



The Sizewell C Project

9.119 SZC Co. Comments on the Report on the Implications for European Sites (RIES)

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CONTENTS

1	INTRODUCTION.....	2
2	GENERAL COMMENTS ON THE RIES REPORT AND THE SHRA..	4
3	STATEMENTS OF COMMON GROUND AND ENGAGEMENT WITH INTERESTED PARTIES	7
4	OUTSTANDING ISSUES BETWEEN SZC CO. AND NATURAL ENGLAND WITH REGARDS TO SCREENING AND AEOI.....	11
5	CONCLUSION	22

APPENDICIES

Appendix A: Comments on Part 3 of the REIS Report (issues relating to screening, or likely significant effects)

Appendix B: Comments on Part 4 of the REIS Report (issues relating to AEOI)

1 INTRODUCTION

- 1.1.1 On 15th September 2021 the ExA published its Report on the Implications for European Sites (RIES Report) [PD-053]. This was to ensure that IPs including the statutory nature conservation bodies are formally consulted on Habitats Regulations Matters and that the process can be relied upon by the Secretary of State for the purposes of Regulation 63(3) of the Habitats Regulations and Regulation 28(4) of the Offshore Marine Regulations.
- 1.1.2 The RIES helpfully records the positions at the point of publication of SZC Co. and IPs including the statutory nature conservation bodies on issues which fall within the purview of the Habitats Regulations. Since the RIES was published, further matters have been agreed between SZC Co. and others. The areas of agreement are set out in the various statements of common ground submitted at D10.
- 1.1.3 The purpose of this document is to respond to the RIES report and to set out the representations of SZC Co. on those issues which appear to still be the subject of disagreement between it and IPs. To that end, this document contains two appendices:
- **Appendix A** is a table which covers issues relating to screening, or likely significant effects (part 3 of the RIES Report).
 - The table at **Appendix B** addresses issues relating to the potential for an adverse effect on integrity ('AEOI') (section 4 of the RIES Report).
- 1.1.4 Column 2 of each table sets out a short summary of the evidence and case presented by SZC Co. on each issue. Column 3 summarises the comments made by Natural England and others and, where necessary, gives a response by the Applicant.
- 1.1.5 As is set out below, SZC Co has positively engaged with statutory consultees and key stakeholders throughout the Examination. This is reflected in the various final SoCGs. The extent of that positive engagement is particularly evidenced through the development of robust ecological mitigation such as the Outline Vessel Management Plan and the Monitoring and Mitigation Plans to address potential impacts from recreational disturbance. SZC Co is grateful for the constructive engagement of many of the IPs and for their thorough participation in the Examination.
- 1.1.6 SZC Co has sought to fully address the concerns and representations of the various IPs (together with all of the questions asked by the ExA). SZC Co. notes that the latest iteration of the SoCG provided by Natural England on 11 October 2021 indicated that it would be providing further detail on some matters by Deadline 10. This is regrettable and, necessarily, SZC Co.

reserves its position as to the implications of any new material adduced by Natural England at this late stage.

- 1.1.7 In section 4 below, SZC Co. sets out its case in relation to the matters which (at the time of writing) appear to be outstanding with Natural England. It can be seen that none of them forms a credible basis for a refusal of the DCO on HRA grounds.

2 GENERAL COMMENTS ON THE RIES REPORT AND THE SHRA

- 2.1.1 It is evident from the RIES report that the approach of SZC Co. to the sHRA has been thorough and robust. The tables at Appendix A and Appendix B summarise the submissions and evidence presented by SZC Co. on the matters which remained in dispute at the time that the RIES was drafted. They also set out the key references to where the technical detail and analysis can be found in the material before the Examination.
- 2.1.2 The sHRA has been underpinned by surveys, technical work and analysis conducted and collated by appropriately qualified experts whose specialisms match the relevant habitats and species. No statutory consultee has taken any issue with the expertise of the consultants who have prepared the sHRA material and have provided expert judgments on which the Secretary of State can rely.
- 2.1.3 In relation to each of the European Sites, the relevant qualifying features and the potential impact pathways, SZC Co. has clearly explained and justified its conclusions as to why either:
- any likely significant effect on a European Site can be excluded and therefore screened out;
 - there is no credible risk of an adverse effect on the integrity of any European Site from those impacts which have been screened into the assessment; or
 - where, in relation to the Minsmere-Walberswick SPA and Ramsar site, an adverse effect on integrity cannot be ruled out there are no alternative solutions, the project must be carried out for imperative reasons of overriding public interest and the necessary compensation has been secured.
- 2.1.4 The conclusions in the sHRA material have been reached in light of the relevant case law and guidance which was summarised by SZC Co. in the appendix to the HRA Signposting Document [[REP7-079](#)].
- 2.1.5 Further, throughout the examination, SZC Co. has fully engaged with the comments and questions of consultees (statutory and otherwise) and the ExA. Its evidence and conclusions have been fully tested both throughout the written stages of the examination and during a number of issue specific hearings (most notably Issue Specific Hearings 7, 8, 10 and 15).
- 2.1.6 In many instances SZC Co. has provided further studies and analysis during the examination to further support its conclusions. Moreover, in relation to concerns expressed by others, SZC Co. has developed and

committed to relevant and proportionate mitigation measures. The various items of mitigation (including the **Monitoring and Mitigation Plan for Minsmere – Walberswick and Sandlings (North)** (Annex U to the DoO (Doc Ref. 10.4)), the **Monitoring and Mitigation Plan for Sandlings (Central) and Alde-Ore Estuary European Sites** (Annex V to the DoO (Doc Ref. 10.4)) and the **Outline Vessel Management Plan** (Doc Ref. 10.23)) have been developed in close consultation with relevant stakeholders and give absolute comfort that they can be relied upon to obviate the risk of any adverse effects on the integrity of European Sites to which they relate.

2.1.7 Although it remains unclear to SZC Co. at the time of writing exactly how many issues truly remain ‘outstanding’ between it and statutory consultees, it is possible that the Secretary of State will need to decide between competing positions in relation to whether the relevant test under regulation 63(5) of the Habitats Regulations is met. The Secretary of State must be satisfied (except in relation to the Marsh Harrier and the Minsmere-Walberswick SPA and Ramsar site) that SZC will not adversely affect the integrity of any of the European sites in issue.

2.1.8 The Secretary of State must be satisfied beyond reasonable scientific doubt. However, that does not mean that generalised points of concern which are unsupported by evidence are enough to prevent the test from being met (see *Boggis v. Natural England* [2009] EWCA Civ 1061 at paragraph 37). Further, the mere fact that uncertainty exists does not mean that the test is not met. Rather, the Secretary of State should be satisfied that any uncertainty has been appropriately addressed through the use of precautionary assumptions (*R(Wyatt) v Fareham Borough Council* [2021] EWHC 1434 (Admin)).

2.1.9 Finally, the Regulation 63(5) test must be applied with regards to the integrity of the European Site. A mere impact upon a European Site, even an adverse impact, is not sufficient to prevent the test from being met. In this regard it is worth setting out some key parts of the European Commission Guidance on Article 6 of the Habitats Directive (2019) which defines integrity as follows:

“It is clear from the context and from the purpose of the Directive that the ‘integrity of a site’ relates to the site’s conservation objectives (see point 4.6.3 above). For example, it is possible that a plan or project will adversely affect the site only in a visual sense or only affect habitat types or species other than those listed in Annex I or Annex II for which the site has been designated. In such cases, the effects do not amount to an adverse effect for purposes of Article 6(3).

In other words if none of the habitat types or species for which the site has been designated is significantly affected then the site’s integrity cannot be

considered to be adversely affected. However, if just one of them is significantly affected, taking into account the site's conservation objectives, then the site integrity is necessarily adversely affected."

- 2.1.10 As set out below and in the tables at Appendix A and B, Natural England (and others) have raised issues with some of the conclusions reached by SZC Co. It is often unclear as to how those concerns could amount to an adverse effect on the integrity of any European Site or even how those concerns could amount to a significant adverse effect upon a qualifying feature. Therefore, even where points of disagreement appear to remain, they may well be immaterial in terms of meeting the Regulation 63(5) test. It is regrettable that in many instances other parties to the examination have not clearly set out how their concerns relate to that test. Conversely, the assessments of SZC Co. clearly demonstrate how and why the test is met in relation to all impacts save for the potential effect upon the Minsmere-Walberswick SPA and Ramsar site as a result of impacts on the foraging resource of the Marsh Harrier. The Secretary of State can have full confidence in the reasoned and justified conclusions presented in the sHRA assessments provided by SZC Co.

3 STATEMENTS OF COMMON GROUND AND ENGAGEMENT WITH INTERESTED PARTIES

3.1.1 Throughout the Examination, SZC Co. has engaged positively with statutory consultees and stakeholders on matters which fall within the sHRA.

3.1.2 Statements of Common Ground have now been reached with:

- Natural England (Doc Ref. 9.10.7(B));
- Marine Management Organisation (MMO) (Doc Ref. 9.10.18(C));
- The RSPB and SWT (Doc Ref. 9.10.24(B));
- National Trust (Doc Ref. 9.10.25(C)); and
- Environment Agency (EA) (Doc Ref. 9.10.4(B)).

3.1.3 Below we set out a short summary of the engagement between SZC Co and: the RSPB and SWT, the National Trust, the MMO, the EA and Natural England.

a) RSPB and SWT

3.1.4 Through their relevant representations and written representations the RSPB and SWT have raised a number of matters that relate to the HRA process. These include, in-combination effects, effects from recreational displacement (recreational pressure), impacts on marine ecology and noise and visual disturbance to birds. Details of meeting and workshops along with progress made between both parties on these matters are documented within the Statement of Common Ground between SZC Co. and the RSPB and SWT. Whilst some issues remain unresolved, substantial progress has been made between both parties to meet at common ground. Where there is disagreement, explanation from both parties is provided to the Examining Authority as to why the matter remains unresolved.

3.1.5 The RSPB and SWT have actively engaged in meetings, issue specific hearings and written submissions to Examination (including Examination Questions), which has enabled SZC Co. to provide a response to the matters raised. In addition to the above where SZC Co. has provided responses to the RSPB and SWT through written submissions, these reports have been acknowledged through submissions at subsequent deadlines and comments provided where outstanding concerns remain.

b) National Trust

3.1.6 SZC Co. has engaged the National Trust with regards to concerns on recreational displacement, in particular the impacts on ecology and designated sites at Dunwich Heath and Beach and the wider SPA. These concerns are summarised in the Statement of Common Ground between SZC Co. and the National Trust although some positions remain unresolved.

3.1.7 Initial engagement commenced at a workshop held between SZC Co. and relevant stakeholder on the 7th September 2020. At this meeting the National Trust voiced their concerns and through subsequent discussions in both 2020 and 2021 with SZC Co., clear position statements have been made to enable a platform to work towards mutual agreement. SZC Co. has submitted additional material to the Examination in response to points made by the National Trust as well as submitting responses directly to the National Trust to obtain agreement.

3.1.8 Active engagement between both parties has facilitated a positive outcome whereby the concerns of the National Trust have been, in most cases, alleviated. A summary of the meetings held to discuss the issue above is summarised below.

- 7 September 2020: Meeting to address recreational disturbance questions / issues;
- 17 September 2020: Follow up discussion on recreational disturbance questions / issues;
- 3 November 2020: Meeting to discuss the resilience fund and approach to the statement of common ground;
- 18 February 2021: Discussion on the draft Monitoring and Mitigation Plan for Minsmere and Dunwich Heath (recreational disturbance);
- 22 February 2021: A meeting to discuss mitigation for recreational disturbance;
- 28 July 2021: Meeting on recreational displacement – displacement calculations and MMP; and
- 18 August 2021: Meeting to discuss resilience fund.

c) Marine Management Organisation

3.1.9 Whilst the MMO have been party to discussions on matters relating to the HRA throughout examination, as noted in the Statement of Common

Ground between SZC Co. and the MMO,, they defer to Natural England as Statutory Nature Conservation Body for DCO advice. However, HRA matters are discussed throughout the Statement of Common Ground to provide the MMO's latest position and to identify areas in which they defer to Natural England.

- 3.1.10 The MMO have actively engaged in meetings, issue specific hearings and written submissions to the Examination (including Examination Questions), which has enabled SZC Co. to provide a response to the matters raised. Whilst some issues remain unresolved, substantial progress has been made between both parties to meet at common ground. Where there is disagreement, explanation from both parties is provided to the Examining Authority as to why the matter remains unresolved.

d) **Environment Agency**

- 3.1.11 Whilst the Environment Agency have been party to discussions on matters relating to the HRA throughout the Examination, as noted in the Statement of Common Ground between SZC Co. and the Environment Agency, they defer to Natural England as Statutory Nature Conservation Body for DCO advice. On this basis, the Statement of Common Ground does not include any details of matters relating to HRA.

- 3.1.12 The Environment Agency will, of course, be the competent authority in relation to the various environmental permit applications which are associated with the operation of SZC. Quite properly, the Environment Agency has made clear that they cannot pre-determine their decision on any of the relevant permits. However, they have (again, quite properly) indicated that on the material that is available at this stage there are no clear reasons why the permits would need to be refused. On this basis, the positions are set out within the context of the Environmental Impact Assessment (EIA) and HRA.

e) **Natural England**

- 3.1.13 A final statement of common ground has been reached with Natural England and will be submitted at Deadline 10. As can be seen at section 4 below, the issues which remain 'outstanding' between Natural England and SZC Co. are few in number and none of them form credible bases for a refusal of the DCO application on HRA grounds.

- 3.1.14 To the extent that the Secretary of State does need to decide between the positions of SZC Co. and Natural England, SZC Co. would make the following observations.

- 3.1.15 First, the advice of statutory consultees is not binding and does not need to be given significant weight if cogent reasons exist and are given for departing from that advice (*R(Wealden) v SSCLG* [2017] EWHC 351).
- 3.1.16 Second, when determining any outstanding issues, the Secretary of State will need to consider the totality of the expert evidence which has been provided on each issue together with its robustness and cogency. The evidence which SZC Co. has presented has been subject to thorough testing through written questions, responses to written submissions and oral questioning during the various ISHs.
- 3.1.17 It is regrettable that Natural England did not attend a number of the key ISHs (ISH8, ISH10 and ISH15) despite their presence being specifically requested by the ExA. At ISH15 Counsel for SZC Co. stated that the failure of Natural England to attend created an imbalance in the inquisitorial process and frustrated the fair operation of the examination. The non-attendance of Natural England means that its positions could not be tested through questioning during the hearing nor was it possible to clarify Natural England's position in relation to some matters.
- 3.1.18 Notwithstanding Natural England's non-attendance at key hearings, SZC Co. is content that the evidence it has produced in relation to all of the potential impact pathways is robust and demonstrates that there is no credible basis on which to found a refusal of the DCO application on HRA grounds. To that end, section 4 of this note addresses each of the outstanding points between SZC Co. and Natural England.

4 OUTSTANDING ISSUES BETWEEN SZC CO. AND NATURAL ENGLAND WITH REGARDS TO SCREENING AND AEOI

- 4.1.1 As stated above, the appendices to this document set out SZC Co's response to issues identified in the RIES where there was disagreement identified between SZC Co. and other interested parties. The table at **Appendix A** is addressed to part 3 of the RIES (screening and likely significant effects). The first column identifies each issue and the paragraphs of the RIES in which it is addressed. The second column sets out a summary of SZC Co.'s case on each issue and where the relevant assessments and evidence can be found in the Examination documents. The third column responds, as necessary, to any outstanding concerns of Natural England and relevant Interested Parties.
- 4.1.2 **Appendix B** sets out a table in the same format but addressing the issues which are said to be outstanding in relation to whether there is a risk of an adverse effect on the integrity of a European Site (part 4 of the RIES). Again, each row is addressed to the issues set out in the RIES and relevant paragraph numbers are identified.
- 4.1.3 Whilst the ExA is directed to **Appendix A and B** in relation to the detail of SZC Co.'s case on each issue, it is worth briefly addressing the issues which remain between SZC Co. and Natural England on matters relevant to HRA.
- 4.1.4 At the time of writing, and from the version of the SoCG which Natural England sent to SZC Co. on 11 October 2021 the following issues relevant to HRA appear to remain outstanding between Natural England and SZC Co.:
- a. Impacts on various European sites as a result of water abstraction;
 - b. Impacts on Minsmere to Walberswick Heath and Marshes SAC, Minsmere-Walberswick SPA and Minsmere-Walberswick Ramsar site as a result of airborne pollution;
 - c. Impacts on Alde-Ore Estuary SPA and Minsmere-Walberswick SPA, as a result of bird strikes against overhead pylons;
 - d. Cumulative/in-combination impacts upon various European Sites;
 - e. Whether the wetland habitat compensation for the Marsh Harrier will be functioning to a sufficient extent prior to construction;

- f. Whether the survey work relating to the gadwall and shoveler (breeding and non-breeding) is adequate;
- g. Whether the Southern North Sea SAC SIP requires amendment;
- h. Impacts on the Minsmere to Walberswick Heath and Marshes SAC, Minsmere-Walberswick SPA, Minsmere-Walberswick Ramsar Site from changes to coastal processes/geomorphology;
- i. Whether the fish monitoring plan is adequate;
- j. Impacts as a result of the thermal plume on various European Sites;
- k. Impact as a result of the Combined Drainage outfall on various European Sites;
- l. Impact as a result of the chemical plume on various European Sites;
- m. Impacts from chlorination on various European Sites;
- n. Impacts from hydrazine on various European Sites;
- o. Impacts from drilling mud and bentonite break out on various European Sites.

4.1.5 Whilst this appears to be a long list, a review of Natural England's commentary in the SOCG shows that, in some areas at least, the differences between the parties are very minor.

4.1.6 Below, we summarise the case of SZC Co. on each of the outstanding issues. It is practical to address issues a, b, j, k, l, m and n together.

a) *Issues a, b, j, k, l, m and n – Impacts subject to separate regulatory processes*

4.1.7 Out of the fifteen impact pathways listed above, seven of them relate to impacts which are subject to separate regulatory regimes (a, b, j, k, l, m and n). As such, and on the material before the examination, it is clear that none of them, in this context, can form a proper basis for a refusal of the DCO. Indeed, it does not appear that Natural England is arguing that they cannot or will not be adequately assessed and controlled through other regulatory processes so as to ensure there would be no adverse effect on the integrity of the relevant sites.

4.1.8 When considering these issues it is worth bearing in mind the key parts of EN-1 and EN-6 which make provision for how a decision-maker on a DCO should treat other regulatory processes which are designed to control and address impacts. EN-1 states:

‘4.10.2 The planning and pollution control systems are separate but complementary. The planning system controls the development and use of land in the public interest. It plays a key role in protecting and improving the natural environment, public health and safety, and amenity, for example by attaching conditions to allow developments which would otherwise not be environmentally acceptable to proceed, and preventing harmful development which cannot be made acceptable even through conditions. Pollution control is concerned with preventing pollution through the use of measures to prohibit or limit the releases of substances to the environment from different sources to the lowest practicable level. It also ensures that ambient air and water quality meet standards that guard against impacts to the environment or human health.

4.10.3 In considering an application for development consent, the IPC should focus on whether the development itself is an acceptable use of the land, and on the impacts of that use, rather than the control of processes, emissions or discharges themselves. The IPC should work on the assumption that the relevant pollution control regime and other environmental regulatory regimes, including those on land drainage, water abstraction and biodiversity, will be properly applied and enforced by the relevant regulator. It should act to complement but not seek to duplicate them.

...

4.10.6 Applicants are advised to make early contact with relevant regulators, including EA and the MMO, to discuss their requirements for environmental permits and other consents. This will help ensure that applications take account of all relevant environmental considerations and that the relevant regulators are able to provide timely advice and assurance to the IPC. Wherever possible, applicants are encouraged to submit applications for Environmental Permits and other necessary consents at the same time as applying to the IPC for development consent.’

4.10.7 The IPC should be satisfied that development consent can be granted taking full account of environmental impacts. Working in close cooperation with EA and/or the pollution control authority, and other relevant bodies, such as the MMO, Natural England, the Countryside Council for Wales, Drainage Boards, and water and sewerage undertakers, the IPC should be satisfied, before consenting any potentially polluting developments, that:

- the relevant pollution control authority is satisfied that potential releases can be adequately regulated under the pollution control framework; and*

- *the effects of existing sources of pollution in and around the site are not such that the cumulative effects of pollution when the proposed development is added would make that development unacceptable, particularly in relation to statutory environmental quality limits.*

4.10.8 The IPC should not refuse consent on the basis of pollution impacts unless it has good reason to believe that any relevant necessary operational pollution control permits or licences or other consents will not subsequently be granted.'

4.1.9 Similarly, EN-6 states:

'2.7.1 [...] when considering a development consent application the IPC should act on the basis that:

- *the relevant licensing and permitting regimes will be properly applied and enforced;*
- *it should not duplicate the consideration of matters that are within the remit of the Nuclear Regulators (see paragraph 2.7.4 below); and*
- *it should not delay a decision as to whether to grant consent until completion of the licensing or permitting process (see paragraphs 2.7.5 and 2.7.6 below).'*

4.1.10 As part of its D10 submission, SZC Co. has submitted **Written Submissions Arising from ISH15** (Doc Ref. 9.122). This highlights that the excerpted sections of EN-1 and EN-6 are consistent with and reflect the principles which emerge from relevant case law. It explains that the permitting process is subject to assessment under the Habitats Regulations and that, for the purposes of that assessment, the Environment Agency is the competent authority (Regulation 7 Habitats Regulations). The Environment Agency may only grant a permit 'after having ascertained that it will not adversely affect the integrity of the European site or the European offshore marine site (as the case may be)' (Regulation 63 Habitats Regulations, subject of course to the IROPI provisions in Regulation 64). The Environment Agency has participated in this Examination and it can be noted that it has not raised any reason why it does not consider that the relevant permits will not be granted.

4.1.11 The impacts at j-n above are directly related to the water discharge activity at SZC. The water discharge activity will require a permit, an application for which will be decided by the Environment Agency and will be subject to the controls which the Environment Agency deems necessary to prevent any unacceptable ecological impacts. Further, the permit application will be subject to assessment under the Habitats Regulations. It seems clear that Natural England's concerns are not 'in principle' concerns which indicate that a permit is unlikely to be granted: rather, Natural England is simply seeking not to pre-determine its position in relation to the permit application.

If Natural England, or the Environment Agency, had any concerns that a water discharge permit would not be granted due to impacts upon European Sites then it can be expected that they would have said so during this Examination.

- 4.1.12 Further and in any event, Appendix B sets out the detail of the various assessments which have been made by SZC Co. in relation to the impacts from the water discharge activity. These assessments demonstrate that the activity will not have an adverse effect on the integrity of any European Site. Nevertheless, the fact that the activity will be the subject of the rigorous permitting process can give absolute confidence that no adverse effect on integrity will arise.
- 4.1.13 Similarly, and as set out in **Written Submissions Arising from ISH15** (Doc Ref. 9.122) the air quality emissions from diesel generators ('b' above) will be the subject of a separate permit application which will also be subject to Habitats Regulations assessment. Again, the assessments which have been done at this stage demonstrate that emissions can adequately be controlled through the permitting process so as to ensure that there will be no adverse effect on the integrity of any European Site.
- 4.1.14 Natural England's concerns about the impacts of water abstraction ('a' above) prior to (or subsequent to) the desalination plant being operational are misconceived. It is proposed that SZC Co. will purchase water and tanker it to the Site. In so doing, SZC Co. will be no different from any other customer for water. The water abstraction sites that have been considered as potential sources to date are existing sources and are the subject of their own licenses and permissions. These will have been the subject of environmental and regulatory assessment. In the event that any new sources were developed for this purpose in due course, they too would fall to be assessed before consent was granted to allow any abstraction (or increased abstraction). This DCO application does not seek permission for the abstraction or increased abstraction of water, either at any existing sources or from any potential new sources. In those circumstances (and applying the approach advised in the NPS referred to above) there is no need for environmental assessment of any such abstraction during this DCO process. The same point could be made in relation to, for example, the need for SZC Co. to obtain construction materials and the fact that the quarries from which those materials are obtained will have their own permissions and permits. Notably, Natural England does not argue that environmental assessments should be made of the various quarries where SZC Co. will source materials. Neither the Habitats Regulations nor the Environmental Impact Assessment Regulations require SZC Co. to assess these matters and such assessments are not required of other projects.
- 4.1.15 Natural England has raised a further point in relation to the proposal for a mains pipeline to the site from the central/northern Suffolk WRZ. Whilst this

is part of the Water Supply Strategy which is currently envisaged it is not certain and it does not form part of the DCO application. In the event that the transfer main was pursued it would be promoted by the water company and would undergo its own planning process which would include assessment under the Habitats Regulations as necessary. There can be no requirement to assess, at this stage, development which is not applied for as part of the DCO application.

- 4.1.16 Therefore, in relation to impacts a, b, j, k, l, m and n it appears that Natural England has failed to have regard to the role which these other processes play in the Secretary of State's decision on the DCO. Either due to the requirement for permits to be granted by the Environment Agency or due to the requirement for planning permission for development which is not covered by the DCO application. Had Natural England been present at ISH15 where some of these issues were discussed (in particular, the air quality emissions from the diesel generators and the absence of any need at this stage to assess abstraction from potential sources of water) then it is expected that Natural England would have been in a position to agree the analysis which has been set out above.

b) *Issue c – bird strikes and pylons*

- 4.1.17 SZC Co. held further discussions with Natural England on this matter in a meeting on 6 October 2021. On the basis of that meeting, SZC Co. is proposing that monitoring for line strikes will be carried out in the first instance to determine if further mitigation (such as line markers) is required. The **TEMMP** (Doc Ref. 10.28) has been updated to include reference to monthly survey for bird carcasses under overhead lines between new pylons, commencing as soon as these lines are installed. Installing markers on new overhead lines, between new pylons, is identified in the **TEMMP** (Doc Ref. 10.28) as a potential intervention, subject to the findings of the proposed monitoring. Given this amendment to the **TEMMP** (Doc Ref. 10.28) it is considered that there is no real dispute between Natural England and SZC Co. on this issue.

c) *Issue d – cumulative and in combination assessments*

- 4.1.18 Natural England's comment in the SoCG states that: 'Natural England advise that all outstanding issues need to be resolved 'alone' before further progress can be made under this issue.' As such, it appears that Natural England's concerns in relation to cumulative and in-combination assessments are entirely parasitic on other issues which they see as outstanding. As such, this is not, in reality, an additional item in dispute but stands or falls with the other issues.

d) *Issue e - whether the wetland habitat compensation for the Marsh Harrier will be functioning to a sufficient extent prior to construction*

- 4.1.19 The SoCG confirms that Natural England agrees that the compensation at Abbey Farm is sufficient to compensate for the potential loss of foraging habitat for the Marsh Harrier and therefore to compensate for any potential adverse effect on the integrity of the Minsmere-Walberswick SPA. Natural England maintains a concern with regards to the timing of the wetland provision.
- 4.1.20 The wetland habitat area of the compensatory measures will be built in the first winter following the granting of any order and the excavation required to create that area is considered to be reliant on the powers in the order. The works will not be undertaken in February-October to avoid impacts on breeding birds, including marsh harriers and this is secured in the Code of Construction Practice.
- 4.1.21 In the first summer of construction of Sizewell C ((assumed to be summer 2023),,) when the marsh harrier habitat compensation area is required to support marsh harriers, which breed in the summer, the marsh harrier habitat compensation area will comprise the dry habitat components, with a shallow open water body. It is likely to take until the second summer following the construction of the wetland for the reedbeds to become fully established. However, the open water habitats and their margins will themselves provide valuable habitats for foraging marsh harriers (as explained at paragraph 2.1.5 of Appendix B of SZC Co.'s Written Submissions arising from Issue Specific Hearing 7 [REP6-002]).
- 4.1.22 There will be no point during the important summer period during which the marsh harrier habitat compensation area will be unavailable to marsh harriers, as no construction of the wetlands will be undertaken in this period. It is therefore clear that the compensation proposed is adequate to compensate fully for the potential loss of foraging habitat.

e) *Issue f – survey work*

- 4.1.23 Natural England continues to raise a concern in relation to the survey data covering both breeding and non-breeding gadwall and shoveler. It is noted that Natural England does not positively allege that the project will give rise to an adverse effect on the integrity of any European Site as a result of impacts upon gadwall and shoveler, but rather considers that there are gaps in the data.
- 4.1.24 A detailed response to Natural England's position is given in Appendix B. However, by way of overview, Natural England's position fails to recognise and acknowledge the full suite of data which has been used to inform this part of the sHRA assessment. This includes 7 years of abundance data for

breeding gadwall and shoveler on the Minsmere South Levels and Sizewell Marshes and also a third winter of project-specific survey data which was collected in 2019/20. Further, Natural England's position fails to recognise the fundamental point which is that the potential displacement is limited to birds on functionally linked land which would not affect the designated populations and therefore would not affect the conservation objectives of any of the European Sites. Once this is understood, it is clear that Natural England's concern with regards to the survey data could not, even if it were well founded (which it is not), form a basis for concluding that the project might give rise to an adverse effect on integrity on any European Site as a result of the impact upon gadwall and shoveler.

f) *g. Whether the Southern North Sea SAC SIP Requires Amendment*

4.1.25 In the SOCG provided to SZC Co. on 11 October 2021, Natural England states that further work is still required on the draft Southern North Sea SAC SIP to clarify the potential piling scenarios being assessed, particularly whether piling is concurrent or sequential and exactly what the worst case is for each scenario.

4.1.26 SZC Co. is not clear why Natural England considers further work is required given that the SIP provides an assessment of the potential worst-case effects of piling. As noted in Appendix B, a final Southern North Sea SAC SIP will be produced in general accordance with the draft SIP, and will be submitted to the MMO for its approval prior to the commencement of impact piling. The final SIP will include any updated information on management measures, advice or guidance for the SNS SAC, final design of the project and the in-combination assessment will be revised based on the latest information and scheduling of works for other plans and projects. The final SIP will be developed in consultation with the MMO and Natural England.

g) *Issue h - Impacts on the Minsmere to Walberswick Heath and Marshes SAC, Minsmere-Walberswick SPA, Minsmere-Walberswick Ramsar Site from changes to coastal processes/geomorphology*

4.1.27 As set out in Appendix B, in the SOCG provided to SZC Co. on 11 October 2021, Natural England confirmed it will be making detailed comments on two technical reports (TR544 *Preliminary design and maintenance requirements for the Sizewell C Soft Coastal Defence Feature* and TR545 *Storm Erosion Modelling of the Sizewell C Coastal Defence Feature*) at Deadline 10. Natural England states that the concerns it has in this respect are not insurmountable, but adds that there remains significant uncertainty in regard to outstanding concerns about particle size and habitats. It is not understood why Natural England have been unable to provide any comments earlier. It can be noted that other parties to the Examination have been able to engage with and respond to these reports in accordance with

the Examination timetable with the results that they have no outstanding issues.

- 4.1.28 Natural England should be aware that SZC Co. has agreed a default position of retaining the native particle size distribution in the Soft Coastal Defence Feature (SCDF) without any intentional coarsening, as set out in the Issue Specific Hearing 11 [REP8-121], Coastal Processes Monitoring and Mitigation Plan (Doc Ref. 10.5), Preliminary Design and Maintenance Requirements for the Sizewell C Coastal Defence Feature (Revision 4) (Doc. Ref. 9.12 (C)) and Storm Erosion Modelling of the Sizewell C Soft Coastal Defence Feature using XBeach-2D and XBeach-G (Revision 3) [REP9-020]. Consequently, there is no pathway to impact on geomorphology arising from changes to the SCDF sedimentology.
- 4.1.29 “Modelling of the Temporary and Permanent Beach Landing Facilities at Sizewell C” [PDB-010] examined the impacts of the Beach Landing Facility (including reprofiling of the bed for navigation), the Marine Bulk Import Facility and the nearshore outfall heads on coastal geomorphology. It concluded that the changes in bed shear stress were small (2-6 N/m² compared to a baseline of 40-60 N/m²) and unlikely to result in a detectable topographic change on the Minsmere to Walberswick Heath and Marshes SAC, Minsmere-Walberswick SPA and Minsmere-Walberswick Ramsar Site.
- 4.1.30 SZC Co. is concerned that Natural England has so far not explained why it feels there is a risk to site integrity, and that there will be no opportunity to submit a response to Natural England’s comments on TR544 and TR545 to the examination given they are to be provided at Deadline 10. SZC Co therefore reserves its position in relation to any further comments made by Natural England.

h) Issue I - Whether the fish monitoring plan is adequate

- 4.1.31 SZC Co. notes that Natural England refers to monitoring throughout the lifetime of Sizewell C. SZC Co feels it is important to clarify that the purpose of the FIEMP is to confirm the assessment of impacts provided in the ES [APP-317] and ES Addendum [AS-238], and thereby the shadow HRA Assessments. That is, the plan is intended to confirm the impingement and entrainment *predications* presented in the ES [APP-317] and ES Addendum [AS-238], and by association the sHRA, with real data collected from the operation Sizewell C, together with data collected at Sizewell B simultaneously for comparison.
- 4.1.32 SZC Co maintains the position that monitoring of fish entrapment throughout the entire lifetime of the power station is neither proportionate nor beneficial in confirming whether the ES and ES Addendum impingement and entrainment predictions are correct. The most effective

way to make this comparison is via simultaneous monitoring at Sizewell B and Sizewell C to compare and contrast impingement and entrainment data. Only by including this comparison can it be determined whether differences in impingement predictions are related to Sizewell C design or flow rates or other variables such as interannual variation in fish numbers. Initially, a programme of simultaneous monitoring at Sizewell B and Sizewell C is planned – of at least 28 randomised samples visits per year – to assess the relationship between the SZC predictions and the SZC measured data (with SZB data providing a ‘control’). However, the plan does allow the possibility of longer term, less frequent or targeted monitoring at Sizewell C should it be deemed beneficial and appropriate.

- 4.1.33 The plan provides potential schemes to offset any potential impacts should the ES and ES Addendum have under-predicted impingement or entrainment – funding for such is secured in the **Deed of Obligation** (Doc. Ref. 10.4) to be released for suitable schemes at the discretion of the Marine Technical Forum (MTF). The FIEMP suggests several suitable ‘types’ of schemes that would suitably mitigate any unidentified impacts from SZC on fish populations but it is sensible for the detail of any such measure to be settled with stakeholders at the time it falls to be taken. The approach to potential mitigation measures and **Deed of Obligation** commitments (Doc. Ref. 10.4) have been agreed with the Environment Agency. However, these potential schemes are not relied upon to found the conclusion of no adverse impact upon the integrity of any European Site.
- 4.1.34 It can be noted that Natural England’s concern appears to be limited to the proposed monitoring. It does not appear to allege that there is a risk of any adverse effect upon any European Site as a result of the entrapment of fish. If such an impact is alleged then it is not explained or justified.
- i) [Issue o - Impacts from drilling mud and bentonite break out on various European Sites](#)
- 4.1.35 In the SoCG, Natural England refers to the potential for frack outs of bentonite and refers to the points made in its relevant representation on this matter. Natural England requested that further information is provided on the methodology, procedures and safeguards that would be put in place to reduce the possibility of frac-outs in designated sites, and for this to be outlined in a certified document, for example the **Code of Construction Practice** (Doc Ref. 10.2).
- 4.1.36 SZC Co. agrees that the Code of Construction Practice is the appropriate mechanism for provision of the further information requested and has updated the **Code of Construction Practice** to include reference to measures to minimise the risk of bentonite frac-out and ensure early detection of any frac-out.

- 4.1.37 In any event there is no realistic possibility of this giving rise to an adverse effect on the integrity of any European site. Bentonite itself is not toxic so there would be no direct impact on marine life. If a frack out did occur there would be a localised increase in suspended sediment concentration and this would be dispersed by the tide, and settle to the seabed over a wider area. Such a localised impact, if it were to arise, could not cause an adverse effect on the integrity of any European site.

5 CONCLUSION

- 5.1.1 As can be seen in Section 4 above, there remain very few significant issues between SZC Co and Natural England. Additionally, as is made clear in the tables at Appendix A and B, very few issues remain between SZC Co. and other Interested Parties. Ultimately none of the concerns expressed by any Interested Party gives rise to a good reason to displace the clear and robust conclusions of the shadow HRA assessments which have been thoroughly tested throughout the Examination.

APPENDIX A: COMMENTS ON PART 3 OF THE REIS REPORT (ISSUES RELATING TO SCREENING, OR LIKELY SIGNIFICANT EFFECTS)

APPENDIX A: COMMENTS ON PART 3 OF THE RIES REPORT (ISSUES RELATING TO SCREENING, OR LIKELY SIGNIFICANT EFFECTS)

Issue and Site where there appears to be disagreement. (RIES Report [PD-053] para reference)	Summary of SZC Co. position and where full explanation/evidence can be found.	SZC Co. comment on the position of Natural England and others
Alde-Ore and Butley Estuaries SAC – Recreational Pressure (3.2.3-3.2.5)	Disturbance due to increased recreational pressure was not a pathway that was screened into the assessment for the Alde, Ore and Butley Estuaries SAC due to the nature of the qualifying features (estuaries, mudflats and sandflats not covered by seawater at low tides and Atlantic salt meadows), all of which are habitats located within the estuarine environment. Item 9d) in Table 5.2 of the Shadow HRA Report [APP-145] provides the justification for concluding the LSE can be excluded. In summary, the habitats of the SAC are inaccessible given their estuarine nature and their location relative to possible locations to which displaced visitors and construction works may be displaced. This position was reiterated at Deadline 5 (paragraph 11.2.4 of [REP5-119]).	<p>Natural England first challenged the conclusion that LSE could be excluded in its Relevant Representation [RR-0878], Issue 29, on the basis that, in its view, "...LSE cannot be ruled out without consideration of further detailed information (e.g. visitor surveys etc.)". In its Written Representation [REP2-153], at Issue 29 Natural England stated that adverse effect on integrity (AEOI) (as opposed to LSE) on this European site, amongst several other sites, could not be ruled out due (in part) to this effect pathway. Natural England's latest submission on this matter in response to the ExA's question on agenda item 5a of ISH10 [REP7-287] simply refers back to the response provided in the Written Representation [REP2-153].</p> <p>In the particular case of the Alde-Ore and Butley Estuaries SAC and SZC Co.'s conclusion of no LSE, Natural England has not at any point provided a specific response to SZC Co.'s justification as to why LSE can be excluded. SZC Co.'s justification for concluding no LSE is based on a reasonable consideration of the likelihood of the existence of a realistic pathway for LSE on the qualifying features of the site which, taking into account the characteristics and location of these features as summarised in the first column. The conclusion does not, therefore, rely on "detailed information" as referred to by Natural England..</p> <p>The approach taken by Natural England in responding to this point does not engage with the analysis of the potential for this pathway to result in LSE on the qualifying features of this SAC. Natural England has not specifically commented on SZC Co's reasoning for concluding no LSE or requested any further clarification on this point. Furthermore, when providing comment that AEOI cannot be excluded for this effect pathway (e.g. in its Written Representation [REP2-153]), Natural England has grouped this SAC with several other European sites. This is an inappropriate approach as the test in Regulation 63 Habitats Regulations must be applied to each site individually.</p> <p>In commenting on the Shadow HRA Second Addendum [REP2-032], the RSPB and SWT questioned why the Alde-Ore and Butley Estuaries SAC had not been included in (what was at the time) the proposed Monitoring and Mitigation Plan for Sandlings (Central) and Alde-Ore Estuary. SZC Co. responded to this point at Deadline 5 (paragraph 11.2.4 of [REP5-119]) (see column to the left) and RSPB and SWT has not made further comment in response. The final plan is Annex U to the Deed of Obligation (Doc Ref. 10.4).</p> <p>It appears from the latest iteration of the SoCG that Natural England are agreed that there will not be a likely significant effect on the Alde-Ore and Butley Estuaries SAC as a result of recreational displacement.</p>
Benacre to Easton Bavants SPA – Noise, light and visual disturbance (3.2.6-3.2.8)	<p>This potential impact pathway was not screened in for LSE for the Benacre to Easton Bavants SPA in the Shadow HRA Report [APP-145] (see HRA Screening Matrix B2.2 – [APP-148]).</p> <p>The Benacre to Easton Bavants SPA is 14.2km from the main development site at the nearest point. The main development site is therefore located considerably beyond the likely foraging range of all qualifying features from this SPA and, therefore, the main development site could not constitute functionally linked land for this SPA (hence the LSE screening conclusion for this pathway as reported in HRA Screening Matrix B2.2 – [APP-148]). Furthermore, the assessments for noise, light and visual disturbance</p>	<p>NE initially challenged the conclusion that LSE could be excluded for noise, light and visual disturbance in its Relevant Representation [RR-0878], Issue 27, on the basis that qualifying features of the Benacre to Easton Bavants SPA may use habitats within the main development site as functionally linked land. This is restated by NE in [REP7-287].</p> <p>The NE position did not appear to take account of the fact that the main development site is located considerably beyond the likely foraging range of all qualifying features from this SPA or the detailed work undertaken in the Shadow HRA [APP-145] and the Shadow HRA Addendum [AS-173], which establishes the degree to which noise, light and visual disturbance effects have the potential to affect</p>

Issue and Site where there appears to be disagreement. (RIES Report [PD-053] para reference)	Summary of SZC Co. position and where full explanation/evidence can be found.	SZC Co. comment on the position of Natural England and others
	<p>clearly demonstrate that there is no potential for these effects (or their 'threshold levels') to extend more than a few hundred metres beyond the main development site boundary. It is also the case that there is no potential for such disturbance effects to arise on the Benacre to Easton Bavents SPA as a result of the associated developments.</p> <p>None of the SPA qualifying features are likely to forage in (or use) areas where they may be exposed to such effects, as they are beyond the likely foraging range of the qualifying features of the Benacre to Easton Bavents SPA.</p>	<p>functionally linked land for SPA qualifying features, whether that land may located within the main development site or beyond the boundary of the main development site.</p> <p>As stated above, the main development site is located beyond the likely foraging range of all qualifying features from this SPA and could not, therefore, represent functionally linked land for qualifying features of this SPA. Furthermore, the evidence and analysis in the documents referred to (primarily the evidence set out in paragraphs 8.8.64 to 8.8.99 of [APP-145] and updated in section 8 of [AS-173] clearly demonstrates that such effects could not extend into areas beyond the main development site into areas that are likely to be used as functionally linked land by qualifying features of this SPA (because the areas predicted to be affected by noise, light and visual disturbance are also considerably beyond the likely foraging range of all qualifying features from this SPA).</p> <p>In light of the above explanation, there was no rational justification for Natural England to maintain its position that that LSE cannot be excluded for this effect pathway. It appears from the latest iteration of the SoCG that Natural England has now confirmed that it is satisfied that the project will not result in any likely significant effect on the Benacre to Easton Bavants SPA as a result of noise, light and visual disturbance.</p>
Minsmere-Walberswick SPA and Benacre to Eastern Bavents SPA – indirect impacts on breeding bittern from entrapment of prey species (eels) (3.2.9-3.2.12)	As stated in HRA Screening Matrix B2.2 (for the Benacre to Eastern Bavents SPA) and HRA Screening Matrix B2.4 (for the Minsmere-Walberswick SPA) [APP-148]), no negative effect on the numbers of glass eels or elvers migrating through Sizewell Bay is predicted and, on this basis, no discernible impact pathway is apparent.	<p>This specific issue was not raised by Natural England at the screening stage. The Environment Agency [REP2-135] stated that bittern should be considered in the HRA due to this pathway, with the RSPB/SWT making the same point (specifically for the Minsmere-Walberswick SPA) [REP2-506].</p> <p>Paragraphs 1.1.28 to 1.1.32 of Appendix P of [REP5-120] presented a precautionary analysis of the predicted magnitude of effect on eels concluding that the effects were predicted to be between 0.007% and 0.024% of the River District Basin biomass, reinforcing the conclusion that there is no discernible pathway for effect on the SPAs.</p> <p>No response to the evidence provided by the Applicant on this point was received from the EA or the RSPB/SWT. It can be concluded that the evidence provided proving the lack of an effect pathway on breeding bittern from entrapment of prey species is robust.</p>
Outer Thames Estuary SPA – Recreational Disturbance to little terns (3.2.13-3.2.15)	<p>This potential impact pathway was not screened in for LSE for the Outer Thames Estuary SPA in the Shadow HRA Report [APP-145] and [APP-148] (see HRA Screening Matrix B2.5, epages 105 – 107).</p> <p>The Outer Thames Estuary SPA protects the foraging behaviour and habitats of little tern at sea and, with one exception, the breeding colonies that contribute to this SPA population are located outside the SPA boundaries. The one exception is the colony on the Scroby Sands sandbank which is beyond the ZOI for the SZC project¹.</p> <p>The potential for LSE and, where required, the assessment for AEoI in relation to recreational disturbance has been considered in relation to the relevant SPA breeding colonies at the Alde-Ore Estuary SPA (and Ramsar site), Minsmere-Walberswick SPA (and Ramsar site) and Benacre to Easton Bavents SPA (see section 8 of the Shadow HRA Report [APP-145]).</p> <p>Given that recreational disturbance (as considered in relation to the SZC project) is not predicted to have effects on birds when foraging, commuting or roosting in the marine environment (and also given the relative insensitivity of little tern to anthropogenic</p>	<p>NE initially challenged the conclusion that LSE could be excluded for the Outer Thames Estuary SPA little tern population in relation to recreational disturbance in its Relevant Representation [RR-0878]. This is repeated in the NE Written Representations [REP2-153] and in [REP7-287].</p> <p>In terms of explanation and justification for this position, NE stated (e.g. at epage 8 in [REP7-287]) that “<i>LSE from impacts on birds and their supporting habitats associated with increased recreational pressure from SZC workers and displaced locals during construction – e.g. trampling of nests/habitat, direct disturbance of birds by walkers, dogs, bikes etc (MDS issue).</i>” However, this explanation referred solely to potential effects at or near the breeding colonies and in relation to recreational activities on terrestrial or inter-tidal habitats (and not to activities in the marine environment). Therefore, these potential effects were relevant to the SPAs in which breeding colonies are located (e.g. Minsmere-Walberswick SPA) and not to the Outer Thames Estuary SPA (which protects the foraging behaviour and habitats of little tern at sea).</p> <p>NE provide no explanation as to why they consider that such recreational activities on terrestrial (or inter-tidal) habitats should be considered relevant in determining LSE in relation to recreational disturbance and the little tern qualifying feature of the Outer Thames Estuary SPA. This issue is not raised in relation to the two other qualifying features of the Outer Thames Estuary SPA (although one</p>

Issue and Site where there appears to be disagreement. (RIES Report [PD-053] para reference)	Summary of SZC Co. position and where full explanation/evidence can be found.	SZC Co. comment on the position of Natural England and others
	<p>disturbance when foraging or commuting in the marine environment^{2,3}) it is considered that there is no potential for LSE in relation to recreational disturbance and little tern from the Outer Thames Estuary SPA.</p> <p>¹https://designatedsites.naturalengland.org.uk/Marine/SupAdvice.aspx?SiteCode=UK9020309&SiteName=outer+thames+estuary&SiteNameDisplay=Outer+Thames+Estuary+SPA&countyCode=&responsiblePerson=&SeaArea=&IFCAAarea=&NumMarineSeasonality=3%2c3</p> <p>²Garthe S. and Hüppop, O. (2004) Scaling possible adverse effects of marine wind farms on seabirds: Developing and applying a vulnerability index. <i>Journal of Applied Ecology</i>, 41, 724-734.</p> <p>³Furness R. W., Wade, H. M. and Masden, E. A. (2013). Assessing vulnerability of marine bird populations to offshore wind farms. <i>Journal of Environmental Management</i>, 119, 56-66.</p>	<p>of these- i.e. common tern – also has breeding colonies on terrestrial habitats within the SZC project ZOI).</p> <p>It now understood, from the latest iteration of the SoCG that Natural England is now content that there will be no likely significant effect on the Outer Thames Estuary SPA as a result of recreational disturbance.</p>
Minsmere-Walberswick SPA – changes to coastal processes/sediment transport for certain qualifying features	<p>This effect pathway was screened into the appropriate assessment stage for the Minsmere-Walberswick SPA, but not for the following qualifying features, which are not dependent on habitats that could conceivably be affected by changes to coastal processes:</p> <ul style="list-style-type: none"> Breeding avocet, bittern, marsh harrier, nightjar, shoveler, teal and gadwall. Wintering gadwall, hen harrier, shoveler and white fronted goose. <p>The justification for concluding that there is no discernible impact pathway for these qualifying features is provided in footnote a) to HRA Screening Matrix B2.4 [APP-147].</p>	<p>As noted in the column to the left, the Minsmere-Walberswick SPA was screened in for this potential impact pathway, albeit not for all qualifying features (as noted).</p> <p>Natural England's current position does not focus on potential for LSE on each qualifying feature, but instead Natural England provides its view on the potential for adverse effect on integrity at the site level as a whole, including all qualifying features (this addressed in Appendix B to this document). In taking that position, it is implicit that Natural England maintains that LSE should not be excluded for all qualifying features of the SPA.</p> <p>NE do not go beyond stating disagreement with the Applicant's position on this issue. No justification or details are provided for considering that LSE cannot be excluded for certain qualifying features of the Minsmere-Walberswick SPA.</p>
Numerous European sites – Marine Water Quality (3.2.36-3.2.44)	<p>This impact pathway was screened into the appropriate assessment stage for all European sites listed in paragraph 3.2.36, with the exception of the Humber Estuary SAC. The justification for the screening decisions is provided in the footnotes to the HRA Screening Matrices in Appendix B to the Shadow HRA Report [APP-148] which link to the Shadow HRA Report [APP-145] for the more detailed justification for the LSE screening decisions.</p> <p>There are, however, two elements of this impact pathway that were excluded at the LSE screening stage and which Natural England and the RSPB / SWT raised as concerns.</p> <p>Firstly, NE and RSPB/SWT raised concerns over the potential for direct toxic effects on SPA seabird species. The reasons why this is considered to be a highly unlikely pathway to effect (and is not considered to result in LSE) are outlined in detail in section 1.8 of [REP7-073].</p> <p>Secondly, Natural England referred to the potential for frack outs of bentonite and felt that LSE could not be excluded. In the initial SOCC [REP2-071] SZC Co. noted that bentonite is on the OSPAR list of substances 'that pose little or no risk to the environment', but acknowledged Natural England's request that further information is provided on the methodology, procedures and safeguards that would be put in place to</p>	<p>Natural England's position on marine water quality is set out in Issues 30 to 36 of its Relevant Representation [RR-0878] and Written Representation [REP2-153]. As noted above for other impact pathways, Natural England's current position does not focus on potential for LSE on each qualifying feature, but instead Natural England provides its view on the potential for adverse effect on integrity at the site level as a whole (refer to Appendix B). However, that view is not explained or specified.</p> <p>In relation to LSE for SPAs (and ornithology features of Ramsar sites), NE (and RSPB/SWT) also propose that there is a potential for direct toxic effects on SPA seabirds [REP2-153], [REP8-094]. It is noted that the RSPB/SWT (in section 3 of [REP8-173]) states that it welcomes the additional clarification provided by the Applicant regarding the potential for direct toxicity to birds arising from the bromoform and hydrazine plumes, and the RSPB/SWT make no further comment on this pathway.</p> <p>While maintaining its position that LSE could be excluded due to risk of bentonite frack out, SZC Co. has updated the CoCP at Deadline 10 to reflect Natural England's comment.</p> <p>With respect to direct impacts to sea and river lamprey of Humber Estuary SAC (raised in paragraphs 3.2.42 to 3.2.44 of the RIES and which was screened out, as explained in the column to the left), the Humber Estuary SAC (with sea and river lamprey qualifying features is located approximately 163km from the Sizewell C Project. It is for this reason that the Shadow HRA Report [APP-145] (and HRA Screening Matrix B1.4) concluded there was no discernible impact pathway (for water quality effect,</p>

Issue and Site where there appears to be disagreement. (RIES Report [PD-053] para reference)	Summary of SZC Co. position and where full explanation/evidence can be found.	SZC Co. comment on the position of Natural England and others
	reduce the possibility of frack outs via the Code of Construction Practice (CoCP) (Doc Ref. 10.2)(secured pursuant to Requirement 2).	including the thermal and chemical plume) due to distance of the Humber Estuary SAC from the Sizewell C Project. NE provided no response to the reasons the Applicant has provided as to why the above pathways to effect are considered highly unlikely. NE has not explained why there is a realistic risk in light of the analysis provided by the Applicant.
Numerous European Sites – Physical interaction between birds and project infrastructure (pylons and powerlines) (3.2.45-3.2.48)	SZC Co. did not consider this a plausible pathway for effect for the Sizewell C Project and did not, therefore, include assessment of collision risk with pylons and powerlines. In light of Natural England's concern, the Applicant provided further analysis in Appendix D of [REP6-024], assessing the routing and height of power lines and pylons, concluding there was no realistic potential for an effect on birds that are qualifying features of these European sites.	The current position of Natural England on this matter and the response of SZC Co. is set out in Appendix B. It is also addressed in the main document.
Numerous (and unknown) European Sites – Water abstraction and supply (3.2.49-3.2.55)	As noted in paragraph 3.2.49 of the RIES, the Shadow HRA Report [APP-145] did not specifically address the potential impacts of water use and abstraction. The current position on this effect pathway is discussed in Appendix A now that a desalination plant is proposed.	
Numerous European sites – Cumulative/inter-project effects (3.2.56-3.2.57)	The LSE screening matrices provided at Appendix B to the Shadow HRA Report [APP-148] do not require identification of within-project cumulative effects, but require the potential for LSE to be identified for each effect pathway and the potential for in-combination effects to be identified (with the Planning Inspectorate's Advice Note 10 making it clear that in combination effects means effects of the proposed development in-combination with other plans or projects, in line with the requirements of the Habitats Regulations). The Applicant of course understands that it is necessary to assess the effects of the project 'alone' comprehensively, including the potential for any interaction between effect pathways. As paragraphs 3.2.56-3.2.57 of the RIES note, the Applicant provided supplementary within-Project assessment (i.e. inter-pathway effects, forming part of the 'alone') in Appendix 1A of the Shadow HRA Addendum [AS-174] to support the conclusions drawn in the Shadow HRA Report [APP-145]. This further assessment provides additional analysis of the potential for the various pathways for effect on European sites to interact or combine. In summary, the outcome of the alone or in-combination assessment for each European site in the Shadow HRA Addendum is unchanged from that reported in the Shadow HRA Report for one or more of the following reasons: <ul style="list-style-type: none"> The predicted effects are sufficiently localised in nature that different pathways do not combine spatially to cause a larger effect on the qualifying interest feature in question. Where effect pathways interact / combine and may influence the same qualifying interest feature, the scale of the predicted effect is sufficiently low that there is no realistic potential for an intra-Project effect to arise that could undermine the conservation objectives of the European site. There is only one identified potential effect pathway for the qualifying interest feature in question (i.e. there is no potential for a within-Project effect on a particular feature). 	Natural England's comments on this matter are confused in that they group together (as Issue 9 of its Written Representation and Statement of Common Ground [REP2-071]) comments on (i) within-project assessment (i.e. assessment between different elements of the project/impact pathways) with (ii) assessment of the effects of the project with other plans and projects. Assessment falling within item (i) forms part of the assessment of the project 'alone', with assessment under item (ii) being the 'in-combination assessment' with other plans and projects. The importance of the above point is clear when Natural England's latest position, as set out in Issue 9 of the Statement of Common Ground [REP2-071], is stated as: <i>"We welcome the applicant's continued engagement on the issues set out in this Statement of Common Ground. However, we would require all individual issues relating to European protected sites to be resolved before we can agree to there being no cumulative/in-combination effect".</i> In the Statement of Common Ground, Natural England clarifies that 'cumulative' means consideration of different project elements and impact pathways cumulatively (i.e. the assessment of the project 'alone'). Natural England's position on 'cumulative' effects makes no acknowledgement of the supplementary evidence presented on inter-pathway effects in Appendix 1A of the Shadow HRA Addendum [AS-174], which was specifically prepared in response to Natural England's challenge that the 'alone' test had not been satisfactorily addressed in the Shadow HRA Report [APP-145]. By falling back on the position that it cannot agree to there being no cumulative effects without first being satisfied that all individual issues are resolved, and making no comment in relation to Appendix 1A of the Shadow HRA Addendum [AS-174], Natural England has made no attempt to engage with the evidence presented and which it stated was necessary in order to advise on the 'alone' assessment.

Issue and Site where there appears to be disagreement. (RIES Report [PD-053] para reference)	Summary of SZC Co. position and where full explanation/evidence can be found.	SZC Co. comment on the position of Natural England and others
In combination assessment (screening stage) (3.2.58-3.2.66)	<p>The Shadow HRA Report [APP-145] (and subsequent addenda) assess the potential effects of the Sizewell C Project alone and in-combination with other plans and projects. Appendix C to the Shadow HRA Report sets out the approach taken at the LSE screening stage to identify other plans and projects relevant to the scope of the Shadow HRA process.</p> <p>SZC co. provides further comment on the specific plans and projects referred to in the RIES below:</p> <ul style="list-style-type: none"> • Galloper wind farm – as paragraph 3.2.60 of the RIES notes, the MMO [RR-0744] had understood that the Shadow HRA Report was referring to the Galloper Wind Farm whereas it was in fact referring to the Galloper Operation and Maintenance (O&M) Base at Harwich. This matter was therefore identified as resolved in the initial SoCG. • Sizewell B relocation (relocated facilities) – as noted in paragraph 3.2.61 of the RIES, Annex B to the Joint Local Impact Report (LIR) of East Suffolk Council (ESC) and Suffolk County Council (SCC) [REP1-047] confirms that the competent authority reached a conclusion of no LSE as result of the Sizewell B relocated facilities. The Annex B document also summarises NE's consultation response to the planning application, stating that NE agree no LSE. • Other plans or projects that may affect migratory fish at the North Sea Spawning Stock Biomass (SSB) area level – Natural England [RR-0878] specifically stated that as fisheries assessments are being undertaken at the North Sea SSB area level, Natural England question whether other plans or projects that may impact upon fisheries, such as other power stations are also being considered at this Zone of Influence scale. SZC Co. did not include this element within the Shadow HRA screening process as it would be a disproportionate scale for the assessment and any effects would, in any case, be additive. The LSE screening approach adopted for migratory fish was highly precautionary, with a number of mainland European sites screened into the assessment. • Suffolk Coast Path and AONB Management Plan – SZC Co. cannot find reference to these plans and projects in the context of the HRA process in Natural England's Relevant Representation. • Onshore cable routes of the Scottish Power Renewables offshore wind projects - RSPB/SWT reiterated its view in [REP5-166] that these projects should be included in respect of recreational pressure in-combination effects, but also acknowledged that the submission of the Monitoring and Mitigation Plan for Minsmere – Walberswick and Sandlings (North) (since preparation of its Written Representations, and submitted at Deadline 8 [REP8-087]) proposes mitigation for recreational impacts. • Unexploded Ordnances (UXO) detonation activities - NE raised concerns [RR-0878] that UXO detonation activities related to other projects were not included in the in-combination assessment. This matter has been discussed with Natural England through consultation on the Southern North Sea Site Integrity Plan (SIP). The requirement for any UXO clearance has not been included in the SIP, as UXO clearance has not been included in the DCO Application, but 	<p>As noted in the entry above, Natural England groups together (as Issue 9 of its Written Representation and Statement of Common Ground [REP2-071]) comments on (i) within-project assessment (i.e. assessment between different elements of the project/impact pathways) with (ii) assessment of the effects of the project with other plans and projects. Natural England's position on in-combination with other plans and projects is, therefore, as set out above (i.e. that it cannot agree to their being no cumulative effects without first being satisfied that all individual issues are resolved). However, this is not a comment specifically relevant to the screening stage, but is made in the context of reaching conclusions on AEOL. SZC Co's position on this point is, therefore, reflected in comments made on Natural England's position on the various pathways discussed in Appendix B</p> <p>The RSPB/SWT SOCG [REP9-019] does not identify concerns with the screening stage, but highlights specific points of disagreement on AEOL conclusions with regard to in-combination effects. These are addressed in Appendix B.</p>

Issue and Site where there appears to be disagreement. (RIES Report [PD-053] para reference)	Summary of SZC Co. position and where full explanation/evidence can be found.	SZC Co. comment on the position of Natural England and others
	<p>if required, any UXO clearance will be included in separate Marine Licence application. If UXO clearance is required, further assessments will be conducted, based on the latest information, guidance and mitigation techniques, and submitted as a separate Marine Licence, including potential effects on the SAC. It has been agreed with the MMO that any UXO clearance, if required, should be a separate Marine License, as there is currently insufficient information for it to be included in the DCO Application. A final Draft SIP is submitted at Deadline 10 (Doc Ref. 10.11) secured pursuant to DML Condition 40</p> <ul style="list-style-type: none">• Traffic emissions from projects in relevant local plans – this issues was raised by Heveningham Hall Estate [RR-0908 and REP2-287]. SZC Co. confirms that the reported air pollutant concentration values at each receptor (including each ecological receptor) represent the combined impact of emissions from all road and rail links, without screening out links. The in-combination impacts from transport emissions from foreseeable future developments are also included in the reported air quality values at all sensitive receptors (include ecological receptors).	

APPENDIX B: COMMENTS ON PART 4 OF THE REIS REPORT (ISSUES RELATING TO AEOI)

APPENDIX B: COMMENTS ON PART 4 OF THE RIES REPORT (ISSUES RELATING TO AEOI)

Issue and Site where there appears to be disagreement. (RIES Report [PD-053] para reference)	Summary of SZC Co. position and where full explanation/evidence can be found.	SZC Co. comment on the position of Natural England and others
European sites with coastal, freshwater and terrestrial qualifying habitat features		
Changes in air quality upon various sites listed at 4.2.1-4.2.2 (4.2.1-4.2.28)	<p>With respect to NOx (and nitrogen and acid deposition), the Applicant has concluded that no adverse effect on integrity would arise, because (depending on the site or qualifying feature being considered) either the process contribution is less than the threshold of significance, the qualifying feature is not present in the area within which there is potential concern regarding air quality effect or the process contribution is only just over the threshold of imperceptibility.</p> <p>The Applicant's position is set out in sections 7.4, 7.7 and 7.8 of the Shadow HRA Report [APP-145] with supplementary analysis of the potential for inter-pathway effects provided in Appendix 1A of the Shadow HRA Report Addendum [AS-174]. During the examination, a number of other submissions have been made of relevance to this effect pathway, as follows:</p> <ul style="list-style-type: none"> Section 11.3 of [REP3-042], responding to Natural England's Written Representation [REP2-153]. Section 14.4 of [REP5-119], responding to concerns raised by Heveningham Hall Estate [RR-0908 and REP2-287]. Section 14.4 of [REP5-119], responding to concerns raised by Heveningham Hall Estate [RR-0908 and REP2-287]. The Applicant has provided a further response to Heveningham Hall Estate at Deadline 10 in connection with its comments relating to in-combination effects (see item 4 of Response to ExA's Request for Further Information (Doc Ref. 9.123)). <p>In addition to the above, the Statement of Common Ground captures (Issue 5) the Applicant's response to the Natural England's comments on this effect pathway.</p> <p>The Site Improvement Plan (SIP) for Staverton Park and the Thicks, Wantisden SAC identified the impact of atmospheric nitrogen deposition as a pressure to the qualifying feature of the SAC. However, the SAC is located 17km from the main development site and does not have the potential to be affected by emissions from operational combustion (the screening distance detailed in the Environment Agency's risk assessment guidance is 10km for internationally designated sites). This position is set out in section 11.3 of [REP3-042].</p>	<p>With regard to Staverton Park and the Thicks, Wantisden SAC, Natural England has confirmed that sufficient evidence that of no AEOI has been provided [REP7-287].</p> <p>As noted in paragraph 4.2.24 of the RIES, NE confirmed [REP5-160] that the Applicant had provided a response to its concerns in this regard (referring to the Applicant's response to Natural England's Written Representation [REP3-042]) and confirmed it was in the process of reviewing this with its air quality specialist.</p> <p>As noted at paragraph 4.2.25 of the RIES, NE confirmed at Deadline 7 [REP7-144] that it was still reviewing the Applicant's comments on air quality and would provide an updated position on this matter as soon as it was able to. However, Natural England has failed to respond to the further information submitted by SZC Co. and no further comment was provided by Natural England at Deadline 8.</p> <p>In the SOCG provided by Natural England to SZC Co. late on 11 October 2021, Natural England confirmed that its outstanding concerns related only to the cumulative increased deposition of NOx from all diesel generators and any other sources of NOx on the Minsmere to Walberswick Heath and Marshes SAC, Minsmere- Walberswick SPA and Minsmere- Walberswick Ramsar site only. SZC Co. has made a submission in response to this at Deadline 10 ((Doc Ref. 9.117(B) - a revision of the Sizewell C Desalination Plant Air Impact Assessment [REP9-026], which also responds to items 15 to 17 in the Request For Further Information issued on 6 October 2021).. In short, there is no risk of an adverse effect to the integrity of the protected sites. However, and in any event, the operation of the diesel generators will be assessed and controlled by the Environment Agency through the permitting process. It is appropriate for the Secretary of State to rely upon the proper and robust operation of that process (in accordance with relevant policy in EN-1 and EN-6). Natural England's concern does not therefore give rise to any reason to refuse the application for the DCO.</p>
Changes to coastal processes/sediment transport – numerous sites (4.2.29-4.2.49)	<p>There would be no effect on coastal processes and sediment transport for the qualifying features because of the localised spatial scale and small magnitude of predicted effect.</p> <p>The Applicant's position is set out in section 7.7 c i) (Minsmere-to Walberswick Heaths and Marshes SAC) and section 7.8 b i) (Minsmere-Walberswick Ramsar site) of the Shadow HRA Report [APP-145] and section 7.3 of the Shadow HRA Report Addendum [AS-173].</p> <p>The Applicant has submitted a series of Technical Reports relevant to the assessment, mitigation and monitoring of potential coastal processes effects, summarised as follows:</p> <ul style="list-style-type: none"> TR543 Modelling of the Temporary and Permanent Beach Landing Facilities at Sizewell C [PDB-010]. 	<p>At Deadline 7, Natural England stated that it would aim to provide a response to EXQ2 CG.2.6 (asking whether NE had any concerns in relation to the revised CPMMP [REP5-059]) by Deadline 8 and the ExA reissued the question to NE in ExQ3 [HRA. 3.6 in [PD-045]].</p> <p>With regard to AEOI, in its response to ExQ2 CG.2.9 [REP7-144], Natural England maintained the position that further work (which is also summarised in paragraph 4.2.45 of the RIES) is needed in order for it to agree with SZC Co's no AEOI conclusion.</p> <p>Natural England has still not explained why it considers further work is necessary in order to reach a no AEOI conclusion, nor has it recognised that the CPMMP provides for any required monitoring and mitigation. Natural England's position is unsupported by relevant evidence or justification and has failed to take proper account of the CPMMP.</p>

Issue and Site where there appears to be disagreement. (RIES Report [PD-053] para reference)	Summary of SZC Co. position and where full explanation/evidence can be found.	SZC Co. comment on the position of Natural England and others
	<ul style="list-style-type: none"> TR544 Preliminary design and maintenance requirements for the Sizewell C Soft Coastal Defence Feature (with a series of updates, – version 3 - was submitted at Deadline 7) [REP7-101]. TR545 <i>Storm Erosion Modelling of the Sizewell C Coastal Defence Feature</i> (version 2 [REP7-045] was submitted as Deadline 7. Coastal Processes Monitoring and Mitigation Plan (CPMMP) (Doc Ref. 10.5, secured pursuant to DML Condition 17 and Requirement 7A). <p>The Shadow HRA Report Third Addendum that accompanied the change request for the desalination plant (referred to in item 1a) [REP7-279] assessed the potential effect on the relevant qualifying features of the Minsmere to Walberswick Heaths and Marshes SAC and Minsmere–Walberswick Ramsar site for this impact pathway and concludes no adverse effect on integrity, either alone or in-combination with other plans and projects.</p>	<p>In the SOCG provided to SZC Co. on 11 October 2021, Natural England confirmed it will be making detailed comments on TR544 and TR545 at Deadline 10. Natural England states that these concerns are not insurmountable, but adds that there remains significant uncertainty in regard to outstanding concerns about particle size and habitats.</p> <p>Other interested parties have been able to review the information provided by SZC Co. in this respect and confirm that their concerns have been addressed.</p> <p>SZC Co. is concerned that Natural England has not explained why it feels there is a risk to site integrity and will only provide that there will be an adverse impact upon integrity and that there will be no opportunity to submit a response to Natural England's comments on TR544 and TR545 to the examination given they are to be provided at Deadline 10. Ultimately, the detailed and robust evidence provided by SZC Co. demonstrates beyond reasonable scientific doubt that there will be no adverse effect on the integrity of any European Site as a result of changes to coastal processes/sediment transport and there is no reason to refuse the DCO on this basis. This is addressed in further detail in part 4 of the main REIS Response.</p>
Recreational pressure in relation to 4 sites (4.2.53-4.2.93)	<p>This effect pathway was screened out of the Shadow HRA for the Alde, Ore and Butley Estuaries SAC because the qualifying features are not considered at risk from recreational disturbance. The Applicant's position is set out in paragraph 11.2.4 of [REP5-119].</p> <p>The HRA has concluded no adverse effect on the integrity of Alde-Ore Estuaries Ramsar site, Minsmere- to Walberswick Heaths and Marshes SAC, Minsmere–Walberswick Ramsar site and Orfordness to Shingle Street SAC from this pathway because (depending on the site being considered) of the likely duration of effect, the location of access points relative to sensitive habitats, the small potential change in visitor numbers relative to the baseline situation, the diffuse nature of this pressure and existing management measures in place in certain locations. The relevant sections of the Shadow HRA Report [APP-145] are section 7.4 c ii for the Alde-Ore Estuary Ramsar site and sections 7.7 and 7.8 for the Minsmere to Walberswick Heaths and Marshes SAC and Minsmere-Walberswick Ramsar site, with sub-sections for each qualifying feature. The conclusions were revisited in section 2.2 and 2.3 of the Shadow HRA Second Addendum [REP2-032]).</p> <p>The Shadow HRA conclusion for the Minsmere European sites relied on mitigation being in place and this is captured in a Monitoring and Mitigation Plan for Minsmere - Walberswick and Sandlings (North) European site, the latest revision of which is Annex U to the Deed of Obligation (Doc Ref 10.4).</p> <p>A Monitoring and Mitigation Plan for Sandlings (Central) and Alde-Ore Estuary has also been prepared; however, the Shadow HRA did not rely on mitigation being in place in reaching a no adverse effect on integrity conclusion for the Alde-Ore Estuary SPA and Ramsar site. This plan was submitted at Deadline 5 and updated at Deadline 8 and forms Annex V to the Deed of Obligation (Doc Ref 10.4).</p> <p>The Applicant is seeking to reach agreement with Natural England, the RSPB/SWT, National Trust and Forestry England on the above plans.</p> <p>In addition to the documents referred to above, a series of submissions have been made to the Examination which respond to comments made by Interested Parties on various elements of the supporting evidence base and which are relevant to this impact pathway and which have informed the assessment conclusions.</p>	<p>In the SOCG provided by Natural England to SZC Co. on 11th October 2021, Natural England confirmed that, having reviewed the substantial new additions included in the Informal Recreation Strategy [REP8-135] and Monitoring and Mitigation packages [REP8-088], it believes that, in-combination, the suite of mitigation measures already committed to are sufficient to avoid an adverse effect on integrity on the Minsmere to Walberswick, Alde-Ore & Butley Estuaries and Sandlings European sites due to recreational disturbance. It also no longer argues that a separate SANG is necessary to avoid an adverse effect on integrity.</p>

Issue and Site where there appears to be disagreement. (RIES Report [PD-053] para reference)	Summary of SZC Co. position and where full explanation/evidence can be found.	SZC Co. comment on the position of Natural England and others
	<p>These submissions are summarised as follows (the two Monitoring and Mitigation Plans are referenced again for completeness):</p> <p>Deadline 2</p> <ul style="list-style-type: none"> - Responses to the Examining Authority's First Written Questions (ExQ1) - Volume 1 - SZC Co. Responses [REP2-100] (see chapter 6 Amenity and Recreation AR.1.3, AR.1.12) - Responses to the Examining Authority's First Written Questions (ExQ1) – Volume 3 – Appendices Part 1 of 7 Chapter 6, Appendix 6A Response to AR.1.12 [REP2-108] <p>Deadline 3</p> <ul style="list-style-type: none"> - Comments on Written Representations - Revision 1.0 [REP3-042] (refer to sections 10, 11.23 and 14.7) - Comments on Responses to Examining Authority's First Written Questions (ExQ1) - Volume 1 - SZC Co. Responses - Revision 1.0 [REP3-046] (see chapter 6 Amenity and Recreation AR.1.12) - Comments on Responses to Examining Authority's First Written Questions (ExQ1) - Volume 2 - Appendices - Revision 1.0 [REP3-047] (see Appendix 6A) <p>Deadline 5</p> <ul style="list-style-type: none"> - Written Summaries of Oral Submissions made at ISH7: Biodiversity and Ecology Parts 1 and 2 [REP5-112] (section 1.2 d) - Monitoring and Mitigation Plan for Minsmere – Walberswick and Sandlings (North) [REP5-105] - Monitoring and Mitigation Plan for Sandlings (Central) and Alde-Ore Estuary European Sites [REP5-122] - Aldhurst Farm Technical Note [REP5-126]. <p>Deadline 7</p> <ul style="list-style-type: none"> - Comments on Submissions from Earlier Deadlines and Subsequent Written Submissions to ISH1-ISH6 - Appendices Part 1 of 3 [REP7-060] <p>Deadline 8</p> <ul style="list-style-type: none"> - Informal Recreation and Green Space Proposals [REP8-135]. - Monitoring and Mitigation Plan for Minsmere – Walberswick and Sandlings (North) [REP8-087] - Monitoring and Mitigation Plan for Sandlings (Central) and Alde-Ore Estuary European Sites [REP8-087] 	
<p>Water abstraction and supply (it is noted that, due to the timing of the submission of Proposed Change 19) the RIES does not take account of desalination plant and associated Shadow HRA</p>	<p>The Water Supply Strategy Update [AS-202] considered potable water supply locally to meet the full demands of the Sizewell C Project and identified options. It explained why all potable water sources apart from a new Sizewell transfer main from Barsham Water Treatment Works had been discounted and explained this would be provided by Essex and Suffolk Water (ESW) and does not form part of the Application.</p> <p>Barsham Water Treatment Works is located in the neighbouring Northern/Central Water Resource Zone (WRZ). In order to determine whether the Northern/Central WRZ can sustainably provide the water required</p>	<p>It appears that Natural England continues to have two outstanding issues with regards to the impacts of Change 19. The first relates to the air quality impacts of the diesel generators, the second relates to the impact of the abstraction of water which will be tankered to the site prior to the desalination plant coming into operation.</p> <p>It is regrettable that Natural England was not present at ISH15 for their views to be tested and understood. Had Natural England been present at the hearing, it is expected that they would have understood that their concerns were misplaced for the following reasons.</p>

Issue and Site where there appears to be disagreement. (RIES Report [PD-053] para reference)	Summary of SZC Co. position and where full explanation/evidence can be found.	SZC Co. comment on the position of Natural England and others
Report Third Addendum HRA) (4.2.94-4.2.170)	<p>by Sizewell C, ESW are undertaking an abstraction sustainability study as part of an Environment Agency led 'Water Industry National Environment Programme' (WINEP) scheme. The WINEP Study is specifically intended to focus on the sustainability of abstraction.</p> <p>At Deadline 7, the applicant submitted details of a proposed change (new temporary infrastructure for the desalination and treatment of seawater to produce potable water suitable for construction-related activities until the Sizewell Transfer Main is delivered and operational). A Shadow HRA Report Third Addendum accompanied this change request [REP7-279] which concluded that the only European sites (with coastal, freshwater and terrestrial qualifying habitats) relevant to the scope of the assessment are the Minsmere to Walberswick Heaths and Marshes SAC and Minsmere-Walberswick Ramsar site (see items 1c and 1d).</p>	<p>First, in relation to the diesel generators, Natural England's Submission in lieu of attendance at ISH15 [EV-222] states that its primary concern is the level of detailed assessment given to air quality impacts on Minsmere and Walberswick Ramsar, SPA and SAC. Further assessment of this effect pathway was provided in [REP9-026] and, following a subsequent discussion with Natural England on 6 October 2021, this has been supplemented with assessment of combined effects of generators required for the desalination plant with other emission sources from the construction phase in a submission at Deadline 10 (Doc Ref. 9.117(B) - a revision of the Sizewell C Desalination Plant Air Impact Assessment [REP9-026], which also responds to items 15 to 17 in the Request For Further Information issued on 6 October 2021 (Doc Ref. 9.126). That assessment shows that the combined impacts of the generators will not lead to an adverse effect on the integrity of any European Site.</p> <p>Further, and in any event, another detailed submission provided at Deadline 10 explains that the construction phase generators will be subjected to further robust assessment under the environmental permitting regime which includes assessment under the Habitats Regulations (See Written Submissions arising from ISH15 (Doc Ref. 9.122)). The Environment Agency helpfully confirmed at ISH15 that they did not see any in-principle reason why the generators could not be adequately controlled via a permit. As such, the proper course is for the Secretary of State to rely upon the robust operation of the permitting regime when reaching his decision on the DCO. This is set out in further detail in the relevant submission (section 1.8 of Written Submissions arising from ISH15 (Doc Ref. 9.122)).</p> <p>Second, in relation to the water abstraction, Natural England argues that further European Sites could be impacted by abstraction depending on where the water originates from. This concern is misconceived. This DCO is not requesting permission to abstract water. SZC Co. will be no different from any other customer for water and the sites which source supply will be the subject of their own permissions and licenses and, accordingly, will have been environmentally assessed.</p> <p>In the SoCG provided to SZC Co. on 11 October 2021 Natural England has raised an issue with regards to the potential for a pipeline to supply water to SZC. The pipeline in question is not part of the development applied for as part of this DCO application. In the event that the transfer main was pursued it would be promoted by the water company and would undergo its own planning process which would include assessment under the Habitats Regulations as necessary.</p> <p>Natural England's concerns in relation to water abstraction do not give rise to any reason to refuse the DCO for reasons under the Habitats Regulations.</p>
European sites with bird qualifying features		
Changes in Air Quality – 5 European Sites (4.3.1-4.3.2) Addressed at Annex 1 and 2 – NB Annex 1 and 2 don't give detail	The position with respect to this impact pathway is summarised above for European sites with coastal, freshwater and terrestrial qualifying habitat features. Natural England does not specifically raise this issue directly in connection with potential effects on birds, but focusses on potential effects on habitats within SACs and Ramsar site which may also constitute supporting habitat for bird populations.	
Changes to coastal processes/sediment	There would be no effect on coastal processes and sediment transport for the qualifying features because of the localised spatial scale and small magnitude of predicted effect.	The response for this impact pathway provided above under the 'coastal, freshwater and terrestrial qualifying habitat features' section applies here.

Issue and Site where there appears to be disagreement. (RIES Report [PD-053] para reference)	Summary of SZC Co. position and where full explanation/evidence can be found.	SZC Co. comment on the position of Natural England and others
transport on 5 European Sites (4.3.3-4) Addressed above in relation to habitats (same considerations apply 4.2.29)	<p>The Applicant's position is set out in section 8.8 of the Shadow HRA [APP-145] and section 8.7 of the Shadow HRA Report Addendum [AS-173]. The Applicant's position is set out in section 8.8 of the Shadow HRA [APP-145] and section 8.7 of the Shadow HRA Report Addendum [AS-173].</p> <p>This impact pathway was included in the Shadow HRA Report Third Addendum that accompanied the change request for the desalination plant (referred to in item 1a) [REP7-279] (sections 8.1 a i, 8.2 b i).</p>	
Noise, light and visual disturbance – Alde Ore Estuary SPA and Ramsar – avocet, lesser black-backed gull, redshank, waterbird assemblage, wetland bird assemblage and invertebrate assemblage (4.3.11)	<p>This potential impact pathway was not screened in for LSE for the Alde-Ore Estuary SPA (and Ramsar site) in the Shadow HRA Report [APP-145] (see HRA Screening Matrix B2.1 – [APP-148]).</p> <p>The Alde-Ore Estuary SPA and Ramsar site is 6.5km from the main development site at the nearest point. The assessments for noise, light and visual disturbance clearly demonstrate that there is no potential for these effects (or their 'threshold levels') to extend more than a few hundred metres beyond the main development site boundary. It is also the case that there is no potential for such disturbance effects to arise on the Alde-Ore Estuary SPA and Ramsar site as a result of the associated developments.</p>	<p>On the basis of the SOCG presented to SZC Co. on 11th October 2021, Natural England now appears satisfied that the Applicant has considered Functionally Linked Land (FLL) for all SPA species. The only point Natural England appears to have remaining concerns over is breeding gadwall and shoveler present on the Minsmere South Levels (see following entry). On this basis, it appears Natural England is satisfied with the no AEOI conclusion for the following sites (with bird qualifying features) listed in the SOCG:</p> <ul style="list-style-type: none"> • Alde-Ore Estuary SPA. • Alde-Ore Estuary Ramsar site. • Benacre to Easton Bavents SPA. • Outer Thames Estuary SPA. • Sandlings SPA. <p>Comments relevant to the gadwall and shoveler are set out below.</p>
Noise, light and visual disturbance – Minsmere-Walberswick SPA and Ramsar Site: Generic concerns and effects on gadwall and shoveler (4.3.13-4.3.51)	<p>This potential impact pathway is assessed in Sections 8.8 and 8.9 of the Shadow HRA Report [APP-145] and section 8.3, 8.5 and 8.7 of the Shadow HRA Report Addendum [AS-173] for the Minsmere-Walberswick SPA and Ramsar Site</p> <p>This impact pathway was also included in the Shadow HRA Report Third Addendum [REP7-279] that accompanied the change request for the desalination plant (referred to in item 1a) (section 8.2 a i, 8.2 b iii).</p> <p>In relation to the Minsmere-Walberswick SPA and Ramsar site, the Applicant's conclusion is that AEoI cannot be excluded for the SPA (or Ramsar site) due to the potential effects of noise and visual disturbance on the breeding marsh harrier population (section 8.8 d) v. of the Shadow HRA Report [APP-145]. However, no adverse effects in relation to noise, light and visual disturbance are predicted in relation to all other qualifying features of this SPA (and Ramsar site). This includes the SPA breeding and non-breeding populations of gadwall and shoveler (for which NE consider there to be an insufficient basis to enable adverse effects to be ruled out). The Applicant's conclusions in this regard are set out in section 8.8 of the Shadow HRA Report [APP-145] and section 8.3, 8.5 and 8.7 of the Shadow HRA Report Addendum [AS-173].</p> <p>In relation to both the breeding and non-breeding populations of gadwall and shoveler, these conclusions draw upon the findings from several years of baseline survey data, whilst a key aspect is that the potential displacement is limited to birds on functionally linked land which would not affect the actual designated populations (or the conservation objectives relating to these qualifying features).</p> <p>The Applicant's responses to the NE comments (made in their Written Representations [REP2-153]) on the effects of noise, light and visual disturbance on the SPA breeding and non-breeding populations of gadwall and shoveler are provided in [REP3-042] at paragraphs 11.21.4 – 11.21.12 (breeding) and 11.21.13 –</p>	<p>In relation to the Minsmere-Walberswick SPA and Ramsar site, concerns have been raised by NE in relation to the adequacy of the survey data for the SPA breeding SPA and non-breeding populations of gadwall and shoveler. The overall position of NE as set out in their Written Representations [REP2-153] is that the Applicant's conclusions for these species is lacking precaution on the basis of (i) limited data (ii) uncertainties about behavioural responses 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.</p> <p>The position set out in the Written Representations [REP2-153] is largely reiterated in the updated SoCG (revision 2) [REP8-094]. Although some errors in NE's previous interpretation of the available survey data are corrected, there remains a failure to recognise and acknowledge the full suite of data that have been used to inform this part of the assessment (e.g. in relation to the 7 years of abundance data for breeding gadwall and shoveler on the Minsmere South Levels (from RSPB surveys) and Sizewell Marshes and the failure to acknowledge that a third winter of project-specific survey data were collected in 2019/20).</p> <p>Specifically, in relation to the five points on which NE base their position regarding the lack of precaution:</p> <p>(i) Limited data - as indicated above, NE has failed to acknowledge or address the extent of baseline survey data which are available and have been used in reaching the conclusion of no adverse effects.</p> <p>(ii) Uncertainties about behavioural responses of breeding birds to visual and acoustic disturbance - no evidence is provided to contest the approach and evidence base used by the Applicant (which includes application of a lower noise threshold than that established for non-breeding birds).</p>

Issue and Site where there appears to be disagreement. (RIES Report [PD-053] para reference)	Summary of SZC Co. position and where full explanation/evidence can be found.	SZC Co. comment on the position of Natural England and others
	11.21.18 (non-breeding). Additionally, a summary of the Applicant's position on the above is provided in response to question HRA.2.3 of ExQ2 submitted at Deadline 7 [REP7-051] .	<p>(iii) Compounding effects of recreational disturbance - no explanation has been given as to why it is said the conclusions of the assessment on the lack of potential for such compounding effects is invalid (see Table 3.3 and section 3.5b ii. of Appendix 1A of the Shadow HRA Report Addendum [AS-174]).</p> <p>(iv) The significant % of predicted breeding bird displacement - no explanation has been provided by NE as to why this potential displacement would affect the conservation objectives relating to the qualifying features (given that the potential displacement affects birds on functionally linked land only).</p> <p>(v) Significant increase in non-breeding birds –NE has failed to recognise that this is an erroneous interpretation of the available survey data, or to address the obvious consequences of this error (as explained in paragraph 11.21.15 of [REP3-042]).</p> <p>Perhaps most critically, the NE comments fail to address the issue that the potential displacement effects concern birds using functionally linked land only (for both the breeding and non-breeding populations). The Applicant's conclusion of no adverse effects is based upon a rationale that the potential displacement of birds on the functionally linked land would not affect the conservation objectives relating to these qualifying features. However, NE do not set out any basis for contesting this key point, nor do they provide any clear justification for why the potential displacement of birds from the functionally linked land would compromise the conservation objectives.</p> <p>Therefore, Natural England does not give any basis how their concerns could (even if justified) lead to there being a risk of an adverse effect on the integrity of a European Site. In these circumstances, Natural England's concerns cannot lead to the refusal of the DCO due to impacts on the breeding gadwall and shoveler.</p>
Noise, light and visual disturbance – Minsmere-Walberswick SPA and Ramsar site – Teal (4.3.70-4.3.73)	<p>The RSPB/SWT [REP2-506] considered that much of the South Levels would provide suitable habitat. SZC Co. responded to this point [REP3-042] responded that during annual surveys from 2010 to 2017, no breeding pairs were recorded on the Minsmere South Levels, whilst the one pair recorded on the Minsmere South Levels during the 2020 surveys was outside the area within which potential effects of noise and visual disturbance are predicted to occur. As noted by RSPB/SWT, this record from 2020 can only be regarded as 'potential breeding'. SZC Co.'s position (set out in [REP3-042]) is, therefore, that the Sizewell C Project does not have the potential to affect the ability of conservation measures to restore the Minsmere-Walberswick SPA (and Ramsar) breeding teal population (as asserted by the RSPB/SWT)</p> <p>As noted in the RIES, NE did not raise any concerns about impacts on teal.</p>	SZC Co. is not aware that RSPB/SWT has responded to this specific point about teal and, therefore, it is not possible for SZC co. to understand how the point raised by RSPB/SWT represent a real risk to the integrity of the site.
Noise, light and visual disturbance –Minsmere-Walberswick SPA and Ramsar Site – White-fronted goose (4.3.74-4.3.77)	In its Deadline 8 submission [REP8-298] , Natural England has confirmed it has no further concerns in relation to white-fronted goose (this agreement is reiterated in the SOCG provided to SZC Co. on 8 October 2021).	
Noise, light and visual disturbance –Minsmere-Walberswick SPA and Ramsar Site – Other features (4.3.78)	<p>As detailed above, this potential impact pathway is assessed in Sections 8.8 and 8.9 of the Shadow HRA Report [APP-145] and section 8.3, 8.5 and 8.7 of the Shadow HRA Report Addendum [AS-173] for the Minsmere-Walberswick SPA and Ramsar Site</p> <p>This impact pathway was also included in the Shadow HRA Report Third Addendum that accompanied the change request for the desalination plant (referred to in item 1a) [REP7-279] (section 8.2 a i, 8.2 b iii).</p>	<p>NE's Relevant Representations [RR-0878] stated that they had concerns in relation to all qualifying features of the SPA and Ramsar site as a result of noise, light and visual disturbance.</p> <p>However, for many of the qualifying features of this SPA and Ramsar site (e.g. breeding avocet, breeding nightjar and non-breeding hen harrier) there was no elaboration of these concerns and</p>

Issue and Site where there appears to be disagreement. (RIES Report [PD-053] para reference)	Summary of SZC Co. position and where full explanation/evidence can be found.	SZC Co. comment on the position of Natural England and others
	<p>For all qualifying features of the Minsmere-Walberswick SPA (and Ramsar site) other than breeding marsh harrier, no adverse effects were concluded in relation to noise, light and visual disturbance.</p>	<p>no information provided as to why the conclusions of the Shadow HRA Report [APP-145] and Shadow HRA Report Addendum [AS-173] in this regard may not be appropriate.</p> <p>In the SOCG provided to SZC Co. on 11 October 2021, Natural England appears satisfied on this point, with the only concern relating to gadwall and shoveler (covered above).</p>
<p>Noise, light and visual disturbance –Outer Thames Estuary SPA – non-breeding red-throated diver and other features (4.3.79 - 4.3.94)</p>	<p>This potential impact pathway is assessed in section 8.10 of the Shadow HRA Report [APP-145] and section 8.4 and 8.8 of the Shadow HRA Report Addendum [AS-173].</p> <p>This impact pathway was included in the Shadow HRA Report Third Addendum [REP7-279] that accompanied the change request for the desalination plant (referred to in item 1a) (sections 8.3 a ii, b ii and c ii).</p> <p>The assessments conclude no AEol of the European site.</p> <p>In relation to the non-breeding red-throated diver qualifying feature, further assessment is provided in section 11.21 b iv) of [REP3-042] and in [REP5-120] (Appendix P, section 1 v. (indirect impacts on birds from disturbance of prey species by underwater noise and vibration) and section 1 vi. (direct disturbance of birds arising from vessel movements and other marine activity)). The former relates to responses on the RSPB/SWT Written Representations [REP2-506] and the latter to responses on the NE Written Representations [REP2-153].</p> <p>One of the key concerns of Natural England (and also the RSPB/SWT) relates to potential direct disturbance to the non-breeding red-throated diver population of this SPA due to increased vessel movements associated with the deliveries to the BLFs. This is assessed in section 8.8 c) iii. of the Shadow HRA Addendum [APP-173], which concludes no adverse effect. However, in response to the concerns raised, an Outline Vessel Management Plan [REP6-027] has been prepared (with revisions submitted at Deadline 7 [REP7-046] and [REP7-047] and Deadline 8 [REP8-105] and [REP8-106] in response to comments from stakeholders). The Outline Vessel Management Plan [REP8-106] now proposes restrictions to vessel movements and routes and provides the strategy to protect the non-breeding red-throated diver population of the Outer Thames Estuary SPA from vessel movements during the winter months. It states that there must be no vessel movements through the SPA during the winter months unless a Winter Vessel Management Plan has been submitted to and approved by the MMO, pursuant to deemed marine licence Condition 31a. The final Outline Vessel Management Plan is submitted at Deadline 10 (Doc Ref. 10.23).</p>	<p>As detailed in the column to the left, NE have raised concerns in relation to the potential effects of direct disturbance from vessel movements on the non-breeding red-throated diver population of this SPA. The resulting discussions led to the production of an Outline Vessel Management Plan, the implications of which for the non-breeding (wintering) red-throated diver population of the SPA are as detailed opposite.</p> <p>Although NE also raise concerns in its Relevant Representations [RR-0878] over potential adverse effects of noise, light and visual disturbance on the other qualifying features of this SPA (i.e. the breeding little tern and breeding common tern populations), no details are provided on the actual specific reasons for these concerns or on any factors which could mean that the conclusions of the Shadow HRA Report [APP-145] and the Shadow HRA Report Addendum [AS-173] are invalid in this regard.</p> <p>At Deadline 8, Natural England maintained its position that it was not satisfied with the Outline Vessel Management Plan submitted at Deadline 7 [REP7-046] and [REP7-047]. In response to comments received, SZC Co. submitted a further revision of the Outline Vessel Management Plan [REP8-106], as described in the left hand column.</p> <p>In the SOCG provided to SZC Co. on 11 October 2021, Natural England noted that the Applicant commits to abandoning vessel movements in the winter, thereby eliminating any potential impact on the wintering red-throated diver feature at the Outer Thames Estuary SPA. Natural England states that it welcome this updated approach, set out in the Outline Vessel Management Plan [REP8-106] and has now confirmed its agreement that the project will not lead to an adverse effect on the integrity of any European Site.</p> <p>The Outline Vessel Management Plan has been updated at Deadline 10 in response to discussions with the RSPB/SWT on this point (Doc Ref. 10.23). SZC Co. understands that the Outline Vessel Management Plan now meets with RSPB/SWT approval.</p>
<p>Noise, light and visual disturbance –Sandlings SPA – Breeding nightjar and woodlark (4.3.95-4.3.100)</p>	<p>Sandlings SPA</p> <p>This potential impact pathway is assessed in section 8.11 of the Shadow HRA Report [APP-145]</p> <p>The bulk of this SPA is over 9km from the main development site and well beyond the distance at which of noise, light and visual disturbance associated with the construction of the main development site could occur. The north-west extremity of a relatively small, discrete, block of the SPA approaches to within 0.7km of the main development site, falling within the buffer zone for visual disturbance (but beyond the threshold for noise disturbance). This discrete block in its entirety (let alone the north-west extremity) holds only a small proportion of the SPA populations of the two qualifying features.</p>	<p>NE's Relevant Representations [RR-0878, Issue 27] stated that NE did not agree that an AEol as a result of noise, light and visual disturbance can be excluded for the qualifying features of this SPA. However, no details were provided to support this position nor have any details been provided as to why the conclusions of the Shadow HRA Report [APP-145] in this regard should not be accepted.</p> <p>Throughout engagement on this matter, it has not been clear to the Applicant why NE maintained a position that there was a potential effect from noise, light and visual disturbance when, based upon the assessment findings, it is clear that (with the exception of a very small part of the site) the Sandlings SPA is outside (and to a large extent distant from) the areas of land that have the potential to be affected by noise, light and visual disturbance.</p>

Issue and Site where there appears to be disagreement. (RIES Report [PD-053] para reference)	Summary of SZC Co. position and where full explanation/evidence can be found.	SZC Co. comment on the position of Natural England and others
	<p>The Shadow HRA Report [APP-145] concludes no AEol in relation to this effect pathway for this SPA. Further details concerning the justification for this conclusion are provided in [REP3-042] (section 14.5 b xi.), which sets out a response to the comments made in the RSPB/SWT Written Representations [REP2-506] concerning potential effects of noise, light and visual disturbance on the qualifying features of the Sandlings SPA.</p>	<p>It now appears from the SOCG provided to SZC Co on 11 October 2021 that Natural England has now accepted that it is satisfied on this point.</p>
<p>Entrapment of prey species and impact on birds in relation to 6 European sites listed at 4.3.104 (4.3.104-4.3.118) (noting that the RIES is incorrect in this regard and that this pathway is screened in only for the Alde-Ore Estuary SPA (and Ramsar site), Benacre to Easton Bavents SPA, Minsmere-Walberswick SPA (and Ramsar site) and Outer Thames Estuary SPA)</p>	<p>The conclusion of the Shadow HRA Report is that no AEol for any of the sites would arise.</p> <p>The Applicant's position is set out in sections 8.3, 8.4, 8.8, 8.9 and 8.10 (for each of the European sites listed) of the Shadow HRA Report [APP-145]</p> <p>This impact pathway was also included in the Shadow HRA Report Third Addendum [REP7-279] that accompanied the change request for the desalination plant (referred to in item 1a) (sections 8.1 a iii, 8.2 b iv, 8.3 a iii, b iii and c iii).</p> <p>In response to Natural England's Written Representation [REP2-153], further information was provided in section 11.24 b) iv) of [REP3-042] which details the findings of further modelling to estimate local-scale depletion of fish populations as a result of impingement, with further expansion and detail on this issue set out in section i of Appendix P of [REP5-120] in response to the comments from the RSPB / SWT Written Representations [REP2-506]. The findings from the local-scale modelling and associated work detailed in [REP3-042] and [REP5-120] (updated by [REP6-016]) support the conclusions of the Shadow HRA Report.</p> <p>At Deadline 7, SZC Co. submitted a draft Fish Impingement and Entrainment Monitoring Plan [REP7-077] summarising the intended approach to fulfil Condition 50 of the deemed marine licence (a fish impingement and entrainment monitoring plan, to be submitted to and approved by the MMO in consultation with Natural England and the Environment Agency). A final Draft Fish Impingement and Entrainment Monitoring Plan is submitted at Deadline 10 (Doc Ref. 10.7)</p>	<p>NE have previously set out concerns regarding the potential effects of this effect pathway on the qualifying features of Alde-Ore Estuary SPA (and Ramsar site), Minsmere-Walberswick SPA (and Ramsar site) and Outer Thames Estuary SPA [REP2-153]. These focussed on generalised issues over uncertainty in the fish entrapment assessment, as well as reference to comparisons with the operation of unrestricted commercial fisheries and anecdotal evidence concerning links between tern foraging success and seasonal breeding failures.</p> <p>This position was largely reiterated in the updated SoCG (revision 2) [REP8-094], with no commentary on, or detailed consideration given to, the findings of the local-scale modelling of fish depletion. This modelling demonstrates the very small magnitude of these predicted depletion levels relative to existing levels spatial and temporal variation in the abundance of the relevant fish populations. Section i of Appendix P of [REP5-120] provides a detailed justification as to why this modelling demonstrates that no significant reductions in the prey availability of qualifying bird species are anticipated.</p> <p>From the SoCG provided to SZC Co. on 11 October 2021, it appears that Natural England's only remaining concern surrounds the detail in the Fish Monitoring Plan. This has been responded to in the main body of the RIES response.</p> <p>In that Natural England's concerns now appear limited to the fish <u>monitoring</u> it can be said that their concerns cannot (even if valid) amount to there being an adverse effect on the integrity of any European Site.</p>
<p>Discharge of dead and moribund fish (4.3.119-4.3.122)</p>	<p>The RIES notes that Natural England and RSPB/SWT states that red-throated diver and terns do not forage on discards and would therefore not benefit from any discharged material.</p>	<p>SZC Co. notes the points raised by the RSPB/SWT, but would clarify that this is not relevant to the outcome of the Shadow HRA Report because it makes no reliance on birds feeding on dead and moribund fish in reaching a conclusion on AEol (i.e. it does not contain assessment of this issue). The consequential effects of dead and moribund fish on marine water quality are assessed in the Shadow HRA Report (as discussed elsewhere within this table).</p>
<p>Eels (4.3.123-4.3.124)</p>	<p>The RIES notes that concerns regarding indirect impacts on breeding bittern from entrapment of eels were raised by the EA and RSPB. As stated in Appendix B, no negative effect on the numbers of glass eels or elvers migrating through Sizewell Bay is predicted and, on this basis, no discernible impact pathway is apparent.</p>	<p>The Environment Agency [REP2-135] stated that bittern should be considered in the HRA due to this pathway, with the RSPB/SWT making the same point (specifically for the Minsmere-Walberswick SPA) [REP2-506].</p> <p>Paragraphs 1.1.28 to 1.1.32 of Appendix P of [REP5-120] presented an analysis of the predicted magnitude of effect on eels concluding that the effects were predicted to be between 0.007% and 0.024% of the River District Basin biomass, reinforcing the conclusion that there is no discernible pathway for effect on the SPAs.</p> <p>No response to the evidence provided by the Applicant on this point was received from the EA or the RSPB/SWT and, on this basis, it can be concluded that the evidence provided proving the lack of an effect pathway on breeding bittern from entrapment of prey species is robust.</p>

Issue and Site where there appears to be disagreement. (RIES Report [PD-053] para reference)	Summary of SZC Co. position and where full explanation/evidence can be found.	SZC Co. comment on the position of Natural England and others
		<p>SZC Co. does not believe this issue has been raised by Natural England in its Relevant representation or Written Representation, but during the Examination Natural England (and the Environment Agency) both noted that bittern feed on eels (in the context of potential effect on the breeding bittern of Minsmere-Walberswick SPA and Benacre to Easton Bavents SPA). In response to a direct question from the ExA (at item 5 g ii b) in the Request for Written Responses from ISH10 of [EV-188], Natural England stated [at paragraph 6.7 of [REP7-294]] that it had no further concern regarding breeding bittern and can conclude no AEol to breeding bittern at Minsmere-Walberswick SPA and Benacre to Easton Bavents SPA due to eel impingement.</p>
<p>Sand Gobies (4.3.125-4.3.126), nursery grounds (4.3.127-4.3.128) and climate change (4.3.129-4.3.130)</p>	<p>The RIES notes that the EA and RSPB raise a concern that sand gobies are prey for some bird species (seabird and non-seabird) and the impacts of entrapment of sand gobies could be potentially significant to these bird species. A similar concern was raised that impingement affecting nursery grounds could affect local prey availability, particularly for little tern.</p> <p>The RSPB/SWT also outlined concerns that climate change will result in more days per year in which entrainment temperatures are above 30°C, at which fish egg and larval stage mortality increases rapidly. RSPB/SWT was concerned that this could potentially combine with other climate pressures to negatively affect SPA seabirds.</p>	<p>The issues raised by RSPB/SWT were addressed in Appendix P of [REP5-120]. Paragraphs 1.1.33 to 1.1.35 of presented an analysis of the predicted magnitude of effect on sand gobies. This analysis concluded that the predicted level of losses are negligible at the population level and there would be no significant reduction in the prey availability.</p> <p>Paragraphs 1.1.25 to 1.1.27 of Appendix P of [REP5-120] address the potential for impingement to affect fish nursery grounds, concluding that many of the species with juvenile life stages observed at Sizewell have spawning and nursery grounds distributed over wide geographic areas and larval recruitment of fish into and out of the bay will be largely influenced by oceanographic and meteorological processes.</p> <p>Paragraphs 1.1.36 to 1.1.38 of Appendix P of [REP5-120] discuss entrainment and climate change which explains that with the exception of those species for which entrainment mimic unit (EMU) studies state a percentage survival, all other fish species and life-history stages are precautionarily assumed to incur 100% mortality in entrainment predictions.</p> <p>The RSPB/SWT did not directly comment on SZC Co.'s assessment of the above issues and has not therefore engaged with the evidence submitted by SZC Co. At Deadline 7 the RSPB/SWT provided further comment on the SZC Co.'s analysis of uncertainty in entrapment predictions [REP6-028] and consideration of potential effects on selected fish stocks (local depletion) [REP6-016] in the context of earlier concerns that an acoustic fish deterrent had not been proposed.</p>
<p>Indirect impacts on birds from disturbance of prey species by underwater noise and vibration (4.3.131-4.3.135)</p>	<p>The RIES details the concerns raised by RSPB/SWT in relation to the potential for indirect effects of underwater noise on little terns from the Minsmere-Walberswick and Outer Thames Estuary SPAs (Minsmere colony), and on non-breeding red-throated diver from the Outer Thames Estuary SPA (as detailed in [REP2-506].</p> <p>In relation to little tern, the issues raised were concerned with short-term, temporary, behavioural effects of underwater noise on the fish prey of little terns (hence why the Shadow HRA Report [APP-145] reached a conclusion of no AEol on these SPA populations). Furthermore, as noted in the RIES, the Shadow HRA Addendum makes commitment to avoid piling (and other BLF construction activities) during the little tern breeding season, so reducing the potential for indirect effects from underwater noise.</p> <p>In relation to red-throated diver, the Applicant's case for no AEol is based upon use of the best available evidence in relation to the abundance and distribution of this species within the Outer Thames Estuary SPA</p>	<p>Whilst the RSPB/SWT initially raised generalised concerns on this issue in [REP2-506] those concerns have not been justified by any evidence. Further, it does not appear that the RSPB/SWT (if these concerns are still held) have engaged with the evidence presented by SZC Co. on this matter.</p>

Issue and Site where there appears to be disagreement. (RIES Report [PD-053] para reference)	Summary of SZC Co. position and where full explanation/evidence can be found.	SZC Co. comment on the position of Natural England and others
	and on the fact that the potential for indirect effects from underwater noise extend across a very small part of the SPA (i.e. less than 1% even for temporary behavioural effects on fish). These points are noted in the RIES.	
Marine Water Quality – direct and indirect impacts on birds (4.3.140-4.3.149), as relevant to the Alde-Ore Estuary SPA (and Ramsar site), Minmere-Walberswick SPA (and Ramsar site) and Outer Thames Estuary SPA.	<p>This potential impact pathway is assessed for the SPAs (and Ramsar sites identified opposite) in Sections 8.3, 8.4, 8.8, 8.9 and 8.10 of the Shadow HRA Report [APP-145] and sections 8.6, 8.7 and 8.8 of the Shadow HRA Report Addendum [AS-173].</p> <p>This impact pathway was also included in the Shadow HRA Report Third Addendum [REP7-279] that accompanied the change request for the desalination plant referred to in item 1a) (sections 8.1 a ii, 8.2 b ii, 8.3 a i, b i and c i.</p> <p>The assessments conclude no AEoI of the European site.</p> <p>In response to Natural England's Written Representation [REP2-153], further information was provided in the following sections of [REP3-042]:</p> <ul style="list-style-type: none"> - Section 11.25 (impacts from the thermal plume) - Section 11.26 (impacts from the CDO) - Section 11.27 (impacts from the chemical plume) - Section 11.28 (impacts from drilling mud and bentonite) <p>In addition, further details and information on some of the key issues relating to the assessment of marine water quality effects were provided in response to the RSPB / SWT Written Representation. These are reported in Appendix P of [REP5-120] (section 1 ii, iii, iv). See also section 1.8 of [REP7-073] in relation to the reasons why there is considered to be no potential for direct toxic effects on SPA seabirds.</p> <p>As part of the Written Submissions arising from ISH15, SZC Co. provided further information on potential effects on marine water quality at sections 1.3, 1.4 and 1.6.</p>	<p>NE stated in its Relevant Representations [RR-0878] and Written Representations [REP2-153] that it does not agree that AEoI as a result of marine water quality effects can be excluded for the SPAs (and Ramsar sites) identified opposite.</p> <p>In relation to the potential effects from the thermal plumes, NE state that this will be managed as part of the WDA operating permit, which would be issued by the Environment Agency, and that NE has yet to be consulted on this permit and associated HRA. As such, NE require sight of further details before they can provide robust advice on potential effects to designated sites and features ([RR-0878] and [REP2-153]).([RR-0878] and [REP2-153]). A similar position is adopted in relation to the potential marine water quality effects associated with the CDO. Natural England reiterates this position in the SOCG provided to SZC Co. on 8 October 2021.</p> <p>However, the NE Written Representations [REP2-153] identify that the thermal plume may cause avoidance of the area by designated species or their prey items. In identifying this potential effect, no reference is made to the detailed assessments undertaken on the potential for such effects within the Shadow HRA [APP-145]. There is also no further elaboration of the NE position on this issue in the updated SoCG (revision 2) [REP8-094] or the SOCG at Deadline 10 (Doc Ref. 9.10.7(B)). Therefore, it does not appear that NE have given any detailed consideration to these assessments (or their conclusions). NE does not state that it has identified any inadequacies in these assessments, and nor has it provided any other reasons for considering the conclusion of no AEoI to be incorrect.</p> <p>In relation to the chemical plumes, the NE Written Representations [REP2-153] restate the position set out in their Relevant Representations [RR-0878] but also identify concerns in relation to the potential for indirect and direct effects of toxicity on the seabird qualifying features of the relevant SPAs (and Ramsar sites). No subsequent commentary on this issue has been provided by NE despite the detailed responses provided by the Applicant as to why such an effect pathway is highly unlikely (e.g. in [REP3-042], [REP5-120] and [REP7-073]). Thus, the position of NE as set out in their Written Representations [REP2-153] is largely reiterated in the updated SoCG (revision 2) [REP8-094] and the SOCG submitted presented to SZC Co. on 8 October 2021.</p> <p>Therefore, NE's position does not appear to have had regard to or engaged with the evidence presented by the Applicant on this issue. Nor does it have appropriate regard to the fact that impacts will be assessed and controlled through the permitting regime. Nor does it appear to be supported by any evidence or justification. It is noted that in the SOCG at Deadline 10 (Doc</p>

Issue and Site where there appears to be disagreement. (RIES Report [PD-053] para reference)	Summary of SZC Co. position and where full explanation/evidence can be found.	SZC Co. comment on the position of Natural England and others
		Ref. 9.10.7(B)) Natural England states “The HRA addendum does not consider any direct risks to seabirds arising from chemical discharges”, which seems to ignore the information submitted by SZC Co. on this matter (which is referred to above).
Physical interaction between species and project infrastructure (collision risk to birds due to new pylons and overhead power lines) (4.3.150-4.3.153)	This potential effect was not assessed in the Shadow HRA Report as it was not identified as a relevant pathway at the LSE screening stage. In light of Natural England's subsequent concern, the Applicant provided further analysis in Appendix D of [REP6-024], assessing the routing and height of power lines and pylons, concluding there was no realistic potential for an effect on birds that are qualifying features of these European sites.	<p>At Deadline 7 [REP 7-287], Natural England provided no response to the further information on this potential effect that was submitted by SZC Co. at Deadline 6 and simply referred to issue 7 in its Written Representation for further detailed advice.</p> <p>In the updated SoCG (revision 2) [REP8-094], NE indicated that they were still in the process of reviewing the information on this provided by the Applicant at Deadline 6, and that they are were, at that time, unable to provide an update on their position.</p> <p>SZC Co. held further discussions with Natural England on this matter in a meeting on 6 October 2021. On the basis of that meeting, SZC Co. is proposing that monitoring for line strikes will be carried out in the first instance to determine if further mitigation (such as line markers) is required. On this basis, a commitment to monitor collision rates has been included within the updated TEMMP (Doc Ref 10.28).</p> <p>In the SOCG presented to SZC Co. on 11 October 2021, Natural England acknowledged that its concerns regarding pylons and collisions have been addressed through the proposed use of line markers as mitigation and carcass searches to monitor for impacts. Natural England adds that the methodologies will need to be agreed and necessary triggers to retrofit markers, if use of markers cannot be employed at the time of construction and, on this basis, AEOI cannot be ruled out without further information.</p> <p>SZC Co. wishes to clarify that the use of line markers is a potential mitigation measure which could be implemented subject to the findings of the monitoring. This is SZC CO.'s understanding of the discussion with Natural England held on 6 October 2021.</p> <p>SZC Co.'s view is that Natural England's current position (that AEOI cannot be ruled out) is unreasonable in light of the conclusions reached in SZC Co.'s assessment and the fact that SZC Co. has agreed to the monitoring of this potential impact (which is reflected in a revision to the TEMMP), with a mitigation solution offered (and which was suggested as an example of mitigation by Natural England) in the event it is deemed necessary.</p>
Recreational disturbance on 6 European sites (4.3.154-4.3.159)	<p>The HRA has concluded no adverse effect on the integrity of these sites from this pathway because of the likely duration of effect, the location of access points relative to sensitive habitats, the small potential change in visitor numbers relative to the baseline situation, the diffuse nature of this pressure and existing management measures in place in certain locations. The relevant sections of the Shadow HRA Report [APP-145] are section 8.3 for the Alde-Ore Estuary SPA, section 8.4 for the Alde-Ore Ramsar site, section 8.8 for the Minsmere-Walberswick SPA, section 8.9 for the Minsmere-Walberswick Ramsar site and section 8.11 for Sandlings SPA, with sub-sections for each qualifying feature. The conclusions were revisited in section 2.2 and 2.3 Shadow HRA Second Addendum [REP2-032]).</p> <p>The Shadow HRA conclusion for the Minsmere European sites and the northern part of Sandlings SPA relied on mitigation being in place and this is captured in the Monitoring and Mitigation Plan for Minsmere</p>	<p>The response for this impact pathway provided above under the 'coastal, freshwater and terrestrial qualifying habitat features' section applies here.</p> <p>In summary, Natural England has confirmed that it believes that, in-combination, the suite of mitigation measures already committed to are sufficient to avoid an adverse effect on integrity on the Minsmere to Walberswick, Alde-Ore & Butley Estuaries and Sandlings European sites due to recreational disturbance. It also no longer argues that a separate SANG is necessary to avoid an adverse effect on integrity.</p>

Issue and Site where there appears to be disagreement. (RIES Report [PD-053] para reference)	Summary of SZC Co. position and where full explanation/evidence can be found.	SZC Co. comment on the position of Natural England and others
	<p>- Walberswick and Sandlings (North) European site (Annex U to the Deed of Obligation (Doc Ref. 10.4).</p> <p>A Monitoring and Mitigation Plan for Sandlings (Central) and Alde-Ore Estuary (Annex V to the Deed of Obligation (Doc Ref. 10.4)) has also been prepared; however, the Shadow HRA did not rely on mitigation being in place in reaching a no adverse effect on integrity conclusion for the Alde-Ore Estuary SPA and Ramsar site, and did not consider that mitigation was needed for the central part of the Sandlings SPA. This plan was submitted at Deadline 5.</p> <p>The Applicant is seeking to reach agreement with Natural England, the RSPB/SWT, National Trust and Forestry England on the above plans.</p> <p>In addition to the documents referred to above, a series of submissions have been made to the Examination which respond to comments made by Interested Parties on various elements of the supporting evidence base and which are relevant to this impact pathway and which have informed the assessment conclusions. These submissions are summarised as follows (the two Monitoring and Mitigation Plans are referenced again for completeness):</p> <p>Deadline 2</p> <ul style="list-style-type: none"> - Responses to the Examining Authority's First Written Questions (ExQ1) - Volume 1 - SZC Co. Responses [REP2-100] (see chapter 6 Amenity and Recreation AR.1.3, AR.1.12) - Responses to the Examining Authority's First Written Questions (ExQ1) – Volume 3 – Appendices Part 1 of 7 Chapter 6, Appendix 6A Response to AR.1.12 [REP2-108] <p>Deadline 3</p> <ul style="list-style-type: none"> - Comments on Written Representations - Revision 1.0 [REP3-042] (refer to sections 10, 11.23 and 14.7) - Comments on Responses to Examining Authority's First Written Questions (ExQ1) - Volume 1 - SZC Co. Responses - Revision 1.0 [REP3-046] (see chapter 6 Amenity and Recreation AR.1.12) - Comments on Responses to Examining Authority's First Written Questions (ExQ1) - Volume 2 - Appendices - Revision 1.0 [REP3-047] (see Appendix 6A) <p>Deadline 5</p> <ul style="list-style-type: none"> - Written Summaries of Oral Submissions made at ISH7: Biodiversity and Ecology Parts 1 and 2 [REP5-112] (section 1.2 d) - Monitoring and Mitigation Plan for Minsmere – Walberswick and Sandlings (North) [REP5-105] - Monitoring and Mitigation Plan for Sandlings (Central) and Alde-Ore Estuary European Sites [REP5-122] - Aldhurst Farm Technical Note [REP5-126]. <p>Deadline 7</p> <ul style="list-style-type: none"> - Comments on Submissions from Earlier Deadlines and Subsequent Written Submissions to ISH1-ISH6 - Appendices Part 1 of 3 [REP7-060] <p>Deadline 8</p>	

Issue and Site where there appears to be disagreement. (RIES Report [PD-053] para reference)	Summary of SZC Co. position and where full explanation/evidence can be found.	SZC Co. comment on the position of Natural England and others
	<ul style="list-style-type: none"> - Informal Recreation and Green Space Proposals [REP8-135]. - Monitoring and Mitigation Plan for Minsmere – Walberswick and Sandlings (North) [REP8-087] - Monitoring and Mitigation Plan for Sandlings (Central) and Alde-Ore Estuary European Sites [REP8-087] 	
Combined marine impacts on red throated divers of the Outer Thames Estuary SPA, terns of Minsmere-Walberswick SPA and Alde Ore Estuary (4.3.160-4.3.162)	As stated in the REIS, SZC Co. has addressed combined effects of the project in Appendix 1A of the Shadow HRA Addendum [AS-174] and disagrees with the RSPB/SWT that individual effects have been underestimated or that there is insufficient detail known regarding synergistic issues.	<p>The RSPB/SWT's position set out in the Statement of Common Ground at Deadline 9 [REP9-019] is that the assessment is still limited in this respect, with further engagement planned prior to submission of final version of the Statement of Common Ground at Deadline 10 (Doc Ref. 9.10.24(B)). The RSPB/SWT's justification for this position is stated as:</p> <ul style="list-style-type: none"> • where they disagree with the level of significance attributed to single impacts, this means the impact when combined with others is also underestimated. • where impacts considered insignificant alone are not considered further this disregards potential for additive and/or synergistic effects. <p>As stated, SZC CO. does not believe that individual effects have been underestimated or that there is insufficient detail known regarding synergistic issues. The RSPB/SWT has not provided further comment on specific areas of disagreement and therefore SZC Co. is unable to provide further response to their concerns.</p>
European sites with marine mammal qualifying features		
Underwater noise and the MMMP (4.4.3-4.4.11)	<p>This potential impact pathway is assessed in section 9.4 b, 9.5 b and 9.6 b of the Shadow HRA Report [APP-145] and section 9.2 c-g, 9.3 a, 9.4 a and 9.5 a of the Shadow HRA Report Addendum [AS-173]. This impact pathway was included in the Shadow HRA Report Third Addendum [REP7-279] that accompanied the change request for the desalination plant (sections 9.1 a ii, 9.2 a ii, 9.3 a ii, 9.4 ii). It is concluded that there is no change to the assessment in the Shadow HRA Report [APP-145] and Shadow HRA Addendum [AS-173] (i.e. It is concluded that there is no change to the assessment in the Shadow HRA Report [APP-145] and Shadow HRA Addendum [AS-173] (i.e. no adverse effect on integrity).</p> <p>The implementation of the Marine Mammal Mitigation Protocol (MMMP) and the low energy impact piling or the use of the hydrohammer would reduce the risk of auditory injury in marine mammals during piling.</p> <p>A draft MMMP was submitted as part of the Application (Appendix 22N to Volume 2, Chapter 22 of the ES (Doc Ref. 6.3) [APP-331]). The draft MMMP has been updated to reflect the revised marine freight options (BEEMS Technical Report TR509 v5 [REP3-019]) and the underwater noise effect assessment for the Sizewell C revised marine freight options [REP5-124] submitted at Deadline 5. A final Draft MMMP is submitted at Deadline 10 (Doc Ref. 10.8).</p> <p>It is important to note the draft MMMP is a draft which outlines the approach to mitigation to reduce the risk of permanent auditory injury in marine mammals during piling. The final MMMP will be developed in the pre-construction period and based upon best available information, latest guidance and detailed project design. The final MMMP for piling will be developed in consultation with the MMO and Natural England, and as outlined in the condition for securing the MMMP, will have to be approved by the MMO before piling can commence.</p>	<p>As outlined in Natural England's Submission in lieu of attendance at Issue Specific Hearing 10 (ISH10) Biodiversity and Ecology [EV-160], Natural England agrees with the assessment that there will be no adverse effect on integrity of the Humber Estuary SAC and The Wash and North Norfolk Coast SAC due to noise, light and visual disturbance.</p> <p>As outlined in 4.4.6 of the RIES, NE [REP2-153] welcomed the use of a hydrohammer and was satisfied that noise increases could be successfully mitigated by the 500m mitigation zone outlined in the MMMP.</p> <p>As outlined in 4.4.6 of the RIES, at Deadline 7, the Applicant updated the DCO [REP7-006v] to require the MMMP to be submitted to and approved by the MMO to be in general accordance with the draft (DCO Version 8, Part, Paragraph 40(2)(b)). The MMMP was also listed as a certified document in Schedule 22 of the dDCO.</p>

Issue and Site where there appears to be disagreement. (RIES Report [PD-053] para reference)	Summary of SZC Co. position and where full explanation/evidence can be found.	SZC Co. comment on the position of Natural England and others
	<p>Measures for securing mitigation of marine mammals are provided by Condition 40 (2) (a) of the deemed Marine Licence) which has an obligation to submit a Marine Mammal Mitigation Protocol (MMMP) to be approved by the MMO. A final Draft MMMP is submitted at Deadline 10 (Doc Ref. 10.8)</p> <p>The Applicant's position is that the implementation of the MMMP and the use of the low energy impact piling or the use of the hydrohammer would reduce the risk of auditory injury in marine mammals during piling and there would be no adverse effect on integrity of European sites with marine mammal qualifying features (Humber Estuary SAC, Southern North Sea SAC and The Wash and North Norfolk SAC).</p>	
Effects on Prey Species – Humber Estuary SAC and the Wash and the North Norfolk Coast SAC (4.4.12-4.4.14)	<p>This potential impact pathway is assessed in section 9.4 cii and 9.6 cii of the Shadow HRA Report [APP-145], and section 9.1 of the Shadow HRA Report Addendum [AS-173].</p> <p>This impact pathway was included in the Shadow HRA Report Third Addendum [REP7-279] that accompanied the change request for the desalination plant (sections 9.1 a iv, 9.3 a iv, 9.4 iv). It is concluded that there is no change to the assessment in the Shadow HRA Report [APP-145] and Shadow HRA Addendum [AS-173] (i.e. It is concluded that there is no change to the assessment in the Shadow HRA Report [APP-145] and Shadow HRA Addendum [AS-173] (i.e. no adverse effect on integrity).</p> <p>In relation to marine mammal prey species, the 'Consideration of potential effects on selected fish stocks at Sizewell' report submitted at Deadline 6 [REP6-016] determined that 'local depletion due to impingement is orders of magnitude below natural variability in abundance to which predator-prey relationships are adapted to'. It is therefore concluded that impingement from Sizewell B and Sizewell C would not have any adverse food-web effects on harbour porpoise from the Southern North Sea SAC, grey seal from the Humber Estuary SAC and harbour seal from The Wash and North Norfolk SAC.</p> <p>Therefore, there is no change to the assessment in the Shadow HRA Report [APP-145] and Shadow HRA Addendum [AS-173], that there will be no adverse effect on the integrity of SACs with marine mammal qualifying features from the potential loss of prey species.</p> <p>The Applicant's position is that there would be no adverse effect on integrity of these European sites due to effect on prey species.</p>	<p>In Natural England's Response to The Examining Authority's Request for Written Responses from Issue Specific Hearing 10 [REP7-294], the following is stated:</p> <p>4.4. Natural England advised the Applicant that there existed a credible impact pathway to Likely Significant Effect (LSE) from noise, light and visual disturbance of grey seal from The Humber Estuary SAC and common seal from The Wash and North Norfolk Coast SAC, and should therefore be taken forward to the Appropriate Assessment (AA) stage of the Applicant's shadow HRA.</p> <p>4.5. Upon reviewing the Applicant's AA for these species and sites in their shadow HRA, we are satisfied and agree with their conclusion of no AEoI to these sites for these features.</p>
Underwater noise – Humber Estuary SAC and the Wash and the North Norfolk Coast SAC (4.4.15-4.4.16)	<p>As outlined above, this potential impact pathway is assessed in section 9.4 b and 9.6 b of the Shadow HRA Report [APP-145], and section 9.2 c-g, 9.4 a and 9.5 a of the Shadow HRA Report Addendum [AS-173]. This impact pathway was included in the Shadow HRA Report Third Addendum [REP7-279] that accompanied the change request for the desalination plant (sections 9.1 a ii, 9.3 a ii, 9.4 ii). It is concluded that there is no change to the assessment in the Shadow HRA Report [APP-145] and Shadow HRA Addendum [AS-173] (i.e. It is concluded that there is no change to the assessment in the Shadow HRA Report [APP-145] and Shadow HRA Addendum [AS-173] (i.e. no adverse effect on integrity).</p> <p>The Applicant's position is that there would be no adverse effect on integrity of these European sites due to underwater noise.</p>	<p>As outlined in Natural England's Submission in lieu of attendance at Issue Specific Hearing 10 (ISH10) Biodiversity and Ecology [EV-161], Natural England agrees with the assessment that there will be no adverse effect on integrity of the Humber Estuary SAC and The Wash and North Norfolk Coast SAC due to noise, light and visual disturbance.</p> <p>In Natural England's Response to The Examining Authority's Request for Written Responses from Issue Specific Hearing 10 [REP7-294], the following is stated:</p> <p>4.4. Natural England advised the Applicant that there existed a credible impact pathway to Likely Significant Effect (LSE) from noise, light and visual disturbance of grey seal from The Humber Estuary SAC and common seal from The Wash and North Norfolk Coast SAC, and should therefore be taken forward to the Appropriate Assessment (AA) stage of the Applicant's shadow HRA.</p> <p>4.5. Upon reviewing the Applicant's AA for these species and sites in their shadow HRA, we are satisfied and agree with their conclusion of no AEoI to these sites for these features.</p>

Issue and Site where there appears to be disagreement. (RIES Report [PD-053] para reference)	Summary of SZC Co. position and where full explanation/evidence can be found.	SZC Co. comment on the position of Natural England and others
Loss of foraging habitat – Southern North Sea SAC (4.4.17-4.4.18)	<p>This potential impact pathway is assessed in section 9.5c and 9.5 dii of the Shadow HRA Report [APP-145] and section 9.1 of the Shadow HRA Report Addendum [AS-173].</p> <p>This impact pathway was included in the Shadow HRA Report Third Addendum [REP7-279] that accompanied the change request for the desalination plant (sections 9.2 a iii and 9.2 a iv). It is concluded that there is no change to the assessment in the Shadow HRA Report [APP-145] and Shadow HRA Addendum [AS-173] (i.e. It is concluded that there is no change to the assessment in the Shadow HRA Report [APP-145] and Shadow HRA Addendum [AS-173] (i.e. no adverse effect on integrity). The Applicant's position is that there would be no adverse effect on integrity of the Southern North Sea SAC due to effect on any prey species.</p>	<p>In Natural England's Response to the Examining Authority's Request for Written Responses from Issue Specific Hearing 10 [REP7-294], the following is stated:</p> <p><i>4.9. In light of the updated assessments of prey species impingement provided by the Applicant, Natural England do not have concerns about loss of foraging area for harbour porpoise in the Southern North Sea SAC, and agree with the Applicant's conclusion of no AEol from this impact pathway for this species</i></p>
Physical interaction with project infrastructure – collision – Southern North Sea SAC (4.4.19-4.4.21)	<p>This potential impact pathway is assessed in section 9.5d of the Shadow HRA Report [APP-145] and section 9.2h of the Shadow HRA Report Addendum [AS-173].</p> <p>This impact pathway was included in the Shadow HRA Report Third Addendum [REP7-279] that accompanied the change request for the desalination plant (section 9.2 a iv). It is concluded that there is no change to the assessment in the Shadow HRA Report [APP-145] and Shadow HRA Addendum [AS-173] (i.e. This impact pathway was included in the Shadow HRA Report Third Addendum [REP7-279] that accompanied the change request for the desalination plant (section 9.2 a iv). It is concluded that there is no change to the assessment in the Shadow HRA Report [APP-145] and Shadow HRA Addendum [AS-173] (i.e. no adverse effect on integrity).</p> <p>The Applicant's position is that there would be no adverse effect on integrity of the Southern North Sea SAC due to effect on any prey species.</p>	<p>As outlined in Natural England's Deadline 5 Submission - Other - Natural England's Written Summary of Oral Representations made at Issue Specific Hearing 7: Biodiversity and Ecology on 15th and 16th July 2021 [REP7-294], with respect to collision risk/physical interaction between species and project infrastructure, Natural England states: <i>"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.</i></p>
Underwater noise – Southern North Sea SAC (4.4.22-4.4.30)	<p>This potential impact pathway is assessed in section 9.5 b of the Shadow HRA Report [APP-145], and section 9.2 c-g and 9.4 a of the Shadow HRA Report Addendum [AS-173].</p> <p>This impact pathway was included in the Shadow HRA Report Third Addendum [REP7-279] that accompanied the change request for the desalination plant (sections 9.2 a ii and 9.4 ii). It is concluded that there is no change to the assessment in the Shadow HRA Report [APP-145] and Shadow HRA Addendum [AS-173] (i.e. It is concluded that there is no change to the assessment in the Shadow HRA Report [APP-145] and Shadow HRA Addendum [AS-173] (i.e. no adverse effect on integrity).</p> <p>As outlined above, RIES 4.4.3-4.4.11, the implementation of the MMMP and the low energy impact piling or the use of the hydrohammer would reduce the risk of auditory injury in marine mammals, including harbour porpoise, during piling. A final Draft MMMP is submitted at Deadline 10 (Doc Ref. 10.8) and is secured pursuant to DML Condition 40.</p> <p>The Site integrity Plan (SIP) for SNS SAC [AS-178] has been produced to ensure there is no significant disturbance of harbour porpoise as a result of underwater noise from the Sizewell C Project in-combination with other plans and projects, so that there is no potential for an adverse effect on the integrity of the SNS SAC in relation to the conservation objectives for harbour porpoise.</p> <p>The draft SIP was updated and submitted at Deadline 8 [REP8-047] based on NE comments in Deadline 7 Submissions [REP7-142] and the latest Underwater Noise Report ([REP5-124]).</p> <p>The updated draft SIP submitted at Deadline 8 [REP8-047] indicates, that based on current information, that the most likely in-combination scenarios, based on impact piling of the BLFs, will not have an adverse effect</p>	<p>The draft SIP was updated and submitted at Deadline 8 [REP8-047] to respond to NE comments in Deadline 7 Submissions [REP7-142], this included:</p> <ul style="list-style-type: none"> • Clarifying that the current version of the SIP is draft and final version of the SIP to the MMO prior to offshore construction work commencing (pursuant to DML Condition 40). The final SIP will be developed in consultation with the MMO and Natural England. • Clarifying the position on unexploded ordnance (UXO) and the SIP, that it has been agreed with the MMO that any UXO clearance, if required, should be a separate Marine License, as there is currently insufficient information for it to be included in the DCO Application and is therefore not included in the SIP. • Amending errors to the cross-reference links. • Clarifying that the piling area for the BLFs were based on the worst-case piling locations, taking into account overlap of the maximum potential area in the SNS SAC and proximity to land. • Revising the number of piling days in the updated SIP to reflect the number of piling days in the latest Underwater Noise Report [REP5-124] submitted at Deadline 5. <p>As stated, the SIP for SNS SAC has been produced to ensure there is no significant disturbance of harbour porpoise as a result of underwater noise from the Sizewell C Project in-combination with other plans and projects, so that there is no potential for AEol of the SNS SAC in relation to the conservation objectives for harbour porpoise. SZC Co.'s believes that the SIP represents a mechanism to ensure no AEol on the SNS SAC and to comprehensively address NE's concerns. A final Draft SIP is submitted at Deadline 10 (Doc Ref. 10.11) secured pursuant to DML Condition 40</p>

Issue and Site where there appears to be disagreement. (RIES Report [PD-053] para reference)	Summary of SZC Co. position and where full explanation/evidence can be found.	SZC Co. comment on the position of Natural England and others
	<p>on the integrity of the SNS SAC. In addition, the use of low energy impact piling or the hydrohammer to reduce noise levels during piling of the BLFs would reduce the disturbance of harbour porpoise.</p> <p>The updated in-combination assessments in the updated SIP [REP8-047], based on worst-case of 60 piling days in the winter period in the winter area of the SNS SAC, would not exceed 20% of the winter area on any given day, or exceed an average of 10% of the winter area during the winter season. Therefore, there is no potential for adverse effect on the integrity of the SNS SAC in relation to the Conservation Objectives for harbour porpoise for potential in-combination effects during piling for the Sizewell C Project.</p> <p>Assessments in the SIP are based on worst-case and recommended EDR for pin-piles without mitigation.</p> <p>A final Draft SIP is submitted at Deadline 10 (Doc Ref. 10.11) secured pursuant to DML Condition 40. A final SIP will be produced in general accordance with the draft SIP [REP8-047], and will be submitted to the MMO for its approval prior to the commencement of impact piling associated with the BLF. The final SIP will include any updated information on management measures, advice or guidance for the SNS SAC, final design of the project and the in-combination assessment will be revised based on the latest information and scheduling of works for other plans and projects. The final SIP will be developed in consultation with the MMO and Natural England.</p>	<p>In the SOCG at Deadline 10 (Doc Ref. 9.10.7(B)), Natural England states that further work is still required on the draft Southern North Sea SAC SIP to clarify the potential piling scenarios being assessed, particularly whether piling is concurrent or sequential and exactly what the worst case is for each scenario. SZC Co. is not clear why Natural England considers further work is required given that the SIP provides an assessment of the potential worst-case effects of piling and noting that the SIP will be finalised to contain the details as set out in the left hand column.</p>
In combination effects (4.4.31)	<p>As outlined above, the SIP for SNS SAC [REP8-047] has been produced to ensure there is no significant disturbance of harbour porpoise as a result of underwater noise from the Sizewell C Project in-combination with other plans and projects, so that there is no potential for an adverse effect on the integrity of the SNS SAC in relation to the conservation objectives for harbour porpoise.</p> <p>The updated in-combination assessments in the updated SIP [REP8-047], based on worst-case of 60 piling days in the winter period in the winter area of the SNS SAC, would not exceed 20% of the winter area on any given day, or exceed an average of 10% of the winter area during the winter season. Therefore, there is no potential for adverse effect on the integrity of the SNS SAC in relation to the Conservation Objectives for harbour porpoise for potential in-combination effects during piling for the Sizewell C Project.</p> <p>Assessments in the SIP are based on worst-case and recommended EDR for pin-piles without mitigation. A final Draft SIP is submitted at Deadline 10 (Doc Ref. 10.11) secured pursuant to DML Condition 40.</p>	<p>As outlined in 4.4.31 of the RIES, NE advised [RR-0878][REP2-153][RR-0878][REP2-153] that until the mechanism by which the SIPs will be managed, monitored and reviewed is developed, it is unable to advise that this approach is sufficient to address the in combination impacts and therefore the risk of AEoI of the SNS SAC cannot be fully ruled out.</p> <p>This is aimed at the MMO to implement a mechanism by which the SIPs will be managed and monitored, and is outwith the scope of the Applicant. However, as noted above, the development of the SNS SAC SIP represents a mechanism by which Natural England should be content that no AEoI will occur. It is not within the power of the Applicant to propose or implement a mechanism by which the SIPs will be managed and monitored.</p>
European sites with migratory fish qualifying features		
Humber Estuary SAC – Migratory Fish (4.5.1-4.5.46)	<p>The Shadow HRA concludes that an adverse effect on the integrity of the Humber Estuary SAC and mainland European sites can be excluded on the basis of the very low proportion of the sea and river lamprey population (for the Humber Estuary SAC) and twaite shad population (for mainland European sites) that would be affected.</p> <p>The Applicant's position is set out in section 10.3 and 10.5 of the Shadow HRA Report [APP-145], with further assessment in section 10.2 and 10.4 of the Shadow HRA Report Addendum [AS-173] (which, in light of comments made by the Environment Agency in its Relevant Representation [RR-0373], included assessment of additional mainland European sites to those assessed in [APP-145] for twaite shad).</p> <p>A series of further submissions have been made of relevance to this impact pathway by SZC Co., summarised as follows:</p>	<p>In the ExA's Request for Written Responses from ISH10, the ExA asked Natural England the direct question at item 5 g ii b of [EV-188]:</p> <p><i>"In particular, the Applicant has explained that an EAV of 1 has been used for river lamprey and European eel and that this is the maximum theoretical number that could be applied.</i></p> <p><i>On this basis, could Natural England (and the Environment Agency where appropriate):</i></p> <ul style="list-style-type: none"> • <i>Comment on whether it still has concerns about the EAV applied to river lamprey and European eel?</i> • <i>Confirm its position in relation to AEoIs to river lamprey of the Humber Estuary SAC?"</i>

Issue and Site where there appears to be disagreement. (RIES Report [PD-053] para reference)	Summary of SZC Co. position and where full explanation/evidence can be found.	SZC Co. comment on the position of Natural England and others
	<ul style="list-style-type: none"> Appendix P of [REP5-120], providing a summary of the application of equivalent adult values (EAV) and the justification of its appropriateness in predicting losses due to entrainment and impingement. Appendix F of [REP6-024], providing further evidence related to the application of EAV and a comparison of this loss with the relevant spawning stock or population. An update to the local effects assessment was submitted at Deadline 6 [REP6-016] to address stakeholder comments and re-run the assessment with more detail added to each of the species stock area assessments. At Deadline 6, [REP6-028] was submitted which quantified the uncertainty in entrapment predictions and acknowledged that the effectiveness of the LVSE intake heads is not certain. For this reason, the assessment assumed no benefit from the LVSE heads. With respect to Acoustic Fish Deterrent (AFD), SZC CO. submitted [REP5-123] which explained that safe installation of an AFD system was not feasible due to high turbidity and velocities. A draft Fish Impingement and Entrainment Monitoring Plan was submitted at Deadline 7 [REP7-077]. A final Draft Fish Impingement and Entrainment Monitoring Plan is submitted at Deadline 10 (Doc Ref. 10.7). <p>This impact pathway was included in the Shadow HRA Report Third Addendum [REP7-279] that accompanied the change request for the desalination plant (referred to in item 1a). It is concluded that there is no pathway for effect on European sites with migratory fish qualifying features due to the proposed change, and the conclusions of the Shadow HRA Report (Doc Ref. 5.10) [APP-145] as updated in the first Shadow HRA Addendum (Doc Ref. 5.10) [AS-178], are unchanged.</p>	<p>Natural England responded to this question in [REP7-294] stating (at paragraph 6.6) that “<i>while we do have concerns around eels and lamprey as critically endangered species, we defer to the Environment Agency as the competent authority for the Eel Regulations 2009</i>”.</p> <p>This response fails to respond directly to the ExA’s question, particularly the second bullet of the question which is directly relevant to understanding Natural England’s position with respect to the Humber Estuary SAC.</p> <p>In the SOCG provided to SZC Co. on 8th October 2021, Natural England stated that it welcomed the provision of a Fish Monitoring Plan and noted that it had provided detailed comment at Deadline 8 [REP8-298e]). However, Natural England advised that there is not enough detail regarding future monitoring at Sizewell C over the proposed operational lifetime of the station and that there is a lack of detail regarding what the contingency plan is if there proves to be a significant difference between predicted and actual fish mortality.</p> <p>A response to Natural England’s concerns with regards to fish monitoring is set out in section 4 of the main RIES Response. As Natural England’s objection is now limited to the monitoring strategy it appears that they must be content that there will be no adverse impact on the integrity of any European Site as a result of the entrapment of migratory fish.</p> <p>If it is the case that Natural England is maintaining an in-principle concern or objection on this issue then it can be noted that Natural England has not clearly explained how their concerns could amount to an adverse effect on the integrity of the Humber Estuary SAC.</p>
Water quality impacts on sea and river lamprey (4.5.47-4.5.50)	<p>It is noted that paragraphs 4.5.47 to 4.5.50 of the RIES discuss water quality effects on migratory fish and include (at paragraph 4.5.49) reference to SZC Co.’s response [REP2-071] to Natural England’s Issue 31 of its SOCG. To clarify, the response provided in [REP2-071] referred to the Alde-Ore Estuary because that estuary is designated as SAC (the Alde-Ore and Butley Estuaries SAC) and is the closest estuarine SAC to the Sizewell C Project (the relevance to this impact pathway being that the temperature thresholds relate to any area designated as SAC for estuary or embayment habitat and/or salmonid species). As noted in the RIES, the extent of the Sizewell C thermal plume alone does not intersect with the SAC and is located over 12 km to the north of the SAC.</p> <p>In addition, it is important to note that the Alde-Ore and Butley Estuaries SAC does not have any migratory fish qualifying features. The closest SAC with migratory fish qualifying features that was scoped into the Shadow HRA is the Humber Estuary SAC (sea and river lamprey), located approximately 163km from the Sizewell C Project. It is for this reason that the Shadow HRA Report [APP-145] concluded there was no discernible impact pathway (for water quality effect, including the thermal and chemical plume) due to distance of the Humber Estuary SAC from the Sizewell C Project.</p> <p>Other SACs with migratory fish qualifying features are more distant and located in mainland Europe. While these were assessed in the Shadow HRA process, they are not covered in the RIES.</p>	<p>Natural England has stated that the thermal plume may form a barrier to migration for some species [REP2-071]. Natural England’s position in relation to the Humber Estuary SAC (this being the only SAC with migratory fish qualifying features for which Natural England has a residual concern) is not clear because it groups several other European sites under this impact pathway and does not specifically reach a conclusion with respect to migratory fish for the Humber Estuary SAC. For this reason, SZC Co.’s opinion is that Natural England’s position on the Humber Estuary SAC is a generalised concern and Natural England has not provided sufficient justification as to why it cannot exclude AEOI on the Humber Estuary SAC given the considerable distance of the SAC from the thermal and chemical plume.</p> <p>SZC Co reiterates that, in its opinion, there is no discernible water quality impact pathway to the Humber Estuary SAC (or any mainland European site scoped into the Shadow HRA, noting that mainland European site are not covered in the RIES).</p> <p>It is unclear from the SoCG which Natural England provided to SZC Co. on 11 October 2021 whether it retains any concern in relation to water quality effects on migratory fish.</p>