

EDF Energy

By email only

26<sup>th</sup> March 2019

Dear Sir/Madam

### **RSPB Response to the Sizewell C Stage 3 Public Consultation**

The RSPB has reviewed the Stage 3 public consultation documents for Sizewell C. We note that this is intended to be the final stage of public consultation prior to an application for development consent and our primary comments therefore focus on issues that require resolution before this application is submitted. We have also provided detailed comments on the consultation documents in the annex to this response.

#### **Background**

##### *The RSPB and the Suffolk Coast*

RSPB Minsmere is located immediately to the north of the proposed Sizewell C development site. Minsmere's habitats include four national conservation priorities: reedbeds, lowland wet grassland, shingle vegetation and lowland heath. These habitats support a range of bird, plant and invertebrate populations of international conservation importance.

RSPB Minsmere receives over 120,000 visitors each year, attracted to the area by the beautiful wide-open spaces and wildlife experiences the landscape offers. It plays a vital role in the local community contributing over £8 million to the economy and supporting well over 200 jobs.

The reserve forms part of a wider area found within the Suffolk Coast, recognised for its value for wildlife, and protected by a range of national and international nature conservation designations including SSSI, SPA, SAC and Ramsar site. The RSPB Minsmere reserve forms a part of the following sites (the Minsmere-Walberswick designated sites):

- The Minsmere-Walberswick Heaths and Marshes Site of Special Scientific Interest (SSSI) contains a complex of habitats, notably mudflats, shingle beach, reedbeds, heathland and grazing marsh and supports populations of important birds, including bearded tit, Cetti's warbler and shoveler, scarce plants such as whorled water milfoil and a number of rare wetland moths.

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- The Minsmere to Walberswick Special Protection Area (SPA) is designated for its breeding bird populations, including bittern, marsh harrier, avocet, nightjar, woodlark and several wildfowl species.
- The Minsmere/Walberswick Heaths and Marshes Special Area of Conservation (SAC) is designated for its coastal and dry heathland habitats.
- The Minsmere/Walberswick Heaths and Marshes Ramsar site is designated for its variety of marine, freshwater, marshland and associated habitats. It also supports a number of rare plants, such as red-tipped cudweed, invertebrates including the narrow-mouthed whorl snail, and important rare breeding birds such as avocet.

The Sizewell C site is also adjacent to Sizewell Marshes SSSI:

- Sizewell Marshes SSSI is designated for its lowland wet meadows and extensive ditches which support important assemblages of invertebrates and breeding birds, and several rare species of plants.

The site's outstanding value in a European context is recognised by the Council of Europe Diploma Award, awarded to RSPB Minsmere in 1979 and is one of only five sites in the UK to have achieved this distinction.

Outside of the designated habitats, habitat management during the last 25 years has created a significant area of acid grassland and heathland on former arable land, enabling the recovery of populations of scarce species such as stone-curlew, woodlark and silver-studded blue butterfly.

RSPB North Warren and Aldringham Walks are located to the south of the proposed development site. The reserves' habitats are similar to Minsmere including reedbeds, lowland wet grassland, shingle vegetation and lowland heath. The reserve makes up the majority of the Leiston-Aldeburgh SSSI and also forms part of the Sandlings SPA. A similar range of scarce species to Minsmere are found at North Warren. The site supports an important population of wintering white-fronted geese, that feed at North Warren during the day and often fly to Minsmere to roost at night (passing over the Sizewell site). Breeding marsh harrier at North Warren may also forage to the north of the reserve, including the area of the proposed development.

Both RSPB Minsmere and RSPB North Warren form key locations within the Suffolk Coast and Heaths AONB and the Suffolk Heritage Coast and are integral to the RSPB's vision for landscape-scale conservation on the Suffolk Coast, working in partnership with other conservation agencies and private landowners.

#### *The RSPB's engagement with the Sizewell C project*

The RSPB responded to the Stage 1 public consultation in February 2013. Our key concern at that stage was the lack of detail included in the consultation about the design of the project and its potential impacts. We also raised particular concerns about the limited information provided regarding;

- disturbance to designated sites and species from noise, vibration and lighting;

- damage to and loss of part of Sizewell Marshes SSSI;
- effects on coastal processes from the proposed jetty and outfall, and;
- changes to hydrology and coastal processes from any impacts on Minsmere Sluice.

Following the Stage 1 consultation, we were invited to engage with the Evidence Plan process through a series of workshops which aimed to identify the environmental evidence required as part of the final development consent application.

In early 2017, the RSPB responded to the Stage 2 public consultation. Disappointingly, given the length of time that had elapsed since the Stage 1 consultation, there was insufficient additional detail of the proposals or evidence regarding their potential environmental impacts to understand the significance of impacts on nature conservation sites. Again, we raised concerns about specific elements of the project including;

- the coastal defence scheme and its potential impacts on RSPB Minsmere;
- loss and damage to Sizewell Marshes SSSI;
- potential hydrological impacts;
- disturbance to sensitive sites and species during construction, and;
- effects on visitors to RSPB Minsmere.

Whilst we are aware that some environmental surveys and assessments have continued since the Stage 2 consultation, we have not received information sufficient to allay the RSPB’s concerns about the potential for the Sizewell C proposals to have significant impacts on the nature conservation interests of the Suffolk coast, including RSPB Minsmere.

**Response to the Stage 3 public consultation**

The RSPB has reviewed the Stage 3 consultation documents and has provided detailed comments on these in the annex to this response. We have several areas of particular concern following previous public consultations and we have set these out in the table below, along with an indication of the level to which the Stage 3 consultation addresses these concerns. As can be seen from the table below, few of our concerns have been resolved, and based on the evidence available at present, we do not have confidence that Sizewell C can be developed without significant impacts on the nature conservation interests of the Suffolk Coast, and Minsmere in particular.

Summary of RSPB concerns following Stage 2 consultation	Summary of RSPB concerns following Stage 3 consultation	Comment on progress since Stage 2 and outstanding issues remaining
<p><b>Planning policy</b></p> <p>There is a need for the project to undergo full consideration under the Habitats Regulations to assess impacts on internationally important wildlife conservation sites</p>	<p>Given our concerns about levels of impacts on designated nature conservation sites from Sizewell C, and availability of other identified nuclear site options, we query whether alternative</p>	<p>Significant concern remaining</p> <p>We consider that to justify the development of the Sizewell site over currently available alternative sites, it must be demonstrated that</p>

Summary of RSPB concerns following Stage 2 consultation	Summary of RSPB concerns following Stage 3 consultation	Comment on progress since Stage 2 and outstanding issues remaining
<p>Concern about the lack of commitment to best environmental practice</p>	<p>and sites with the potential for less damage to designated nature conservation sites should be considered</p>	<p>Sizewell C would be the least damaging to designated nature conservation sites of the available options. Currently the level of evidence provided does not allow such a conclusion to be drawn</p>
<p><b>Coastal processes</b></p> <p>Lack of detail regarding coastal defence plans and other coastal structures and potential impacts</p> <p>Concern about potential for jetty, beach landing facility and intake/outfall structures to affect coastal processes</p> <p>Need for a coastal monitoring scheme and planned actions should impacts be identified</p> <p>Concern about loss of high value dune grassland</p>	<p>Insufficient evidence that the beach landing facility will not have significant impacts on coastal processes (including effects on RSPB Minsmere and the Minsmere-Walberswick designated sites) during its construction or operation</p> <p>Insufficient evidence that impacts relating to the combined drainage outfall and fish recovery and return outfall can be managed without impacts on longshore bars and wider coastal processes</p> <p>Concern about the potential effects of the hard coastal defence in the long term, including changes to coastal processes affecting Minsmere</p> <p>The need to develop a suitable monitoring scheme to identify coastal impacts at an early stage, with agreed thresholds for triggering implementation of avoidance or remedial measures</p> <p>Loss of important coastal vegetation</p> <p>Impacts of disturbance, the thermal plume and increased sediment suspension on birds including red-throated divers have not been adequately assessed</p>	<p>Significant concern remaining</p> <p>Whilst slightly more detail regarding the design of coastal defences and other coastal structures and their potential impacts has been provided, the information is incomplete and the supporting evidence necessary to give confidence in the conclusions drawn is missing. In particular, we cannot agree at this stage that the BLF or the potential exposure of the hard coastal defence feature will not have significant impacts on coastal processes, resulting in adverse effects on the integrity (AEOI) of the Minsmere-Walberswick designated sites.</p>

Summary of RSPB concerns following Stage 2 consultation	Summary of RSPB concerns following Stage 3 consultation	Comment on progress since Stage 2 and outstanding issues remaining
<p><b>Hydrology</b></p> <p>Potential effects of hydrological cut-off wall on groundwater and surface water levels in Sizewell Marshes SSSI</p> <p>Concern about potential for increased discharge to Minsmere Sluice via Leiston Drain affecting the RSPB’s ability to manage water levels at RSPB Minsmere and the Minsmere-Walberswick designated sites</p> <p>Potential effects of causeway/culvert (if chosen) at SSSI crossing on water flows</p> <p>Concern about possibility of contaminated leachate from borrow pits</p>	<p>Insufficient evidence that the sheet piling/cut off wall and the realignment of Sizewell Drain will not have significant impacts on Sizewell Marshes SSSI and the Minsmere South Levels (part of Minsmere-Walberswick Heaths and Marshes SSSI)</p> <p>Lack of confidence that effects on groundwater will not have effects on the ecology of Sizewell Marshes SSSI and Minsmere-Walberswick Heaths and Marshes SSSI</p> <p>Concern remains regarding potential for contaminated leachate from borrow pits to affect the Minsmere-Walberswick designated sites.</p> <p>Concern that increased water flow from the development to the Minsmere Sluice could affect water management at RSPB Minsmere and the Minsmere-Walberswick designated sites</p> <p>Limited consideration of the effects of Sizewell C on flood risk to RSPB Minsmere and the Minsmere-Walberswick designated sites</p>	<p>Significant concerns remaining</p> <p>At present we do not consider that sufficient evidence has been presented to give confidence in the assessment of effects on RSPB Minsmere and Sizewell Marshes SSSI, or to rule out AEOI of the Minsmere-Walberswick designated sites. It is also not clear whether the proposed mitigation will be sufficient or effective.</p>
<p><b>Noise and visual disturbance</b></p> <p>No details provided regarding potential noise levels from construction area and effects on designated sites</p> <p>Lack of detail about mitigation for noise and lighting impacts</p>	<p>Need to ensure that mitigation for marsh harrier is adequate in terms of extent, disturbance levels and prey provision</p> <p>Insufficient consideration of noise impacts on breeding and non-breeding waterbirds on the Minsmere South Levels (and</p>	<p>Some concerns remaining</p> <p>Further detail has been provided regarding wildlife habitats likely to be affected by noise and visual disturbance, and mitigation has been proposed for impacts on marsh harrier. There has still been very limited consideration of the</p>

Summary of RSPB concerns following Stage 2 consultation	Summary of RSPB concerns following Stage 3 consultation	Comment on progress since Stage 2 and outstanding issues remaining
	functionally-linked to the Minsmere-Walberswick SPA)	effects on waterbirds of the Minsmere South Levels (functionally-linked to the Minsmere-Walberswick SPA), and some further work will be required to demonstrate that the marsh harrier mitigation area will be sufficient and effective and that AEOI of the Minsmere-Walberswick designated sites can be avoided
<p><b>Land take within designated conservation sites</b></p> <p>There is a need to assess the proposed loss of part of Sizewell Marshes SSSI against the tests set out in EN-1 (Overarching NPS for Energy)</p> <p>Increased area of loss from Sizewell Marshes SSSI since the Stage 1 consultation and concern about potential for additional loss and/or damage during construction</p> <p>Concern about adequacy of the proposed habitat compensation</p> <p>Possible land take from Minsmere-Walberswick designated sites unclear</p>	<p>Full justification for proposed loss of part of Sizewell Marshes SSSI has still not been provided</p> <p>Area of Sizewell Marshes SSSI to be lost has increased from 4.6ha to 6.06ha (9.7ha including ‘temporary loss’) since the Stage 2 consultation</p> <p>Plans for compensatory habitat are not complete</p> <p>Lack of clarity about land take from Minsmere-Walberswick designated sites</p>	<p>Significant concerns remaining</p> <p>The justification for SSSI loss required by NPS EN-1 has still not been provided. We are also concerned that the amount of SSSI to be lost appears to have increased again and at the lack of justification or explanation for possible land take from the Minsmere-Walberswick designated sites. Further work is required to ensure compensatory habitat would be adequate.</p>
<p><b>Other impacts</b></p> <p>Concern about potential changes to character of area surrounding Minsmere affecting RSPB reserve visitors</p> <p>Effects of reduction in available bedspaces for tourists</p>	<p>Potential impacts of footpath diversions on sensitive conservation sites</p> <p>Concern about effects of noise and visual intrusion on visitors to Minsmere</p> <p>Insufficient information regarding likelihood and significance of dust and nitrogen deposition on</p>	<p>Some concerns remaining</p> <p>Several areas remain where potential impact significance is still unclear (e.g. air quality, protected species). Whilst some progress has been made, further work will also be required to identify and mitigate for potential impacts on visitors to RSPB Minsmere.</p>

Summary of RSPB concerns following Stage 2 consultation	Summary of RSPB concerns following Stage 3 consultation	Comment on progress since Stage 2 and outstanding issues remaining
	<p>Sizewell Marshes SSSI and Minsmere</p> <p>Potential impacts on protected species including bats, water voles and natterjack toads</p>	

**Conclusion**

The RSPB remain seriously concerned that the Sizewell C proposals are a considerable threat to RSPB Minsmere, the Minsmere-Walberswick designated sites, Sizewell Marshes SSSI and nature conservation on the Suffolk Coast more generally. Based on the information provided in this Stage 3 public consultation, we are not reassured that impacts will not be significant due to the lack of detail about the proposals, evidence regarding potential impact significance and design and efficacy of mitigation measures. Therefore, we are unable to conclude that there will be no adverse effects on the integrity of the following internationally designated sites:

- The Minsmere to Walberswick SPA
- The Minsmere/Walberswick Heaths and Marshes SAC
- The Minsmere/Walberswick Heaths and Marshes Ramsar site

We are also unable to agree that significant damage will not occur to the following nationally designated sites:

- The Minsmere-Walberswick Heaths and Marshes SSSI
- The Sizewell Marshes SSSI

Given these concerns, we query the acceptability of bringing forward this site for development when projects at other proposed nuclear sites have recently failed to progress, meaning that alternative options that are potentially less damaging to designated nature conservation sites may be available.

Notwithstanding the above point, we consider that the standard of environmental evidence provided for the Sizewell C proposals at this stage falls well short of that required for an application for development consent. Significant work on environmental assessments, including consultation with relevant stakeholders, will therefore be required to complete the required assessments before an application can be made. Whilst we are keen to work with EDF where possible to identify potential impacts and mitigation prior to any application being submitted, the onus is on EDF to demonstrate that these proposals could be brought forward without significant damage to the internationally important wildlife and habitats of the Suffolk Coast.

We hope that these comments will be considered and that there will be significant progress in resolving our concerns over the coming months before the application for development consent is made.

Yours faithfully



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## **Annex – The RSPB’s Detailed Comments on the Sizewell C Stage 3 Consultation Documents**

### **1. General comments**

#### 1.1 Embedded mitigation

Repeated references are made to “embedded mitigation” within the project documentation. This is used to refer to measures such as the creation of a new marsh harrier foraging area as mitigation for loss of foraging resource due to noise disturbance. In line with the recent “People Over Wind” judgment<sup>1</sup>, when mitigation is considered in the context of the Habitats Regulations Assessment, it will be necessary to first conclude that a likely significant effect exists before mitigation can be considered as part of the appropriate assessment under Regulation 63 of the Conservation of Habitats and Species Regulations 2017.

#### 1.2 Impact terminology

Greater clarity is required when discussing impacts which potentially affect internationally designated sites. In these cases, a conclusion as to whether AEOI can be ruled out should be clearly stated.

### **2. Planning Policy Context and Design Principles**

#### 2.1 Planning policy

Vol. 1, para. 3.3.11 states that the principle of site suitability and the need for Sizewell C should not be debated as part of the application for development consent. However, we consider that there is a need to discuss site selection given the failure to progress other sites which were identified in NPS EN-6 and assessed as potentially having lower impacts on designated nature conservation sites than Sizewell C (see Annex C of NPS EN-6). Vol. 1, para. 3.3.6 states that Annex C of NPS EN-6 justifies the acceptability of impacts from Sizewell C in the light of the scarcity of alternative sites available. Currently, alternative sites that are potentially suitable are available and it is therefore our view that the acceptability of bringing forward a site with potentially significant impacts on designated nature conservation sites before sites that may be less damaging should be examined. We therefore do not agree at this stage that the argument for no alternative solutions and Imperative Reasons of Overriding Public Interest (IROPI) made in Vol. 1, para. 3.3.8 (and based on NPS EN-6 para. C.8.57) is applicable given the current situation. It should be noted that NPS EN-6 para. 1.8.4 states that the IROPI do not transfer to project level and that para. 2.44 makes it clear that the nomination of eight sites enables the refusal of consent for an individual site, should it be appropriate to do so. We therefore consider that to justify the development of the Sizewell site in advance of (or without) the alternative nominated sites, it must be demonstrated that Sizewell C would have the least damaging impact on the Natura 2000 network of the

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<sup>1</sup> [Case C323/17](#) (People Over Wind, Peter Sweetman v Coillte Teoranta).

available options. This again emphasises the need for provision of timely, robust and comprehensive evidence to underpin the assessment of impacts.

## 2.2 Design principles

As noted in our response to the Stage 2 public consultation, we are disappointed to see statements in Vol. 1, Table 7.1 that the development will be designed to ‘...have regard to best practice’ and ‘best environmental practice will be taken into account.’ This stops short of a commitment to follow best environmental practice in the design of the project, which would be expected given the international importance of the surrounding environment.

## 3. Coastal and marine impacts

### 3.1 Coastal processes

#### 3.1.1 Beach landing facility (BLF)

Vol. 2a, para. 2.14.7 identifies the pattern of coastal evolution over the last one to two decades to the north of the proposed BLF site. However, geomorphological studies demonstrate that this may not be representative of longer-term trends and patterns (Pye & Blott 2005; Brooks 2010; Burningham and French 2016) and these need to be taken into consideration when determining future predictions of natural coastal change.

Vol. 2a, paras. 2.14.21-23 discuss the potential impact of the temporary rock platform option for the construction of the BLF (with the other option being the use of a jack-up barge). It appears that the impacts of using the temporary rock platform for construction of the BLF could be significant, particularly if the works are carried out in winter. It has been noted that accretion occurs at Minsmere if winds are from the south and the wave climate is favourable. Therefore, an obstruction to the south could negatively affect Minsmere by preventing/limiting accretion. The relative advantages and disadvantages of the two options for construction in terms of environmental impact have not been presented for comparison and, whilst some mitigation is proposed in paras. 2.14.43-44, the significance of any residual impact is not clear. We also consider that there is a need to assess the potential for the proposed mitigation (bypassing of sand/shingle) to result in impacts. We therefore cannot agree that impacts can be ruled out for either method of BLF construction and therefore do not agree with the conclusion of “no significant residual effect” in Table 2.14.1. We again request that more detail is provided.

While it is stated in Vol. 2a, para 2.14.24-28 that the dredging of a navigation channel and grounding area for use of the BLF would only cause temporary impacts, we request the evidence to support this and an understanding of the area which could be impacted should usage coincide with a storm event. Maps must be presented showing the areas discussed within these paragraphs as affected by a change in bed shear stress, and the implications of this modelled along with other elements of the project potentially affecting coastal processes. Vol. 2a, para. 2 12.13 acknowledges the longshore bars which

provide protection to the coast from wave action. Impacts of dredging on these bars will also require consideration.

Vol. 2a, para. 2.4.14 states that the BLF will have no significant effect on waves, sediment transport or the adjacent beach. Further detail must be provided to demonstrate that these effects can be ruled out. We therefore do not agree that the conclusion in Tables 2.14.1 and 2.14.2 that there will be “no significant residual effects” from the BLF is sufficiently supported by evidence.

### *3.1.2 Combined drainage outfall (CDO) and fish recovery and return (FRR) outfall*

We note the statement in Vol 2a, para. 2.14.18 that the presence of the combined drainage outfall (CDO) and fish recovery and return (FRR) outfall will not affect the longshore bar. However, given the mobility of the longshore bars, we query how the outfalls will be maintained should this movement impact their function. We also query how any coastal impacts associated with such management would be mitigated? Given these concerns, we request further detail about the conclusion of no significant impact on Sizewell-Dunwich Bank and do not agree that sufficient detail has been provided to support the overall conclusions of no significant impact in Tables 2.14.1 and 2.14.2.

### *3.1.3 Coastal defences*

The RSPB is concerned about the potential for exposure of the hard coastal defence feature (HCDF), as outlined in Vol. 2a, paras. 2.14.36-2.14.42, with potential impacts described in 2.14.47-2.14.51. Although this new hard point may slow erosion at the southern end of the Minsmere frontage, it is not clear what impacts there will be on the development of the embayment which currently lies between Sizewell B outfall and Minsmere Sluice and whether there could be increased erosional impact in this area. This needs to be investigated further, along with the potential that this could lead to increased loss of vegetated shingle including the ‘annual vegetation of drift lines’ feature of the Minsmere-Walberswick SAC. The assertion in para. 2.14.40 that future sea level rise would be likely to cause erosion to Dunwich – Minsmere Cliffs needs to be tested. Recently these cliffs have stopped eroding despite an increase in sea level and it appears that erosion may be more related to the movement of the offshore banks (and therefore potentially considered in relation to the outfalls). Evidence is also needed to confirm that the loss of the Minsmere Sluice would release a volume of ‘trapped’ shingle that would provide benefits downstream, as also stated in para. 2.14.40. Patterns of erosion on this stretch of coast indicate that this would cause more rapid erosion and embayment at Minsmere. At present maintenance of the Minsmere Sluice as a hard point appears to be essential to maintain the geographical boundaries of the designated site. In addition, we note that while sediment transport is often towards the south in this area (as stated in para. 2.14.36), Burningham & French (2016) demonstrated that it is influenced by wave direction on the Suffolk Coast (including Sizewell Bay), with northerly transport associated with southerly waves. We query whether this is included in the assessment, as it could affect the models and assumptions regarding future coastal processes.

We also query whether the designs presented within the consultation documentation for the HCDF are complete? It appears that the defence toe should extend down to low water springs. If this is the case,

we also query whether this means the defence toe could be exposed more quickly than has been currently projected?

The impacts of the HCDF need to be explained in greater detail to understand the most likely scenarios and risks (including to designated sites) over the lifetime of the development. Based on the level of detail available at present, we do not agree with the conclusion in Table 2.14.2 that the residual impacts on coastal processes would not be significant and note that para. 2.14.55 indicates that the assessment of these impacts is incomplete.

### *3.1.4 Overall impact significance, mitigation and monitoring*

We are concerned that Vol. 2a, para. 2.14.4 indicates that the Minsmere-Walberswick designated sites could potentially be significantly affected by impacts on coastal geomorphology. This also needs clarification as Vol. 2a, section 2.3 does not conclude that there will be any significant impact on these sites from coastal effects. We expect to see the potential effects clearly set out in a Habitats Regulations Assessment, with evidence-based conclusions regarding AEOI. Should additional mitigation be required, this again must be detailed, along with a monitoring plan to ensure impacts are identified in a timely manner with agreed thresholds for triggering implementation of avoidance or remedial measures.

Section 2.14 in Vol. 2a makes various references to monitoring of potential impacts on coastal processes, including impacts of the HCDF, BLF, CDO and FRR. This would enable proposed mitigation measures such as beach nourishment or manual bypassing to be implemented if required. We request that an overall coastal monitoring scheme is developed which includes coverage of the designated sites. It must also be developed with an understanding of the impacts of the mitigation measures themselves (particularly on designated sites), and the input of relevant stakeholders (including RSPB). We consider that effects on coastal processes will require monitoring during both construction and operation to ensure that any necessary interventions can be made if changes occur. The monitoring scheme, including proposed mitigation should changes be identified, must be agreed prior to submission of the application. This will require detailed work to determine appropriate parameters, set thresholds and agree response measures.

## 3.2 Coastal habitats

### *3.2.1 Coastal grassland*

Vol. 2a, para. 2.3.32 acknowledges that the vegetation and invertebrate communities of the coastal grassland is of national importance, despite these not being covered by a SSSI designation. We note the intention to remove and reinstate the substrate (and seedbank) during construction of sea defences, and that the vegetation would be allowed to re-establish. Given that construction would cause a sudden loss of habitat (as opposed to a gradual loss by erosion), we request reassurance that sufficient similar vegetation would be retained in close proximity to the work area to provide a refuge for invertebrates and a source for their subsequent recolonization of the disturbed area following re-establishment of vegetation. We also query how the erosion of vegetation squeezed by the presence of sea defences is being assessed and addressed?

### 3.2.2 Shingle habitat

Table 2.3.2 in Vol. 2a indicates that there may be an increased erosion rate of shoreline shingle habitat within the Suffolk Shingle Beaches CWS during operation. It is not clear how or why this impact would arise, or whether this could also affect the 'annual vegetation of drift lines' feature of the Minsmere-Walberswick SAC. Given the acknowledged potentially significant impact, further details of this and any mitigation that could be employed must be provided.

### 3.2.3 Sources of new materials

Vol. 2a, para. 2.14.19 discussed the beach grade sediments used in the soft coastal defence feature (SCDF). Further details must be provided regarding the source of these sediments and the bio-security measures which will be in place.

## 3.3 Marine impacts

### 3.3.1 Disturbance to marine birds

Tables 2.3.1 and 2.3.2 in Vol. 2a states that disturbance to marine birds, including red-throated divers of the Outer Thames Estuary SPA, during construction and operation is not likely to be significant due to the low number of predicted ship movements. Vol. 2a, 2.3.11 also states that the inshore waters close to Sizewell support fewer red-throated divers than the areas to the north or south. However, aerial surveys in 2013 have shown red-throated diver densities have increased and indicate that previous surveys may have underestimated numbers (Goodship *et al.*, 2015), with a further paper (Scott *et al* in press) indicates that numbers are even higher than those proposed by Goodship *et al.* The species is known to be sensitive to flushing by boats (Schwemmer *et al.*, 2011, Jarrett *et al.*, 2018) and recent surveys have been conducted using aircraft, originally with observers on board to count birds in strip or line transects and most recently recording high resolution digital imagery using either still photography or video footage. We recommend that these data should be used to inform the assessment of the relative usage of this area by divers and the propensity for this species to be disturbed by boats needs to be taken into account in the impact assessment. Supporting evidence for both the number and regularity of ship movements (including consideration of any cumulative effects with other projects) must therefore be provided.

### 3.3.2 Thermal and chemical plumes

Table 2.3.2 in Vol. 2a indicates that the thermal plume from the cooling water outflow is not expected to have any effects on prey species of red-throated divers and other marine birds. However, we would expect to see details of the plume modelling and likely effects on both fish distribution and diving behaviour of marine birds in the justification of this conclusion. We note also that Table 2.15.2 indicates that the cooling water discharge may result in potentially significant ecological impacts requiring further investigation. However, no additional mitigation is proposed and residual impacts are assessed to be not significant. This appears contradictory and further evidence is required to agree these conclusions. Para. 2.16.94 goes on to discuss potential avoidance of the area by fish due to the chemical/thermal plume

and again notes that impacts on birds will need assessment. We also recommend that the effect of the chemical/thermal plume on birds on the water are considered, for example, potential effects on the diving behaviour of red-throated divers. We note that the total effect of all these potential impacts on SPA species will require consideration, particularly in relation to red-throated divers of the Outer Thames Estuary SPA.

### *3.3.3 Suspended sediment*

Vol. 2a, para. 2.16.85 refers to the potential impacts of increased levels of suspended sediment in the Greater Sizewell Bay and potential effects on fish distribution and seabird foraging efficiency. No further details regarding the likely level of impact are provided and it is noted that this will require assessment in the ES and the HRA.

## **4. Hydrological impacts**

### **4.1 Groundwater and surface water**

#### *4.1.1 Sheet piling/cut-off wall*

In Vol. 2a, 2.3.18, a 'mitigating solution' such as sheet piling, is mentioned, which would provide separation between the construction site and Sizewell Marshes SSSI and aim to avoid impacts on the hydrology and geology of the SSSI. It then goes on to say that the realignment of Sizewell Drain and associated water control structures would help to correct water levels following any hydrological impacts of construction. Later in Vol. 2a, para. 2.3.31 gives a little more detail in terms of the likely impacts (increased water levels upstream of the sheet piling and cut-off wall) and the use of a sluice on the Sizewell Drain as a potential mitigation measure. Vol. 2a, para. 2.3.37 states that the sluice along with "appropriate monitoring and interventions" would also be used to maintain the hydrological regime and that no significant impacts are expected. Much more detail is needed regarding the predicted impacts, the design and operation (including the monitoring scheme) of mitigation measures, the predicted effect of mitigation on the impacts, and the residual impacts to have confidence that no significant impacts on the hydrological regime of Sizewell Marshes would result.

We also request that evidence is provided that there will be no effects downstream of the sheet piling and cut-off wall affecting the Minsmere South Levels (part of the Minsmere-Walberswick Heaths and Marshes SSSI) and seek assurance that the realignment of Sizewell Drain would not have any impact on Leiston Main Drain that would be manifested downstream.

#### *4.1.2 Impacts on groundwater*

Vol. 2a, section 2.10 notes various risks to groundwater with potential effects on ecological receptors arising through changes in groundwater levels (particularly on Sizewell Marshes SSSI) and the contamination of groundwater. The risk associated with the potential need to breach the cut-off wall is stated to be significant. We are concerned that modelling of these potential impacts and subsequent

assessment of impacts on ecological functioning has not yet been completed, and we therefore cannot be confident at this stage that mitigation would be possible. We also request that evidence is provided demonstrating that groundwater impacts on the Minsmere South Levels can be ruled out, as this has not been discussed in the current document. We request that further details are provided substantially before submission of the application for development consent.

#### *4.1.3 Discharge to Minsmere Sluice*

One of the RSPB's particular concerns is the potential for increased discharge to Minsmere Sluice from Leiston Drain arising from the development which could reduce our ability to drain the northern parts of the Minsmere reserve via the Sluice. This could have negative effects on the RSPB's ability to manage water levels for breeding birds, meaning that habitat is less suitable for SPA, Ramsar and SSSI bird features. Vol. 2a, para. 2.11.39 states that the drainage system is being designed to avoid this potential impact, which is a welcome commitment. However, evidence will be required to demonstrate that this aim is achievable. In the assessment of impacts, it will be important to consider the additional effects of sea level rise on gravity drainage, which could exacerbate the impacts.

There are some further details of the operation of Minsmere Sluice that could usefully be added to para. 2.11.4 in Vol. 2a. The RSPB operate the southern penstock on behalf of the EA and it is frequently kept open. During periods of high fluvial flow the southern chamber of the sluice is also used to discharge the New Cut, taking priority over Leiston Drain and Scotts Hall Drain. Para. 2.11.9 should also recognise that the functioning of Leiston Drain is critical to the Minsmere South Levels and Scotts Hall Drain – the former in relation to IDB Drain No. 7 and the latter at Minsmere Sluice. Understanding the function of the Minsmere Sluice is essential to an accurate assessment of the potential impacts of surface water flows on the hydrological management of the Minsmere-Walberswick designated sites. The RSPB are committed to providing further information to ensure this is adequately understood.

#### *4.1.4 Run-off*

Vol. 2a, paras. 2.11.22 and 2.11.23 describe measures to prevent untreated run-off leaving the site. However, little detail is provided and the likely efficacy of these measures is unclear. Likewise, the reference in para. 2.11.24 to 'engineered drainage' to protect groundwater from run-off from the borrow pits is not supported by any further detail or evidence.

#### *4.1.5 Link between hydrology and ecology*

Vol. 2a, para. 2.11.21 briefly outlines the ecological interest of the area. We are concerned that the links between ecology and hydrology have not been fully described and assessed, either in this section or section 2.3 as referenced. These will need to be fully understood to allow robust assessment of the ecological implications of hydrological impacts. The RSPB have been managing these wetlands since 1947 and will be able to provide further information to support this understanding.

#### *4.1.6 Conclusions regarding significance of hydrological impacts on designated sites*

Vol. 2a, para. 2.11.41 concludes that Sizewell Drain, Leiston Drain and an IDB drain, as well as Sizewell Marshes SSSI could be significantly affected 'through a variety of mechanisms' during construction, and similar statements are made with regard operation. Further detail regarding the nature of these effects, and the mitigation referred to in 2.11.42 and 2.11.45, must be provided. The potential for these impacts on the Leiston Drain to affect the Minsmere South Levels and Scotts Hall Drain must also be addressed.

Table 2.3.1 concludes that there will be no significant hydrological impacts on the Minsmere-Walberswick designated sites. We do not consider that sufficient evidence has been presented to support this conclusion at this stage. This also conflicts with Table 2.11.1 in Vol. 2a, which indicates the potential for hydrological effects on Minsmere South Levels. Although several sources of impact are noted, the impact pathways are not discussed and therefore it is not possible to assess whether the proposed mitigation would be effective or whether the conclusions regarding impact significance are robust. Further details will be required on these points. We also have not had sight of any monitoring plans which would assure us that any changes would be detected and appropriate remedial measures implemented.

We are concerned that the assessment of groundwater and surface water impacts has not been completed (Vol. 2a, section 2.10 and paras. 2.11.51-52) and therefore that there is no confidence that impacts have been robustly identified and assessed, and effective mitigation proposed. We request that further details are provided with greater attention to potential effects on the Minsmere-Walberswick designated sites before submission of the application for development consent.

Vol. 2a, paras. 2.11.46 and 2.11.48 also refer to monitoring to inform adaptive management of the surface water drainage system during construction and operation. We recommend that a detailed scheme is developed with relevant stakeholders to ensure that any impacts are detected before they become damaging and to identify triggers for the implementation of suitable remedial actions.

## 4.2 Flood risk

### *4.2.1 Flood risk to designated sites*

Section 2.12 in Vol. 2a regarding flood risk focuses on flood risk to areas within the development footprint. Limited consideration has been given to the effect of the development on flood risk to external receptors, including designated conservation sites. This is an area of significant concern to RSPB, and as neighbouring landowners, we would expect to be consulted on a detailed Flood Risk Assessment prior to submission of the application.

Paras. 2.12.88 and 2.12.93 indicate that water levels would be slightly higher on the Minsmere Levels and slightly lower in Sizewell Belts in the event of a breach north of Goose Hill due to the combined impact of the main platform and the access road crossing of the SSSI. This refers to results in Vol. 3, Fig. 2.12.5. However, this figure does not appear to take account of the counterwalls on the South Levels and their influence on flood extent. The impact on flood levels within the designated sites is judged to

be negligible but no supporting evidence is given. The statements regarding the impact of the development on fluvial flooding are similarly vague, with paras. 2.12.91 and 2.12.95 stating that increase would be less than 10mm in the 1:100 event, but no locations are given. A scenario where these impacts are combined (as storm surges often combine with high rainfall) must also be assessed. As noted later in the chapter, these coastal and fluvial impacts also do not incorporate the effects of climate change, and we would expect to see a full assessment showing how risks will change over time.

To complete the assessment, we also recommend that the relationship between the flood risk assessment and impacts on hydrological function of designated sites is also identified and assessed.

#### *4.2.2 SSSI crossing flood defence*

Vol. 1, para. 7.4.68 states that the SSSI crossing could be raised in future to provide further protection against flood risk. We are concerned that this could have the effect of diverting flood water towards Minsmere and expect to see a full assessment of this scenario to demonstrate that no significant impacts would result.

#### *4.2.3 Sea level rise*

We support the commitment in Vol. 2a, para. 2.12.15 to update the coastal flood risk assessments using the revised Climate Projections for the United Kingdom (UKCP18) as this will be necessary to provide confidence in the assessments. The relationship between sea level rise and the discharge from Minsmere Sluice along with the potential impacts on Leiston Drain will need to be adequately assessed.

#### *4.2.4 Historic flooding record*

Based on our records, the flooding reaching Reckford Bridge in 1968 and 1993 (referred to in Vol. 2a, para. 2.12.16) is more likely to have been fluvial than coastal. There is no evidence that significant saline flooding has affected the freshwater habitats at Minsmere since 1953. Following the Environment Agency Minsmere Sea Defences scheme in 2011/12, the integrity of the freshwater habitat has been further protected, so it cannot be assumed that saline flooding impacts have occurred since 1953 or could be expected in the medium term. Many of the key interest features associated with the site depend on the freshwater habitat.

## **5. Noise and visual disturbance impacts**

### **5.1 Marsh harriers**

Vol. 2a, paras. 2.3.25 – 2.3.28 discuss the need for mitigation for the effects of noise on foraging marsh harriers from the Minsmere-Walberswick SPA. We have some concerns about the choice of a 70dB L<sub>Amax</sub> threshold as a level above which marsh harriers may avoid affected areas, however, we acknowledge that at present there is a very limited evidence base with which to generate a species-specific noise disturbance threshold for marsh harrier. Therefore, whilst we welcome the proposal to

provide mitigation, it is important that this mitigation is adequate in terms of area, location, and the success of measures to support large numbers of prey. We also recommend that a monitoring programme is developed to ensure that the mitigation functions as required to avoid effects on the marsh harrier population.

## 5.2 Waterfowl

### *5.2.1 Distance of areas used by key species from the construction site*

Various assertions are made within the documentation about the proximity of key areas on the Minsmere South Levels used by waterfowl to the construction area. Waterbirds breeding on the South Levels include gadwall, shoveler and avocet. The text acknowledges that waterbirds using the Minsmere South Levels (within the SSSI but outside the SPA) are functionally-linked to the SPA population. Therefore, impacts on these birds are relevant to the HRA. Vol. 2a, para. 2.3.21 asserts that these birds do not breed within 1km of the main development site, however, the southern boundary of the South Levels is within 300m of the proposed main development site presented at Stage 3 and our records indicate that evidence of breeding pairs is found within 500m. Similarly, we disagree with the assertion in para. 2.3.24 that the habitat used by most wintering waterbirds in this area is located 400m from the main development site – our view is that this is less than 300m, particularly given the inclusion of the water management zone at the north-eastern edge of the development site. It will therefore be necessary to re-assess these impacts based on this information.

### *5.2.2 Functional-linkage of South Levels waterfowl populations to the Minsmere-Walberswick SPA*

The assessment of noise and visual disturbance effects on the Minsmere-Walberswick designated sites in Vol. 2a, Table 2.3.1 states that “no significant effects” on the SPA are expected as the SPA boundary is over 300m from the development site. This is misleading as the text acknowledges that waterbirds using the Minsmere South Levels (within the SSSI but outside the SPA) are functionally-linked to the SPA population. Vol. 2a, paras. 2.3.22 and 2.3.41 also discusses the effects of noise on wintering waterfowl on the Minsmere South Levels which are likely to be functionally-linked to the SPA populations and acknowledges that short-term significant effects could arise during the construction period. It is stated that further modelling is required to inform the likely significance of this effect and we note that the need for mitigation must also be considered. We also request that evidence for the assertion that this area supports less than 1% of the SPA population is provided as our records demonstrate that this is incorrect.

### *5.2.3 Impacts at different phases of construction*

Vol. 2a, section 7 covers noise and vibration but focuses on human receptors. It would be useful if the tables provided included ecological receptors, so that impacts at different phases of construction could be more easily understood.

## 6. Loss of designated habitats

### 6.1 Sizewell Marshes SSSI

#### 6.1.1 Principles relating to loss of SSSI

The Sizewell C proposals incorporate part of Sizewell Marshes SSSI within the development site. The RSPB consider that information will be required at the project level to demonstrate that there is no alternative location for the development and that the benefits of the development outweigh the harm to the SSSI (and the national network of SSSIs).

The Site Assessment for Sizewell C in Vol. II of EN-6 (Annexes to the National Policy Statement for Nuclear Power Generation) states in paragraph C.8.65 that:

*'The Government has also noted that there will be further assessment of any proposal for the site at project level and that EN-1 sets out detailed consideration that must be given to issues related to nationally designated sites, should an application for development consent come forward.'*

This refers to policies set out in EN-1 (Overarching National Policy Statement for Energy). Paragraph 5.3.11 of EN-1 states:

*'Where a proposed development on land within or outside an SSSI is likely to have an adverse effect on an SSSI (either individually or in combination with other developments), development consent should not normally be granted. Where an adverse effect, after mitigation, on the site's notified special interest features is likely, an exception should only be made where the benefits (including need) of the development at this site, clearly outweigh the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of SSSIs. The IPC [now PINS] should use requirements and/or planning obligations to mitigate the harmful aspects of the development and, where possible, to ensure the conservation and enhancement of the site's biodiversity or geological interest.'*

This is essentially consistent with the policy set out in the National Planning Policy Framework with regard to SSSIs. The tests set out in paragraph 5.3.11 of EN-1 are intended to ensure that SSSIs are only damaged (i) where there is no alternative location for the development and (ii) where the benefits of development at that site clearly outweigh both the impacts on the features of the SSSI itself and any broader impacts on the national network of SSSIs. Compensation should be considered as a last resort only when it has been proven that no alternatives to the proposal exist, and that the benefits outweigh the harm to the SSSI in its notified state without the development and any broader impacts on the national SSSI network. As noted in paragraph C.8.65 of EN-6, evidence must therefore be provided at the project level to show that the proposed development meets those tests set out in paragraph 5.3.11 of EN-1.

### *6.1.2 Area of Sizewell Marshes SSSI to be lost*

Vol. 1, para. 7.4.112 states that the proposed development will involve the loss of 6.06ha of Sizewell Marshes SSSI. We are concerned at this increase on the loss projected in the previous consultations (from 4.6ha at Stage 1 to 5.04-5.55 at Stage 2 and 6.06ha in the current consultation) and consider that this will require full justification, as outlined above.

Vol. 1, paras. 7.4.29 and 7.5.119-120 indicate that the changes planned to the electrical connection to the National Grid substation will mean that an additional area of Sizewell Marshes SSSI will be “used temporarily”. Vol. 1, Fig. 7.29 also shows additional “temporary land take” along the northern and eastern edges of the SSSI. It is stated in Vol. 1, para. 7.5.119 that 2.03ha of SSSI will be temporarily used for the construction of the platform and SSSI crossing and the diversion of Sizewell Drain. Para. 7.5.120 indicates that an additional 1ha would be required for the National Grid works and para. 7.5.121 discusses temporary use of another 0.61ha of fen meadow for a retaining structure. It is not clear how long these “temporary” impacts are expected to last, or to what extent SSSI interest features will be damaged by these works, and no details are provided about how or whether this interest can be reinstated. We are therefore unable to agree that these impacts are temporary without further evidence and are therefore very concerned at the total loss (both permanent and that considered temporary) of 9.7ha. This equates to around 8.5% of the total area of Sizewell Marshes SSSI and would comprise one of the largest recent losses of SSSI in England.

### *6.1.3 Habitat compensation*

Vol. 1, para. 7.4.113 explains that EDF are developing a habitat creation scheme at Aldhurst Farm, near Leiston. These works are designed to provide partial compensation for the proposed loss of part of Sizewell Marshes SSSI. The RSPB is concerned that the proposed 6ha of compensatory habitat at Aldhurst Farm, plus the as yet unknown proposals for fen meadow compensation, may be inadequate to compensate for the current proposed level of loss, plus any additional damage that may be caused during construction. Based on the RSPB’s considerable experience of working on habitat compensation schemes we consider that habitat compensation should adhere to the following principles to ensure that provision is capable of securely addressing the predicted residual nature conservation impacts:

- (i) Targeted at completely compensating for the damage caused by the development (so-called “like for like” or “within type”);
- (ii) Effective in both ecological and legal terms so that it supports the ecological functions of the species affected over the long-term, is legally secured, adequately protected, financially secure and subject to regular monitoring and review;
- (iii) Well-located through compensation measures realised as close as practicable to the location where the damage will be caused (but not vulnerable to the same pressures – see Effective);
- (iv) Well-timed so that the compensation measures are fully functional before the damage is caused;
- (v) Sufficient in extent to meet the ecological needs of the affected species and habitats. This should address risks associated with effectiveness, location and timing.

We note that Vol. 2a, para. 2.3.29 states that the loss of part of the SSSI fen meadow habitat will be compensated through the restoration of an area of derelict fen meadow in Suffolk. This area does not appear to have been identified, and we therefore cannot have confidence that significant impacts can be avoided until it is demonstrated that this measure is effective in ecological, legal and financial terms.

Vol. 2a, para. 2.3.30 states that there will be a small loss of wet woodland habitat within the SSSI, yet no mention is made of how this will be compensated. Whilst we acknowledge that wet woodland is not explicitly mentioned as a habitat in the SSSI citation, we consider it very likely to be significant in terms of the designated invertebrate interest it is likely to support. Vol. 2a, para. 2.3.41 notes that this would be compensated by the overall biodiversity gains resulting from heath and acid grassland creation. However, this approach will not provide habitat for SSSI designated invertebrates. We therefore recommend that serious consideration is given to compensation for any loss of wet woodland and associated SSSI invertebrates.

Table 2.3.1 in Vol. 2a also indicates that ditch habitat will not be lost from the SSSI due to the realignment of Sizewell Drain. Without significant additional detail regarding the methods to be used and the design of the new channel, we do not consider that it is likely that the ditch will retain the same level of SSSI interest. We recommend that serious consideration is given to off-site compensation for SSSI ditch features.

#### *6.1.4 SSSI crossing*

Vol. 1, para. 7.4.58 explains that, following the Stage 2 consultation, a causeway with culvert has been selected for the SSSI crossing in the north-eastern corner of the main development site. Little justification is given for this choice (although Vol.1, para. 7.5.36 states that bridge options would cause a 6 month delay to construction), despite this option requiring a larger loss of SSSI than the bridge options. Any loss of SSSI requires full justification and hence the choice of this more damaging crossing option must be explained.

#### *6.2 Minsmere-Walberswick designated sites*

Details of any proposed land take from or permanent damage to the Minsmere-Walberswick designated sites must also be provided. Vol. 2a, Table 2.3.1 states that no loss of designated habitats within these sites will occur, yet Vol. 1, Fig. 7.28 indicates that some loss is proposed at the very southern end of the Minsmere-Walberswick sites. This is not described or assessed, and no justification is presented. It is also only identified as SSSI but must be recognised for its international designations of SPA, SAC and Ramsar site and therefore any damage or loss will require full consideration within the Habitats Regulations Assessment. Also, we are concerned that coastal erosion may result in the loss of some designated habitats and again these potential impacts must be described and assessed.

## **7. Impacts of recreational displacement**

### **7.1 Footpath diversions**

Vol 1 Fig 17.17 identifies the proposed realignment of the Suffolk Coast Path and Sandlings Walk. The northern end of this realignment coincides with the southern boundary of Minsmere RSPB Reserve and designated sites. We require more detail regarding this proposed realignment justification and route and whether an assessment of potential impacts is required.

We note that an inland diversion is proposed for the Suffolk Coast Path, Sandlings Walk and the proposed England Coast Path when the BLF is in use (Vol. 2a, para. 2.4.35). We are concerned that visitors who usually walk on the coast are likely to seek out an alternative coastal location rather than use an inland route. Given that the BLF is most likely to be used outside the storm season, this could lead to walkers (including with dogs) being displaced to the Minsmere frontage during the breeding season, thus increasing disturbance to birds and this potential impact requires assessment.

Vol. 2a, para. 2.4.38 proposes that the Sandlings Walk north of the power stations would be diverted during construction along footpath E-363/020/0. This could increase footfall within designated sites and we query whether this effect has been addressed in the assessment.

### **7.2 Recreational strategy**

The first bullet point of Vol. 2a, 2.3.18 refers to a strategy to avoid impacts on European designated sites from increased numbers of recreational users displaced from areas within/close to the construction area. Whilst this is welcome, without further details, we cannot comment on the likely effectiveness of such a strategy. Full details of impacts and proposed mitigation must be provided to support any conclusions regarding impact significance.

## **8. Landscape restoration**

We welcome the commitment in Vol. 2a, para. 2.3.18 to a Landscape and Ecology Management Plan proposing landscape-scale habitat creation after construction has been completed. Vol. 2a, para. 2.3.39 indicates that this would involve conversion of intensive arable farmland to acid grassland and heath. We request further details of the proposed methods for heathland establishment, and how recreation on the site would be managed to allow use of these habitats by some of the relevant priority species, e.g. woodlark, nightjar and stone curlew. We can provide advice on heathland creation techniques if this would be helpful. It should be recognised that the restoration or creation of this habitat should be expected to take 10 – 15 years before it is fully functioning and will then require ongoing financial resources to maintain in favourable conservation condition.

## **9. Impacts on protected species (non-avian)**

### **9.1 Bats**

Vol. 2a, 2.3.13 confirms that a breeding colony of barbastelle bats is present within the main development site. We query whether this colony will be lost and how this will be compensated? Vol. 2a, table 2.3.1 states that bat boxes will be provided as mitigation for some losses of roosting resource. More details must be provided as to the species affected, as not all bat species are likely to make use of boxes.

### **9.2 Natterjack toads**

Fig. 7.2 in Vol. 1 indicates that a field managed by Suffolk Wildlife Trust for natterjack toad has been included within the development site as a water management zone. Details are therefore needed as to how impacts can be avoided in this location.

### **9.3 Passage through SSSI crossing culvert for protected species**

Vol. 2a, 2.3.18 also explains that the culvert at the SSSI crossing will be designed to enable passage by bats, water voles and otters. Given the length and artificial nature of the culvert, further design details will be required to provide assurance that this will be effective, along with plans for monitoring (including suitable remedial actions) and any ongoing management required.

## **10. Air quality impacts**

We note that Vol. 2a, paras. 2.8.16, 2.8.17 and 2.8.47 suggest potentially significant impacts may arise from dust deposition and nitrogen oxide emissions from the construction area affecting the Minsmere-Walberswick designated sites and Sizewell Marshes SSSI. It is noted that further assessment is required, although some mitigation measures are proposed in para. 2.8.42. Whilst the proposed mitigation is welcome, we recommend that further evidence is provided as to the likely level of impact and effectiveness of the proposed mitigation. We also would welcome the additional monitoring during construction proposed in para. 2.8.43 which is required to identify triggers for the implementation of mitigation measures.

Vol. 2a, para. 2.3.38 states that nitrogen deposition during operation of backup diesel generators could cause a significant change in localised vegetation communities. However, Vol. 2a, para. 2.8.26 indicates that the testing of these generators during construction combined with emissions from the campus energy centre are not likely to be significant. We request further justification of this conclusion, including details of the regularity and duration of use of the generators and the locations likely to be affected.

## 11. Impacts on Minsmere visitor operation

### 11.1 Nature of effects on visitors

Vol. 2a, para. 2.4.69 notes that significant effects may be experienced by visitors to Minsmere. It is assumed that these effects are likely to include noise and visual impacts as well as impacts on travel arrangements to visit the site, although this is not specified. We request that further details are provided as to likely noise levels and other factors affecting visitors to Minsmere.

### 11.2 Tourism fund

We welcome the undertaking in Vol. 1, para. 4.5.99 for further engagement regarding the potential effects of the project on the visitor operation at RSPB Minsmere and the potential for a tourism fund (para. 4.5.101) to mitigate these impacts.

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