

## Suffolk Coast Acting for Resilience (SCAR) Written Representations – SZC Examination

*SCAR is a strategic partnership of organisations and individuals of all political persuasions representing groups on the Suffolk coastline.*

*The aim of SCAR is to preserve and protect, for future generations, the Suffolk coastline, tidal rivers and surrounding land area.*

SCAR takes no stand for or against the principle of nuclear power, or of the principle that the coast in general or the Sizewell site in particular can be an appropriate location.

SCAR's principle interest is in maintaining the resilience to flooding and erosion of the Suffolk coastline. Our comments are therefore limited to the issue of coastal resilience and we make no comment about other matters. SCAR members may belong to other community groups and will hold a variety of individual views about the proposals – SCAR does not have a view on those.

We have three profound concerns:

1. The notion that there is a discreet geographical entity, labelled the Greater Sizewell Bay by EDF, that is a discreet, self-contained unit in which the coastal processes and effects are capable of assessment and measurement with no material effect on the wider Suffolk coastline. We submit that this is obviously not the case and it is certain that the development will eventually be detrimental to adjoining areas and property.
2. The uncertainty of coastal forces and sediment transfer forecasting and the effects of climate change.
3. The very limited Coastal Monitoring and Mitigation Plan which seeks to contain the liability for coastal damage flowing from the development and which will pass costs of mitigation, repair and loss to the local population for generations to come.

In various places in this submission we refer to the paper prepared by Professors Jackson and Cooper – referenced at the foot of this submission.

**1. The Greater Sizewell Bay** – needs to be understood in the context of the entire Suffolk coastline which for thousands of years has suffered erosion and loss. The Shoreline Management Plan makes clear that the Suffolk coast is part of a single unit, larger than just Suffolk, which is fragile, vulnerable and interactive. There is no self-contained unit within it that operates independently from the rest. Action in one location leads to action in another – it is highly interactive and the depletion of the coast is measured in miles along the whole coast over thousands of years – not metres in one location over 90 years. It is well known that Dunwich was a thriving medieval port now under the North Sea. Aldeburgh has lost several streets in past centuries. At the same time the shingle Orfordness Spit has been created by accretion during the last thousand years. The Greater Sizewell Bay is an integral part of the coastal processes and sediment movement along the entire Suffolk Coast. The effect of the SZC development on those processes is long term and needs to be understood. Jackson and Cooper (P3) make it clear that the GSB is “geomorphologically linked to areas both north and south that form part of the same larger coastal system; changes in the Sizewell area have the potential to affect adjacent areas and vice versa.”

Detailed construction plans for the HCDF/BLF are yet to be provided. What we do know, from EDF's sketches, is that they will be larger, deeper and extend further east than either SZA/B. The DCO

anticipates that the SCDF will erode and require replenishment from about 2050. From that time there is expected to be sediment build up to the north towards Minsmere. That will probably be good news for Minsmere and that section of coast.

Our expectation is that the final plans, when available, are likely to show a HCDF deeper and even more extensive to the east than present sketches show. This will almost certainly require SCDF replenishment earlier than current expectations. There seems to be little realistic understanding of what this is likely to mean. An exposed HCDF will stop sediment movement to the south. The good news for the north will be bad news for the south. The prevention of sediment flow towards Thorpeness will leave it very exposed to a faster rate of erosion than if there was no SZC with adverse consequences for property owners and the village as a whole. In time the loss of southerly sediment movement will deplete the beaches to the south giving rise to faster and greater rates of erosion.

The DCO seeks to create the illusion that the Greater Sizewell Bay is a self-contained unit and demonstrate that there is already no effect from the GSB past the ness of Thorpeness and that therefore the adverse effects that will flow from the development need not concern us.

This goes to the heart of the appointment of the seven expert geomorphologists discussed in App 20A of Chapter 20 Coastal Geomorphology and Hydrodynamics, para 7.2 of the DCO. Our complaint is not that they have been involved but that we do not know the scope of their involvement or even how they were consulted. The section purports to be a summary of their joint views. The brief appears to be limited, ie looking up to 50 years ahead to the point where the HCDF is exposed, no indication that the summary represents their entire views and no signed report from any of them that they accept the summary as their entire advice. It is effectively hearsay and there is no opportunity to cross examine or question any of the experts on the content of the summary. It appears that the discussion with them was limited to the immediate coastal forces effects either side of the development during the operational phase of the project – certainly there is no comment in that report on the longer term effects of the development. This is a flawed report as a result of a flawed process and would not stand up in a court of law.

Cooper and Jackson are very critical of the summary of the seven experts' views with a number of errors and omissions, chiefly:

- Inadequate timescale – not looking further ahead than 2080
- Insufficient spatial scale – referred to above
- Inadequate consideration of the dynamics of nearshore banks
- No consideration of complex system behaviour
- Use of false assumptions underlying the analysis

The DCO gives no certain future for the development beyond its operational period. It may, at some time, be demolished or it may not. SZA is not demolished and, at present, there are no plans to remove spent nuclear fuel from the site so the future of the SZA building is unknown. If the SZC development is not demolished it will last for hundreds of years. As the adjoining coast recedes it will protrude to seaward more and more and will remain a permanent block on southerly sediment movement. It is likely that all locations to the south will suffer depletion and consequent erosion damage. This longer term issue was not addressed by the panel of experts and we do not know whether they were asked.

**2. The science of coastal forces and sediment transfer forecasting** is in its infancy. When we say this we do not wish to show any disrespect to the seven experts. Our members know some of them well and we value their input into the various projects with which we are involved. However, this is a very young industry and very little is known about what happens under the sea and how conditions change over time. To make an analogy, weather forecasting has been researched for years and has generated an industry with heavy investment through the Met Office and other scientific institutions. Under sea forecasting has none of this – the seven experts do their best but almost no money is committed to research; records and data are sparse. Most forecasts are generated from existing data and map interpretation so any errors tend to remain built in to the system. For example, Pye & Blott 2006 (referred to in the DCO) indicate the **possibility** that the coast between Southwold and Thorpeness behaves largely as a closed system. However, this conclusion relies on previous interpretation of map evidence from 1867-1965. No actual field research was carried out. Pye goes on to point out in his report that “in using Admiralty charts for sediment volume change calculations it is important to recognise that potential errors may arise because of variations in survey methods and changes in datum levels used in different surveys.” None of this is a criticism of Pye’s report – it is a good one and fit for purpose, which was “to provide background information against which options for future coastal management can be assessed.”

This should not be the basis for a conclusion that the GSB is a self-contained unit and that it is prudent to limit concern for the Suffolk coast to the immediate vicinity of a new nuclear power station.

In addition the uncertainty of climate change predictions and the likelihood that extreme weather events are increasing in frequency and ferocity make forecasting future changes to the Suffolk coast much more of a lottery than the EDF report implies. We submit that the Examining Authority should have a much greater regard to history and experience than to the EDF report. This suggests that weather conditions periodically change and reverse direction, without warning. The history of the Suffolk coast is that periods of storm give rise to episodes of dramatic and catastrophic damage – the latest of these was in 1953 when over 300 deaths were recorded on the east coast of England with a further 1,500 in Europe.

We suggest that, with this uncertain outlook, it behoves the present generation to take much greater care when we undertake construction projects that interfere with the coast. All we can be sure about is that the consequences are likely to be wider and more far reaching than we would wish.

**3. The draft Coastal Monitoring and Mitigation Plan** seeks to limit the liability for mitigation and repair costs to a few hundred metres either side of the development. It also suggests that ten years before operations cease there be a final assessment of damage done, with compensation paid, if any.

From what we say above, it is clear that the longer term effects of the SZC scheme will be much more far reaching and will last much longer than the applicant suggests in the draft CMMP. The worst effects on land to the south of the development will not even have occurred at the date of final assessment. We submit that this is a situation where the precautionary principle should apply and, should the Secretary of State approve the development, the Examining Authority should recommend the imposition of parameters into the CMMP along the following lines:

- The geographical area for monitoring should be extended to the entrance to Southwold harbour in the north and Shingle St in the south.

- At the time of the end of operations responsibility for further monitoring, mitigation and compensation for damage be passed to a UK government body. It should be unacceptable for such liabilities to be left for the local population. There should be a winding up agreement which seeks to forecast and agree terms for a capital sum to be transferred to cover those future liabilities. Assessment of these costs should form part of the financial agreement between EDF and the UK government for building the power station and covered by the costs of electricity to the nation. In this way the adverse consequences for coastal damage and repair should be a national liability rather than fall upon the local population.

KR Martin  
Chair, SCAR  
1 June 2021

#### Reference

Response to: SZC-SZ0200-XX-000-REP-100041 Sizewell Coastal Geomorphology and Hydrodynamics: Synthesis for Environmental Impact Assessment (MSR1 – Edition 4) BEEMS Technical Report TR311  
By Professor Derek Jackson and Professor Andrew Cooper  
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Submitted by Stop Sizewell C action group