

Wendy McKay

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Our Ref: 20026727

Your Ref: EN010012

Date: 24 September 2021

By email only

Dear Ms McKay

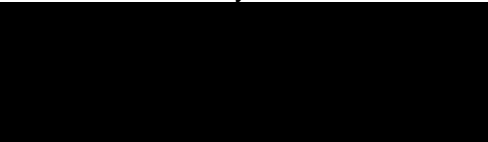
Planning Act 2008 – Section 88 and the Infrastructure Planning (Examination Procedure) Rules 2010 – Deadline 8: Post Hearing submission of oral case for Issue Specific Hearing 11 (Flooding, Water and Coastal Processes).

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




For Deadline 8 (24th September) the Examining Authority (ExA) have requested written submission of the oral case presented at Issue Specific Hearings.

Our comments (Appendix A) provide a summary and further detail of our oral case presented at ISH11, Flooding, Water and Coastal Processes.

Yours sincerely



Simon Barlow
Project Manager
Sizewell C Nuclear New Build
Environment Agency



Appendix A: Environment Agency summary of oral case for ISH11: Flooding, Water and Coastal Processes

Agenda Item	EA Position
1. Welcome, introductions and arrangements for the Hearing	
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.	No Environment Agency comments
2. Water Supply	
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>SZC Water Supply Strategy</p> <p>At Deadline 7 (3rd Sept), SZC Co submitted a updated [REP7-037] Planning Statement, Appendix 8.4KL Site Water Supply Strategy - Revision 2.0.</p> <p>Within the hearing the Environmental Agency noted that there had been too little time given to provide comments, but we will do so at Deadline 8 (24th September).</p> <p>We also noted that we considered any potential extension of desalination operation beyond the construction phase may result in additional environmental impacts not yet assessed.</p> <p>SZC Mains Water Supply</p> <p>We have provided a detailed update on our understand of SZC mains water supply proposals within our Deadline 8 response on [REP7-037] Deadline 7 Submission - 8.4 Planning Statement - Appendix 8.4K - Site Water Supply Strategy - Revision 2.0</p>
3. Main Development Site Flood Risk Assessment (MDS FRA)	
Outstanding issues with respect to the Applicant's assessment, in particular: (a) Coastal flood risk; and	The EA highlighted that there was an outstanding issue regarding the increase in offsite flood risk at Tank Traps, in the event of a 0.5% (1 in 200) annual probability coastal overtopping flood event in 2090. There would be up to a 0.2m increase in flood depth on land owned by RSPB in this flood event, although the land is already at risk of flooding to 1.54m in this event, so the depth of flooding would

	<p>increase to 1.74m deep. We understand that the applicant are in discussions with RSPB regarding the acceptability of this.</p> <p>We also highlighted that there are also small areas of land that would become at risk of flooding that aren't presently, in a 0.5% (1 in 200) annual probability coastal overtopping event in 2090. However, these are very small areas on the edge of existing floodplain, and flood depths would be approximately 0.05m or 5cm. Again we understand that the applicant is in discussions with the landowners regarding the acceptability of this.</p> <p>If landowner permission is not received then we consider that paragraph EN1 5.7.17 requires the Decision Maker to determine the acceptability of these small increases in flood risk elsewhere.</p> <p>ExA Query regarding Sizewell-Dunwich Banks</p> <p>The latest modelling (as reported in TR545) uses wave data from a buoy located offshore of the Sizewell – Dunwich banks and applies this into a model domain inshore of the feature. This means that the waves used in the model have not been impacted by the banks (which are known to cap inshore storm wave height). Various bank scenarios have also been assessed involving different sizes, orientation, height etc. as part of the expert geomorphological assessment work. The Environment Agency therefore agrees with the applicant that the modelling is suitably conservative. We had previously questioned the degree of conservatism when examining earlier technical reports, but after further discussions with the applicant and subsequent review of the updated versions of TR545 and TR544 we are satisfied that our concerns have been addressed.</p>
<p>(b) Any other areas of outstanding concern for the MDS FRA.</p>	<p>There are no other outstanding EA areas of concern for the MDS FRA.</p>
<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>There previously was an outstanding issue regarding increases in flood depths on the floodplain upstream of some of the river crossings, however most of these have since been shown to be within the development boundary, and so are considered to be acceptable and do not need landowner permission. There was one area for SW6 crossing outside of the site boundary, however the applicant</p>

	has since clarified that this was a mapping error, and inspection of the modelling cross-sections shows that the water remained within the channel in all flood events.
(b) Other Associated Development Sites.	There are no other outstanding areas of concern for the other associated development sites.
5. Outline Drainage Strategy [REP2-033]	
Outstanding issues relating to the Outline Drainage Strategy with particular reference to: (a) Main Development Site, including Water Management Zones	We have reviewed the Main Development Site Drainage Strategy [REP7-017] submitted at Deadline 7. We are satisfied that additional control measures will be considered for mitigation of increased pollution risk. Although this will be identified and explored in future design concept works, terminology in the drainage strategy document should be clear and state when increased, additional or fail-safe methods will be considered and implemented where appropriate.
(b) Drainage strategies for Associated Development Sites	No Environment Agency comments
6. Water Monitoring and Response Strategy [AS-236]	
Outstanding issues relating to the Water Monitoring and Response Strategy.	We have reviewed the Water Monitoring Plan [REP7-074] submitted at Deadline 7 and have no comments to add.
7. Water Framework Directive Compliance Assessment	
Outstanding concerns with respect to the Water Framework Directive Compliance Assessment.	SSSI Crossing The applicant has submitted at Deadline 7 a revised SSSI crossing design [REP7-005] for the construction phase which would remove the drainage pipe.

The triple span bridge design remains our preferred option as it would further reduce impacts to the ecology of the area including invertebrates, and it would have the minimal land take from the SSSI.

Notwithstanding this, we consider this updated design, would reduce the risk of deterioration, under The Water Environment (Water Framework Directive) Regulations 2017 (WFD), to an acceptable level, and would not require a regulation 19 exemption.

WFD Assessment Report Second Addendum

At Deadline 7 the applicant submitted [REP7-284] the updated SZC Bk8 8.14Ad2 Ch WFD Assessment Report Second Addendum - Revision 1.0

We will provide comments at Deadline 8 (24th September):

WFD Ore & Alde TFCI deterioration risk EA Position

In the hearing the Environment Agency highlighted we are concerned that as a result of entrapment losses to some fish species from the operation of SZC that a reduction in the number of fish entering the Ore & Alde and Blyth waterbodies has the potential to lead to a deterioration of this element under the Water Environment (Water Framework Directive) Regulations 2017 (WFD). The Blyth is not currently monitored for fish under the WFD programme and assessment will be undertaken on the Ore & Alde and applied to the Blyth by proxy.

SZC Company at the request of the Environment Agency have run some potential fish reduction scenarios for the Ore & Alde Transitional Fish Classification Index (TFCI) looking at a targeted number of species of greatest importance in this waterbody. A within class deterioration is observed in all scenarios which brings the Ecological Quality Ratio (EQR) score close to the good/moderate boundary (0.58) and reduces the confidence in the classification to uncertain or no confidence. A greater number of scenarios have been run by the Environment Agency using a greater number of species that feature in the Ore/& Alde TFCI in the 6 year reporting cycle (2013-2018), these additional scenarios resulted in a class deterioration from good to moderate potential for fish in this waterbody.

	<p>Due to the uncertainty which remains as to what the final predicted and actual entrapment loss figures will be from the operation of SZC, we are currently unable to conclude that a risk of deterioration for fish within this waterbody and by proxy the Blyth waterbody does not exist.</p> <p>In order for us to maintain WFD compliance we recommend requirements are included in the DCO to address this potential impact. These requirements would secure robust monitoring and provide mitigation and compensation to undertake improvements which would benefit fish in the affected waterbodies should a deterioration occur.</p> <p>As a response to this At Deadline 7 the applicant has submitted on additional monitoring, mitigation/compensation proposals via:</p> <p style="padding-left: 40px;">[REP7-040] 8.17 Draft Deed of Obligation Revision 7.0 [REP7-077] 9.89 Draft Fish Monitoring Plan - Revision 1.0 [REP7-007] Deemed Marine Licence conditions 50 & 51 in 3.1 Draft Development Consent Order - Revision 8.0</p> <p>We will provide comments at Deadline 8 (24th September)</p> <p>In-combination assessment for WFD compliance</p> <p>In the hearing we also highlighted that through the Environmental Permitting Regime, we will also need to complete an in-combination assessment to ensure WFD compliance, this will include consideration of impacts associated with operational and construction related permits, such as the water discharge activity, and combustion activity permits. We will only be able to complete this when we have determined these permits.</p>
<p>8. Coastal Processes Update</p>	
<p>Coastal processes update to include the following: Modelling for SCDF through decommissioning to 2140;.</p>	<p>We received modelling extending the assessment out to 2140 at Deadline 7 to account for the full duration of the decommissioning phase. At the Hearing stage, we highlighted our review of that modelling work is still ongoing, but we are in a position to share some broad headline messages:</p> <ol style="list-style-type: none"> 1. It is notable that the assessment work in this latest addition of TR545 uses two of the three storm parameters previously used in the assessment to 2099; namely a 1 in 20 yr event from NE and S (we understand that insufficient time was available to run the Beast from the East

	<p>sequence, which equates to a larger 1 in 107 yr return interval for cumulative wave energy, but was shown in the previous modelling phase to be less erosive than the 1 in 20 yr northerly event). At ISH6 we outlined our view that more severe storm conditions should be modelled when assessing geomorphological change beyond 2099, and whilst we note that this has not yet been provided to us, it is our understanding from a conversation with the applicant that work is planned to consider 1 in 10,000 yr return interval conditions equating to very severe sea level rise and wave events occurring simultaneously. We consider this a necessary step to account for the full range of plausible scenarios, and look forward to receiving this work for further technical review.</p> <p>2. We will need to complete our detailed review of the modelling, but in light of what we have seen to date (i.e. a partial assessment of risks for the full duration of the project), we are comfortable with the approach being used and the preliminary conclusions that have been drawn so far.</p> <p>Further comments have been provided separately at Deadline 8.</p>
<p>modelling relating to the detailed design of the adapted HCDF;</p>	<p>As with our previous response, we must add the caveat to this response that our detailed review remains ongoing, and so at this time we can only share broad headline messages based on an early light touch review.</p> <p>We are pleased to see the inclusion of the updated HCDF design, including pairing back of the crest at the northern end and a seaward deviation at the southern end. We note that further work is planned to model this design during the operational phase, though this version of the design report does suggest that this is considered unlikely to alter the existing conclusions.</p> <p>It is notable that the modelling of the adapted design and RCP8.5 sea level with the NE 1 in 20 yr return period wave climate results in erosion locally exceeding the sacrificial layer volume, meaning immediate recharge would be required to avoid HCDF exposure in the event that another moderate storm were to occur soon after. The report notes that this is an 'unlikely worst case scenario' but we feel this will require further examination in the next iteration of the modelling and design reports (particularly when considering more severe wave conditions and possibility of storm clustering as a reasonable worst case).</p>

	<p>A coarse cobble layer buried beneath the main SCDF and sitting atop the HCDF is suggested as mitigation for this risk. We recognise the logic behind this suggestion, and look forward to reviewing the modelling of this scenario in version 4. We particularly welcome suggestions such as this which would in theory avoid coarsening of the main SCDF particle size towards the upper end of or beyond the natural size range for the Sizewell frontage, given the environmental impacts that could result from such a modification away from native conditions. However, this would be provisional on a high degree of comfort that the cobble layer would remain buried, since regular or prolonged exposure could alter the morphodynamics and detrimentally affect the environment.</p>
the SCDF design;	<p>At the hearing we highlighted we remain fairly comfortable with the SCDF design, with the caveat again that work is ongoing to complete the necessary assessments which will ultimately determine the final design options.</p>
the provision of additional modelling, plans, sections, and information sought by IPs;	<p>The key remaining outstanding work in our view is the modelling of more severe joint probability events which we referred to under the first item in this section of the hearing. We also note that the detailed designs of both the HCDF and SCDF remain in development, and we welcome the opportunity to feed into those discussions, for example in relation to the geometry and sediment grain size composition of the SCDF (as discussed at ISH6).</p> <p>The EA welcome the ExA request that applicant provide a list at D8 of which further information will be submitted going forward.</p>
the Minsmere Sluice Operation Technical Note;	No Environment Agency comments
the monitoring, triggers, mitigation, and controls incorporated within the latest revisions of the draft DCO requirements, the DML and the CPMMP	<p>In the hearing we highlighted that we view the CPMMP as critical for ensuring ongoing monitoring and mitigation of coastal change impacts at the site, which is clearly of great importance in light of the inherent and unavoidable uncertainty when forecasting changing conditions over timescales in excess of a century. Experience suggests that it is critical for adaptive management plans such as the CPMMP to have clear and robust governance and enforcement arrangements in place, and we are aware that conversations are ongoing to ensure that this is the case through the DCO and DML requirements.</p>
9. Any other matters relevant to the agenda	
10. Close of hearing	