



The Planning Act 2008

Sizewell C (SZC)

Planning Inspectorate Reference EN010012

Deadline 8: *24 September 2021*

Written Summary of Oral Case

Issue Specific Hearing 11 Flooding, Water and Coastal Processes 14 September 2021

20026200 East Suffolk Council

<p>Issue Specific Hearing 11 (ISH11) on Flooding, Water and Coastal Processes.</p> <p>Reference will be made in Agenda items to the Applicant’s and IP’s responses to ExQ1 and ExQ2, the comments on those responses and all written representations up to Deadline 7.</p>	
<p>Agenda Item</p>	<p>East Suffolk Council Submissions</p>
<p>1. Introductions</p>	<p>Speakers on behalf of East Suffolk Council (ESC):</p> <p>Isabella Tafur, Barrister</p> <p>Paul Patterson, Senior Coastal Engineer, East Suffolk Council</p>
<p>2. Water Supply</p> <p>The Water Supply Strategy and the availability of both potable and non-potable water to meet the full demands of the Project with particular regard to the early years of construction.</p>	<p>The Applicant has confirmed that a proportion of the potable water created by the desalination plant will be destined for domestic use (that is to say drinking, washing, cooking and such) and therefore as a surface water source non-mains supply would fall within the scope of the Private Water Supply Regulations 2016 most likely as a Regulation 9 supply.</p> <p><i>“Large supplies and supplies as part of a commercial or public activity</i></p> <p><i>9. —(1) Paragraph (2) applies in the case of a private water supply (other than a supply specified in regulation 8) that—</i></p> <p><i>(a)supplies an average daily volume of water of 10m3 or more, or</i></p> <p><i>(b)supplies water as part of a commercial or public activity.</i></p> <p><i>(2) Where this paragraph applies, the local authority must monitor for any parameter in Parts 1 and 2 of Schedule 1 in accordance with Schedule 2 and carry out any additional monitoring that the risk assessment shows to be necessary.”</i></p>

The Applicant has further stated that water will be imported to the site by tanker which will also fall within the scope of the Private Water Supply Regulations 2016, if this is to form part of a temporary supply the Applicant should also pay due regard to *BS8551:2015 - Provision and management of temporary water supplies and distribution networks (not including provisions for statutory emergencies). Code of practice.*

As a Private Water Supply of this type it will be regulated by ESC as per Regulation 9(2) above to ensure that it remains a wholesome supply, as defined by the Private Water Supply Regulations 2016, and we will be engaging with the Applicant further on this matter in the event the supply is confirmed.

We note the Applicant now proposes a temporary desalination in order to ensure a water supply to the site during construction. The decision-maker will also need to be satisfied that there is a solution to the operational water needs of the Project and that the impacts of that solution have been properly assessed.

In respect of the temporary desalination plant, ESC has provided a response to , to the Applicant's recent consultation on this, which was as follows:

ESC have reviewed the Proposed Change 19 Consultation Documentation, we note that the Applicant proposes the change to be non-material. The proposed desalination plant will extract 10 million litres of sea water a day, keep 3 million litres of freshwater and pump back 7 million litres of concentrated sea water. It is not clear to ESC if this addition is a non-material change, but it may be that any potential impacts introduced by the temporary desalination plant will not dominate those generated by the overall development site when taken as a whole. ESC would welcome further clarity on this from the Applicant.

We provide you with the following comments and questions in relation to coastal processes, ecology and environmental protection matters:

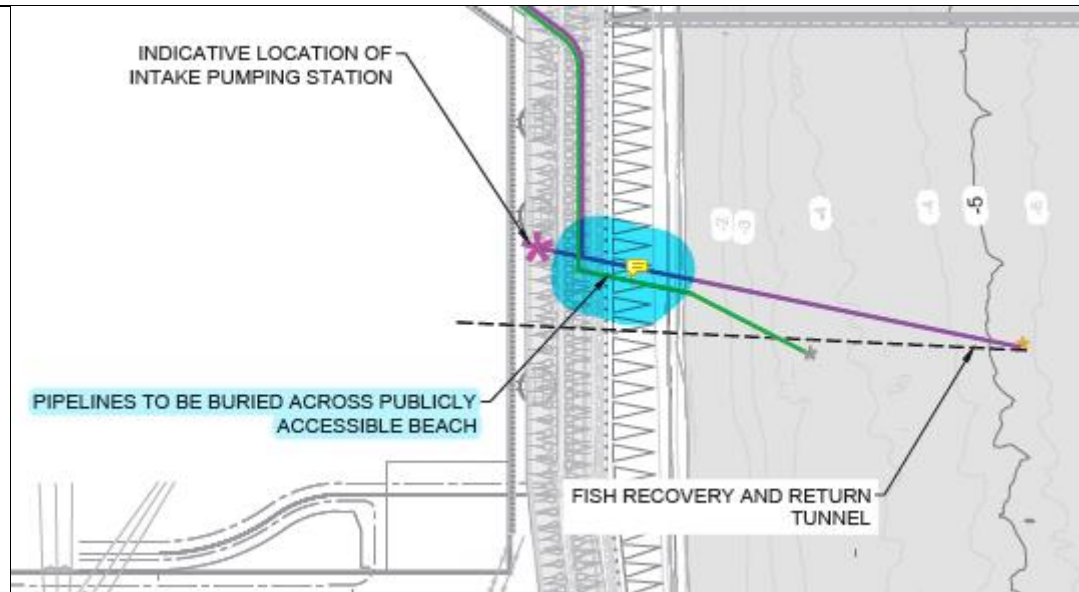
Coastal Processes

ESC do not consider that this proposal would introduce a significant negative impact on coastal geomorphology or coastal processes. We note that the proposal includes intake and brine outfall pipework which is due to be 'installed under the beach and under the seabed using a trenchless construction method such as Horizontal Directional Drilling (HDD) or similar' (2.3.17). Section 2.3.20 states: 'The flow velocities within the 35cm diameter pipeline would be between 1.1- 1.7m/s'. We note that with an assumed internal diameter of 0.35m and an average flow velocity of 1.4m/s, the throughput would be calculated as follows - Area x Flow Speed = $[3.142 \times (0.35/2)^2] \times 1.4 = \sim 0.135\text{m}^3/\text{s}$ which is equivalent to 11,640 m³/day (~11.6 million l/day). With a forecast water demand of 2,500 to 4,000 m³/day it is apparent that there would be a sufficient supply. However, we would like to understand why there is an excess capacity in relation to the peak daily requirement. Our understanding is that more detail will be provided as part of the DCO application process and we look forward to reviewing this material in due course.

*The proposed pipeline installation is due to be located below both the beach and the seabed, however we would like to understand how deep this will be. It is also noted that the desalinisation plant may be retained for the duration of the construction period in reference to Section 2.3.4 which states 'for approximately the first four years of construction, i.e. to 2026 as set out in Paragraph 2.2.4 above. However, it should be assumed for the purposes of consultation that the desalination plant may need to be retained for longer *— potentially throughout the majority of the construction period'. Following the proposed service life of the plant (being decommissioned once the Transfer Main is fully available), our understanding is that the buried section of pipeline is to be abandoned. The Applicant will therefore need to advise and confirm that exposure of the relic infrastructure will not present a coastal problem in the long term. ESC are concerned that this*

	<p><i>may present a risk further down the line that is beyond our control and request that sufficient contingency is provided for this.</i></p> <p><i>Section 2.3.25 states that 'The seawater intake headworks would be decommissioned and removed once the transfer main is fully available. The buried intake pipeline would be grouted, capped and would remain in situ'. ESC would like to know what the proposed burial depth of this pipework would be given that this is below the beach level, i.e.. how much future erosion (lowering) has been considered. What is the risk of the buried pipes becoming exposed by an eroding beach? What impacts on coastal processes and beach user safety are possible if the pipes are exposed? What mitigation measures are proposed if the pipes become exposed? ESC would request a requirement that the pipelines are removed should they become exposed.</i></p> <p><i>ESC wishes to highlight that Figure 2.3 implies an angled connection, however we presume this is only for illustration purposes. Neither the directional drilling nor the outfall pipeline would cope with a sharp change in angle as shown and the Applicant needs to clarify how this detail will be constructed. The figure shows both the intake and outfall pipelines redirected to the Construction Area after 4 years (if needed). The routing shows a sharp change in angle running north along the seaward side of the proposed HCDF. Is the (re)connection to be made using a coffer dam, and is the remainder of the pipeline route to be carried out by normal terrestrial engineering? ESC has concerns regarding potential disturbance to the upper beach, with appropriate measures needing to be confirmed and clarified. ESC also requests clarification on how the proposed land section pipelines will cross within the Temporary Hard Coastal Defence (SSP wall).</i></p> <p><i>Is it possible that the Desalination equipment will be operational at the time of construction of the permanent HCDF and SCDF? If yes then please explain if and how the Desalination equipment line and level will be modified and / or if the HCDF and SCDF structures will be modified.</i></p> <p><i>Section 2.3.30 states that 'Localised dredging is assumed to be necessary in the immediate area surrounding the diffusers'. What type of dredging is proposed, would this utilise plough or suction</i></p>
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	<p><i>techniques, and how will the bed shear stresses change due to the intake and particularly the outfall head in the nearshore zone – is additional modelling on this still to be done? The Applicant will be obliged to monitor and maintain offshore structures regarding the potential for scour, so ESC are hopeful that further details will follow.</i></p> <p><i>Section 2.4.7 states that ‘The Coastal Processes Monitoring and Mitigation Plan (CPMMP) would enable detection of unexpected effects on these features and will apply equally to any potential small scale impacts associated with the desalination works’. ESC will expect to see a section added to the next iteration of the CPMMP to describe the monitoring activity (bathy and RPA topo) and any mitigation required to cater for potential impacts of this new feature in the marine environment.</i></p> <p><i>It is noted that the location of the proposed intake pipe is seaward of the bar, but the brine outfall head is much closer to shore. Section 2.3.27 states that ‘The pipe would extend approximately 200m seaward from the temporary Hard Coastal Defence Feature (HCDF). The indicative location of the pipe is shown in Figures 2.3 and 2.4. This location is between the inner and outer longshore bars and would place the outfall pipe in water approximately 2.5m deep at lowest astronomical tide level. It would be sufficiently distant from the intake to minimise re-entrainment of the brine water’.</i></p>
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ESC requires

clarification as to whether this outfall could cause sediment entrainment and a salient to develop on the shoreface (similar to the existing Sizewell B outfall pipe). Increased flow velocities could deflect suspended sediment alongshore which then is deposited elsewhere. ESC would like to have access to the assessment that was undertaken, including any modelling, to identify an optimum location for the outfall.

Ecology

ESC note that terrestrial ecology has been screened out of further assessment (para. 2.4.2). Given the details provided on the installation and operation of the proposed equipment, we have no objection to this. The containerised equipment will be located within either the main platform area or the TCA (dependent on construction phase) and pipe work will be installed using HDD to avoid the beach area.

With regards to air quality, this has been scoped in for further assessment and we will need to consider the outcomes of this (although Natural England are the lead organisation for this matter). ESC will therefore defer any comments on marine ecology to Natural England and the Environment Agency.

ESC would also like to raise a matter which does not appear to have been covered in the consultation documentation, if the proposed equipment is moved to the “subsequent location” in the TCA, will the pipes crossing the SSSI Crossing result in any changes to the design of the structure? It is noted that a lot of work has gone in to trying to ensure that the design of the SSSI Crossing minimises ecological fragmentation as far as possible and we do not wish to see this undone by needing to install more pipes over the crossing.

Environmental Protection (plant noise):

ESC understand that the proposed plant will operate continuously with the use of diesel generators. This gives rise to noise concerns in the same way that other plant on the main development site has been assessed. Whilst this is likely to form part of the overall site’s noise, it is something that will require assessment as it is semi-permanent fixed plant and unlikely to be subject to processes designed to catch construction noise issues in the Sizewell C Noise Monitoring and Mitigation Plan (NMMP). Other plant of this type (such as the combined heat and power plant at the campus) are likely to be subject to a 35dB LAr noise limit so this may also need to be the case for the proposed desalinisation plant. Ultimately, ESC ask that the potential for noise impacts from the temporary desalinisation plant are given due consideration and the findings of this assessment are made available for scrutiny at an appropriate time as part of the DCO process.

The Applicant has confirmed that a proportion of the potable water created by the desalination plant will be destined for domestic use (that is to say drinking, washing, cooking and such) and therefore as a surface water source non-mains supply would fall within the scope of the Private Water Supply Regulations 2016, most likely as a Regulation 9 supply. As a Private Water Supply of this type, it will be regulated by ESC to ensure that it remains a wholesome supply, as defined by

	<p><i>the Private Water Supply Regulations 2016, and we will be engaging with the Applicant further on this matter in the event the supply is confirmed.</i></p> <p><i>ESC has some concerns that this late addition will not be able to be fully assessed and examined in the remaining Examination period and we seek to ensure that ESC is not disadvantaged by not being able to properly assess the change in the DCO process.</i></p> <p>If a desalination plant is required during the whole of construction, this would be regrettable and would need to be fully assessed, but the above comments would apply. If a desalination plant is required during operation (if potable water cannot be supplied by Essex and Suffolk Water) then this is likely to require additional land-take from the AONB, a separate TCPA application and will be considered on its merits by ESC as LPA. Our preference is for a sustainable alternative to long-term de-salination.</p> <p>ESC notes that the Applicant intends to submit further details regarding potable water supply at Deadline 8. The decision maker will have to be satisfied that there is sufficient supply available during the construction and operational phases of development. All implications will need to be satisfactorily assessed. ESC will be seeking a solution that does not adversely impact the AONB.</p>
<p>3. Main Development Site Flood Risk Assessment (MDS FRA)</p> <p>Outstanding issues with respect to the Applicant’s assessment, in particular:</p> <p>(a) Coastal flood risk; and</p> <p>(b) Any other areas of outstanding concern for the MDS FRA.</p>	<p>(a) ESC defers to EA in respect of coastal flood risk.</p> <p>(b) ESC defers to the EA and SCC in respect of the MDS FRA.</p> <p>As to the appropriate discharging authority under DCO Requirement 5, ESC strongly supports the current drafting which identifies ESC as the discharging authority in respect of foul and surface water drainage for the following reasons:</p>

	<ol style="list-style-type: none"> 1) As Local Planning Authority, ESC is extremely well versed in managing technical input from a number of different bodies. 2) A number of organisations have an interest in this matter, including the EA, the IDB, Natural England and SCC. ESC is best placed to ‘hold the ring’ and to reconcile the views of those parties together with any other relevant matters, such as landscape and ecological considerations. 3) Requirement 5 addresses both foul and surface water drainage. ESC agrees that those matters should be considered together, rather than having separate drainage strategies approved by different authorities, to ensure that a comprehensive strategy is delivered. 4) ESC is the enforcement authority responsible for securing compliance with the approved foul and surface water drainage plans and it is sensible in those circumstances for ESC to approve the detailed water drainage plans.
<p>4. Associated Development Site Flood Risk Assessments</p> <p>Outstanding issues relating to the following:</p> <p>(a) Sizewell Link Road FRA; and</p> <p>(b) Other Associated Development Sites.</p>	<p>(a) ESC defers to EA on the Sizewell Link Road FRA.</p> <p>(b) ESC defers to EA in respect of the FRA for other Associated Development Sites.</p>
<p>5. Outline Drainage Strategy [REP2-033]</p> <p>Outstanding issues relating to the Outline Drainage Strategy with particular reference to:</p>	<p>ESC has no comments on the Outline Drainage Strategy [REP2-033]. ESC is still in the process of reviewing the Drainage Strategy [REP7-017] and will provide any comments on that document at Deadline 8.</p>

<p>(a) Main Development Site, including Water Management Zones</p> <p>(b) Drainage strategies for Associated Development Sites</p>	
<p>6. Water Monitoring and Response Strategy [AS-236]</p> <p>Outstanding issues relating to the Water Monitoring and Response Strategy.</p>	<p>Pursuant to Requirement 7, ESC will be responsible for approving any water monitoring plans, which must be in general accordance with the MDS Water Monitoring and Response Strategy and the Draft Water Monitoring Plan, in consultation with the EA, IDB, RSPB, Natural England and SCC. ESC welcomes this role and has no specific comments to make on the Water Monitoring and Response Strategy.</p>
<p>7. Water Framework Directive Compliance Assessment</p> <p>Outstanding concerns with respect to the Water Framework Directive Compliance Assessment.</p>	<p>ESC defers to the EA on this matter.</p>
<p>8. Coastal Processes Update</p> <p>Coastal processes update to include the following: Modelling for SCDF through decommissioning to 2140; modelling relating to the detailed design of the adapted HCDF; the SCDF design; the provision of additional modelling, plans, sections, and information sought by IPs; the Minsmere Sluice Operation</p>	<p>Coastal Processes update:</p> <p>Modelling for SCDF through decommissioning to 2140:</p> <p>The Applicant submitted a Storm Erosion Modelling Report for the SCDF (TR545 v2) at DL 7 [REP7-045]. ESC has not completed its review of that document and will provide any comments at Deadline 8. However, its preliminary view is that the Report appears to demonstrate that the SCDF is likely to be viable to 2140.</p>

<p>Technical Note; the monitoring, triggers, mitigation, and controls incorporated within the latest revisions of the draft DCO requirements, the DML and the CPMMP.</p>	<p>Modelling relating to the detailed design of the adapted HCDF:</p> <p>Modelling to prove the viability of an adaptive SCDF was included in the above report.</p> <p>No additional modelling / information has been submitted regarding the design of an adaptive HCDF. However, the Storm Erosion Modelling Report for the SCDF [REP7-045] does provide an assessment of the viability of the SCDF together with the adapted HCDF. ESC has not completed its review of that document, but its preliminary view is that the Report indicates that even with the adaptive HCDF, the SCDF would be viable to 2140.</p> <p>The SCDF design:</p> <p>The Applicant submitted a Preliminary Design Report for Coastal Defence Features at DL 7 [REP7-101].</p> <p>ESC is yet to complete its review of that Report and will provide any comments at Deadline 8. However, the Design Report was the subject of a brief presentation to ESC and EA by the Applicant on 10/9 during which the Applicant advised that the SCDF sediment size to be used in the SCDF will be likely to match the native beach. This change is welcomed by ESC as it will reduce the risk of interruption to the longshore sediment transportation. However, we note that the Coastal Processes Monitoring and Mitigation Plan (version 2) [REP5-059] identifies an “intention” that the particle size for the SCDF and beach recharge should be within the natural size distribution but that the target particle size for the SCDF is yet to be finalised (see section 7.5.3 of the CPMMP). ESC seeks to ensure that the Applicant commits in the CPMMP to a default position that the SCDF should include an appropriate range of particle sizes within the native range.</p> <p>The provision of additional modelling, plans, sections, and information sought by IPs:</p>
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ESC provided comments on the Coastal Defences Design Report at Deadline 3 [[REP3-062](#)]. The Applicant has committed to responding to the points and requests for additional information raised by ESC by Deadline 8. ESC will comment on that submission in due course and will confirm whether it considers that any additional modelling, plans and sections remain outstanding.

The Minsmere Sluice Operation Technical Note:

ESC defers to the EA on this matter.

The monitoring, triggers, mitigation, and controls incorporated within the last revisions of the draft DCO requirements, the DML and CPMMP:

ESC made five comments in respect of this agenda item:

- 1) By way of an update, ESC confirmed that the Applicant had committed to making a contribution to the Council's resourcing costs through Schedule 2 of the Deed of Obligation. ESC intends to use part of that contribution to carry out monitoring of the Thorpeness shoreline.
- 2) As set out above, ESC seeks further commitment in the CPMMP to ensure, as a default position, that the SCDF is comprised of an appropriate range of particle sizes within the native range.
- 3) In respect of Requirement 7A, ESC considers that provision should be made to ensure that the content of the CPMMP is regularly reviewed, updated and approved by ESC as appropriate. The Applicant has proposed that the review mechanisms should be included in the CPMMP rather than through a DCO requirement and suggested that Requirement

	<p>7A could be updated to ensure that the CPMMP must contain “details concerning its proposed review”. This wording is not yet contained in Requirement 7A and ESC invites the Applicant to include it in the next iteration of the draft DCO.</p> <p>4) Section 10 of the CPMMP [REPS-059] deals with the production of a monitoring and mitigation cessation report. It includes a default position that the HCDF will be removed on decommissioning, which ESC welcomes. However, while the CPMMP requires the production of a Monitoring and Mitigation Cessation Report to be approved by ESC and the MMO, which will include evidence to underpin subsequent decommissioning activities, there does not appear to be any requirement, either within the CPMMP or the DCO, which secures adherence to the recommendations of the Cessation Report. ESC considers that there should be an explicit requirement for the Cessation Report to be presented to the Marine Technical Forum prior to submission to ESC / the MMO for approval. The Terms of Reference for the MTF are proposed to be included as an Appendix to the Deed. ESC wishes to ensure that the final Terms of Reference include a requirement for the MTF to review and make recommendations (where appropriate) on any updates to the CPMMP.</p>
<p>9. Any other matters relevant to the agenda</p>	
<p>10. Close of hearing</p>	