

The following section in *Italic type* records what I said at the Open Hearing on May 20th. Additional points are made in a following section

I am Stuart Checkley and I am going to focus my personal statement on the effects of the proposed construction of Sizewell C on the Minsmere Nature Reserve.

I have visited Minsmere regularly for 49 years. I have also been able to visit exotic wildlife sites overseas such as Antarctica. But each time I come back to Minsmere I realise how very good it is. It is very Suffolk, it is very beautiful and it has an amazingly biodiverse wildlife. If I am never able to make another overseas trip I shall be perfectly happy, so long as I can enjoy Minsmere.

But will I be able to enjoy Minsmere? and will the other 104,000 who signed the Minsmere petition be able to do so? Or the 90,000 who expect to visit Minsmere each year. I have been asking this question through the consultation process for 8 years but I never been able to find scientific answers to this question until last November, when the the Environment Agency published its Relevant Representation. There for the first time I could find a proper peer review of relevant scientific data. Thanks to the Environment Agency I now know

There are some areas where the Agency is content with the Applicants answers to its questions. But there are a great many areas where the Agency is not content. In these the Agency is waiting for information which has been requested - in some cases a long while ago. And the Environment Agency also draws attention to some very obvious problems with some of the studies they have been sent.

I will describe just two examples to give you an idea of the quality of some of the Applicant's data.

My first example concerns the entrapment of fish in the new reactor's cooling system. The Applicant has tried to model the effect of fish being sucked through the cooling system of the reactor by studying the passage of fish through a tube of similar dimensions. However the Applicant's experiment neglected to replicate the chemical environment of the cooling system and the changes of pressure to which fish are exposed as they pass through it. I find those omissions quite shocking. Why would someone go to the trouble of conducting that experiment and not control for all the experimental variables? The applicant seems to be sabotaging his own experiment.

In a different study, the Applicant collected a baseline measure of the population of glass eels. This was to provide a baseline against which follow up measurements could be made once the new reactors were working, in order to detect any harmful effects on Eel numbers. So far so good. But then the Environment Agency report that this assessment was made once only and at a time of year when Eel numbers are known to be low. Why ever would EDF do that? If they wanted to look out for any subsequent fall in Eel numbers surely they would do this at the time of year when Eel numbers are high. Again they seem to be sabotaging their own experiment.

So there are a large number of outstanding issues and there are also some problems with some of the information that has been submitted.

But there is something else that I think is even more worrying.

In their Relevant Representation the Environment Agency said that there is now so much outstanding information which they have not received, that they doubt whether they will have the time to assess it, when it it is finally received. For me this the most worrying of all. The Environment Agency is the Environmental Advisor to the the Examining Authority. If the adviser is not able to advise, then the system is in trouble, and no reassurance can be given to the public

that the environment will be protected if the proposed development goes ahead.

Maybe the 104,000 of us who signed that petition were wiser than we realised when we made the following request to EDF. "Please show me that you love Minsmere too, by providing clear information about how you will avoid any damage to such a world-renowned site for wildlife.

I will give the last word to the Environment Agency

"We are concerned that there is a substantial amount of information still to be submitted and as a result of this we genuinely believe that we may not be able to review this new and amended information to a timescale that will enable us to properly advise the EA within the deadlines sought".

I would have made the following points at the Open Hearings had time permitted.

The petition that 104,000 of us signed didn't ask EDF to tell us that it cared for Minsmere but to show us by its actions that it cares. I give three examples where that care is needed to ensure the future of rare and endangered species - namely marsh harriers, barbastelle bats and natterjack toads.

In my Relevant Representation I drew attention to the threat to the foraging areas of marsh harriers. I asked for scientific evidence that the proposed mitigation areas have sufficient numbers of the prey species to sustain the expected numbers of marsh harriers. I can find no such evidence in the information that has been provided for the The Aldhurst Farm mitigation site in EDF's Environmental Statement. Nor can any information be provided for the second foraging habitat mitigation site (towards the North of the EDF estate.) because this site is still not ready. This issue of the adequacy of mitigation habitats is not a new issue: The RSPB raised it in their stage 3 consultation response in April 2019. 2 years later the Marsh Harrier population is still not protected from the harmful impacts of the proposed development.

At the Preliminary Hearing I asked whether the sound levels to which bats would be exposed might interfere with their ability to echolocate prey? EDF's Environment Report reviews the environmental influences on bat populations in general, and extrapolates from these to the possible effects of the proposed development on the rare and endangered Barbastelle bats which live around the proposed site. They identified 4 critical environmental parameters.

Loss of potential roosting sites in trees. EDF concludes that "Given the length of time of the construction phase and the time for habitat restoration following construction there is the potential for these factors to result in population decreases, which in combination with stochastic events such as poor Spring weather, could increase the vulnerability of the population to localised extinction" (Environmental Statement vol 2 chapter 14.13.55)

Effects of ambient sound on the ability of bats to echolocate prey. EDF cites studies in which the hunting of bats was adversely effected by sound levels of 60dB. EDF identifies a number of SZC sites where sound levels are likely to exceed 60dB such as the Upper Abbey Farm bridleway, parts of Kenton Woods and the SSSI crossing, and they admit that an unwanted effect upon bats is likely at these sites. "there is the potential for impacts upon bats, particularly barbastelle resulting from construction related noise" (ibid 14.13.99)

Effects of artificial lighting on bat hunting behaviour. Barbastelle bats, prefer dark environments. EDF states that average light levels in areas frequented by barbastelle will be less than 1 lux over the course of the construction period although they admit that at some times these areas, such as the SSSI crossing will be exposed to 200 lux. (ibid 14.13.132)

Effects of artificial lighting on the behaviour of prey species. EDF does not give data on the anticipated affects of artificial lighting on prey species, but moths, the main prey species of the barbastelle, are attracted to light, whereas barbastelles prefer the dark, and so it seems likely that the intense artificial lighting which will cover the construction site will attract moths but repel

barbastelles. I don't think that this issue has been taken into account in EDF's plan to mitigate harm to barbastelles by erecting 40 bat boxes and making some modifications to lighting. In view of the conservation importance of the barbastelle I think that an independent review of EDF's report on barbastelles should be undertaken. Very few of the research reports cited by EDF involve barbastelles, and so there must be uncertainty over EDF's predictions which are derived from species other than barbastelles.

At the Preliminary Hearing I mentioned the threat to the extremely rare and protected Natterjack Toad. They hibernate in a pond on Retsom's Field. Part of North Eastern Water Management Zone will be built in this field including the site of this pond. EDF plans to create a replacement pond in this same field, but the noise, vibrations, lighting and air pollution will surely make life impossible for this rare amphibian and the insects that it feeds on. This point has not been addressed by EDF.