THE PLANNING ACT 2008

THE INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE) RULES 2010

The Sizewell C Project

Natural England's Written Summary of Oral Representations made at Issue Specific Hearing 7: Biodiversity and Ecology on 15th and 16th July 2021

Planning Inspectorate Reference: EN010012

23rd July 2021

Agenda

1) **Welcome, introductions and arrangements for the Hearing Reference may be made to the Applicant's and IP's responses to ExQ1 and relevant submission documents**

2) **Terrestrial ecology**

   a) Duties under ss.28G and 28I of the Wildlife and Countryside Act 1981 and the effects of s.28P

   b) The Sizewell Marshes SSSI

      i) the SSSI crossing,
      ii) fen meadow replacement, mitigation, monitoring and fallback
      iii) wet woodland and other flora and fauna by reason of which it is of special interest
      iv) Water level monitoring

   c) Minsmere – the marsh harrier, including the proposed HRA Compensatory Measures for the marsh harrier qualifying feature of the Minsmere-Walberswick SPA/Ramsar, and discussion of the proposed CM at Upper Abbey Farm (including proposed wetland habitat as detailed in REP2-119 and proposed management and monitoring measures), together with the Westleton compensatory habitat.

   d) HRA

      i) To understand the differences between Interested Parties (IPs) and the Applicant on the Applicant's conclusion of no adverse effects on integrity (as presented in the Shadow HRA Report and addendums) for the following matters: Disturbance/displacement effects on breeding and non-breeding waterbirds using functionally-linked land to Minsmere Walberswick SPA/Ramsar due to noise and visual disturbance
      ii) To understand the differences between IPs and the Applicant on the effects of recreational pressure on European sites and to discuss the monitoring, mitigation and management proposed to conclude no adverse effects on integrity
      iii) Progress on written agreement to maintain access for the RSPB to the southern side of Minsmere Reserve.
      iv) 'collision risk' -concerns raised by NE re lack of collision risk assessment for new pylons
      v) Position update on air quality effects due to NOx and acid deposition'

   e) Protected species

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   g) Ancient woodland, veteran trees and the route of the Two-Village Bypass

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   i) Duties under ss. 40 and 41 Natural Environment and Rural Communities Act 2006

   j) The position in relation to Letters of no impediment and any Environment Agency comfort letters

3) Marine ecology

a) HRA, European and other designated sites

   i) Marine Mammals
   ii) Fish, including migratory fish
   iii) Birds - Disturbance/displacement of the red-throated diver qualifying feature of the Outer Thames Estuary SPA due to vessel movements/traffic
   iv) Birds – collision risk

b) Cooling water system, acoustic fish deterrents,

c) The securing mechanisms to control impacts on marine water quality;

d) Progress update on status of the Water Industry National Environment Programme (WINEP) study being undertaken by Essex and Suffolk Water

e) Fisheries, fish stocks, equivalent adult values, sabellaria spinulosa;

4) Close of hearing

Natural England's Written Summary of Oral Representations made at Issue Specific Hearing 7: Biodiversity and Ecology

Thursday 15th & Friday 16th July 2021

Natural England Attendees:

Jack Haynes – Senior Advisor, Norfolk & Suffolk Area Team
Richard Saunders – Senior Specialist on Ornithology
Iain Diack – Senior Specialist on Terrestrial Wetlands
Allison Atterbury – Specialist on Fish Ecology
Libby West – Senior Specialist on Fish Ecology
Richard Berridge – Senior Specialist on Marine Ornithology

AGENDA

1) Welcome, introductions and arrangements for the Hearing Reference may be made to the Applicant's and IP's responses to ExQ1 and relevant submission documents

2) Terrestrial Ecology

a) Duties under ss.28G and 28I of the Wildlife and Countryside Act 1981 and the effects of s.28P

Natural England Response

S28G states that a S28G body should "*take reasonable steps, consistent with the proper exercise of the authority's functions, to further the conservation and enhancement of the flora, fauna or geological or physiographical features by reason of which the site is of special scientific interest*".

The Secretary of State is a S28G body and must therefore take reasonable steps, consistent with the proper exercise of his/her functions, to further the conservation and enhancement of the special interest features of relevant SSSIs when determining this application. In NE's view, an outcome that leads to any deterioration in the status of SSSI special features is incompatible with this duty.

It is also Natural England's view that the Applicant is a S28G authority if they are the holder of a licence under section 6 of the Electricity Act 1989 and are carrying out duties and functions pursuant to the powers conferred to it under that legislation; in our opinion this does apply to the Applicant, as the DCO and permission for other projects makes them a statutory undertaker. Therefore, if the Applicant decides that it needs to carry out works which are likely to damage a Site of Special Scientific Interest (SSSI) for the purpose of conveying electricity, then this is an activity which flows from its functions as an electricity licence holder. Therefore, the applicant should be treated as a section 28G authority (with the duties which attach to it as a result of that) and the operations should be assessed in accordance with section 28H of the Wildlife and Countryside Act 1981.

With regards S28I, a consenting authority should take Natural England's advice on SSSIs into account and attach any 'conditions' which NE considers are necessary etc. If they do not follow Natural England advice (i.e. on that it should not be permitted or can be permitted with 'conditions'), they need to let us know the reasons why they have not. S28H applies a similar

regime in cases where a S28G body is carrying out operations likely to damage the special features of an SSSI.

Under S28P, if the consenting authority allows damage to occur to the SSSI without complying with S28I it will be committing an offence.

b) The Sizewell Marshes SSSI

i) The SSSI Crossing

Natural England Response

Natural England advise that this issue is covered comprehensively in Issue 48 of our Written Representations [REP2-153].

To summarise, our advice remains that the crossing design should be that which minimises land take from the SSSI. The project should clearly follow the avoidance-mitigation-compensation hierarchy in terms of impacts to high value ecological receptors of national importance such as the SSSI and include consideration of less damaging alternatives where available, as per section 4.4. and paragraph 5.3.7 of NPS EN-1. The three-span bridge which was presented as a viable design option at pre-application would appear to be a preferable alternative in this regard.

The judgement of reasonable alternatives is one for the decision maker to consider. Should the current hybrid bridge-embankment design be considered justified, then ecological improvements can be made in our opinion (soffit height of at least 6m), especially for the benefit of invertebrates to allow sufficient light penetration for their dispersal while retaining the positive aspects of the design in terms of hydrology and reduced land take.

Whilst we acknowledge that an increased height of the crossing may have some additional landscape considerations, it is our position that maintaining a visibly healthy and thriving wetland is important ecologically as well as to the landscape character and quality of this part of the Suffolk Coast and Heaths Area of Outstanding Natural Beauty (AONB). Whilst bridge design and aesthetics remains an important consideration, incorporating a higher structure from the outset to further ensure the future of these wetlands as visibly thriving should outweigh any resultant adverse effect on the AONB. This also needs to be considered in the context that the Applicant's proposals are to raise the height of the crossing in the future anyway; this would cause ecological and landscape disruption at a time when wildlife will likely be starting to recover/adapt and the landscape mitigation starting to settle following the initial crossing construction.

We understand that further information on the crossing design is to be submitted by the applicant at Deadline 5 which we will review and advise on as soon as we can.

ii) Fen Meadow replacement, mitigation, monitoring and fallback

Natural England Response

Natural England advise that this issue is covered comprehensively in Issue 49 of our Written Representations [REP2-153].

To summarise, our advice is that creating compensatory habitat of the same quality to that which will be destroyed will be extremely difficult, if not impossible. Holistic headwater seepage, floodplain and river restoration is likely to be the most successful and sustainable approach to providing compensatory fen meadow habitat at the sites which have been

proposed by the Applicant. Even if successful, these sites are functionally removed from Sizewell Marshes SSSI which is a limitation of the proposed approach. Although this particular feature of the SSSI may be re-created there, the complex ecological interactions with other features which will be lost at Sizewell Marshes would not. It is not therefore possible to conclude that the loss of fen meadow habitat from Sizewell Marshes SSSI is not significant.

The fen meadow habitat found within Sizewell Marshes SSSI is of national importance. Around 0.5 ha of fen meadow habitat will be lost to the footprint of the main power station platform and this is of the M22 sub-community, which is particularly rare in the UK, with less than 10000 ha (the true figure for England is likely to be less than 5000 ha).

The Applicant has been aware of the need to deliver compensation for any SSSI habitat loss since 2013 where our advice on the Stage 1 pre-application consultation flagged this (paragraph 4.3, roman numeral ii) and stated that '*As a general principle, we advise that the area of replacement habitat should be greater than the area of habitat affected due to the inherent risk of creating habitat of the same quality, quality and distinctiveness. Habitat creation should be established in advance of habitat loss which requires early securing of suitable land for habitat creation*' (comment under 2.4.8). Having discussed this further with the applicant through focussed meetings and workshops, a nine times multiplier was agreed for fen meadow based on offsetting guidance at that time given the complexity of habitat type to be lost, the risk and uncertainty involved in the habitat restoration being successful and the time to fully functioning habitat (nine times multiplier being the maximum at the time of advice).

Given the hydrological complexity of high value wetland habitats, it is anticipated that a larger extent of wetland restoration/ compensation would be required to provide the conditions required specifically by the M22 fen meadow. Restoration will likely give rise to areas of wetter conditions and drier conditions that do not support M22, given natural hydrological, topographical and substrate variation within sites.

Contrary to our pre-application advice (2013-2020), a sufficient amount of compensatory fen meadow habitat was not proposed by the applicant within the DCO application as submitted (May 2020) and we raised this omission within our Relevant Representations (Sep 2020) [RR-0878].

The applicant has since produced a Fen Meadow Strategy (submitted in the January 2021 Changes submission) which includes three separate sites (Pakenham, Benhall, Halesworth) with the potential to deliver nine times that lost from Sizewell Marshes SSSI as has been agreed. Whilst Natural England welcome this progress, this strategy is largely a site selection report.

Importantly, we are unable to advise as to whether the compensation is likely to be successfully delivered until we have been able to review the detailed site feasibility studies and delivery plan for all three sites (Benhall, Halesworth and Pakenham). The Applicant has submitted feasibility studies at Deadline 3 (24th June) which we are in the process of reviewing (643 pages) and we understand that they will also be submitting the Fen Meadow Plan at Deadline 6 (6th August) which we will also need to review before providing further advice.

It should be noted that two of the other notified habitats of Sizewell Marshes SSSI which would in part be lost to the development footprint – reedbed and ditches – have already been compensated for by the Applicant at Aldhurst Farm where these habitats were created in 2016. We very much welcome that approach as, for those habitats, the agreed amount of compensatory habitat is in place and functioning ahead of any loss occurring as a result of

the development. This means that there will be no loss in extent of those habitats at any time during construction or operation of the project should consent be granted. Being directly adjacent to the SSSI, the compensatory habitats at Aldhurst Farm will also be ecologically connected to the SSSI from where the habitat loss would occur. Conversely, depending on the outcome of the further information review, the fen meadow compensatory habitat will either be considered unfeasible or feasible but not in place and/or fully functioning ecologically in advance of any loss occurring should consent be granted. The extent of this nationally important and rare habitat will therefore not be maintained throughout the lifetime of the project in either case.

If a position is reached where, upon review of the forthcoming information, Natural England is confident that the compensation will be effective, then in terms of the fallback/contingency measures to be put in place should it fail, we advise that potential compensation sites further afield (i.e. not restricted to Suffolk) should be investigated. The SSSI fen meadow habitat which would be destroyed is important at a national level as part of the SSSI series and, if necessary, the compensation options should therefore be fully explored at that scale to ensure the overall amount of this habitat type is not reduced nationally.

iii) Wet woodland and other flora and fauna by reason of which it is of special interest

Natural England Response

Natural England advise that this issue is covered comprehensively in Issue 50 of our Written Representations [REP2-153].

This agenda item was not discussed at the hearing, and we understand that it was deferred to the next round of Examiner's Questions. However, to summarise our current position, the wet woodland habitat itself is not a notified feature of the SSSI but is particularly important in supporting the outstanding invertebrate assemblage which is a notified feature. This is in part due to the braided nature of the ditches and open sediment where it passes through the alder woodland and this will be impacted by the proposals, where there would be a permanent loss of 3.06ha.

Our advice is therefore that maintaining the mosaic of habitats which support the invertebrate assemblage at Sizewell Marshes SSSI as fully as possible is an important objective of the project compensation package.

Contrary to our pre-application advice, a sufficient amount of compensatory wet woodland habitat was not proposed by the Applicant within their DCO application as submitted in May 2020.

We welcome that, following submission of our Relevant Representations in September 2020 [RR-0878] and further engagement with the Applicant on their wet woodland strategy, they have since proposed to create 0.7 ha of wet woodland habitat within the EDF Energy estate and 2.6 ha at the Benhall and Pakenham sites alongside the proposed fen meadow compensation.

We acknowledge that full provision of this compensatory habitat may not be possible within close proximity to the SSSI and therefore appreciate why compensation over multiple sites has been pursued. We agree that creating invertebrate rich wet woodland close to the compensatory fen meadow habitats will in part replicate the existing situation at Sizewell Marshes SSSI, as high quality wet woodland will develop in the same conditions as high-quality fen meadow (i.e. the absence of elevated nutrients and permanently high water table but without cutting or grazing).

However, as outlined above for fen meadow, creating compensatory wet woodland habitat of the same quality to that which will be destroyed at Sizewell Marshes SSSI will be difficult. Again, even if successful, the proposed compensation sites are functionally removed from Sizewell Marshes SSSI and the complex ecological interactions between these features at Sizewell Marshes will largely be lost.

We still need to review the Wet Woodland Plan which is yet to be submitted by the applicant. This should include feasibility studies for the three sites and further survey work to include assessment of woodlands in proximity to Benhall and Pakenham sites to ensure that a suitable invertebrate community is present to colonise the new areas of wet woodland, and what the fall back/contingency would be if not.

It should also be noted from the application documents that the creation of 0.7 ha of the compensation as proposed within the main development site would not be started until the end of the construction period. The 2.6 ha created off site from the outset, if successful, would also not be fully functioning for quite some time. This compensatory habitat will therefore either not be in place or not fully functioning ecologically in advance of any loss occurring as has been accepted by the Applicant as a principle at Aldhurst Farm with respect to SSSI reedbed and ditch habitats which would also be lost (as described under 2.b.ii above). As a result, the extent of this habitat which supports the nationally important invertebrate assemblage will not be maintained throughout the lifetime of the project should consent be granted.

iv) Other flora and fauna – reedbed and ditches

Natural England Response

Natural England advise that this issue is covered comprehensively in Issue 48 of our Written Representations [REP2-153].

This agenda item was not discussed at the hearing, and we understand that it was deferred to the next round of Examiner's Questions. However, to summarise our current position, we are satisfied that the area of reedbed and ditch habitats which are notified features of Sizewell Marshes SSSI which will be destroyed by the development (should consent be granted) have been adequately compensated for at Aldhurst Farm for the reasons described under 2.b.ii above.

v) Water level monitoring

Natural England Response

Natural England advise that this issue is covered comprehensively in Issue 11 of our Written Representations [REP2-153].

To summarise, our advice is that it is essential to properly assess the risk of any changes to water levels arising from the proposals to the nationally important habitats and species for which Sizewell Marshes SSSI is notified, and fully consider and agree any necessary mitigation/ compensation measures to ensure that adverse effects do not occur.

Our concerns for Sizewell Marshes SSSI in this regard are the long term impact of the cut-off wall on groundwater flow, impacts on the surface water flow regime during the construction phase and impacts of water level drawdown during the construction phase (up to 10 cm which is considered ecologically significant in terms of the SSSI). We advise that while the Applicant indicates that any changes in water levels are anticipated to be within annual

fluctuations, the changes arising through the project impacts would be in addition to the current annual fluctuations in water levels.

The Applicant considers that it is possible to mitigate these through appropriate water level management measures. Whilst that may be the case, the specifics of this mitigation need to be provided so that we have confidence that they will be effective in avoiding adverse effects to the SSSI.

We understand that a Water Monitoring and Response Strategy will be provided by the applicant as part of the Deadline 5 submission. It is unclear as to whether or not this integrates the Water Level Management Plan but we assume that it will and advise that it should.

c) Minsmere – the marsh harrier, including the proposed HRA Compensatory Measures for the marsh harrier qualifying feature of the Minsmere-Walberswick SPA/Ramsar, and discussion of the proposed CM at Upper Abbey Farm (including proposed wetland habitat as detailed in REP2-119 and proposed management and monitoring measures), together with the Westleton compensatory habitat.

Natural England Response

Natural England advise that this issue is covered comprehensively in Issue 27 of our Written Representations [REP2-153].

To summarise, we have recently received detailed plans for the marsh harrier compensation area at Abbey Farm, including the wetland habitat component at Deadline 3, and for Westleton at Deadline 4 which are currently being reviewed by our specialists.

In regard to feasibility studies, we would like reassurance from the Applicant that the wetland creation element of the compensation area is feasible given their previous justification for not including it in their initial proposals (unsuitable ground levels, geology and ground and surface water regimes). This is in line with Habitats regulations assessments: protecting a European site. How a competent authority must decide if a plan or project proposal that affects a European site can go ahead which states that:

"*You must be confident that the measures will fully compensate for the negative effects of the proposal. You do not need to consider more compensation than is needed.*

You should consider:

- *how technically feasible and effective the measures will be - based on scientific evidence and previous examples*
- *how financially viable the measures are - the proposer must have enough funds to cover costs*
- *how the compensation would be carried out, including how it'll be managed and monitored over the time that's needed, and how it's been secured*
- *distance from the affected site - compensation closer to the site is generally preferred, unless measures further away will benefit the network of European sites as a whole*
- *how long the compensatory measures will take to reach the required quality and amount of habitat*".

We also advise that the wetland element of habitat creation should be in place prior to construction (should consent be granted) in line with Habitats regulations assessments: protecting a European site. How a competent authority must decide if a plan or project proposal that affects a European site can go ahead which states "*You should make sure the compensatory measures will go ahead as agreed and will remain in place all the time they're needed, which in most cases will be indefinitely. You should include these measures in the conditions attached to your permission. You must put in place all the necessary legal, technical, financial and monitoring arrangements…Compensatory measures should usually be in place and effective before the negative effect on a site is allowed to occur*".

The offer of additional compensatory habitat at Westleton will minimise residual concerns that the displacement of marsh harriers could result in an impact. If Natural England can be provided with further information on the above two points and if, after review by our specialists, detailed plans are deemed satisfactory then we advise that risks through this impact pathway can be adequately compensated for, provided plans and monitoring are robustly implemented.

d) HRA

i) To understand the differences between Interested Parties (IPs) and the Applicant on the Applicant's conclusion of no adverse effects on integrity (as presented in the Shadow HRA Report and addendums) for the following matters: Disturbance/displacement effects on breeding and non-breeding waterbirds using functionally-linked land to MinsmereWalberswick SPA/Ramsar due to noise and visual disturbance.

Natural England Response

Natural England advise that this issue is covered comprehensively in Issue 27 of our Written Representations [REP2-153].

To summarise, on the basis of i) limited data; ii) uncertainties about the behavioural response of breeding birds to visual and acoustic disturbance; iii) the compounding effects of recreational pressure; iv) the significant % of predicted breeding bird displacement (where new data show breeding numbers remain consistent), and; v) the significant increase in non-breeding birds, we advise that the applicant's conclusions are lacking precaution. The lack of impact is a possible scenario but, for a development of this scale, the information provided in the HRA is insufficient to exclude adverse effect on site integrity for breeding and non-breeding gadwall and shoveler.

Consequently, we advise that, in the context of the precautionary principle which is enshrined in the Habitats Regulations[1], the applicant has not been able to exclude adverse effect on site integrity beyond reasonable scientific doubt. Therefore, we advise that the applicant must either provide more robust data on the distribution of these species to inform their conclusions, or look to provide mitigation / compensation in the event that a significant amount of gadwall and/or shoveler are displaced by the development. Additionally, considering the limited data informing conclusions, we would recommend that monitoring and adaptive management should be more robust than that currently proposed within the Terrestrial Ecology Monitoring and Mitigation Plan. We advise that the inclusion of a wetland element of habitat creation, to be delivered as part of the marsh harrier compensation, might also be considered in relation to its potential to support displaced SPA waterbirds.

ii) To understand the differences between IPs and the Applicant on the effects of recreational pressure on European sites and to discuss the monitoring,

[1] Conservation of Habitats and Species Regulations 2017 (as amended)

mitigation and management proposed to conclude no adverse effects on integrity

Natural England Response

Natural England advise that this issue is covered comprehensively in Issue 29 of our Written Representations [REP2-153].

To summarise, the proposed development is likely to change the way designated sites in the area are used by people for recreation, both during construction and operation. Such changes are likely to be driven by the new population of workers within the Sizewell area (7900 at peak) who will likely use designated sites for recreation to some degree, and the displacement of local people who currently use the development site and surrounding area (e.g. Sizewell Beach) to other locations for recreation, including these nearby sensitive designated sites. Recreational activities such as walking, dog walking, cycling/mountain biking, etc. can negatively impact on the designated site features (species and habitats) through noise disturbance to species, trampling of nests and vegetation, increased fire risk, enrichment of habitats etc.

Although the Applicant has collected some evidence and data to inform the recreational disturbance impact assessment, we consider there to be significant limitations to this which, in our opinion, leaves many uncertainties with regards to the conclusions. We consider the development of a recreational disturbance mitigation and monitoring strategy (as proposed) to be the correct mitigation approach in the context of the precautionary principle which is enshrined in the Habitats Regulations. However, in terms of the package of mitigation measures within that strategy, to ensure that adverse effects to these sites do not occur as a result of the Sizewell C project, we consider, in our expert opinion, that this should constitute a two-pronged approach of:

1. **Provision and promotion of 'on-site' alternative greenspace (following Suitable Alternative Natural Greenspace (SANG) design principles) within/ in close proximity to the MDS:** This should include provision and promotion of an area of greenspace within/ in close proximity to the MDS, with the aim being to minimise any increase in recreational pressure to the designated sites (from workers and displaced local people) as far as is possible by concentrating a large proportion of recreation in this area. Such provisions must be carefully designed to ensure that people will use them in preference to the sensitive designated sites and we have provided detail advice on this in our Written Representation.

   We understand that the Applicant does consider Aldhurst Farm to be an alternative green space/SANG for predicted impacts from displaced local people. However, we understand that they do not consider Aldhurst Farm to be an alternative green space/SANG as part of the necessary mitigation for recreational impacts from workers, as such impacts are not considered likely by them on. This is in part an assumption, based on Hinkley Point C, that c.90% of workers will return home to families at weekends so will not undertake recreation in the surrounding area when they will have the most free time. We advise that this would still leave c.590 workers on site during weekends who will require nearby open space for recreation; this number of people is at a scale roughly equivalent to a housing development of 250 dwellings in the area where a SANG would still be required in order to avoid adverse effects on the integrity of nearby European designated sites. This assumption also does not take into account the full 5900 workers' recreational needs during weekday evenings, in particular during fine summer weather. A further assumption by the Applicant, again based on experience of Hinkley Point C, is that workers will use the leisure/sports facilities provided through the development in preference to visiting the

nearby designated sites for recreation. It is important to note that Hinkley Point C is set in a very different landscape to the proposed Sizewell C development, with very different designated site habitats and public rights of way (PRoW) networks surrounding it. The Severn Estuary and surrounding area is of great nature conservation value with all the statutory designations at international (SAC, SPA, Ramsar) and national (SSSI) level, including large areas of grazing marsh, mudflat and saltmarsh which will no doubt be attractive to some of the Hinkley Point C workers (e.g. wildlife enthusiasts). However, these habitats do not have the same amenity value and therefore recreational draw as the Suffolk coast designated site habitats of concern which include dry heath, vegetated shingle beach and woodland/forest (including significant areas of open-access land), all set within an Area of Outstanding Natural Beauty (AONB). These habitats are likely to be very attractive to a typical worker seeking to undertake a number of recreational activities outdoors in the surrounding area (e.g. walking, jogging, cycling, mountain biking, meeting with friends etc.). We welcome that a trail for bike riding will be provided through Kenton Hills for the workers to use as part of the current proposals but advise that this only provides for limited types of recreational use.

This is on the basis that 5900 workers new to the area equates to roughly 2500 houses by number of people (based on 2.4. people per house). For a housing development of that scale in a similar location, we would advise that an alternative green space/SANG is required before an adverse effect on integrity from recreational disturbance could be ruled out. For example, an alternative green space/ SANG was required for a development of 2000 houses at Brightwell Lakes in the district as per Policy SCLP12.19: Brightwell Lakes (item a) of East Suffolk Council - Suffolk Coastal Local Plan (September 2020). We also consider than East Suffolk Council Local Plan policy supports the need for a SANG as set out in our Written Representations. We acknowledge that the impacts from workers at the campus and caravan parks are slightly different to typical housing as they will not be allowed dogs. We therefore consider that the exact design of the SANG is open for debate but that one is required given that the worker's accommodation is proposed so close to the designated sites and that the construction period is long term at 10-12 years during which time adverse effects could occur.

2. **Strategic 'off-site' measures to make the designated sites themselves more resilient to changes/increases in recreational pressures (e.g. visitor engagement, education and information, access management etc.) arising from the proposed development.**

The unique draw of the designated sites in the surrounding area means that, even when well-designed, such 'on-site' provisions of an alternative greenspace/SANG are unlikely to fully mitigate impacts, especially when the proposed development is considered 'in combination' with other plans and projects within reach of the sites. The applicant continues to engage with Natural England and others on this package of measures which includes a proportionate payment to the Suffolk Coast Recreational disturbance Avoidance Mitigation Strategy (Suffolk Coast RAMS)and further bespoke project-specific measures which we welcome.
The latest version of this element of the mitigation package was submitted by the applicant at Deadline 2. We are currently reviewing this information and will endeavour to provide comments in writing as soon as we are able. If and when we get to a place where we are satisfied with these measures, the monitoring element will be important in ensuring that the final package of 'initial measures' are successful and effective in avoiding/ mitigating adverse impacts on these designated sites, and can be adjusted to bring in pre-defined and agreed 'additional measures' if not.

iii) Progress on written agreement to maintain access for the RSPB to the southern side of Minsmere Reserve.

Natural England Response

Natural England advise that this issue is covered comprehensively in Issues 8 & 18 of our Written Representations [REP2-153].

This agenda item was not discussed at the hearing, and we understand that it was deferred to the next round of Examiner's Questions. However, to summarise our current position, works in and around the main development site which is directly adjacent to Minsmere have the potential to impede the management practices required for its conservation by the RSPB (e.g. access for grazing animals etc.)

The Applicant has stated that they will provide a written commitment, including a plan, showing access routes to maintain access for the RSPB to continue management to the southern side of the Minsmere reserve (within the Minsmere-Walberswick SPA and Ramsar site and Minsmere to Walberswick Heaths and Marshes SAC) and also retained areas of Sizewell Marshes SSSI (which is not addressed in the agenda item) at Deadline 5.

We very much welcome this commitment but are unable to advise on this further until we have seen that plan and the details within it.

iv) 'collision risk' - concerns raised by NE re lack of collision risk assessment for new pylons

Natural England Response

Natural England advise that this issue is covered comprehensively in Issue 27 of our Written Representations [REP2-153].

To summarise, the 'Pylon Plans for Approval' document depicts an illustrative arrangement of the new power lines; a single line running north – south (alongside the western end of the main development site), and two new parallel lines running north - south (alongside the western end of the existing site). At the southern end of the existing site, the new powerlines connect to the existing National Grid powerlines. Powerlines can impact birds through electrocution, displacement and collision. The illustrative plans do not give much clue as to the scale of the proposed powerlines relative to buildings and, consequently, the degree to which they protrude from, or are screened by, the outline of adjacent development.

Typically, new high-voltage powerlines would require significant survey work to inform Environmental Impact Assessments, in order to assess potential impacts on birds and to avoid, and subsequently mitigate, any residual the risk of collisions. Survey work has not been conducted. Neither has any detail been provided about mitigation, such as installing line markers.

Whilst the minimal length of these new stretches of powerline, compared to the length of larger scale connection projects, might ameliorate the potential for impact, some assessment and details of any necessary mitigation must be provided to confirm the applicant can exclude impact. It would also be useful to confirm that there are no plans for new high-voltage powerlines beyond the power station footprint, proposed by either EDF or National Grid, that are an inherent part of the transmission process for Sizewell C, but have not been included as part of this Development Consent Order submission, or within planning

applications for Associated Developments.

We advise that this issue needs to be considered further through the HRA, with mitigation provided if necessary. We note that the Applicant has stated in their Deadline 3 response to our Written Representations that they consider the extent of change to the baseline situation to be minimal in the context of the existing powerlines and cabling that are already in place, and impacts are therefore insignificant. We will consider that response in more detail and discuss further with the Applicant, then endeavour to provide an updated written response on it as soon as possible.

At this stage, we consider that, we consider that this issue might potentially be resolved via the use of appropriate post-construction monitoring.

v) Position update on air quality effects due to NOx and acid deposition'

NE Response

Natural England advise that this issue is covered comprehensively in Issues 5 & 15 of our Written Representations [REP2-153].

This agenda item was not discussed at the hearing, and we understand that it was deferred to the next round of Examiner's Questions. However, to summarise our current position, for those sites listed which are further from the MDS, there could be potential impacts from increased nitrogen oxide (NOx) emissions generated during construction and operation. In particular, road traffic is a source of NOx emissions, meaning that increases in traffic can represent a risk to designated site features where there is exceedance of critical levels (CLe) for sensitive vegetation. This can result in changes in the species composition of designated site features, reduction in the species richness of designated habitat, damage or loss of sensitive lichens and bryophytes and increases in nitrate leaching and changes in soil nutrient status which may affect the structure and function of a designated or supporting habitat. It is essential that the Applicant can demonstrate airborne pollution will not adversely impact these sites and their notified features.

In our Written Representations, we stated that, whilst it is reasonable to make an argument as to why the daily NOx exceedance is not of concern in this specific case, this must be underpinned by clear evidence. The applicant has gone some way toward doing this, but it lacks clarity and detail. Reliance is placed upon the rate of recovery in the justification however no evidence as to the time taken for the specific habitat type to recover (which will vary) is provided. The applicant must provide reassurance that this will not cause long term damage to the site.

The Applicant has provided a response to the concerns on this as set out in our Written Representations at Deadline 3 and we are in the process of reviewing these with our air quality specialist.

e) Protected Species

Natural England Response

Natural England advise that this issue is covered comprehensively in Issues 10, 37, 52 and 54-62 of our Written Representations [REP2-153].

However, to summarise, protected species licences are required from Natural England for any development activity which carries the risk of significant disturbance or injury to certain species. It is our understanding that for the proposed project this includes water voles,

natterjack toads, bats, otters, great crested newts, badgers and Deptford Pink.

As set out in our Relevant [RR-0878] and Written Representations [REP2-153], we advised the Applicant throughout pre-application that final draft licences for all relevant protected species should be submitted by them with or shortly after the submission of their Development Consent Order (DCO) application in May 2020. This was to ensure that the Examining Authority (ExA) has the certainty that is required in terms of Natural England reviewing each licence application and providing letters of no impediment (LoNIs) before any consent might be granted. We specifically created the LoNI process for this purpose to de-risk applications for developers in this regard. The advice given by the PINS Consents Service Unit in their Prospectus for developers document (page 8, Annex 2), which support developers in understanding the risks of not undertaking this process, states that "*It is worth noting where developers choose to apply for non-planning consent later in the process, it may be difficult to provide the Examining Authority with reassurances about the likelihood of obtaining them*".

As outlined in our oral submission at ISH 7, Natural England started receiving the final draft protected species licence applications from the Applicant on the 9th July 2021 (water voles, Deptford Pink), and have also received an outline of when the Applicant intends on submitting the remaining applications to Natural England and the ExA as below:

Licence Title	**Proposed Submission Date to Natural England**	**Submission to ExA**
Water Vole Method Statement: Main Development Site	9th July (issued)	Deadline 5
Natterjack Toad: Main Development Site	20th July	Deadline 5
Badger: Main Development Site	16th July	Deadline 5
Deptford Pink: Main Development Site	9th July (issued)	Deadline 5
Otter: Main Development Site	21st July	Deadline 5
Water Vole: Two Village Bypass	16th July	Deadline 5
Badger: Two Village Bypass	16th July	Deadline 5
Great Crested Newt: Northern Park and Ride	27th August	Deadline 7
Great Crested Newt: Sizewell Link Road	27th August	Deadline 7
Great Crested Newt: Rail	27th August	Deadline 7
Bat	27th August	Deadline 7

As such, we have not yet had time to review and come to a conclusion on any of the applications and are therefore not in a position to issue any LoNIs to the ExA at this time.

We do not have a statutory response time on this element of our licencing work but ordinarily would aim for 30 working days, although staff are currently operating at 45+ working days due to resource constraints. Applications typically require multiple rounds of drafts being submitted per species before they reach a stage that they are considered satisfactory for Natural England to reach a conclusion. Without pre-judging the applications, given the scale and complexity of the Sizewell C project it may be that our response following initial review is to request further information for some or all of them, after which the review process is repeated.

We therefore wish to highlight that our conclusions on each licence application, and subsequent issuing of LoNIs to the ExA (if a favourable conclusion is reached), may not occur until close to or after the end of the examination period as currently scheduled (14th

October 2021). As outlined in our oral submission at ISH 7, the LoNIs themselves do not take much time to prepare and issue once a favourable conclusion has been reached.

f) Other designated sites

Natural England Response

Natural England advise that this issue is covered comprehensively in Issue 22 of our Written Representations [REP2-153]. We understand that this agenda item was not discussed at the hearing but deferred to the next round of Examiner's Questions, and we have no further comments to make at this stage.

g) Ancient woodland, veteran trees and the route of the Two-village Bypass

Natural England Response

Natural England advise that this issue is covered comprehensively in Issue 21 of our Written Representations [REP2-153].

We understand that this agenda item was not discussed at the hearing but deferred to the next round of Examiner's Questions. We advise that the Applicant has provided a response to our Written Representations [REP3-042] which we are reviewing and will endeavour to provide an updated position on as soon as we can.

h) The Sizewell Link Road – mitigation for loss of watercourses, mammal and invertebrate surveys

Natural England Response

No comments

i) Duties under ss. 40 and 41 Natural Environment and Rural Communities Act 2006

Natural England Response

Public authorities (including statutory undertakers) have a general biodiversity duty under section 40 of the Natural Environment and Rural Communities (NERC) Act 2006. That duty is to have regard, so far as is consistent with the proper exercise of the public authority's functions, to the purpose of conserving biodiversity.

Priority habitats and species listed under section 41 of the NERC Act are, in the Secretary of State's opinion, of principal national importance for the purpose of conserving biodiversity. Planning policy provides that the avoidance-mitigation-compensation hierarchy should be clearly followed with respect to these habitats and species. Where impacts to these habitats cannot be avoided, mitigated or compensated for, their loss/damage should feed into the applicant's biodiversity net gain (BNG) calculations.

j) The position in relation to Letters of no impediment and any Environment Agency comfort letters

Natural England Response

Natural England advise that this issue is covered comprehensively in Issues 10,37,52 and 54-62 of our Written Representations [REP2-153].

Please see agenda item 2)e) above on protected species, where we advise on our position regarding letters of no impediment.

Additional agenda item: Progress update on status of the Water Industry National Environment Programme (WINEP) study being undertaken by Essex and Suffolk Water (note: this item was moved and discussed after originally being on the Marine Ecology agenda for 16th July 2021)

Natural England Response

Natural England advise that this issue is covered comprehensively in Issues 3 and 13 of our Written Representations [REP2-153].

However, to summarise, we received a copy of the Interim Broadland WINEP Report on 9th July 2021 and are in the process of reviewing it. Firstly, we will consider whether the proposed level of abstraction itself will have an adverse effect on any water dependent designated sites in that catchment which will not yet have been screened into the relevant Sizewell C project assessments (e.g. through the HRA and EIA).

Secondly, we will consider whether there are any wider impacts on protected sites, landscapes and species as a result of associated infrastructure and pipeline works needed to get that water supply to the proposed development site. We assume that these associated impact assessments will be provided within the Water Use Strategy which we understand is to be submitted by the Applicant at Deadline 5 which we will review and will endeavour to provide an updated position on as soon as we can.

3) Marine Ecology

a) HRA, European and other designated sites

i) Marine Mammals

Natural England Response

Natural England advise that this issue is covered comprehensively in Issues 7, 17 and 27 of our Written Representations [REP2-153]. However, to summarise:

Noise modelling
Natural England are satisfied with the noise modelling and proposed mitigation in this regard as outlined in the Marine Mammal Monitoring Plan (500m mitigation zone) and use of hydrohammer at source to reduce the amount of noise introduced in the marine environment.

In our Written Representations [REP2-153], we advised that we still needed to see the Southern North Sea Site Integrity Plan for review before we offer a final conclusion on AEoI with regards the Southern North Sea SAC.

The applicant has since signposted us to this document's location in the Examination library. We are currently reviewing it and should be in a position to offer a final position on a potential AEoI to the Southern North Sea SAC shortly.

To clarify a point raised by the Inspector at the hearing, the protected feature for the Southern North Sea SAC is the Harbour porpoise.

Collision risk/physical interaction between species and project infrastructure

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

ii) Fish, including migratory fish

Natural England Response

Natural England advise that this issue is covered comprehensively in Issues 30-36 and 41-47 of our Written Representations [REP2-153].

However, to summarise, Natural England advise that we have concerns surrounding impacts to:

- Fish species assessed in their own right within the HRA assessment, including Annex 2 species (river lamprey, twaite shad, allis shad, sea lamprey, Atlantic salmon).
- Fish as prey species for the nearby Alde-Ore Estuary and Minsmere-Walberswick SPA and Ramsar birds (Lesser black-back gull, little tern, sandwich tern).
- Fish as part of the environment, e.g. as a consideration under EIA where we consider that there is notable uncertainty around general fish mortality over the lifetime of the project, with concerns around degrading the local marine environment functioning or specific effects on smaller fish sub-stocks.

With impacts to these species potentially arising from:

- Impingement/entrainment within the cooling water infrastructure
- The associated thermal plume
- The associated chemical plume (bromoform, chlorination, hydrazine)
- Drilling and bentonite break out

We remain concerned on:

- **The methods used to estimate fish mortality from the cooling water intake system**. Most notably we are concerned around the scales of assessment used for marine fish, where large International Council for the Exploration of the Sea (ICES) management units have been appropriated as the “baseline populations” despite evidence of smaller, more localised sub-populations for many species. This approach does not use best available evidence. The reliance on ICES units exclusively risks underestimating the fish mortality impact from the project in the context of the HRA and more widely e.g. EIA.

- **The methodology used to estimate baseline population for Twaite shad.**

- **The use of best available mitigation options to further reduce fish mortality and/or improve capacity for adaptive management of fish mortality (includes fish deterrents).** Also, NE support comments from other interested parties seeking more information on the predicted efficacy of the Low Velocity Side Entry (LVSE), since it is novel, untested technology.

- **Uncertainty and scientific disagreement around the methods used to estimate fish mortality from the cooling water intake system**. Working closely with the

Environment Agency on Sizewell, and drawing from experiences with Hinkley Point C, we remain concerned around the accuracy of the quantitative impingement assessment. E.g. Equivalent Adult Values (EAVs).

iii) Birds - Disturbance/displacement of the red-throated diver qualifying feature of the Outer Thames Estuary SPA due to vessel movements/traffic

Natural England Response

Natural England advise that this issue is covered comprehensively in Issue 27 of our Written Representations [REP2-153].

However, to summarise, Natural England consider that insufficient evidence has been presented to make a conclusion of no Adverse Effect on Integrity for the non-breeding red-throated diver population at the Outer Thames Estuary SPA arising from disturbance and displacement by vessel traffic. Red-throated diver are a species that are highly sensitive to disturbance.

We advise that an indicative vessel route 'corridor' is not sufficient to assess the likely disturbance and/or displacement of red-throated diver. It is essential that a full vessel management plan, detailing appropriate mitigation to reduce red-throated diver disturbance and displacement, is defined.

The increased vessel activity has been described as a small increase to the existing. We do not consider the evidence provided as sufficient to assess this, as the proposed vessel activity is not considered against clearly defined baselines over appropriate timescales. Currently the Outer Thames Estuary SPA already has issues with traffic from the offshore wind industry displacing red-throated diver. Natural England advise that any additional plans/projects should be assessing disturbance in addition to that already caused by vessel traffic associated with the offshore wind industry.

The likely disturbance and displacement impacts on red-throated diver have not been considered with due consideration of the evidence. Red-throated diver typically show strong disturbance responses to vessels from distances up to 5 km, leading to long resettlement times (3-7 hours). There is considerable uncertainty around individual or population level impacts of disturbance and displacement of wintering birds, although the acknowledged vulnerability of this species to anthropogenic disturbance suggests a risk of significant stress responses to disturbance events.

Natural England appreciate that the Applicant has agreed to work with us on establishing a Vessel Management Plan to mitigate impacts to over-wintering Red-throated divers in the Outer Thames Estuary and we will provide further advice on this as soon as possible once it is available for review

iv) Birds – Collision risk

Natural England Response

Natural England have no concerns with marine birds colliding with project infrastructure. All comments provided on ornithology collision risk in our Written Representations [REP2-153] were regarding terrestrial birds.

b) Cooling water system, acoustic fish deterrents

Natural England Response

Natural England advise that this issue is covered comprehensively in Issues 22 and 30 of our Written Representations [REP2-153].

To summarise, As mentioned in agenda item 3.a.i above, we advise that the applicant should consider exploring and revisiting mitigation opportunities to further reduce fish mortality rates (for example through use of Fish Deterrent devices, especially for those species with the highest impingement rates and 100% Fish Return and Recovery (FRR) mortality rates (clupeids such as sprat and herring).

This relates to both HRA and EIA assessments undertaken.

c) The securing mechanisms to control impacts on marine water quality

Natural England Response

Natural England advise that this issue is covered comprehensively in Issues 31-36 and 42-47 of our Written Representations [REP2-153].

However, to summarise our current position, Natural England are currently reviewing the most recent version of the shadow DCO/DML and will provide comment on these securing mechanisms at Deadline 5 in 'NE Comments on draft DCO/DML (our ref: 361180).

e) Fisheries, fish stocks, equivalent adult values, Sabellaria spinulosa

Natural England Response

Natural England advise that this issue is covered comprehensively in Issues 30-36 and 41-47 of our Written Representations [REP2-153]. However, to summarise:

Low Velocity Side Entry (LVSE): The LVSE intakes represent novel mitigation technology. The predicted efficacy of the LVSEs are based on modelling which has yet to be ground-truthed. Therefore, Natural England remains uncertain as to the effectiveness of this technology.

Equivalent Adult Values (EAVs): There is no standardised methodology to scale up actual juvenile mortality into estimated adult mortality. We note the methodology adopted by the Applicant only estimates the number of first-time spawners lost. This omits the majority of spawning potential, as most fish species are not semelparous (single-spawners) and on the whole, fecundity increases with size/age.

Scales of assessment for marine fishes: The use of ICES management units could underestimate the fish mortality impact from the project in the context of the HRA and more widely (EIA).

Natural England advises that the best available evidence has not been used in assessing the impacts of SZC and we therefore cannot support or disagree with the estimates around fish entrapment and conclusions based on these estimates.

There is evidence in support of local population or subpopulation structure within a number of the species assessed. Despite Natural England flagging this with the Applicant throughout our engagement, most fish mortality impacts continue to be contextualised against large ICES Spawning Stock Biomass (SSB) as a proxy for population estimates. Because of this, Natural England advises that the best available evidence has not been used in assessing

the impacts of SZC and we therefore cannot support or disagree with the estimates around fish entrapment and conclusions based on these estimates.
Natural England's view is that the best available evidence summarising this ongoing scientific debate regarding appropriate scales of assessment for cooling water intake impacts on fishes is found within the ongoing public enquiry in the Hinkley Point C project. In this case, we strongly support the approach taken by the Environment Agency (letter dated 28/04/2021 NE ref 313466) in their HRA and as detailed in their supporting TB011. While recognising the myriad of differences between the projects, not least the different environments of Sizewell Bay compared to Bridgewater within Severn Estuary, we hold that in both instances the applicants exclusive use of ICES management units does not utilise best available evidence, and so risks underestimation of the fish entrapment impact.

Natural England advise that for these key topic areas, it may prove unlikely that agreement can be reached prior to the end of the examination. Currently there exist fundamental differing scientific opinions between Natural England, Environment Agency and wider conservation groups, and the Applicant. These topics have been discussed at length in the Hinkley Point C enquiry over 2 weeks of hearings, and still remain unresolved. As such if all parties retain their current scientific positions across both projects, then differences are unlikely to be resolved.

It is likely that new evidence and analysis of the underlying impingement estimates is expected from the Environment Agency's Water Discharge Activity permit assessment. Previous experiences at Hinkley Point C, which utilises largely the same methodology as Sizewell C for impingement estimates, suggest that there will continue to be extensive dialogue around the accuracy of the impingement estimates.

***Sabellaria spinulosa*:** Natural England attended a Marine Technical Forum (MTF) earlier in the year to discuss marine ecology issues with the Applicant. Following this MTF, we advised that our view is that there is a high probability of *Sabellaria spinulosa* reef being present at the headworks locations. We note that due to the requirements of nuclear cooling water intakes, only full avoidance will be possible at one of the three proposed locations and it is therefore unlikely impacts to this habitat will be fully mitigated for through avoidance.

Therefore, actions should be taken by the applicant to address the loss of reef habitat in this area of the southern North Sea and identify possible alternative mitigation measures. Mitigation measures should be in the southern North Sea vicinity, with similar environmental conditions to the area which will be disturbed or destroyed by the intakes. This is in line with advice provided to other marine industries.

In addition, because there are residuals concerns in relation to impacts to reef, there would be an expectation to undertake monitoring of any Sabellaria reefs to understand their recovery, and this should follow the Before-After Control-Impact (BACI) approach.

It remains unclear to Natural England what a reference reef area which is potentially in a different life cycle phase and within different environmental conditions (i.e. water depth, and physical process) to that of the potential impact area will achieve. We flag this as natural changes may be very different between the two areas. And anthropogenic presses may also be different between the two areas. We therefore request further clarity on this point.

The Applicant has informed us that they have been developing a Sabellaria monitoring & mitigation plan and have requested a meeting following Deadline 5 to discuss it. We welcome this and will endeavour to provide further advice on this plan as soon as possible once it is available for review

4) Close of hearing