

## **Issue Specific Hearing 11 (ISH11) on Flooding, Water and Coastal Processes**

### **Bill Parker Comments and Observations IP20026713**

Dear Planning Inspectorate

Thank you for the opportunity to speak at ISH11 but unfortunately, I was unavailable, however I have viewed the online recording of the proceedings and outlined below are my comments and observations:

#### **Water Supply**

The Water Supply Strategy for the supply of both potable and non-potable water even at this late stage in the DCO process still appears to be incomplete and there are many issues that are as yet unresolved. It is not credible for a development of this scale to still have so many outstanding issues. One point that in particular that needs detailed examination is the dust suppression of the spoil heaps. The spoil material contains fine sand and silt particles which are easily moved by the wind, especially as silt is an unbound granular soil. Much of the sandy soil locally has around 10 -15% silt content and it is this and the very fine sand that tends to form the dust storms often seen in dry periods from fallow fields causing both health and an environmental hazard of airborne particles. The spoil heaps will be extremely friable so in view of the sheer scale of spoil heaps proposed and the length of time they will be in place, the quantity of water needed to suppress dust may have been significantly under-estimated. If this is the case then how will EDF manage this issue. In addition, the outstanding questions of the impact of contamination within the non-potable water appears not to have been considered. This can only be considered as negligent.

Comments on potential desalination plant are dealt with in a separate submission.

#### **Zone of influence**

There is an on-going question as raised by Alison Andrews (National Trust and others) regarding the area to be monitored in detail. It is clear that EDF / Cefas are trying to limit their liabilities and are focussed on only identifying those areas of the coast that may be directly affected and directly attributable by the Sizewell C development. This proposal excludes a) impacts that may be caused by the Sizewell C development that don't have an obvious linear relationship to the site or b) changes in the coast that will impact on the stability and safety of Sizewell C frontage that may occur elsewhere along the coastline (eg. reduction in supply of sediment). In previous documentation (APP-311) EDF / Cefas state that this particular coastline is too complex to model in the long term with confidence, therefore the argument that detailed monitoring should be restricted to their narrow Zone of Influence is flawed and should be widened significantly.

#### **Timelines**

There appears to be no agreed consistency on the use of time lines with the continued lack of recognition by EDF of its long-term responsibility for the Sizewell C site. This was well highlighted by Chris Wilson of TASC. There needs to be an agreed timeline for all to work to. In addition, there also needs to be recognition that the length of time needed for the dry fuel store is uncertain. I note that EDF are continually over optimistic in their ability to deliver and fail to follow any reasonable precautionary approach to timing of build, operation, decommissioning and needs of long-term site protection. Their 19<sup>th</sup> September social media claim of being able to build Sizewell C in 9 years is simply laughable and unsupported. The evidence to-date from all previous EPR developments is that EDF cannot build as scheduled and with the particular challenges of ground conditions, logistics

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etc for the Sizewell C site this gives little credence to these claims. It would be helpful if the ExA could critically review the proposals made to-date and establish a more realistic and agreed timeline.

### **SCDF Modelling**

I note that Cefas made much of their modelling until 2140 of the SCDF and both EA and ESC appear to accept what has been produced so far. I also note that the modelling released to-date contain only relatively benign storm conditions. The use of the Beast from the East as a bench mark storm event is in my view not appropriate to test the quality of the defences. The Beast from the East it's self was only calculated to be a 1 in 135/145 year return period event. Only because the BfE was part of a combination of three relatively minor storms does it appear to be a much lower return period event. Whilst it is etched in people's memory and it was especially cold, the storm conditions that came with it were relatively minor and therefore should be dismissed as a 'stress test'.

In coastal design it is accepted design practice that for non-important assets behind the defence and a standard 50 year design life one is required to test the defence for a 1 in 200 year storm, which has a 22% chance of occurrence (within in the design life) but for important assets (such as Sizewell C), the return event is taken as 1 in 1000 years, which has a 5% chance of occurrence. The return period events are set effectively to allow for damage with respect to the economic cost of repair of both the defence and the damage to the asset behind. For longer defence life then the return period for design storm events must be increased to maintain the of 5% chance of occurrence. There is an argument that even this is too high a risk for critical and vulnerable infrastructure such as nuclear power stations.

I welcome the promised delivery of an extreme storm modelling paper however I am alarmed that this won't be until deadline 10. Therefore, it will give no time for its critical examination before the closure of this stage of the DCO process. Evidence provided so far from previous papers (e.g. TR545) is that the caveats and conditions imposed limit the usefulness of the documents.

Whilst Cefas identified in their extreme storm modelling that wave heights might increase by 10% and they still have a view that the potential loss of Sizewell-Dunwich banks and impacts of climate would reduce the power of erosion on the coastline. This contradicts accepted academic theory and defies reasonable logic and should be reviewed by an independent panel to confirm or dispute these assumptions for the long term.

EDF / Cefas have been working on Sizewell C for more than 10 years and to be delivering key documents at such a late stage means that detailed and much needed examination of this work cannot be carried out in the timescale of the DCO process. It raises the question, as this site has always been known to be vulnerable is this approach undertaken by EDF / Cefas deliberate (in order to avoid scrutiny) or a failure of planning (equally worrying).

It has been recognised by Cefas in its ISH hearings that the HCDF needs the SCDF for its integrity. Therefore, if the SCDF fails it is likely the HCDF will fail. The stress testing of the proposed defences for the entire site has not been undertaken to identify what in-combination series of events would need to happen for the defences to fail. This would then provide re-assurance or otherwise about the resilience of the suggested defences.

To be making a decision on the long-term viability of Sizewell C on such late and limited basis of information would be considered reckless.

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#### Main Development Site Flood Risk Assessment (MDS FRA)

I welcome the ExA instruction to EDF / Cefas to engage with Mr Nick Scarr with regard to his forensic papers on the quality of and inconsistencies contained within the Cefas FRA and coastal geomorphology documentation. It is for Cefas to explain in detail the resolution of these issues and have this supported by robust science. It is also important that supporting evidence supplied is not formed from within the narrow group of scientists at Cefas but is agreed by the wider coastal geomorphology academic community. Inconsistencies and weak arguments will undermine confidence in the entire work undertaken by Cefas and their predictions for the future of the Sizewell C site.

I support Mr Paul Collins's observations with regard to the vulnerability of the SCDF. The stability of the coastline which is currently supported by two salient created by the current operation of Sizewell B. Once Sizewell B stops production the consequences on coastal processes seems to have been ignored. This needs to be resolved urgently.

#### Tsunami risk

A comment was raised by a contributor to ISH11 of a newspaper article featuring Prof. Bill McGuire on the link between the loss of ice, the increase of seismic activity and risk of tsunami. I have highlighted this in my submission [REP2-228]. I would also like to highlight another academic paper recently released by Mark Bateman et al. published in 'Boreas – An international journal on quaternary research' 2021 entitled *Detailing the impact of the Storegga Tsunami at Montrose, Scotland*. Whilst the focus is on a specific area in Scotland the researchers draw an important and relevant conclusion:

*'Modelling shows that even when run at a local regional level topographic effects cannot be adequately replicated leading to persistent under-estimation of wave run-up.....'*

The persistent avoidance of Cefas to consider extreme but not improbable events in their modelling of coastal erosion and flooding for the next 160+ years and to rely on the ONR to consider this, is an avoidance of responsibility. It is not credible to consider flood risk or assess the vulnerability of defences in the DCO without taking such events into account.

#### Quality of modelling

In its submission [APP-311] p27 EDF / Cefas state that:

*20.4.72 However, there is no current computational modelling platform able to accurately integrate the numerous environmental processes that drive shoreline change, and there is no published evidence that shoreline change models can be reliably applied over the multi-decadal timescale that is required.*

Therefore, by their own admission all the modelling undertaken by Cefas must be treated with caution. It is worth noting for instance that the flood risk vulnerabilities of Alde / Ore estuary have been extensively modelled by consultancies and academics. But in the 2013 tidal surge, 26 properties in Snape village were unexpectedly and without warning flooded. This highlights that despite the best research unpredictable events can and do occur on this coastline.

The use of modelling is an important and increasingly sophisticated tool to predict how future coastline will evolve and how a defence design will perform. It is noteworthy that CEFAS has accepted its modelling conclusions with no apparent external review as to why

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the findings do not tally with what would be expected by established practitioners and academics. The reality is that models are only as good as the data used and the design of the model. All results need to be benchmarked against experience and logic and viewed with a sceptical eye. Even this isn't a guarantee of the results being reliable and may not cover the full spectrum of real life possibilities.

The obvious rush to produce results (e.g. extreme storm event paper for deadline 10) and lack of critical external review is concerning. The reliance on the Environment Agency and East Suffolk Council to critique these findings is simply not good enough for such an important decision.

Failure to truly accept the vulnerability of this coastline can also be exemplified by the current erosion at Thorpeness two miles to the south of the proposed Sizewell C site. Examiners have visited this site earlier in the year and yet despite the lack of any significant storm event this has continued unabated. In view of the times scales involved and the uncertainty caused by climate change as well as the eroding nature of this coastline it is both arrogant and inconceivable to expect the Sizewell C development to be safe, secure and not have unintended consequences for adjacent coastlines with the proposals being put forward by EDF / Cefas.

In considering this application the ExA will need to weigh up all the arguments but the vulnerability and uncertainty of this site must be recognised and any last-minute submissions by the Applicant should be treated with extreme caution and scepticism.

It is my honest opinion as someone who has worked for 15 years in detail leading the management of this vulnerable coastline that it would be a grave error for future generations to approve the building of Sizewell C.

Bill Parker

23/9/21