

My name is Bill Parker. I have lived in East Suffolk for more than 20 years and I was Head of Coastal Management for East Suffolk Council for 7 years until 2019.

It is my view that building Sizewell C it would cause incalculable damage and I firmly believe that no form of mitigation will be capable of compensating for the momentous adverse impacts of this proposal.

The areas that I would like to specifically comment upon are: the failure of EDF to be precautionary, flaws in the proposed coast defence solution, questions on the use of science and the long-term legacy to future generations.

To meet the Governments 2018 objective [Nuclear Sector Deal - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/nuclear-sector-deal) to reduce the cost nuclear new build, EDF's aims to replicate the Hinkley Point C design at Sizewell at a 20% lower cost. However, the two sites are very different. Sizewell is very constrained in size, (Hinkley Point C being 40% bigger) and it is severely compromised by being sandwiched between the sea to the east and the SSSI of Sizewell marshes to the west.

EDF recognise the importance of avoiding the exposure of the hard coastal defence to direct wave energy as they highlight this in their coastal Mitigation Objectives¹. They also admit it may happen as soon as 2053. The consequences for the coast to the north and south and ongoing liabilities for Sizewell C itself are unspecified but undoubtedly significant.

The only way to reduce this risk is to move the entire proposed development landward on the east / west axis. However, this would destroy even more SSSI land than the 12 hectares already earmarked. EDF have calculated that if they take the long-term precautionary approach, the increased loss of SSSI would make obtaining planning approval even more difficult and have therefore taken the potentially easier but ultimately much riskier option of placing Sizewell C closer to the sea.

This site is too compromised and too small for this design and it should therefore be abandoned.

EDF have yet to submit detailed designs for the coast defences and have therefore avoided critical examination by others. But the outline proposal does identify the use of soft defences. This would require the deposition of huge amounts of dredged marine material to act as a sacrificial beach. This approach is based on the Dutch Zand Motor (see appendix 1) which is barely 10 years old, yet these defences are expected to defend the site and the nuclear waste for perhaps 140 years. It is a novel solution but there is no evidence that this location is suitable for this approach, no experience of how to deal with rapid sea level rise, no clarity on who would fund its maintenance, no assessment of the impact on adjacent coastlines and no proposals for a plan B if this doesn't work.

The recognition of the need for a soft defence so soon is effectively an acknowledgement that this is a flawed design.

¹ Mitigation Road Map p 28 ref: MDS - CGH2.

Coastal engineers today are dealing with the consequences of failing Victorian sea defences. What would future engineers think of us, whilst grappling with the unimaginable challenges of defending two nuclear reactors when we allowed its construction despite already knowing about the likely catastrophic impacts of climate change.

I endorse the comments of David Robb last night in questioning the integrity of the applicant. We are all urged to **follow the science**. Yet I have a significant concern that the advisors to EDF have at best been selective or may even have misinterpreted the scientific evidence to ensure they meet the requirements of their client. Evidence will be presented for Deadline 2 that will highlight some of these concerns.

We know that future generations will have to deal with the consequences of a changing climate and the need to rapidly decarbonise over the next decade. But Sizewell C is not the solution. EDF have declined to publish the true lifetime carbon cost of this proposal but admit that it will take at least 6 years to ‘payback’ the carbon generated by its construction. But where does raw material procurement, decommissioning and protection of nuclear waste for hundreds of years feature in their calculation? As is typical for EDF, the detail is not available for open scrutiny. All claims EDF make about low carbon emissions and green energy must therefore be treated with extreme scepticism.

This year the UK will be hosting COP 26 it would be inconceivable to be sanctioning such a huge unnecessary emission in co2 ahead of the key target date of 2030. In addition, this is the first COP to focus on biodiversity, so the wilful destruction of such protected environmental sites is beyond comprehension.

We all have a responsibility to future generations who will be living in a much more uncertain world. They will have to deal with our legacy. It is critical to examine very carefully the applicant’s claims that this vulnerable coast can be retained as a safe location for nuclear waste storage for the next century and beyond. We absolutely must not bequeath to future generations avoidable problems that they may not have the resources nor the expertise to resolve.

This application should be rejected.

Thank you.

Bill Parker

Appendix 1

Soft coast defence explanation as requested by Mr Brock.

The submission by the applicant includes an outline proposal for soft coast defence. In the TR523 Coastal Processes Monitoring and Mitigation Plan (CPMMP) page 34 it outlines a number of approaches to maintaining the beach in front of the hard defences to prevent them from being exposed to wave attack and interrupting natural coastal processes which would accelerate erosion to the north and/or the south of Sizewell C.

These alternatives include:

- 6.5.1 Longshore beach recycling – the mechanical movement of sediment from the down drift part of the beach where sediment accumulates to rebuild the updrift beach (where sediment has been eroded from) and then let natural processes erode the beach again. There is no additional sediment utilised.
- 6.5.2 Sediment bypassing which means mechanically moving material from areas of accumulation to those of erosion around an obstruction – effectively the same as Long Shore Beach Recycling trying to mitigate the impact of long-shore drift.

These are well known coastal management techniques but they are only a short-term solution to a symptomatic problem. This could have to be repeated as frequently as required. It is however entirely dependent on the availability of excess sediment material and the ability to access both those areas of surplus and the areas with a deficit of material. They are not a robust long term solutions especially when considering increasing sea levels which means that the availability of surplus material is much less likely.

The last option is 6.5.3 Beach sediment recharge. This is bringing in material from elsewhere (usually dredged offshore) and building an artificial beach to provide sediment to allow coastal processes to continue supplying material down drift. The use of this on a large scale is known by the term 'sandscaping'.

The largest and best-known example is the Zand Motor in Holland [Homepage - Zandmotor \(dezandmotor.nl\)](http://dezandmotor.nl) 21.5m cubic metres of sand was deposited in-front of part of the Dutch coast which was considered a very vulnerable to flooding. It creates a large erodible beach area that protects the coastline from tidal surges. Beaches greatly reduce wave energy and hence in this case the risk of flooding. This is now 10 years old and at the time of development cost ~ 70m euros. If repeated today it would cost significantly more. It has been seen as a success from many perspectives but is experimental and in the timescales of Sizewell C new and untested.

A smaller version was delivered at Bacton in North Norfolk where 1/3 of UK gas comes ashore. The terminal was built in 1968 and was set back 100m from the cliff edge and once thought to be a safe location. The 2013 tidal surge which caused significant erosion and this made a key part of UK gas supply very vulnerable from erosion. In just 45 years the rate of erosion has accelerated and made this this location increasingly vulnerable. In the autumn 2019, 1.8 million cu meters of sediment was deposited on the beach to protect the Bacton gas terminal and also the downdrift villages of Bacton and Walcott costing ~£18m. It is estimated that this protection will last for 20 to 25 years. Details can be found [Home | sandscaping \(north-norfolk.gov.uk\)](http://Home | sandscaping (north-norfolk.gov.uk)) . It must be recognised that this is a short-term fix to buy time to develop longer term roll-back solutions for both the infrastructure and the communities on this highly vulnerable coastline.

This technique is very new and is as yet unproven over a longer time period as would be needed for Sizewell C. In preparation for both of these projects extensive analysis of the location was required and there is no guarantee that Sizewell would even be a suitable

location. When Royal Haskoning DHV (now advisors to EDF) undertook their initial analysis of the coastline of England and Wales, Sizewell was not on the list of potential sites.

When considering the use of sandscaping as with other interventions, it cannot be seen as a one-off intervention and will require effort and cost to ensure it remains an effective coast defence. There are also consequences (in particular environmentally) both down drift and sub-tidally that should be examined in detail now and taken into account. As in the above submission there are many unanswered questions about the viability of this approach.

The weakness with the CPMMP is that it is a reactive approach, is that if sandscaping or any other intervention is required then the regulatory authorities have little choice but to give approval whatever the collateral impacts as the consequences of not supporting a proposed approach to protect a nuclear power station would be catastrophic. The recognition by EDF / Cefas that the proposed use of soft defences is a clear indicator that this is not a suitable site to build a such a vulnerable infrastructure.

Bill Parker
1st June 2021