

SUFFOLK COASTAL FRIENDS OF THE EARTH

Interested Party ID: 20025904

The Sizewell C Project: EN010012

Deadline 8 submission (24/09/21)

**Comments on ISH11: Water Management Strategy
(agenda item 2)**

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1. The extreme lateness of the Change 19 application

While the Planning Inspectorate acted with all speed in reviewing and accepting this change application, we find it troubling that SZC Co should have submitted it at such a very late stage in the examination process.

As local people, we are all very well aware of the shortage of water in this very dry region and the competition for the scarce resources between farmers, tourism, an increasing population and nuclear power. A local resident and one of our supporters first raised this issue in relation to the possibility of another nuclear power station at a meeting of the Sizewell Stakeholder Group (of which we are a member) as long ago **2010**, as recorded in the Beccles & Bungay Journal. (B & B J, 2010.) Over the past decade, we have questioned the Environment Agency from time to time on this important matter and have been told that they could do nothing until they received the proposed water management strategy for Sizewell C from EDF Energy. We understood, however, that no further licences for bore hole extraction were being granted and that water availability would be a major issue..

2. Northumbrian Water as a potential supplier

During the Hearing our members became increasingly concerned about the Applicant's assumption that Northumbrian Water would, at some point, be able to supply the necessary mains water. Yet there were clearly many unresolved problems. Most worrying of all is that it was stated that the water company could not guarantee a supply that would be sufficient and sustainable. The Applicant seemed to be relying on the legal obligations of Northumbrian Water to find a way of making the water available by reviewing all the various options. At the same time, as Emma Bateman pointed out, the Water Framework Directive would also come into play regarding the status of the River Waveney, from which the abstraction would be made.

3. The River Waveney

This river and surrounding valley are greatly valued by both local people and visitors for its beauty, the opportunities for quiet recreation and its very rich wildlife.

Not long ago our Friends of the Earth group was involved in a campaign to clean up this river. Of the 16 UK rivers tested, the Waveney was the most seriously contaminated with toxic neonicotinoid pesticides, thought to be from the treatment of sugar beet from surrounding farms. It was also very high in nutrients. Indeed, in 2019 the river and its tributaries **failed its chemical status** when tested by the Environment Agency, while its ecological status was categorised as only 'moderate'. This pollution is a contributing factor to the 'unfavourable' condition of the Broads Special Area of Conservation (SAC).

In addition to the 28MI/day already abstracted from the river close to Barsham treatment works, the proposed 3.5MI per day for Sizewell C would put the River Waveney under even

greater stress. We cannot imagine that this would be without harm. Bearing in mind the poor chemical status of the river, it seems unlikely that it would conform to the Water Framework Directive, yet the sustainability appraisal is still awaited. We understand from the Hearing that the Environment Agency might cap the existing abstractions by 2027.

4. Water recycling

While we are in favour of methods of saving water and re-using it where possible, we wish to know from the Applicant what kind of non-potable water would be used for dust suppression, wheel washing etc. We need absolute confirmation that this would in no way have any saline content, nor harmful chemicals, as these could kill nearby vegetation and damage the designated sites.

5. Lorry numbers

Our members, among many others, have already expressed grave concern about the numbers of lorries that would be using our quiet rural roads, as well as main transport links, and making people's lives a misery with all the attendant noise and pollution. As the mains water would not be available until at least 2024 – probably much later (if at all) - we see from the Applicant's water strategy that tankers, at about 40 per day each way, would be used to supply water for the construction works and building of the desalination plant.

The question was asked by the ExA during the Hearing what the source of this water would be. Where would it come from? The Applicant had no idea other than vaguely mentioning that there were options on the market. It was also unclear whether this question would be resolved before the end of the examination. As Suffolk County Council rightly pointed out, this question has implications connected with the extra impacts on our rural roads.

The Applicant claimed in their consultation document that this would not increase their overall cap on lorry numbers, but no evidence was supplied for this statement. We find this hard to believe. Where are the figures to demonstrate this?

6. The desalination process

Friends of the Earth are not in favour of this process due to the impacts on the marine environment – unless this is the only way that poor people can have access to fresh drinking water. It most certainly should not be used for the building of a nuclear power station – particularly one that is not necessary, bearing in mind that we now have the technology to produce electricity by other, more benign means.

Reverse osmosis is extremely energy-intensive due to the need to pump water through a fine membrane under high pressure in order to remove the salt and other minerals. Diesel generators would have to be brought to the main platform to supply this energy. Due to their proximity to Sizewell Marshes SSSI immediately to the west, and the Minsmere-Walberswick designated sites directly to the north, we will be asking the Environment

Agency whether a permit for these would be forthcoming. Impacts of fumes and particulates on the interest features of the designated sites, together with ongoing noise from the plant, would have to be assessed. Here again, we can find no details. There would also be risks from diesel spillage and leaks.

In addition to all the marine works for the cooling water infrastructure, more dredging would be necessary to install the intake and outflow heads. Millions of fish and other organisms would be killed by the cooling system; yet more would suffer mortality at the desalination intake head. This is not acceptable.

7. Discharge of brine and various contaminants to the marine environment

We understand that brine would be continuously discharged to the sea, at 1.6 times the ambient concentration, between the inner and outer sand bars. It would amount to about 6,000m³ per day. Despite disperser heads, it would nevertheless fall to the bottom, where, over time, a dead zone would form. Organisms that live on or close to the seabed would be unable to survive here due to the extra saline content and the resulting lack of dissolved oxygen.

The outfall would be situated within two designated sites, namely the Southern North Sea Special Area of Conservation (SAC) and the Outer Thames Estuary Special Protection Area (SPA). There would be a knock-on effect on the interest features here, such as Red Throated Diver, following the reduction in prey items. We await full assessments of such likely effects.

Various chemicals would have to be used to keep the headworks and membrane 'clean', including anti-scaling acids and biocides, all of which would end up in the sea. 'Shock chlorination' and any emergency flushing with inhibitors are described in the literature as 'environmentally risky' and that 'sensitive marine habitats can be irreversibly damaged'. (Rautenbach, 2007; Latteman&Hoppner, 2003.) The Applicant dismisses such damage as being within the overall effects of the cooling system. This clearly is not the case.

After separation of the salt, the resulting water would need further treatment – how, by what means, what further chemicals would be used and how would they be disposed of? Where would this be carried out? Where would the potable water be stored? Many further questions remain unanswered.

8. Need for a second desalination plant and relocation

If the mains water supply is not forthcoming prior to peak construction, which seems likely, then a second desalination plant would have to be built. This would be extremely regrettable as it would double the environmental impacts. Local people would once more suffer the impact of the water tankers on our roads. What is being done to avoid such a situation?

When the station platform area is needed for other works, the plant(s) and generators would have to be moved north over the SSSI crossing (if already built) to the Goose Hill construction area. We would need to know how it would be taken there without further damage to Sizewell Marshes SSSI. Would this not hold up the overall construction programme? These works would be unacceptably close to the Minsmere-Walberswick SSSI. Yet more energy would have to be supplied on account of the extra length of the intake and outflow pipes, as much as 2.5km each way according to the plans. Would this not lead to more diesel and probably more generators with all the attendant risks?

9. Conclusion.

These proposals have been put together far too late for them to be properly assessed within the examination timetable. Our members are left with the distinct impression that the water strategy is based more on wishful thinking and assumptions rather than facts. As for the proposed desalination plant(s), Friends of the Earth object profoundly on environmental grounds. A detailed Environmental Impact Assessment is still awaited.

Our members are left wondering why the water strategy was not developed years ago. We have known all along that there would be a serious problem with water supply in this very dry region, and with intense competition from the needs of agriculture, our tourist industry and the growing population. How is it that SZC Co did not anticipate this problem also?

10. References

Beccles & Bungay Journal (2010). *Sizewell C. 'threat to water supplies'*. 08/03/2010.

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Rautenbach, M. (2007). *Membranverfahren – Grundlagen der Modul und Anlagenauslegung*. Springer Verlag.