

SZC. Requirements 12, CPMMP and 19, Design Approval.  
Discharge Consultation Summary Report Draft. Rev 0.2 PP 27/11/23

Req. 12 CPMMP

**Section 1 ESC**

1.1 Extend Req 12 Condition Discharge Date to align with Req 19 CDD

A change in the plan position or profile of the HCDF and SCDF from that shown in the CPMMP is possible under the final design process currently underway to inform the DCO Req. 19 discharge process. **MMO agree.**

It is therefore possible that assumptions made in the CPMMP, regarding the location of the SCDF relative to the shoreline, will change which may affect the performance and management needs of the SCDF. **MMO Yes.**

It is therefore necessary for the plan position and profile of the HCDF to be finalised and approved before the CPMMP is approved and for assumptions in the CPMMP on HCDF and SCDF position and form to be confirmed as based upon the final design.

The deadline for approval of Req. 12 should be delayed to coincide with the date for approval of Req. 19. **MMO. Agreed and ensure that the two documents align.**

This was submitted to and accepted by SZC Co.

1.2 End of site life - date uncertainty

There are several references in the CPMMP to an 'end of design life' date of 2140 notably foot note 26 on page 35 of MSZ0001. This date is linked to decommissioning and cessation of monitoring and mitigation actions. There is potential for the actual end of site life date to be later than 2140 however this is not acknowledged in the CPMMP.

In order to reflect this uncertainty text should be included in the CPMMP that recognises the stated end of site life date is an estimate and that the actual date may be later, which would require an extension of monitoring and mitigation actions beyond 2140.

Furthermore, text should confirm that the CPMMP is designed to be viable at least to 2140 and beyond if necessary.

**MMO. Also check alignment with Reg 19 documentation as per 1 above. Also refer to comment on point 6.**

1.3 End of site life – definition of trigger for M&M Cessation Report.

The end of site life date, which triggers preparation of the Monitoring and Mitigation Cessation Report, is based upon a forecast date by which all 'all nuclear materials and safety functions' are removed from the site.

In order to remove any uncertainty text should be added to clarify that 'all nuclear materials' includes spent fuel waste and that 'site' includes the Interim Spent Fuel Store.

1.4 Obligation to implement the CPMMP.

MSZ0001, Page 35, states that once approved, the recommendations of the Coastal Processes Monitoring and Mitigation Cessation Report must be implemented.

There is no similar text in MSZ0001 regarding implementation of the CPMMP.

Text to this effect does appear in Requirement 12 as copied below.

*(2) The coastal processes monitoring and mitigation (terrestrial) plan referred to in paragraph (1), incorporating any variations approved by East Suffolk Council (and MMO), must be implemented as approved.*

For clarity and consistency add text to MSZ0001 stating that the CPMMP must be implemented.

1.5 Clarification of obligations implicit within CPMMP.

ESC understanding is that the CPMMP requires SZC to maintain a SCDF (unless / until that obligation is amended after approval by ESC and MMO) and that the risk of more frequent management interventions than forecast being required to achieve this outcome, potentially caused by an extended site life beyond 2140 or more aggressive shoreline change pressure / storm impacts, lies with SZC.

Also that if, in the future, SZC wish to alter the method by which continuation of Long Shore Transport is achieved from a maintained SCDF to another approach, then this change requires the prior approval of ESC and MMO.

There is no text within the CPMMP that makes the above obligations explicitly clear however ESC is satisfied that both are covered by the required amended text in item 4 above.

#### 1.6 Design Life end date change.

Item 3.1.2 of the Design Report submitted on 23/10 notes the potential for a change to the end of main site decommissioning date from 2140 to 2120.

Please explain what consequences such a change has on CPMMP content.

**MMO. Suggest the periods remain as per the DCO. Should the date require changing in the future the Regulation 12 and 19 requirements provide a process for due consideration of such variations.**

#### **Section 2 Environment Agency (EA) 20/11**

*Thank you for your consultation. We have reviewed the submitted reports and are satisfied that Requirement 12 may be discharged.*

Note no comment by EA on ESC's proposed amendments. No further action for ESC.

#### **Section 3 Marine Management Organisation (MMO)**

As of 15/11 MMO have submitted no requests for amendments to the CPMMP.

#### **Section 4 Natural England (NE)**

On 18/10 NE submitted a letter to ESC providing comments on the CPMMP. This included the following requests for amendments.

The NE advice on Req. 12 may be updated following their review of Req. 19.

On 24/11 NE submitted feedback on Req. 19 with no further comments on Req. 12.

4.1 The HRA SZC\_Bk5\_5.10\_V1\_Shadow\_HRA\_Report\_Part\_1\_of\_5.pdf (sizewellcdco.co.uk) (p753-764) outlines the mitigation measures proposed by the project. There is no mention of the requirement for a vehicle management plan as part of the DCO construction method statement. The purpose of this would be to avoid areas of built-up vegetation wherever possible and include a requirement for site briefing to raise awareness about site sensitivities to those working on the site during beach management or surveying. Natural England suggest that this is added as an annex to the CPMMP to cover the maintenance works and monitoring.

We further advise that if any changes to the way in which material for beach management is received by the site or stored, from that covered by the HRA, it is recommended that a separate HRA be undertaken.

*21/11 SZC have seen the NE request. On 21/11 Niki Pieri said....*

*With regards to the discussion we had on the NE comments, having discussed this further with colleagues we do not feel it is appropriate to add a bespoke vehicle management plan as an annex to this monitoring plan as suggested. In response to earlier comments from NE, we have already inserted a statement about pedestrian surveyors not walking on plants so we suggest that we insert a similar statement instructing vehicles not to drive on plants in the relevant passage(s) where we discuss beach recharge. We agree with NE that this is an environmental risk that needs to be mitigated, but feel it is better placed, in detail, within the SCDF construction method statement which*

*will necessarily include initial construction and recharge pursuant to the Marine Licence Condition 37. NE will be consulted on that submission, which specifically requests description of mitigation.*

Suggest the SZC response be shown to NE for comment before ESC replies to SZC.

*4.2 Natural England welcomes this approach and the inclusion to consult the members of the MTF with the latest monitoring before conducting any beach replenishment as set out within the beach management framework (Section 7.3 of the CPMMP). We advise that the project includes the wording commitment “for the lifetime of the project as informed by the latest available monitoring” or similar wherever it makes a commitment to use compatible source material. This is to ensure that the objective for using suitable grain size is maintained for the lifetime of the project and is suitably adaptable to geomorphological changes along the coast within the timescale of the development.*

ESC is willing to support this request to SZC.

**Section 5 Minsmere Levels Stakeholders Group Theberton and Eastbridge Action Group on Sizewell C and Theberton and Eastbridge Parish Council.**

The above group submitted several comments as an Objection. These are included below, followed by the ESC response on if / how these have been taken forward for action.

*5.1 The Discharge of Requirement 12 should not be considered until as there is an approved final design for the Hard and Soft Coastal Defence under Development Consent Order Requirement 19.*

ESC agrees with this. See item 1.1. The deadline for discharge of requirements 12 and 19 was amended to the same date.

*5.2 All along the Suffolk coast we have significant issues with erosion, both constant and episodic. This has been observed in front of the proposed Sizewell C site even since the DCO Examination concluded. It is accepted that any structures which significantly extend beyond the natural sweep of the coastline gives rise to both upstream and downstream impacts of erosion and/or accretion and where the structure is mobile, it will begin eroding immediately following exposure to the natural longshore drift process.*

There have been changes in beach profiles since the DCO decision. The shoreline is constantly changing. Analysis of long term beach monitoring data at this location shows alternating trends of erosion and accretion at many points along the frontage. It is not possible to draw conclusions on the accuracy of long term change forecasts from 2 years of data.

The Soft Coastal Defence Feature (SCDF) is provided as mitigation for the potential impact of the Hard Coastal Defence (HCDF) becoming exposed by future coastal change and thereby interfering with alongshore sediment transport. This exposure has been forecast to occur during the design life of the site. The Soft Coastal Defence extends to seaward of the HCDF and so will be subjected to the action of waves and tides. When erosion of the SCDF becomes significant it will be replenished. No further action by ESC.

*5.3 The latest Development Consent Order plans for the Hard Coastal Defence (HCDF) show its most southeastern point to be situated significantly east (seaward) of the existing natural embayment profile between Minsmere Sluice, north of the site, and Thorpeness to the south of the proposed Sizewell C site. We believe that permitting (this) application is irrational given it cannot be assessed against a final design and specific coastal location with respect to the natural embayment that is present in Sizewell Bay.*

ESC agrees that it is necessary to ensure that the final design for the HCDF plan position and profile

is in accordance with the proposal approved by the planning inspector and that sufficiently detailed and current locations plans are provided with the Req. 19 information.  
The ESC response is covered by the action in item 5.1.

*5.4 There is potential for significant effects beyond the immediate SZC site boundary, in respect of the adjacent coastline and sand dune defences for RSPB, Sizewell A and B defences and Sizewell village. Further impacts both north and south cannot be ruled out.*

The scheme impact assessment has considered the risk of impacts extending beyond the SZC coastal frontage. The CPMMP includes monitoring arrangements that extend well beyond the predicted impact zone and so will detect those impacts. If changes are found that are attributable to the SZC development, and those changes require mitigation actions, the CPMMP will oblige SZC Co to implement mitigation. No further action by ESC.

*5.5 It is irrational to propose the CPMMP when a final approved design for the structure has not yet been submitted.*

The ESC response is covered by the action in item 5.1.

*5.6 The designs and plans shown in the CPMMP document have no clear geographical positioning plans.*

Agreed. There is no information in the CPMMP that allows the position of structures to be located on site. This information is required to be in the Req. 19 submission.  
For ESC action as part of the Req. 19 Discharge process.

*5.7 The CPMMP plans show the Soft Coastal Defence (SCDF) extending at least 60 metres from the toe of the HCDF and well beyond the existing natural sweep of Sizewell Bay.*

Figure 1: Schematic (unscaled) representation of the SCDF in the CPMMP shows an indicative SCDF profile extending down to a nominal base level of ~ Mean Sea Level. This base level is not an accurate representation of the existing beach profile. The actual width of the SCDF will vary. The ESC response in item 5.2 is also relevant to this comment.  
No further action by ESC.

*5.8 Based on plans submitted to the PINS DCO Examination the most south easterly extent of the Hard Coastal Defence is situated on the Sizewell B Salient, a structure that the applicant states will "relax" (erode) back to the natural sweep of Sizewell Bay within a couple of years of Sizewell B ceasing operation. Assuming this happens the HCDF toe is at significant risk of being exposed and increasingly threatening the overall integrity of the structure.*

The question of HCDF toe exposure risk is more relevant to Req 19.  
ESC has expressed concerns at both SCDF viability and HCDF foundation exposure risk at this location. The potential impacts of a relaxed SZB outfall salient on the HCDF foundation and SCDF viability have been considered by SZC Co and the conclusions accepted by PINS.  
SZC Co reports advise that historic erosion rates at the SZB salient are very low and if there is local beach retreat after a SZB outfall shutdown, it will not be significant. PINS has accepted this.  
As stated in item 5.2 above, there is an obligation on SZC Co to maintain a SCDF unless / until changed by the Cessation Report, that will be prepared 10 years prior to decommissioning, or otherwise amended by the CPMMP change process that requires the approval of ESC.  
If the CPMMP is implemented as described the HCDF toe will not become exposed.

There is a risk that the predicted SCDF erosion trends will prove to be an underestimate of actual erosion pressure over the SCDF life, particularly if the station life is extended. However, under the terms of the CPMMP this risk is lies with SZC Co.

ESC will continue to challenge SZC Co to move the southern HCDF point landward however if this does not happen ESC's primary objective, to ensure longshore transport across the SZC frontage is not interrupted by the development, will be delivered by implementation of the CPMMP.

*5.9 Whilst the CPMMP plan does not superimpose the HCDF/SCDF structure on the existing profile of the coastline, those in the DCO submissions do.*

*However, in the past two years that profile has significantly eroded and changed adding further concern that the proposals in the CPMMP without an approved HCDF/SCDF design are theoretical and have no practical foundation.*

*Until the HCDF/SCDF structure is finally designed to ensure minimum impact on the coast, the structure, as submitted to the DCO in combination with the plans in the CPMMP, will only add to coastal impacts across the greater Sizewell Bay area and are potentially unsustainable.*

The points raised here are a repeat / summary of points raised in items above.

The ESC response to them is therefore included in the items above.

**6 Together Against Sizewell C (TASC) wish to register their objection to the above application for the discharge of the Sizewell C (SZC) Development Consent Order (DCO) Requirement 12 and ask that East Suffolk Council (ESC) refuse permission for the various reasons set out below.**

*6.1 TASC consider this request for discharge to be premature. The relationship between the Hard Coast Defence Feature (HCDF) and the essential maintenance of the Soft Coast Defence feature (SCDF) through the CPMMP is absolutely crucial for the protection of the staff, the local population, the operating nuclear site and the storage of the spent fuel on site until it can be safely removed, and the site fully decommissioned i.e. for the full lifetime of the site.*

*As far as TASC are aware the developer has not finalised the design of the HCDF, this being needed to discharge Requirement 19. It would be irrational to discharge Requirement 12 before Requirement 19 has been discharged.*

ESC agrees with this. See item 1.1. The deadline for discharge of requirements 12 and 19 was amended to the same date.

*6.2 TASC remind ESC that according to their final Statement of Common Ground at the end of the DCO examination (DCO document REP10-102), in paras 8.12, 8.13 and 8.14 of the Coastal Processes section on pages 19-22 ESC did not agree; that the position of the HCDF could meet the 'hold the line policy'; that a precautionary approach had been taken with the sea defences; and, that the process takes sufficient account of risk and uncertainty associated with a 120/140 year asset life, respectively. And in ESC's letter of 14th April 2022) when replying to BEIS's letter of 31st March 2022, ESC confirmed that this was still the position.*

This is correct. ESC believes that the SZC Co assessment of future erosion pressure on the SCDF is probably an underestimate and that the SCDF will require more maintenance than predicted. ESC is therefore keen to ensure that SZC Co's obligations to sustain a long shore transport pathway across the SZC frontage until the HCDF is removed, are clearly stated in the CPMMP.

ESC's requested amendments to the CPMMP in items 1.2, 1.3, 1.4 and 1.5 refer.

*6.3 ESC also made the following comment in relation to 'point 8': "...SCDF effectiveness is, in part, linked to the form and position of the HCDF; the design of which is not finalised".*

*The final design and position of the HCDF has not, as far as TASC are aware, been submitted so we believe ESC must maintain its previously stated position, therefore the CPMMP cannot be approved at this time.*

ESC agrees with this. See item 1.1. The deadline for discharge of requirements 12 and 19 was amended to the same date.

*6.4 Note 26 at the base of page 35 of 40 of MSZ0001, in relation to the CPMMP cessation report, states “2140 is the end of the design-life for the HCDF, when all nuclear materials and safety functions will have been removed from the site”. In TASC’s opinion ESC must consider that spent fuel will still be stored on site beyond the 2140 design life of the HCDF, therefore potentially unprotected. The Office for Nuclear Regulation (ONR) directly advised TASC that a total period of 70 years is required for: EPR spent fuel to cool sufficiently in order to be safely transported off the site and the spent fuel store decommissioned. This is supported by the developer’s own DCO documents – para 7.7.92 of DCO document APP-192 (EN010012- 001812- SZC\_Bk6\_ES\_V2\_Ch7\_Spent\_Fuel\_and\_Radioactive\_Waste\_Management.pdf (planninginspectorate.gov.uk) ) which states: “...the date for start of transfer of spent fuel from the Sizewell C site to a Geological Disposal Facility is 55 years after the end of generation. The process of transfer from the site will take approximately eight and a half years. On completion of transfer of the spent fuel from site, the spent fuel ISF would be decommissioned” and para 5.1.5 of APP-189 states: “decommissioning of the ISFS [the spent fuel store] would take 5 years”. Sizewell C is proposed on the basis that it will operate for 60 years so say SZC starts operating by 2035 then 60 years of operation would end 2095 and the site decommissioned about 70 years later i.e. around 2165. Bearing in mind there is no UK Geological Disposal Facility in existence nor one guaranteed and that the cooling timetable for EPR fuel cooling is somewhat speculative as there is no history of storing EPR fuel, even a 70-year period from end of generation to final decommissioning is not especially precautionary. The 2140 date is a fundamental aspect of the SZC project determining the longevity of both the CPMMP and the HCDF, however it is clear that spent nuclear fuel will still be on the SZC site beyond 2140 and the site unprotected for its full lifetime.*

The ESC response to points raised here is in items 1.2 and 1.3.

*6.5 In TASC’s opinion ESC should be concerned that the developer is still basing its flood risk assessments and consideration of the maintenance of the sea defences on the Expert Geomorphological Assessment (EGA) submitted as part of the developer’s SZC DCO documents – para 1.0 on page 4 of MSZ0061 states, “Nine SCDF erosion scenarios have been devised using Expert Geomorphological Assessment (EGA) and the recommended maintenance requirements (i.e., the location, volume and method) for each identified.” It has been established that the EGA only considered a period up to 2070 (70 years less than the 2140 the developer claims to be the date by which the SZC site will need to be decommissioned) and has assumed that protective features such as the Dunwich-Sizewell Bank remain unchanged. Greater scrutiny of the EGA is included in a report prepared by Nick Scarr, dated 30th May 2023, entitled ‘Sizewell C’s Development Consent Order decision documents assure the public that ‘...the Proposed Development of Sizewell C takes account of conservative assumptions around the evolution for the coastline...’. How exactly?’ Nick Scarr’s paper, which TASC endorse, has been submitted as part (pages 4-24) of the joint submission from TEAGS Ltd/Theberton and Eastbridge Parish Council/Minsmere Levels Stakeholder Group, examines the EGA in detail. As such the EGA must be considered nonprecautionary and non-conservative and therefore totally inappropriate as the basis for assessment of the SCDF/HCDF/CPMMP, elements crucial for the safety of SZC, its workers and the residents of east Suffolk over a period of 140/150 years.*

The purpose of the EGA report TR403 that considered a period to 2070 was to determine if the HCDF would be exposed within its lifetime and therefore need mitigation. The conclusion was yes hence the SCDF was proposed. The scenarios in MSZ0061 were developed by a different process that took place post DCO. PINS has considered and accepted the original EGA findings. ESC has accepted the EGA assessment in MSZ0061. No further action by ESC.

*6.6 Further in para 1.0 on page 4 of MSZ0061 it states "...it is important to note that the specific conditions of triggered SCDF maintenance may require different approaches than those set out in this report, so it should be understood that the examples given are as options, not rules." This statement illustrates the uncertainty surrounding future scenarios that could impact such a vulnerable stretch of coastline as the Sizewell Bay, thereby supporting the need for a very precautionary approach or acceptance that the SZC site cannot be realistically protected for its full lifetime.*

This CPMMP text extract emphasises that examples have been given to demonstrate potential approaches but that different approaches may be required in the future depending upon actual circumstances encountered. Acknowledgement of this is not unreasonable. Any changes to the CPMMP will require the approval of ESC and the Marine Management Organisation (MMO) in consultation with other organisations. The CPMMP requires SZC Co. to maintain the SCDF for the life of the site unless / until cessation is approved. If the SZC Co assessment proves to be an underestimate of future erosion pressure, then there will be a greater maintenance burden to be borne by SZC.

No further action by ESC.

*6.7 Without accurate drawings and maps showing the exact position of the sea defences, it is difficult to assess the full impact of the measures proposed by the CPMMP.*

*However, it is clear that the HCDF will ultimately be susceptible to exposure and damage due to how far seaward it will be situated (beyond the natural sweep of the Sizewell Bay coastline) and its exposure to the erosion associated with the natural embayment of the coastline in front of the SZC site. This will place the safety of the SZC site at risk over the next 140/150 years.*

The CPMMP requires SZC Co to maintain the SCDF for the life of the site unless / until cessation is approved. There are also potential adaptations to the HCDF if triggered by an increase in environmental pressure (including crest raising and foundation lowering with seaward extension) which will increase its resilience to flood and erosion risk.

In an adapted HCDF condition the SCDF will be up to ~17 m further seaward and will require greater effort to sustain. However, SZC Co will continue to have an obligation to sustain a long shore sediment pathway.

ESC's requested amendments in items 1.2, 1.3, 1.4 and 1.5 refer.

The ONR and EA lead on flood risk matters including ensuring the safety of the SZC site.

*6.8 From a planning perspective, TASC are concerned that the SZC sea defences protrude eastwards beyond the 'green planning line' established during the consenting of Sizewell B. The building of the sea defences should not be allowed to breach this planning line.*

I am not aware of a green planning line. This is one for Grahame / Naomi to comment on.

*6.9 The documents appear to suggest that there is a 3-year planning window to recharge the SCDF. With ever-worsening predictions of sea level rise, increased storm surges and more extreme weather events there must be a great risk of multiple storm events making maintenance of the SCDF over a*

140/150 year period unviable.

The impact of storms, both individual and in combination, has been assessed and taken into account in the SCDF volume / trigger design assessments. Additional work was done on this post DCO at the request of the EA.

No further action by ESC.

7.0 Sizewell C's Development Consent Order decision documents assure the public that '...the Proposed Development of Sizewell C takes account of conservative assumptions around the evolution for the coastline...'. How exactly? This paper examines the claim.

Nick Scarr 08 9 2022, latest edit 30/05/2023. 21 pages.

### Synopsis

*In the DCO decision, 20 July 2022, The Applicant, BEIS<sub>1</sub> and the Planning Inspectorate assure the public that 'conservative evolution of the coastline has been established':*

- "Section 2.6 of the Applicant's response notes that coastal flooding studies for the Proposed Development take account of conservative assumptions around the evolution for the coastline, geomorphology..."

*The ONR stated that they were satisfied with this: 'There is nothing we would wish to add...'*

- However, the Applicant tells us in the same SDSR document that: "The rationale behind the definition and projection of a likely future shoreline...of SZC is set out in Reference [20]."

*'Reference [20]' quoted by the SDSR is TR403, The Expert Geomorphological Assessment (EGA) for shoreline retreat. The EGA is a self-declared non-conservative assessment.*

*The Applicant's assessment, we are told, for the evolution of the coastline at Sizewell C is then, non-conservative (non-precautionary), i.e., based on the EGA, and thus seemingly invalidates the public assurance presented by the Applicant, Planning Inspectorate and BEIS with the ONR's approval?*

The following text is draft.

There are numerous references in his note in support of his view that the coastal change risk assessment process has been overly optimistic and that PINS has not robustly dealt with challenges to its adequacy.

This challenge appears to be directed at the ONR and their obligation to design the site defences to be safe until at least 2140. There are links to coastal process assessments which NS rightly points out will inform decisions by the defence designers.

NS also suggests that ESC and other MTF members have contributed to PINS acceptance of the BEEMS reports findings by agreeing with the SZC Co position. This is not accurate.

ESC's Statement of Common Ground and Local Impact Report both refer to ESC concern that the approach to assessment of some coastal process impacts over the site life was not sufficiently precautionary, so we do have a common overview with NS, albeit the ESC comments include a pathway to resolution whereas NS believes this to be grounds for the development to be halted.

The ESC concerns related principally to the risk / impact of HCDF exposure and long term viability of the SCDF. The SZC Co obligation to implement the CPMMP means that they must maintain a SCDF and / or take other beach management actions to sustain a sediment pathway across the SZC site and avoid disruption by an exposed HCDF. If our concerns are correct the frequency of intervention will be much greater than forecast. This is a financial and operational risk to SZC Co.



In the future the effort and cost required to sustain the SCDF may exceed SZC Co forecasts and lead SZC Co to propose an alternative approach to mitigation of the negative effect of an exposed HCDF. This may be to withdraw maintenance of the SCDF, to deepen the HCDF foundation and to maintain Longshore Sediment Transport by other means (bypassing).

**8.0 SCC RoW team.**

*SCC does not object to the Discharge of this Requirement.*

*However, SCC would expect the monitoring and mitigation plan to consider the potential impact on the public footpath and the England Coast Path. Accepting that the Soft Coastal Defence Feature's primary function is related to the protection of the Hard Coastal Defence Feature and maintaining the shingle transport corridors, we ask that the trigger points for maintenance of the Soft Coastal Defence Feature should also recognise the proximity of this public highway and the potential risk of erosion to the highway and the public using it.*

*As Local Highway Authority, SCC should be notified immediately if there are any impacts to the Public Rights of Way, and should be copied in on any monitoring results and consulted on any mitigation that would affect them.*

ESC supports the SCC request underlined above.

## Req. 19 Marine Structure Design

### 1.0 ESC

#### 1.1 SCDF profile definition. Basis for design.

The 'Design for Approval' should include a well-defined proposal for the profile to be used to establish and replenish the SCDF. Information submitted by SZC on 23/10 with the Design Approval package is not sufficient. The assumptions made on the SCDF profile in the calculation of volumes used in report TR544 to assess the viability of the SCDF in both original and Adaptive SCDF profiles, appears to be the most current and accurate design information. This should be added to the Design Report (DR) and used to amend drawings. **MMO Agree.**

It is acknowledged that the profile definition may change before SCDF construction which would be the subject of a variation submission for Requirement 19 requiring approval by ESC.

See MMO text in response to Req 19 tracker extract below.

*.... MSL should be replaced by a fixed line in space, approximating the location of MSL at the time, thus reinstating the same SCDF each time it is required ( noting that it will be naturally reprofiled on each occasion).*

#### 1.2 SCDF profile. Correction of plan position of SCDF seaward extent.

Based upon the TR544 SCDF profile assumption described in item 1 the seaward extent of the SCDF shown on drawing 414 should be the MSL contour and not the MHWS contour. This drawing and other extracts from it that appear in the Design Report should be amended. **MMO Agree.**

Note that extension of the SCDF extent to below the MHW mark is significant in the context of ESC / MMO jurisdiction.

See MMO text in response to Req 19 tracker extract below.

*Agreed, using the MHWS contour would mean that the SCDF would almost entirely be within the jurisdiction of ESC, whereas to MSL takes it into both MMO and ESC jurisdiction. However, the profile is effectively controlled by the location and height of the crest and a majority of the slope will be above MHW, therefore predominantly in the jurisdiction of ESC. On this basis the pragmatic approach would be for ESC to be the lead consultee, corroborated by MMO.*

#### 1.3 SCDF profile.

Profiles on other drawings appear to display the SCDF with a constant slope that intersects with the prevailing shoreline in variable positions in relation to tidal contours. It is acknowledged this is a reasonable representation of the design intent. In order to explain the inconsistency with information on drawing 414 those drawings should have a note added referring the reader to new text to be added to the DR required by item 1 above. **MMO Agree.**

#### 1.4 SCDF profile in the Adaptive condition.

In the HCDF Adaptive condition the SCDF will retain its original form and be moved up to ~17m seaward, dependent upon the depth to which the HCDF toe is required to extend to.

Text should be added to the DR to explain the design logic used to date, in SCDF viability assessments undertaken in TR544, to locate the seaward extent of the SCDF.

Reference to this new text should be added to the drawings that include illustrations of an Adaptive SCDF profile. **MMO Agree.**

#### 1.5 Removal of HCDF southern splay by providing a direct tie in to the SZB sea defence

ESC welcomes the SZC Co. offer ( made in feedback to ESC comments on the Req. 19 pre-app consultation) to pursue with SZB the option to change the current alignment of the HCDF at the south end to provide a direct tie in with the SZB defence instead of the current overlap with seaward splay.

Add text to Design Report 3.1.2 *Minimising Seaward Extent* to record this action.

ESC acknowledges that this requires the agreement of SZB, which is beyond the control of SZC Co., and that the default position is to continue with the current defence splay / overlap arrangement. Note the query on the precise location of this feature in item xx below.

The change in design would be subject to making a variation submission for Requirement 19 and subsequent approval by ESC.

This is a very significant matter for ESC. We therefore propose that it appears as a standing MTF agenda item until the option is either confirmed as viable or is withdrawn.

#### 1.6 Monitoring and Adaptive Sea Defence Plan Content – Addition of HCDF landscaping removal.

The SZC Co intent to potentially remove the HCDF soil fill material, which may in the future be necessary to sustain overtopping resilience, is an adaption action of similar status to HCDF crest raising and toe deepening options.

Text describing it should be added as a new item to the Monitoring and Adaptive Sea Defence Plan section of the Design Report.

A note identifying the potential for this adaptation action should be added to relevant profile drawings.

*MMO. Agreed as this could potentially affect the overall performance of the sea defence.*

The implications for HCDF landscaping removal on public access over / along the HCDF should also be clearly stated i.e., will landscape removal include the material that supports the Coastal Path? If so what mitigation measures will be applied.

#### 1.7 Monitoring and Adaptive Sea Defence Plan. Addendum in the CPMMP.

SZC has stated that in the absence of a *bespoke Monitoring and Adaptive Sea Defence Plan, the means by which this will be done will be captured as an Addendum in the CPMMP.*

When preparing this Addendum include an item for actions required to inform decisions on HCDF landscaping removal as described in item 5 above.

#### 1.8 Design Life end date change. Design changes?

Item 3.1.2 of the Design Report submitted on 23/10 notes the potential for a change to the end of main site decommissioning date from 2140 to 2120.

Expend this text to clarify if / what changes to the designs submitted to date for Marine structures are under consideration as a consequence of this potential date change. If design changes are likely then explain the process and timeline within which they will be advanced.

#### 1.9 Design Report Section 0 and Appendix 0

There are several references to 'Section 0 et seq' and 'Appendix 0-' in the report – notably in 3.11.\* Please check and correct.

### **2 EA 16/11**

*16/11. Thank you for your consultation received 27 October 2023. We have reviewed the submitted Design and Access Statement, Illustrative Visuals, Coastal Defences Design Report and Drawings and are satisfied that Requirement 19 may be discharged.*

No further action by ESC.

### **3 MMO**

No comment received.

MMO and ABP Mer have given feedback on ESC draft feedback to SZC.

There were no objections to the proposed changes and positive support for some which is noted in the ESC part above.

#### **4 NE 24/11/23**

##### 4.1 Sourcing of Material for Soft Coastal Defence Feature replenishment.

Natural England welcome the commitment to replenish the Soft Coastal Defence Feature (SCDF) with material which is of similar particle size to that being lost. We further note that the project should source replenishment material in such a way that does not impact on any designated geomorphological, vegetated shingle or dune features to the adjacent Minsmere to Walberswick Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI) sites. Clearly material will not be taken from the designated site, but it should also should not be taken in such a way that natural tide and wave action are altered to the disadvantage of nearby designated site features. i.e. speeding up movement of material from the SSSI or creating a focal point for beach movement/erosion. Whilst we acknowledge that beach recharge events are inherently unpredictable, we advise that the project should commit to seeking agreement on appropriate sediment sourcing locations through the Marine Technical Forum before commencing any sediment replenishment work.

CPMMP section 1.2 states *The sediments for beach recharge will be sourced from licenced extraction sites (BEEMS TR544). This report assumes that sediment for local management (beach recycling or bypassing) can only be sourced from the SCDF frontage itself and makes no assumption that sediment can be retrieved from adjacent frontages. However, coastal geomorphology does not recognise property boundaries, so cases may arise where desirable local sediment management could potentially extend beyond the SCDF frontage (such cases are not presented in this report). Such measures would require a robust case based on future evidence along with prior consultation with the key stakeholders (initially the MTF) and relevant landowners, and any appropriate assessments, consents and licences approved by the relevant authority. It should also take account of the Shoreline Management Plan policies.*

CPMMP Section 4.3.4 Pre-mitigation Report, requires SZC to consult with the MTF before seeking discharging authority approval on *the form and scale (extent, volumes of sediment required) of the required (mitigation) works.* This does not make specific reference to the source.

Under Req. 12, ESC to request addition of 'source' to text in CPMMP 4.3.4.

##### 4.2 Abutment of Soft Coastal Defence Features and Hard Coastal Defence Features onto Minsmere to Walberswick Heaths SAC and SSSI

We note from the proposal that there is an expectation that shingle vegetation will develop on the SCDF. We believe that this will be difficult to achieve, and this leads us to concerns on the impact the coastal defence features may have on the designated features of the Minsmere to Walberswick Heaths SAC and SSSI where the defence feature abuts on its northern extent. To our knowledge, it has not been possible to artificially sort shingle to re-create the conditions that result from natural sorting by wave action, which is what the specialist plants need to develop. Mechanical movement of the shingle alone will not create the suitable substrate grading required for specialist shingle species to proliferate. If the SCDF functions in accordance with the cited scenario from Pye and Blott (2018) some of the more disturbance tolerant shingle plants may develop but this would take a considerable amount of time and the 'clock' would reset every time there was a period of recharge. We further advise that vegetated shingle colonisation of the SCDF may depend on the profile of the sloped feature and that the project should seek to mimic the natural beach profile where vegetated shingle already occurs to ensure colonisation is possible. We also note that the measures propose reseeding of the SCDF using a natural seedbank to allow recolonisation of the feature. We have concerns that, where the SCDF abuts with the designated site, that care must be taken to ensure that no planted species inconsistent with the SAC and SSSI features are allowed to move onto the designated site. Further to this, if the SCDF becomes dominated by unsuitable species, will this be managed to prevent a negative impact on the designated site? We acknowledge that the points above relate to the ecological function associated with the coastal defence features and are not necessarily suitable for discharging via DCO requirement 19. We request that our concerns are addressed when the project

*seeks to discharge DCO requirement 4, The Terrestrial Ecology Monitoring and Mitigation Plan.*

No action for ESC under Req. 19.

Note there is lengthy discussion of the potential for SCDF dispersal into existing vegetated shingle habitats in section 8 of the CPMMP.

*4.3 Natural England are satisfied that any small amendments to the design (e.g. those associated with the Bulk Landing Facility) will be monitored as part of the Coastal Processes Monitoring and Mitigation Plan (CPMMP) and reviewed by the Marine Technical Forum periodically, thereby ensuring that the required level of Long Shore Transport (LST) is maintained across the site for the necessary period.*

No action for ESC under Req. 19.

*4.4 Any changes that the review of Requirement 19 have generated for the CPMMP (Requirement 12) have not been assessed by Natural England.*

Noted. ESC has identified an action under Req. 12, arising from NE Req. 19 issue ref 4.1.

#### **5 Mike Taylor.**

*5.1 Dear Bethany, Having asked many times for SZC Co maps and plans to include Ordnance Survey Grid lines for ease of reference.*

*It appears using for example the plan on DC/23/4124/DRR Requirement 19 Permanent Coastal Defence feature 100414 that there is no standard format.*

*eg whilst the eastern grid is shown as 647000mE with another at 648000mE the northern references appear random eg 263650mN with another at 263900mN.*

*Please can you investigate why this is so.*

*Also for avoidance of error please check that the scale shown on the drawing is actually correct.*

*I have a drawing on file which confirms that between 647000mE and 648000mE the distance is 1000metres.*

*On drawing 100414 using the scale supplied it is 772metres.*

*As another example The distance west from 648000mE to the (green line) existing SZB sea defence on my drawing is 468 metres yet on the 100414 drawing is 318 metres west of 648000mE*

*Or am I missing something? Please could you confirm in order that a proper representation be made to the discharge of requirement 19*

*Sorry to trouble you with this but since these drawings are for approval it appears incumbent that they are factually correct or may require a material change to the DCO.*

*Regards Mike Taylor.*

This query was referred direct to SZC Co who acknowledged error with Scale Bar and amended 3 plans (413, 414 and 418) that were put onto the application website.

#### **5.2 Follow up comment by MT**

*Hello Grahame, the revised drawings are now on the East Suffolk Council website, thank you.*

*However, there are still discrepancies with the blue line SZC boundary which we anticipate questioning today at a ONR/NGO forum. There may also be implications for the safety case for Sizewell B. This is the probably the first time that drawings have been supplied with correct grid lines so we consider it is vital that any decisions made on the drawing/plans are made based on the correct plan. We must earnestly request that no decision is made without a thorough understanding of the possible implications. History shows that the Hinkley C site buildings plans had to be altered*

*post consent.*

*Please acknowledge receipt as a holding objection.*

Question to Grahame. The query above re *blue line SZC boundary* does not appear to relate to Marine Infrastructure. If that is the case is the comment relevant to consideration of this DDR?.

## **6 Nick Scarr.**

*6.1 Subject: The recent submission of documents relating to the flood defence design for Sizewell C have been released.*

- *Sizewell C Discharge of Requirement 19 - Main Development Site (MDS) Marine Infrastructure of the Sizewell C Development Consent Order. Ref. No: DC/23/4124/DRR*

*These documents have presumably been approved by the ONR, the Environment Agency and East Suffolk Council. I am disappointed that they do not reflect my concerns.*

*I find that the Applicant's work appears too focussed on Sizewell C in isolation, particularly its hard and soft coastal defence features rather than studies of the implications to Sizewell C's flood resilience of storm and surge action across the Greater Sizewell Bay (GSB) and loss of the GSB beachhead from shoreline retreat.*

*1) Shoreline retreat and the loss of the beach head across the Greater Sizewell Bay (GSB).*

*There appears to be little or no analysis of the loss of the Dunwich bank and its effect on shoreline retreat across the GSB immediately to the north of Sizewell C. The Dunwich bank may double in size, may collapse and may do both of these things by 2140. No one knows. What we do know is that it is lowering now, it is made entirely of sand, sand is not retained by the system, and it will be subject to new, unknown hydraulic forces of climate change sea-level rise and storm frequency change. If the Dunwich bank further diminishes there will be accelerated erosion to the shoreline and beach head of the Minsmere levels and the northern part of the Greater Sizewell Bay.*

*What will be the effect on Sizewell C's flood resilience by this process and what is the response of regulators?*

ESC's focus in this process is to ensure the implementation of shoreline management policy and intent for management objectives that are described in SMP7. ESC has accepted that the continuation of longshore sediment transport across the SZC frontage will achieve this and that the CPMMP adequately describes the actions to be taken by SZC Co to deliver the desired outcome. During the DCO ESC raised concerns at how future shoreline change scenarios had been assessed. The DCO process has accepted the SZC Co. approach and conclusions. The responsibility for assessment of the SZC flood resilience lies with ONR and EA. ESC currently has no role in that.

*6.2 The ONR has made clear that shoreline retreat across the GSB is just a 'habitats' matter and is hence not related to the flood risk safety case:*

- *Question "FR4 : It is recommended to use a conservative approach that should address the loss of major sections of the marshlands whether from depletion of the Sizewell-Dunwich banks or climate change sea level rise of anything above 1.5°C."*
- *"ONR Response: This is essentially an environmental/habitats matter and therefore outside ONR's vires."*

*In my view it would be prudent to fully analyse the case. Shoreline retreat across the marshlands and loss of beach head would allow unbroken wave access to Goose Hill as discussed in the next section.*

2) *The new Adaptive Sea Defence requirements specified by the Applicant.*

*If we consider the Applicant's January 2021 change submission found in document 'The Sizewell C Project, DCO Requirement 19: Main Development Site: Marine Infrastructure, Coastal Defences Design Report. October 2023' we see that EDF has increased the HCDF parameters:*

- *"An adaptive sea defence height of +16.4m OD excluding landscaping, with a maximum height of +18.0m OD " Clause 2.3.3.*

The above is again (as for Req. 12) a criticism of ONR and EA for accepting an alleged non-precautionary assessment of coastal change as a basis for the design of a nuclear site that is required to be resilient to flood and erosion risk.

I propose that we detach ESC from this discussion and that we base our approval decision on how the development addresses potential impacts on coastal processes.

If we are required to take a view on the Nuclear Site Safety case in our assessment, then our previous written submissions in the SoCG and LIR would support NS's baseline position.

To discuss.

## **7 SCC RoW**

Flood and Water Management

SCC as the LLFA has no comments at this time.

### *7.1 Public Right of Way*

*SCC notes that the permanent alignment of the PRoW (E-363/021/0) is linked to the design of the hard coastal defence feature. The Access & ROW Plans and Rights of Way Strategy (REP10-37) state that the precise alignment of the permanent footpath will accord with the layout and scale details of the hard coastal defence feature, and that a PROW implementation Plan is required before the new permanent alignment can be created (Requirement 10). The PROW Implementation Plan will also apply to both the temporary and permanent alignments (ROW Strategy para 3.2.5 Pins EN010012) Therefore, SCC looks forward to working with SZC Ltd on the PROW implementation Plan for both the temporary and permanent alignments and hopes that this will address concerns regarding: -*

- *Surfacing of the temporary PROW seaward of the temporary HCDF*
- *Surfacing of the PROW on its permanent alignment on the HCDF*
- *Ensuring the interface between the PROW and the BLF remains level for users (i.e., that the hardstanding doesn't create a step in the PROW)*
- *The location and legally defined width of the PROW for recording on the Definitive Map and Statement*

*As per Article 19, the public footpath cannot be temporarily closed until the alternative route is open for use and completed to the reasonable satisfaction of SCC; this will rely on the production and approval of the PROW Implementation plan.*

No action is required by ESC under remit of Req. 19.

*7.2 SCC notes that all the drawings solely refer to the coast path, but they should also show the current and proposed alignment of the publicly maintainable highway along the beach-E-363/021/0 (FP21); this permanent alignment will become the new legal alignment of the PROW to be recorded on the Definitive Map. The alignment for the King Charles III England Coast Path was approved by the Secretary of State in June 2022 and is currently being established on the ground by SCC. Reference to the PROW in this response also includes the King Charles III England Coast Path.*

ESC supports this drawing amendment.

*7.3 SCC would prefer to see the permanent PRow located on the crest of the permanent sea defence as this would provide the future proofing against threats which might compromise the public highway and create a liability and expense for SCC. Storm Babet illustrates the dynamic nature of the beach with the beach level being reduced overnight and the current low dune/vegetated shingle strip reduced in width. Although this is not the proposal, it is noted that the publicly accessible coastal margin will extend up to the SZC security fence allowing for an informal footpath along the crest, and therefore the design should ensure that there is safe and suitable access at the north and south end of the defence to connect to the PRow and to avoid the creation of desire lines which might compromise the landscaping. It is unclear how this access will be accommodated at the north end of the defence.*

ESC requires SZC Co to respond to this request.

7.4 SCDF and beach maintenance para 3.10.11

*SCC notes the commitment to recharge the SCDF to maintain a protective beach between the HCDF and the sea. The SCDF also protects the recreational corridor and the PRow. As SZC has opposed all requests by SCC to locate the PRow on the top of the sea defence, then it suggests that the trigger for any remedial work should also take account of the vulnerability of the PRow and its users.*

ESC supports this request.

DRW 100414 – Permanent coastal defence feature

*The detailed design will need to clarify how the newly aligned permanent PRow will transition from the permanent HCDF at 5.2mOD onto the existing lower land; at the northern mound and from the roundhead onto the existing SZB foreshore in the south.*

*Clarify why the recreational corridor (described as footpath) varies from between 4m – 9m; note that SCC will expect a legally defined public footpath including width (2m is the normal accepted width for a footpath diverted due to development)*

*Clarify whether the varying depth of fill/landscaping will have any impact on the long term durability of the footpath.*

ESC supports these requests.

ESC also seeks clarification of how the coastal path will be affected (maintained / relocated) if removal of the landscaping fill from the HCDF becomes necessary to sustain flood resilience performance of the HCDF.

DRW 100416 – Permanent coastal defence feature - adaptive design

*This design places the recreational corridor/footpath further east creating additional vulnerability to the PRow and the design should consider re-aligning the PRow on the crest.*

ESC requires SZC Co to respond to this request.

Temporary Hard Coast Defence Feature DRW 100419 & Para 4.2

*This will obstruct the existing PRow and a temporary alternative route seaward of the sheet pile wall is proposed. SCC require clarification as to how the PRow or temporary alternative access will be kept open/managed during the installation of the temporary sea defence, particularly as construction will be from the south and affecting PRow outside of the order limits.*

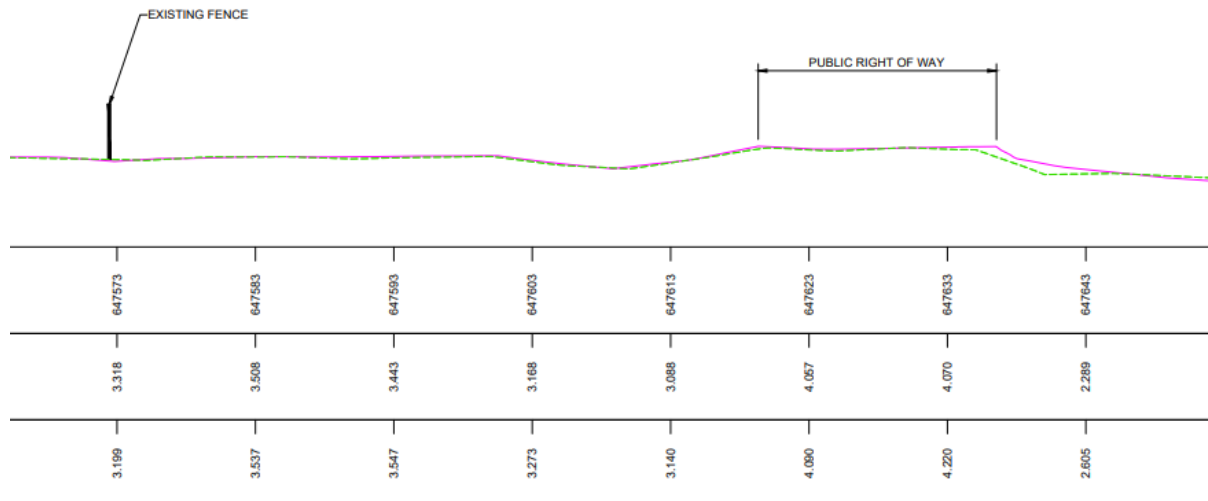
ESC requires SZC Co to respond to this request.



Section @ F-F Prior to Start of Construction

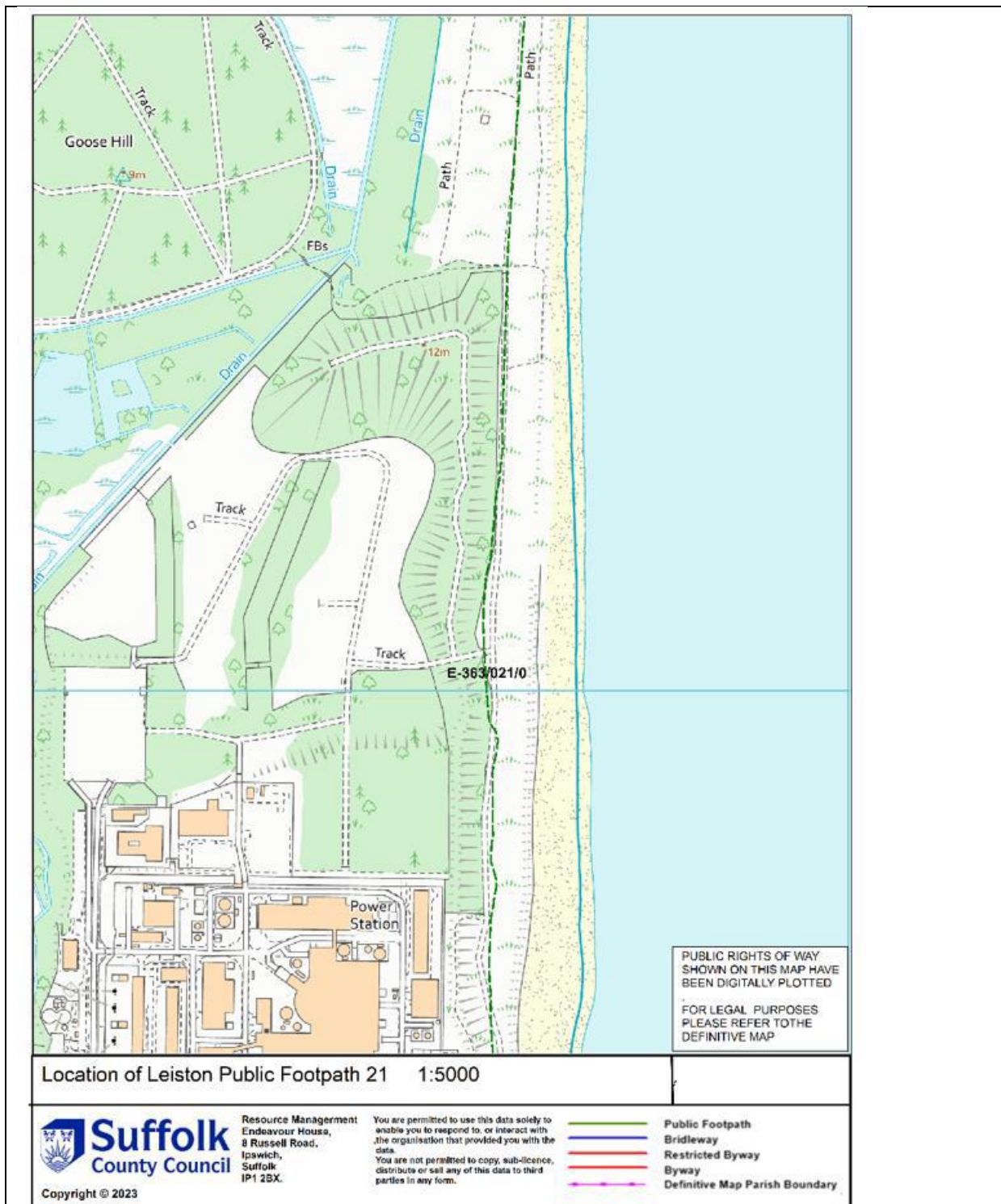
*The position of the PRoW is incorrectly marked. The PRoW is adjacent to the existing fence See extract from the Definitive Map below), not 45m to the east as shown on this drawing and therefore gives a false impression of the location of the design and should be corrected. (extract below)*

ESC requires SZC Co to respond to this request.



N @ F - F EXISTING SITE - PRIOR TO START OF CONSTRUCTION

SCALE 1:250



**Section @F -F**

*During construction of the initial sea defence and during construction of the MDS*

*The alternative access area starts 36m and 25m respectively to the east of the current PRoW alignment on these two cross sections with the allocated footpath strip starting at approximately 45m to the east of current PRoW.*

*The proposed design for the temporary alignment for the footpath will sit at the existing ground levels for 2022 which in the location of F to F appear to be between 2.88 and 3.38mOD (DRW 100415), unlike the proposed levels for the permanent alignment which will be raised to 5.2mOD. SCC*

*also notes that scour protection is proposed at the toe of the temporary HCDF, presumably as protection from tidal action.*

*SCC is therefore concerned that the proposed design for the temporary alignment of the PRoW in front of the THCDF will place path users closer to the MHWS and as the ground levels are intended to remain as per 2022, will leave them vulnerable to high tide events, effectively squeezed between the sheet piling wall and the sea.*

*SCC seeks clarification as to:*

*1. The measures that are being put in place to ensure the safety of users of the temporary footpath; and*

*2. What surfacing is proposed for the temporary footpath? Ground reinforcement grids could be an option to stabilise the shingle to create a useable width as used further south in front of SZB.*

ESC requires SZC Co to respond to this request.

## **8 MSL, TEAG & TEPC letter of objection 17/11.**

### **8.1 Overview**

*All along the Suffolk coast we have significant issues with erosion, both constant and episodic. This has been observed in front of the proposed Sizewell C site even since the DCO Examination concluded. It is accepted that any structures which significantly extend beyond the natural sweep of the coastline gives rise to both upstream and downstream impacts of erosion and/or accretion and where the structure is mobile, it will begin eroding immediately following exposure to the natural longshore drift process.*

The above text is a repeat of that in the Req. 12 response submission.

The ESC reply is in Req. 12, 5.2.

*8.2 Analysis of the plans provided to the Discharge or Requirement 19 – Marine Infrastructure shows that the plan view of the Hard and Soft Coastal Defence has been misleading throughout the Development Consent Order consultations and submissions, even as late as the examination and that even now the plans submitted as part of DoR 19, 12 and 14 do not reflect the actual shape and seaward extent of the proposed infrastructure.*

*When the cross sections provided in the DoR 19 submission are examined, the new Sizewell C coastal defence will protrude variously between 35m (at cross sections D-D and E-E) and up to 120m (cross section C-C) from the existing sacrificial dune.*

*Such a significant extension of the defence seaward, beyond the existing sweep of Sizewell Bay, which has been eroding further since the ground level surveys relied upon in these submissions, will be immediately subject to significant erosion as an artificial promontory and the Coastal Processes Monitoring and Mitigation Plan DoRs 12 and 14 will be under immediate and constant pressure to repair and recharge the Soft Coastal Defence. The position of the Hard Coastal Defence toe at the Southern Tie In Roundhead is so extreme that it could easily come under severe pressure and be undermined.*

*8.3 The SZC Co design that was approved by the DCO includes a sacrificial beach (SCDF) as mitigation to prevent exposure of the HCDF. By definition the SCDF is in a position exposed to wave and current action which is expected to increase over time. Under the terms of the CPMMP SZC Co are obliged to sustain a longshore sediment pathway by means of a maintained SCDF or other agreed method, unless / until amended by the Cessation Report the SCDF.*

The position of the HCDF southeastern extent is likely to be a point of high erosion pressure.

PINS has approved it under the DCO.

ESC has concerns at this which are covered elsewhere in this Report. See Req. 19 items 1.5 and 8.7.

*Theberton and Eastbridge Parish Council (T&EPC), Minsmere Levels Stakeholders Group (MLSG) and Theberton and Eastbridge Action Group on Sizewell C (TEAGS) request that the above planning applications for Discharge of Requirement (DoR) 19, 12 and 14 be refused.*

Detailed Submission

*The evidence and reasoning behind the statements above are taken from the information provided by Sizewell C within the Discharge of Requirements 19 submissions but also reflects statements and plans submitted during the Development Consent Order consultations and examination.*

*8.4 • It is notable that DoR 19 is still not a detailed design and that no dates are given for submission of such documents. Any assessments can therefore not be substantive.*

Any future changes to the current design will require approval by ESC.

*8.5 • There are significant discrepancies between the General Arrangement Plan views of the HCDF/SCDF feature and the cross sections provided which will be further detailed below.*

*Noted.*

*8.6 • The seaward extent of the SCDF and its slope are of considerable concern particularly at the Southern Tie In Roundhead of the defence and the other two DoRs (12 and 14) need a final detailed design for the CPMMP to be assessed appropriately.*

ESC has sought clarification from SZC Co under Req. 19 on the method by which the SCDF profile is defined and how it is shown on plans and sections. When these changes are implemented, ESC will be satisfied. The seaward extent of the SCDF at the southern end is affected by a query as to the precise position of the HCDF which is the subject of a separate query in Req. 19 8.7.

*8.7 • It now becomes clear that the modelling presented during the DCO for coastal erosion and the impact of the cessation of Sizewell B operation on the Sizewell B salient are simply wrong given that the Roundhead feature of the HCDF actually resides on and below the current SZB salient. These concerns were already communicated to the Planning Inspectorate during the DCO examination based on measurements made from the plan view of the HCDF/SCDF submitted to the Examining Authority but have now been detailed as a result of the provision of an additional cross section of the Hard and Soft Coastal Defence plans (HCDF and SCDF) submitted and updated in the DoR 19 application.*

*In particular cross section C-C, of the Southern Tie In Roundhead feature, **now shows that the seaward extent of this feature has not been represented properly in any submitted General Arrangement Plan views going back to the DCO examination submissions or in these latest submissions.***

*The last plan submitted to the Planning Inspectorate's Examination of the Sizewell C Development Consent Order shows that the Hard Coastal Defence (HCDF) at its most southeastern point, the Southern Tie In Roundhead will be situated significantly east (seaward) of the existing natural embayment profile between Minsmere Sluice, north of the site, and Sizewell village to the south of the proposed Sizewell C site.*

*Comparisons between the final DCO submitted plans and those now submitted for this DoR 19 are as*

follows:

HCDF/SCDF Cross-section reference <a href="#">DoR 19 Submission</a>	HCDF Foot Eastings			
	DCO Easting Submission	DCO Submission Comment	DoR 19 Easting Submission	Result
Cross-section B-B (at BLF position)	647615	Not Provided – Determined from Revision 2 General Arrangement Plans (see below)	647615	
Cross-Section D-D	647615		647615	
Cross-Section E-E	647615		647615	
Cross-Section C-C	647638	Not Provided – Determined from Revision 2 General Arrangement Plans (see below)	647653	15m further East (seaward) but 38m further East than the HCDF toe at D-D or E-E

*There are clear discrepancies between the Coastal Defence Feature General Arrangement Plans and the Southern Tie In Roundhead eastings provided in the DoR 19 cross section C-C. Whilst cross-sections D-D and E-E agree with both the DCO and DoR General Arrangement Plans, the Southern Tie In cross-section at C-C, provided with DoR 19 submission, do not agree with DCO or DoR 19 General Arrangement Plans and it appears that both DCO and DoR 19 General Arrangement plans are identical apart from the indicators of the cross-sections. See Figures 1 through 4 below.*

*The General Arrangement Plans do not represent the actual easterly positions of the Hard Coastal Defence Feature toe at the Southern Tie In, which is significantly east of the existing sacrificial dune and is several metres east of the current easterly edge of the Sizewell B salient. This is apparent from both the 2019 and 2020 existing ground lines shown in section C-C (Figure 4 below).*

*Furthermore, from cross sections D-D and E-E (Figure 3 below) the toe of the HCDF and the path above on the SCDF sand/shingle substrate at +5.2mOD rises seaward to +6.4mOD before sloping away at about 1:8 to meet the existing beach. From the toe of the HCDF it is ~60m before 0mOD (easting 647673) would be reached, although the 2019/2020 beach level is reached at about 35m (easting 647648).*

*However, in the past 12 months overall beach levels have fallen again alongside significant erosion of the existing sacrificial dune so this may now be an optimistic evaluation.*

*If we now look at cross section C-C where the toe of the HCDF is 38m further seaward (easting 647651) than the HCDF toe at D-D and E-E, this places the Southern Tie In Roundhead HCDF toe at roughly the same point where the SCDF, for three quarters of the length of the defence, meets beach levels measured in 2019/2020 and as indicated in cross sections D-D and E-E.*

*According to the C-C cross section the centre of the Roundhead is in line with the toe of the defence at D-D and E-E (easting 647515), and the overall width of the Roundhead given by the chainage measurements is 77m. This confirms the toe at C-C being 38m further east/seaward of the main HCDF toe. SZC stated that the slope of the SCDF at C-C would have to be greater than that along the rest of the frontage. However, the SCDF above the HCDF toe at C-C is;*

- *At the seaward extent of the northern three quarters of the SCDF.*

- At +5.2mOD rising to +6.4mOD before being able to slope down to meet the beach.
- If the slope were to target 0mOD the slope needed would be about 1:2 which is too steep for a stable sand and shingle substrate SCDF to be established.
- The C-C cross section shows the slope to be the same as the slope at D-D and E-E which would push the SCDF out a further 82m to meet 0mOD.
- The cross section at this point does not extend far enough and does not have a 2019/2020 existing beach level to make a proper assessment.
- If the indicated 1:8 slope in cross section C-C is used there is no guarantee that it would reach the beach in 82m as the beach profile terminates prematurely.

*It is difficult to see how a stable slope can be formed at C-C unless the seaward extent of the HCDF/SCDF design protrudes significantly further than indicated on the General Arrangement plans, especially after accounting for the discrepancies mentioned above.*

*During the DCO examination additional modelling of wave action on the beach was submitted and one of the conclusions concerning the Sizewell B salient was that once Sizewell B ceased operation, within a few years the salient would be removed as SZC does not have a near shore outfall to maintain this artificial shingle accretion. That is clearly an erroneous conclusion because the Southern Tie In Roundhead feature of the new HCDF/SCDF for SZC sits right at the easterly apex of the Sizewell B salient. It would also indicate that no appropriate modelling of the proposed HCDF/SCDF design has been performed or reported to show what the impact of this design is for longshore drift and sediment transport.*

*The Southern Tie In Roundhead, in particular, will be a physical intrusion into the seascape, significantly East and seaward of the current sacrificial dune and general curvature of Sizewell Bay in front of the Sizewell C site, ending relatively abruptly between 38m and 120m from the current sacrificial dune apex as it returns shoreward to meet with the existing Sizewell B sea defences. We believe that permitting these applications is irrational given that the HCDF/SCDF design in DoR 19 is currently flawed and the CPMMP cannot be assessed against a flawed design.*

ESC agrees with the above observations wrt the location of the southern HCDF as defined in plans submitted with the DCO and Req.19. ESC agrees that the cross section for this feature submitted in Req. 19 drawing 417 shows it to be significantly further seaward that is shown in Req. 19 drawing 414. If the position shown in section CC on drawing 417 is a proposed design amendment by SZC Co then ESC will require further information as justification including an assessment of how this affects viability of the SCDF in this vicinity and the resilience of the HCDF foundation.

ESC has sought an explanation of this difference from SZC Co.

Req. 19 should not be approved until ESC has received and considered SZC Co's response which may also need consultation with other MTF partners.

*On 23/11 at 1450 SZC Co replied.*

*Apologies – again – there seems to be an error on how the chainages / profiles have been pulled across from CAD into the section drawings. Therefore, there is an error in the chainages given in drawing 417. In plan, drawing 414, everything is correct.*

*We will re-issue the erroneous drawing 417 as a matter of urgency.*

*For the avoidance of any doubt, the location (Easting) of the HCDF "roundhead" at the southern end has NOT changed since the DCO submission.*

*I have instructed Atkins to verify the chainages on all other sections and they have confirmed there are no further errors.*

*I hope that answers the query but please let me know if you need any more information.*

*Kind regards Stephen*

Furthermore;

*8.8 • The potential for significant effects beyond their immediate boundary, in respect of the adjacent coastline and sand dune defences for RSPB, Sizewell A and B defences and Sizewell village. Further impacts both north and south cannot be ruled out and have not been modelled adequately.*

This is a repeat of Req 12 5.4. See ESC response there.

*8.8 • The CPMMP cannot be assessed without credible HCDF/SCDF design.*

The design information submitted in Req.19 is sufficient to allow an assessment of the potential impact of the works on coastal processes. Some additional information is required to be added regarding the profile and plan extent of the SCDF. See Req. 19 items 1.1, 1.2, 1.3 and 1.4.

*8.9 • The designs and plans shown in the CPMMP document have the same incorrect General Arrangement Plans as discussed above and submitted for DoR 19.*

There is a discrepancy in the Req. 19 information concerning the seaward extent of the HCDF at the southern end that has been referred to SZC Co for explanation. See Req. 19 8.7.

*8.10 • The CPMMP plans show the Soft Coastal Defence (SCDF) extending at least 60 metres from the toe of the HCDF and well beyond the existing natural sweep of Sizewell Bay. This is confirmed in the DoR 19 submission.*

This is a repeat of the question in Req. 12 5.7. See the ESC response there.

*8.11 • Based on plans submitted to the PINS DCO Examination and in DoR 19, the most southeasterly extent of the Hard Coastal Defence is situated on and below the existing Sizewell B Salient, a structure that the applicant stated in the DCO will “relax” (erode) back to the natural sweep of Sizewell Bay within a couple of years of Sizewell B ceasing operation.*

This is a repeat of the question in Req. 12, 5.8. See the ESC response there.

*8.12 • The HCDF toe at cross section C-C, the Southern Tie In Roundhead, is at significant risk of being exposed quickly because it is significantly seaward of the natural sweep of Sizewell Bay and maintaining the SCDF at this extreme point will be difficult from day 1 threatening the overall integrity of the structure of the HCDF itself and exposing the impracticality of the CPMMP.*

See the ESC response in Req. 19, 8.7.

*8.13 • Whilst the CPMMP plan does not superimpose the HCDF/SCDF structure on the existing profile of the coastline, those in the DCO submissions and DoR 19 do. However, in the past two years that profile has significantly eroded and changed adding further concern that the proposals in the CPMMP against a flawed HCDF/SCDF design have no practical foundation.*

See the ESC response in Req. 12, 5.9.

*8.14 • The adaptive design of the HCDF/SCDF will raise the overall height of the defence and lower the toe from 0mOD to -1.5MOD. This will also push the eastern extent of the HCDF toe seaward for an additional 17m and the SCDF will have to be re-established with similar parameters to those discussed above. This is an even more severe impact on an already unsustainable design.*

The impact assessment for an Adaptive HCDF profile has been accepted by PINS.

*8.15 • Until the HCDF/SCDF structure is designed to ensure minimum impact on the coast by bringing the eastern/seaward extents of the HCDF/SCDF closer to the existing shoreline and natural sweep of Sizewell Bay, the structure as currently submitted in DoR 19 will only add to coastal impacts across the greater Sizewell Bay area.*

See ESC responses in Req. 19, 8.7 and Req 19, 1.5.

*8.16 • The plans as currently submitted are unsustainable and the CPMMP will be unable to maintain the defence.*

There are some matters requiring further consultation with SZC Co.

The purpose of the CPMMP is to maintain a longshore sediment pathway, not to maintain the defence.

*As a group of concerned organisations we are of the opinion that these three Discharge of Requirements applications (12, 14 and 19) are inadequate and misguided and should be refused.*



Figure 1: Annotated Plan Submitted at ISH 11

Edge of the HCDF and position of future footpath

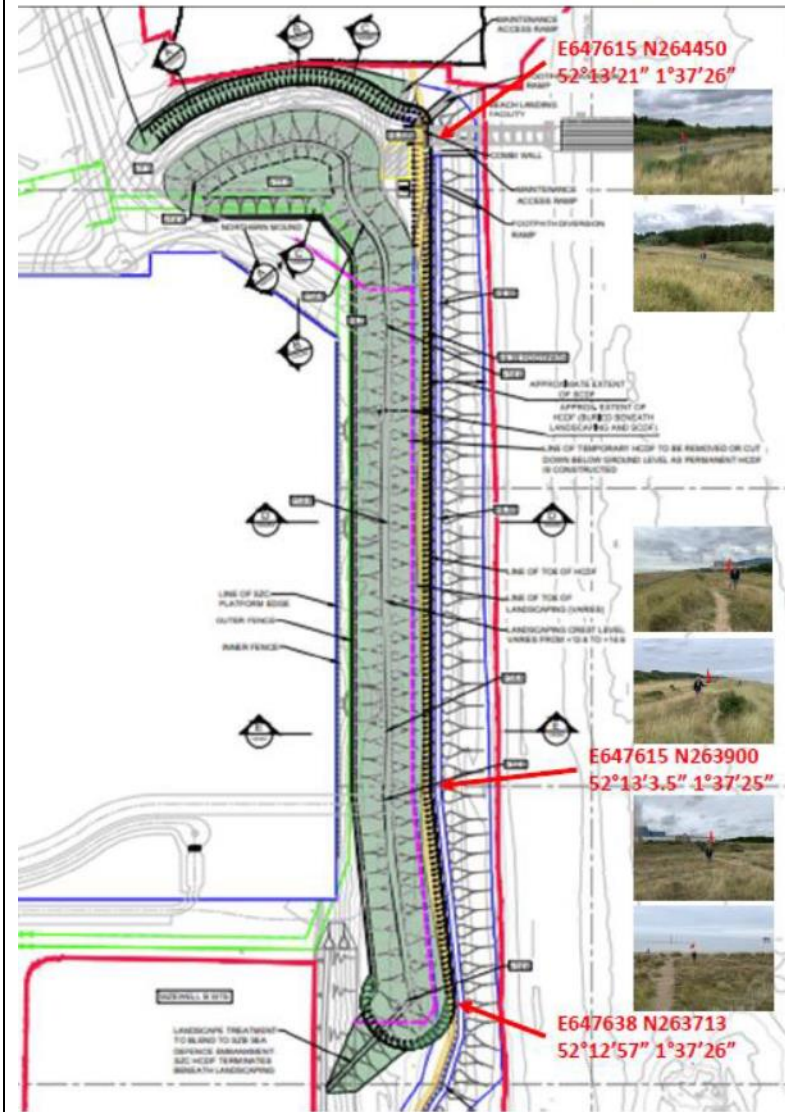


Figure 2: General Arrangement Plan Showing Southern Tie In Roundhead and C-C Positions

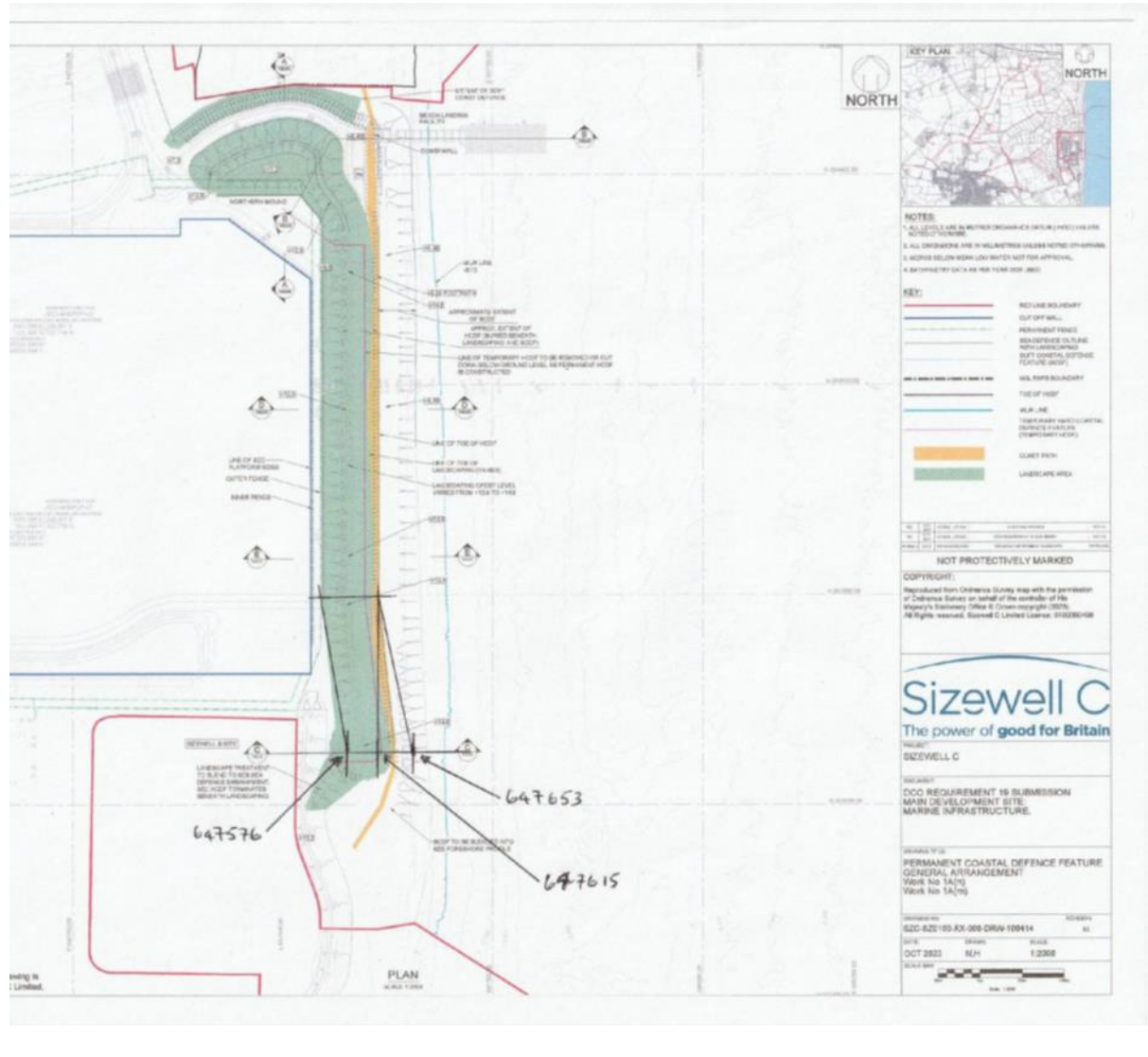


Figure 3: Cross Sections D-D and E-E from DoR 19

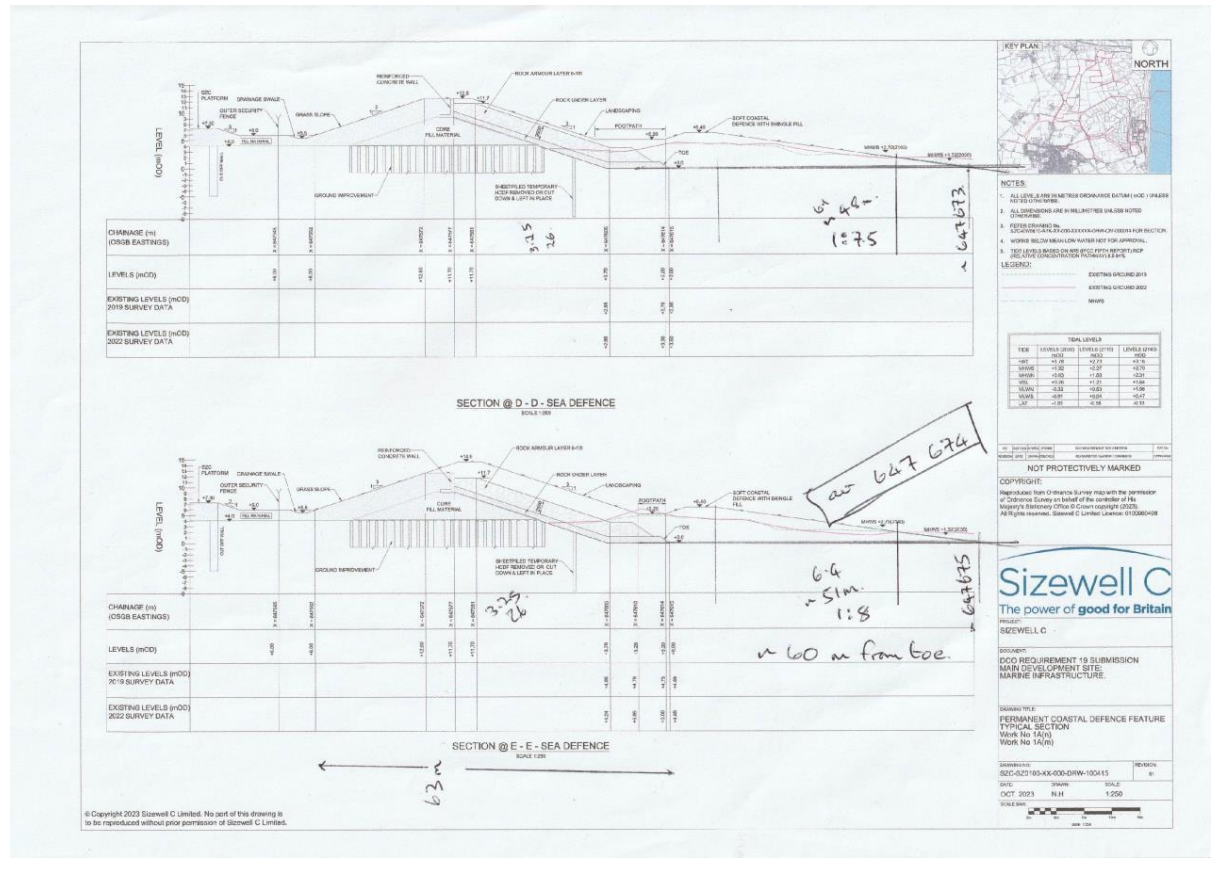
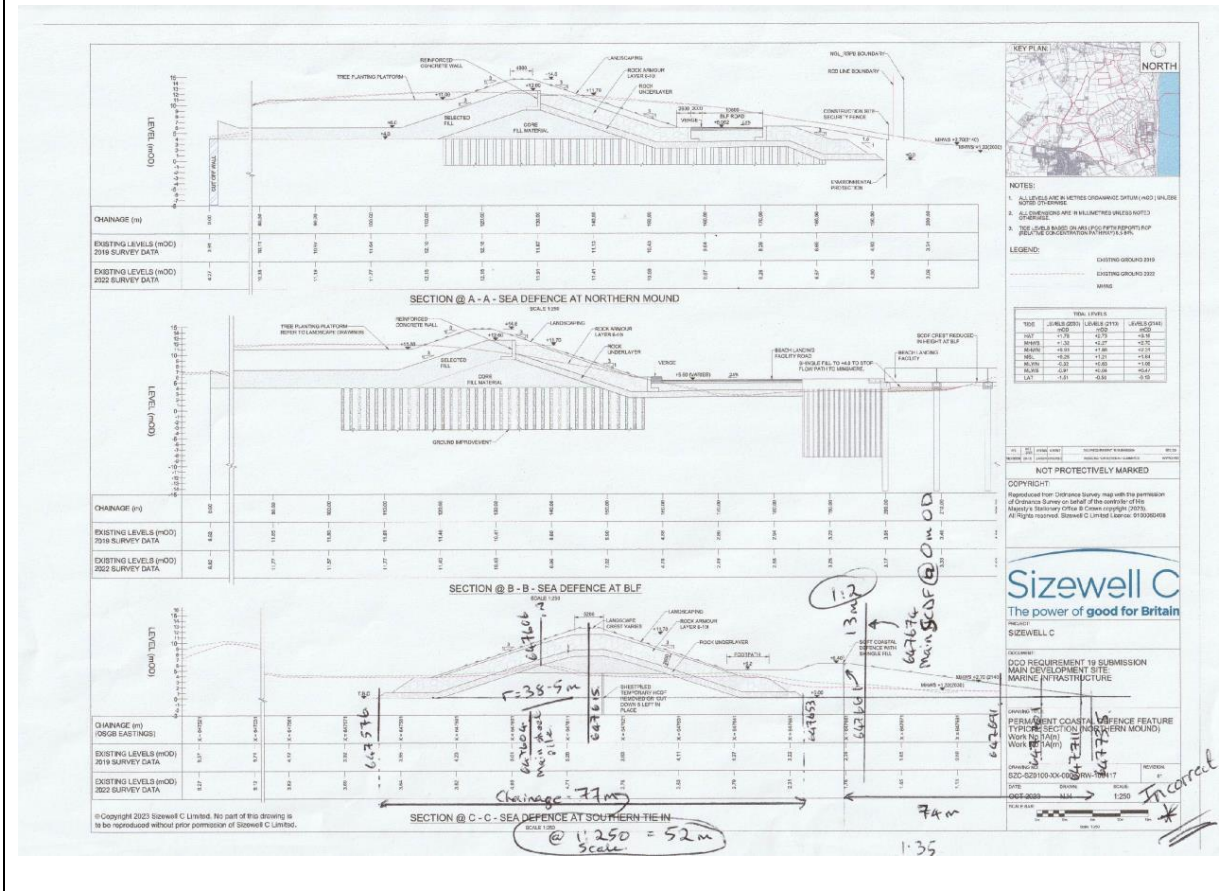


Figure 4: Cross Sections A-A, B-B and C-C from DoR 19



## 9.0 TASC 17/11

TASC do not consider that this application adequately meets the requirement set out in the Sizewell C (SZC) Development Consent Order (DCO) and fails to demonstrate that the Sizewell C site can be kept safe for its full lifetime ie the slated 60 years of operation, plus the decommissioning period and the time required for spent fuel to be stored and then safely removed from the site. As such this application for discharge of Requirement 19 should be refused. On the basis that the sea defences and the CPMMP are intrinsically linked, the application for discharge of Requirement 12 should also be refused.

TASC are aware that East Suffolk Council (ESC) have responsibilities under the Coast Protection Act and a duty of care for the safety of their residents and protection of the AONB. Accordingly, we should be grateful if you would take our following comments into consideration:-

### 9.1 Change of design life of the Hard Coastal Defence Feature (HCDF) from 2140 to 2120

Para 3.1.2 of the Marine Infrastructure Coastal Defences Design Report (MICDDR) states "The current timescale being considered for the design of HCDF is to 2120 accounting for climate change over this period." However, **the design submitted at DCO was for an operational design life of 2030 to 2140.** Indeed, the Applicant confirms this, themselves, in para 3.1.2.

The Applicant unsuccessfully tries to justify the change in design life of the sea defences to 2120 through the availability of the 'Adaptive Design Approach' – para 5.2.1 MICDDR states "The current stated timescale for the design life of the sea defences is to 2140. However, a timescale now being

considered for the design of HCDF is to 2120 accounting for climate change over this period. The 2120 date represents the planned timescale for end of decommissioning of the main site and the start of interim spent fuel facility operation". TASC draw attention to Para 2.3.1 of the MICDDR which advises that in January 2021 "The design life of the structure is 110 years (up to 2140 – extended to accommodate change in spent fuel storage strategy)". **The Applicant has failed to supply a new spent fuel strategy that justifies the new 2120 timeline.** Indeed, the Applicant offers no explanation of how the removal of spent fuel from the SZC site by 2120 can be achieved or what is meant by 'accounting for climate change' – in TASC's opinion, this means that as climate change is predicted to produce ever worsening adverse impacts, **the Applicant is unable to demonstrate that the SZC site can be kept safe for its full lifetime** (60 years of operation, plus the decommissioning period and the

time required for spent fuel to be stored and then safely removed from the site ), or justify the 2120 timescale as being an achievable date for all the spent fuel to have been removed from the site. Further watering down of climate change parameters is evidenced in para 3.1.3 which states, without any justification or explanation, "As part of design development, the climate change parameters adopted by the project are now the 84% of RCP 8.5 from UKPC 18. Previously the 95% [of RCP 8.5] was used."

Proposing a design life for the HCDF to 2120 is a further example of the Applicant's lack of adherence to the precautionary principle. TASC draw ESC's attention to National Policy Statement EN1 which states in para 5.8.7 "Where new energy infrastructure is, exceptionally, necessary in flood risk areas (for example where there are no reasonably available sites in areas at lower risk), policy aims to make it **safe for its lifetime** without increasing flood risk elsewhere and, where possible, by reducing flood risk overall. [emphasis added] It should also be designed and constructed to remain operational in times of flood."

TASC consider that **changing the design life of the HCDF to 2120 is a fundamental change to the SZC project** so should be the subject of an application to the Planning Inspectorate as a material change to the SZC DCO. The 2120 date contradicts the Coastal Processes Monitoring and Mitigation Plan (CPMMP) that is being considered under DC/23/2660/DRR. **The CPMMP cessation report, states "2140 is the end of the design-life for the HCDF, when all nuclear materials and safety functions will have been removed from the site"** So either the application submitted to discharge Requirement 12 or this one for Requirement 19 is incorrect – they can't both be right.

ESC item Req. 19, 1.8 seeks clarification from SZC Co on if / how the design of Marine Infrastructure elements will be affected by the proposed change in design life from 2140 to 2120.

ESC items Req. 12, 1.2 and 1.3 will ensure that obligations on SZC Co to implement the CPMMP will continue until within 10 years of removal of nuclear material from the 'site', which includes the Interim Spent Fuel Store, when a Cessation Report will be prepared.

The points made regarding management of the flood defence should be directed to the ONR and EA.

### 9.2 Consideration of the full lifetime of the SZC site

As ESC have a duty of care to protect the safety of its residents, TASC believe ESC need to acknowledge that spent nuclear fuel will be stored on the SZC site beyond the design life of the proposed sea defences i.e. beyond 2120., This was confirmed by the Applicants during the DCO examination when they advised that the full lifetime of the site would be till the mid-late 2100s i.e. long after 2120 (therefore, potentially unprotected from inundation from the sea). Spent nuclear fuel needs to be stored on site until it is sufficiently cooled to safely move to a Geological Disposal Facility (GDF). This is supported by the Applicant's own DCO documents – para 7.7.92 of DCO document APP-192 (EN010012-001812-

[SZC\\_Bk6\\_ES\\_V2\\_Ch7\\_Spent\\_Fuel\\_and\\_Radioactive\\_Waste\\_Management.pdf](#)

([planninginspectorate.gov.uk](http://planninginspectorate.gov.uk)) which states: "...the date for start of transfer of spent fuel from the

Sizewell C site to a Geological Disposal Facility is 55 years after the end of generation. The process of transfer from the site will take approximately eight and a half years. On completion of transfer of the spent fuel from site, the spent fuel ISF would be decommissioned” and para 5.1.5 of APP-189 (6.3 Revision: 1.0 Applicable Regulation: Regulation 5(2)(a) PINS Reference Number: EN010012 Volume 2 Main Development Site Chapter 5 Description of Decommissioning) states: “decommissioning of the ISFS [the spent fuel store] would take 5 years”.

The Office for Nuclear Regulation (ONR) separately confirmed to TASC that a total period of approximately 70 years is required for EPR spent fuel to cool sufficiently in order to be safely transported off the site and the spent fuel store decommissioned

SZC is proposed on the basis that it will operate for 60 years so if SZC starts operating in 2035 then 60 years of operation would end in 2095 and the site cleared of spent fuel (i.e. fully decommissioned) approximately 70 years later, with an end date of around 2165 (at the earliest). Bearing in mind there is no UK GDF in existence, nor one guaranteed, and that the timetable for EPR fuel cooling is somewhat speculative as there is presently no history of storing EPR fuel, even a 70-year period from end of generation to final decommissioning is not precautionary. The new 2120 date is a fundamental aspect of the SZC project, determining the longevity of both the HCDF, the SCDF and the CPMMP. However, it is clear that spent nuclear fuel will still be on the SZC site beyond the new 2120 date, indeed beyond 2140, and the SZC site therefore left unprotected for its full lifetime.

It is clear from this application and the one for the discharge of the CPMMP, **there is no Plan B** to deal with a rapid acceleration of sea level rise (SLR), increased storm surges and more extreme weather events during the full lifetime of the SZC site. This application implies that the SZC site will no longer need protection beyond 2120 so the Applicants need to explain why this is the case. If the Applicants are now proposing to move the spent fuel from the site by 2120, then this application needs to include a new spent fuel strategy setting out how and to where the spent fuel will be moved, and at what cost. On this basis TASC believe that ESC does not have sufficient information to discharge Requirements 19 and 12 (DC/23/2660/DRR). As stated above, TASC are of the opinion that the change in design life of the HCDF should be treated as a material change to the Sizewell C DCO.

ESC response is as Req. 19, 9.1 above.

### 9.3 Positioning of the HCDF

TASC remind ESC that according to their final Statement of Common Ground at the end of the DCO examination (DCO document REP10-102 <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010012/EN010012-008129-Sizewell%20C%20Project%20-%20Final%20SoCG%206.pdf>), in paras 8.12, 8.13 and 8.14 of the Coastal Processes section on pages 19-22 **ESC did not agree**; that the position of the HCDF could meet the ‘hold the line policy’; that a precautionary approach had been taken with the sea defences; and, that the process takes sufficient account of risk and uncertainty associated with a 120/140 year asset life, respectively. And in ESC’s letter of 14<sup>th</sup> April 2022 (<https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010012/EN010012-010799-East%20Suffolk%20Council.pdf>) when replying to BEIS’s letter of 31<sup>st</sup> March 2022, ESC confirmed that this was still their position. In TASC’s opinion, these proposals, together with those for the CPMMP do not meet the ‘hold the line policy’; do not take a precautionary approach; and does not take into account the certainty, or the associated risks, that spent nuclear fuel will be stored on site beyond 2120.

Notwithstanding the above TASC text, PINS have approved the development as submitted at DCO.

9.4 While the proposed location of the entire sea defence is too far seaward, we are particularly concerned about the positioning of the southern Mound on the current beach/SZB salient. Drawing 100417 appears to show the toe of the HCDF only 37 metres from the 2030 MHWS line. Having witnessed the loss of 1-2 metres of the sacrificial dunes in front of the SZC site due to erosion over the

*last 18 months, bearing in mind the anticipated loss of the SZB salient once SZB ceases operations and the natural embayment that will take place in front of the SZB/SZC sites, the positioning of the HCDF is totally unsuitable. There would appear to be great risk of the toe of the southern mound being very regularly exposed by the time SZC becomes operational. Once the sea meets the HCDF, which it is likely to do over the full lifetime of the SZC site, there will be inevitable consequences for neighbouring properties (including SZB and its spent fuel store) – these proposals make no consideration of this, contrary to EN1 para 5.8.7 quoted above.*

The SZC Co proposal does recognise that the HCDF would probably become exposed without the SCDF which is proposed as mitigation for that eventuality.

Also see ESC responses in Req. 19, 8.7 and Req. 19, 1.5 regarding the southern HCDF.

9.5 Limitation of scope of geomorphological/flood-risk assessments to the Sizewell C frontage

*With the focus of these proposals and those for the CPMMP (DC/23/2660/DRR) being only on the SZC frontage, they do not adequately consider the risk of the lack of sea defences on the western boundary of the site. The Applicants have proposals for the height of the HCDF to be raised as part of the adaptive management arrangements with no consideration of the fact that if the height of the HCDF needs to be raised, there will inevitably have been a breach of the low lying dunes to the north of the SZC site and the sea likely being to the west of the SZC site. With no sea wall on the western elevation and the nuclear platform only being at 7.3m AOD, the site will be extremely vulnerable to flooding from the west at times of extreme still water levels with wave overtopping. Para 2.3.2 states “The above changes increased the extreme 1 in 10,000yr design Still Water Level from 5.95m OD to 7.02m OD. The design Still Water Level is defined as the estimated present-day extreme water level including surge, derived from a statistical analysis, plus the climate change increase in mean sea level and surge to the year 2140.” The risk of the site being flooded from the west should be taken into account by ESC when considering the adequacy of the proposed sea defences.*

ESC has no role in approval of the flood resilience of the development. These points should be addressed to the ONR and EA.

Observations from a general review of the MICDDR

*9.6 Para 3.2.1 states “...the permanent sea defences that will be in place throughout the operational life of the power station and during decommissioning.” The permanent sea defences need to be in place for the full lifetime of the site up to the time that the spent fuel has been safely removed from the site, not just up to the end of decommissioning.*

Agreed. See ESC response in Req 12, 1.3.

*9.7 Para 3.3.3 states “The temporary HCDF will be installed as one of the earliest construction activities, prior to the removal of the existing ridge (“Bent Hills”) which provides a part of the existing SZB Sea Defences.” This appears to conflict with another discharge application, which stated that removal of the Bent Hills is included in Phase 1 works and construction of the temporary HCDF in Phase 2.*

This text relates to the flood resilience of SZB and is therefore not within ESC’s remit.

*9.8 Para 3.3.5 states “The extent of ground improvement is to be confirmed at detailed design stage...” This confirms that the current proposals are not sufficiently advanced to be approved, the Northern Mound being an area vulnerable to inundation from the sea. The paragraph also refers to the ‘Access Road’ but it is not clear whether this refers to the road from the SSSI Crossing or the road*

*from the BLF.*

In the context of Req. 19 ESC is concerned with those parts of the marine infrastructure design that have potential to affect coastal processes. Ground improvement work is not included in that scope.

*9.9 Para 3.4.2 states “The Adaptive Design will only be implemented if mean sea level rise exceeds the reasonably foreseeable design value during the operational life of the structures...” This appears to be saying that adaptation will only take place during either the operation of SZC or up to 2120, neither of which is acceptable, due to spent fuel still being stored on site beyond 2120.*

It is a matter for the ONR and EA to comment on the adequacy of SZC Co proposals for the protection from flooding of the spent fuel store.

*9.10 Para 3.4.3 refers to “The water levels shown are at the end of design life (2140)...” Is the design life of the HCDF 2140 or 2120?*

ESC response in Req.19, 1.8 refers.

*9.11 Para 3.4.5 states that “The design considers a number of constraints and interfaces, including:...The cut-off wall design and construction (anchors)”, but the potential implication of the anchors being installed adjacent to/within the sea defences are not disclosed. For example, ground anchors are not shown in figure 3-5.*

If in the future the design of ground anchors requires a change to the design submitted for approval in Req.19 then SZC Co will need to submit design variation request for consideration by ESC.

*9.12 Para 3.4.8 states “The Credible Maximum (CM) has been taken as the H++ scenario defined in UKCP09 (not updated for UKCP18).” No explanation has been provided to justify why the UKCP18 update has not been carried out and reflected in the Table 3-1 Design Parameters.*

This is a matter for the ONR and EA to comment on.

*9.13 Para 3.4.10 sets out the Design Parameters, stating “The key inshore design parameters for the sea defence are...” These appear to be deficient as they do not say that Storm Surges are included.*

This is a matter for the ONR and EA to comment on.

*9.14 Figure 3-4, by showing the cut-off wall at the southern end being built on the line of the current SZB sea defences, illustrates what TASC have been saying for years, that the SZC site is too small for two EPR reactors, hence the sea defences being located too far seaward.*

No comment.

*9.15 Table 3-2 highlights that this is not the final design. Neither this application nor that for Requirement 12 refer to expected dates for important aspects of the sea defence design to be finalised. This supports TASC’s view that this application is not suitable for approval.*

If this design is approved any future amendments to it will need to be submitted to ESC, and others, for approval.

*9.16 We question why the Applicants state that they need to use 6-10 tonne rock when 10-12 tonne*



*rock has been used on other projects – this would appear to indicate that the Applicants are willing to compromise safety over cost. After over a decade of planning why have the Applicants not yet decided if the adaptive design will use rock or concrete armour. Why are there no details of the proposed soft-fill materials or reference to the geotextile membranes without which the soft-fill will get washed away?*

The size of rock armour, and details of internal HCDF soft fill, are not relevant to ESC's consideration of the impact of the works coastal processes. ESC does not object to those details being provided at a later stage of the design process.

*9.17 Para 3.7.2 refers to the Sandlings Walk, stating "The cross sections shown in Figure 3-11 indicate the proposed location of this path." However, we can find no reference to the permissive path in Figure 3-11. This is one of many examples of inadequate drawings, many of which lack keys or have inaccurate keys, scales and details.*

See the SCC RoW team response in Req 19, section 7 that is seeking additional information on drawings.

*9.18 Para 3.10.6 highlights the incomplete nature of the current proposals – the modelling needs to take into account the recent huge loss of beach volume and erosion of the sacrificial dunes in front of the SZB and SZC frontages over the last couple of years. Modelling should assume that the recent rate of depletion and erosion will continue.*

Modelling of SCDF potential resilience to predict Recharge Intervals, carried out in report TR544 Rv 4 (SZC\_Bk9\_9.12(C)) includes consideration of historic worst case rates of retreat.

*9.19 Para 3.11.1 states "The HCDF is designed to protect Sizewell C from a 1 in 10,000yr storm event with "Reasonably Foreseeable" (RF) climate change effects up to the end of its design life in 2140." Again, is the design life 2140 or 2120? Why does this paragraph and 3.11.2 refer to section 0?*

See Req.19, 1.8, for the ESC response to SZC Co on the Design Life Date change. ESC will query the 'Section 0' reference with SZC Co. See Req19, 1.8.

*9.20 Para 3.12.7 states "It is therefore not practicable to modify the operational SZC platform position or configuration, nor the position of the outer security fence relative to the internal platform area to lessen the seaward extent of the sea defences." This, again, highlights that this project is too large for its plot, forcing the impactful sea defences too far seaward. TASC believe, that in the light of recent coastal erosion, it is imperative that ESC insist on applying the 'hold the line' policy within the Shoreline Management Plan.*

ESC will continue to explore all options to limit the seaward extent of the HCDF and to ensure that longshore sediment transport is not interrupted by the development.

*9.21 Para 3.12.11 concludes with "This will require further development in the detailed design phase" This, again, highlights important elements of the HCDF still need to be designed, thereby supporting TASC's contention that the current proposals are not sufficiently advanced to be approved.*

Details of the Marine Infrastructure that have potential to affect coastal processes are sufficiently well developed for ESC, and other approving bodies, to take a view on now. If the design information is approved now any future amendments to it will need to be submitted to ESC, and others, for approval.

9.22 Para 4.4.3 states “These Works will include excavation within the beach/ SCDF to permit the extension and lowering of the HCDF toe, and the transport and placing of armour stone units to form the new revetment.” The works that are required on the beach to extend the toe of the HCDF for the adaptive design should take place now if SZC construction goes ahead, to save the disruption to the beach, its users and the natural environment at a later date.

ESC supports the adaptive approach proposed by SZC Co.

9.23 Para 5.5.2 states “In the event (unlikely but possible) that the effects of climate change take a more severe trajectory, the permanent sea defence is designed so that its height can be adaptively increased in time to maintain adequate protection to the SZC site over its lifetime...” This statement contradicts other parts of the document that state that the adaptive design would only be made during the design life of the HCDF (to 2120) and not the full lifetime of the project till the mid-late 2100s.

ESC is clear on the meaning of this statement.

9.24 Section 5.4 refers to the 10 yearly Periodic Safety Reviews, with the implication that these will be sufficient to meeting increasing hazards such as those from the impacts of climate change. However, the recent decade has taught us that extreme weather events are occurring at levels never witnessed before and are happening at an alarmingly increasing rate. A 10 year window needed for the construction of the adaptive sea defences and a near 10 year period needed to clear the site of spent fuel may be too long to meet the challenges ahead, particularly if we reach one or more of the climate’s tipping points.

ESC is content that these are reasonable allowances which will be kept under review and amended if required.

9.25 Incomplete design details

TASC have seen no reference to the Applicant’s plans should the ground anchor/ground improvement trials not provide the required certainty needed for the construction of SZC’s sea defences.

If this design is approved any future amendments to it will need to be submitted to ESC, and others, for approval.

9.26 Potential harm/risk to Sizewell B

TASC are concerned about the potential adverse impacts from these works on SZB. These include the lack of protection due to use of soft materials between the SZB and SZC sea defences.

Also, from the installation of ground anchors for the cut-off wall, potentially being beneath the SZB site.

ESC believes it is a matter for SZB, ONR and EA to ensure that the interests of SZB are protected in this process.

9.27 Lack of consultation

TASC cannot understand why the ONR have not been consulted on this issue given their responsibility for assessing site safety as part of the Nuclear Site Licence application. Indeed, the ONR have advised that there is further work being undertaken by them for the ONR to be satisfied that the proposed sea defences are adequate.

Grahame, do you know why the ONR was not included as a consultee?

If the Marine Infrastructure works designs are approved any future amendments to them, including any prompted by ONR requirements, will need to be submitted to ESC, and others, for approval.

*9.28 We are also surprised that the RSPB have not been consulted as immediate neighbours to the SZC development site – Drawing SZO-100-XX-000-DRW-100414 shows that the Northern Mound is being built right on the boundary with RSPB Minsmere.*

Grahame. Can you answer this one please.

*9.29 TASC query why 'Environment Agency – Drainage' are listed as consultees rather than the EA's flood risk/protection section.*

Grahame. Can you answer this one please.

*For all the reasons stated above, TASC are of the opinion that the applications for the discharge of Requirements 19 and 12 are inadequate and should be refused.*

### **10.0 TOGETHER AGAINST SIZEWELL C 23/11**

*10.1 Further to TASC's submission of 19th November relating to the discharge of Requirement 19, I want to draw your attention to an email sent 21st November by the Office for Nuclear Regulation (ONR) - copy included below. I believe that this reinforces comments we made in our submission:-*

- 1. The design of the sea defences has not been finalised.*
- 2. The 2120 design life for the sea defences has not been agreed by the ONR.*
- 3. Sizewell C Co have more work to undertake in their attempt to arrive at a final sea defence design, including 'ongoing coastal flooding studies'.*

ESC responses to the above questions are included in Req.19 section 9.

*10.2 TASC believe that this confirms that it would have been prudent for ESC to have consulted with the ONR on this matter and underlines our assertion that ESC are not in a position to discharge Requirements 19 and 12, indeed it would be irrational to do so.*

See 9.27 above on reasons for a lack of consultation with ONR.

ESC does not agree that the absence of consultation with ONR prevents ESC from discharging these requirements, if/when ESC is satisfied that the information provided is adequate.

**From:** Contact ONR <[Contact@onr.gov.uk](mailto:Contact@onr.gov.uk)>

**Sent:** 21 November 2023 14:10

**To:** [chris.wilson29@hotmail.co.uk](mailto:chris.wilson29@hotmail.co.uk) <[chris.wilson29@hotmail.co.uk](mailto:chris.wilson29@hotmail.co.uk)>

**Cc:** Contact ONR <[Contact@onr.gov.uk](mailto:Contact@onr.gov.uk)>

**Subject:** HPGE202310071 - Latest document release - Sizewell C sea defences

Dear Chris Wilson

*Thank you for your email dated 28 October 2023, in response to Nick Scarr's enquiry. For completeness, we wanted to also provide you with a reply to the matter raised.*

*Sizewell C (SZC) Ltd has not yet provided the detailed sea defence design. We continue to engage with SZC Ltd on its ongoing coastal flooding studies and the detailed sea defence*

design. This includes the dates associated with changes to operations on the SZC site and climate change adjustment factors. Regardless of the planning dates, we would require a site licensee to ensure that any nuclear material onsite remains safe.

We hope the above is helpful, however if there is anything further we can do to assist please feel free to contact us again via [contact@onr.gov.uk](mailto:contact@onr.gov.uk).

Yours sincerely,

Nirvana Kidwell  
Policy and Communications



E: [Contact@onr.gov.uk](mailto:Contact@onr.gov.uk) T: 0203 028 0293  
Redgrave Court, Merton Road, Bootle, L20 7HS

#### **11.0 RSPB 24/11.**

##### Coastal Defences Design Report Revision: 3.0

*The RSPB as owner of the Minsmere Nature Reserve is a potentially affected neighbour of the proposed development. We wish the following comments to be considered as part of the discharge of this requirement and for close attention to be given to these issues during the development of detailed design.*

##### 11.1 Interface with boundary with RSPB Minsmere and the Minsmere-Walberswick SPA/SAC/SSSI and Ramsar Site

*We believe that the detail provide in the design report is insufficient to understand how the interface between the SZC development and RSPB Minsmere will be managed, avoiding impacts on land in the RSPB's ownership and the Minsmere-Walberswick SPA/SAC/SSSI and Ramsar Site. We are disappointed to see that the relationship with designated habitat (Minsmere – Walberswick SPA/SAC/SSSI/Ramsar site) and the Minsmere RSPB Reserve has not been identified explicitly as a constraint and interface that needs to be taken into consideration during design in section 3.4.5. We do not believe these concerns are adequately addressed in item 3.7 due to the following issues:*

Section 3.4.5 of the Design Report mentions the Northern Mound but not in the detail required by RSPB.

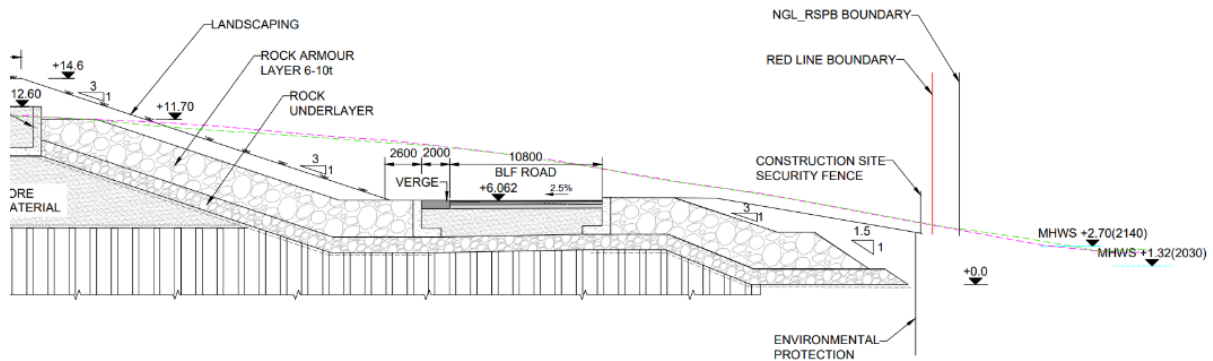
##### Northern Mound and Haul Road

*11.2 • Reference to the need to determine the extent of ground improvement in relation to the Northern Mound at the detailed design stage (as reference in item 3.3.5) along with reference that the exact extent of ground treatment shown on these sections will be developed at detailed design stage (item 3.7.4). Without this detail we cannot be reassured that impacts on our land will not arise.*

The design should be assessed as submitted. If it is amended later then the changed plans should be resubmitted by SZC for consideration and approval by ESC that will include consultation.

*11.3 • Drawing Ref: SZC-SZ0100-XX-000-DRW-100417 shows Northern Mound with indication that land levels are anticipated to change on RSPB land. There appears to be no key to the specific*

drawing, but elsewhere it is suggested that the green line represents current land level and the pink line represents post construction land level. The drawing shows the land level (pink line) on the RSPB land as lower post construction, but this is confusing as the design detail appears to show a different land level that terminates at the security fence with no indication of how this ground level keys into the DCO red line boundary and RSPB boundary.



**LEGEND:**

- - - - - EXISTING GROUND 2019
- - - - - EXISTING GROUND 2022
- - - - - MHWS

Drg. 417 (extract above) shows two existing ground profile lines dated 2019 and 2022 and includes a legend or key. I did not find a reference to anticipated level changes on RSPB land in this drawing. Suggest RSPB is asked to clarify these comments before deciding on if / how we pass on the SZC.

11.4 • Drawing SZC-SZ0100-XX-000-DRW-100414 and fig 3-10 indicating that the boundary of the haul road feature will run against the red line and RSPB boundary for a distance either side of the cross section illustrated, leaving continued concern that detail design will not avoid impacts on land in our ownership or the designated SPA, SAC, SSSI and Ramsar site.

Noted. See response at end of this section.

**SCDF**

11.5 • Fig 3.8 shows the SCDF 'blended into the SZB shoreline profile'. This is in contrast to the illustrated profile at the northern end (eg drawing SZC-SZ0100-XX-000-DRW-100414 and fig 3.14) where the SCDF is illustrated as following the profile of the northern mound, curving from a north – south to an east – west orientation. This is explained in 3.10.19 'At its northern extent, immediately beyond the interface with the BLF, the SCDF turns inland and grades into the HCDF as seen in Figure 3-14.' It is not explained how this approach will tie in with the north – south alignment of the natural shoreline that extends into the Minsmere – Walberswick SPA/SAC/SSSI and Minsmere RSPB Reserve.

Agreed that the north-facing SCDF detail on drg. 414 that is close to the RSPB boundary, is lacking detail and so falls within RSPB's general concern at lack of consultation with them by SZC on impacts to their land. Also see response at end of this section.

**Public Rights of Way (ProW)**

