieve net gain due to direct adverse impacts on Sizewell Marshes SSSI from loss of a significant proportion of the SSSI.

- 1.3. Paragraph 3.1.2 of Appendix M notes

In some areas, the baseline for the main development site is a historic baseline (approximately 14 to 6 years ago, depending on the area) and prior to advance habitat creation works which have been undertaken specifically to support the Sizewell C proposals. Such an approach is in accordance with Natural England approaches which encourage habitat creation in advance of development thus improving the value of the mitigation and minimising construction impacts.

- 1.4. We raised concerns the baseline policy is directly at odds with the biodiversity gain system to be introduced by the Environment Bill in our Written Representations submitted at Deadline 2¹⁰⁷.

¹⁰¹ 9.11 Responses to the ExA's First Written Questions (ExQ1) [Volume 1 - SZC Co. Responses](#)

¹⁰² [Ministry of Housing, Communities and Local Government \(2019\) National Planning Policy Framework \(NPPF\)](#)

¹⁰³ Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)] section 5 and 5.17

¹⁰⁴ [Ministry of Housing, Communities and Local Government \(2019\) National Planning Policy Framework \(NPPF\)](#)

¹⁰⁵ Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)] section 5 and 5.19

¹⁰⁶ RSPB Relevant Representation ([RR-1059](#))

¹⁰⁷ Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)] pages 175-194 and section 5.19

- 1.5. The biodiversity gain system set out in the Environment Bill, sets the baseline at the point of the planning application for on-site delivery (Schedule 14, 5(2) as currently drafted) and the point set out in the biodiversity site gain register for off-site delivery (Schedule 10, 1(b) as currently drafted).
- 1.6. The Applicant's policy to apply different on-site baseline data dates to each on-site delivery area (Studio Fields complex, Aldhurt Farm and the marsh harrier compensation area), all of them prior to the point of planning application (paragraph 2.3.2 to 2.3.8 of REP1-004¹⁰⁸) is at odds with Schedule 5 of the Bill which has no provision for different baseline data dates across the on-site delivery areas. The Applicant has also applied a baseline data date prior to the point of planning application to the off-site delivery areas. As there is currently no biodiversity site gain register, it would not be possible for the Applicant to claim an earlier baseline for off-site delivery under the biodiversity gain system.

¹⁰⁸ ES Volume 2 Main Development Site Chapter 14 Terrestrial Ecology and Ornithology Appendix 14E Biodiversity Net Gain Report (REP1-004)