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Sizewell Nuclear New Build,
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Dear Sirs,

I refer to your consultation about the proposed Sizewell C nuclear power station.

I have lived in Leiston or its surrounding area since 1963. I am not a member of any political party nor am I an anti-nuclear activist. I am a member of SONE (Supporters of Nuclear Energy). I spent all my working life in the nuclear industry involving research into radiation induced chemical reactions, reprocessing irradiated fuel, health physics, emergency planning, environmental monitoring and being the local technical spokesman for Sizewell B during the period 1981 to 1987. With the benefit of this experience I make the following comments.

1 I do not consider the Sizewell location a suitable site for two further EPRs generating approx 3 GW, and I do not think it in the best interests of your Company to proceed with the current proposals. I will explain why. Should you still decide to go ahead then I suggest possible ways of reducing the problems.

Together with Sizewell B and the power to be brought ashore from the North Sea wind farms, the total load to be transmitted from Sizewell will be of the order of 5.5GW. This will be seen as “base load” and therefore used to feed the National Grid in preference to other generators. The load on the National Grid varies from about 30 GW to about 60GW which means that in round figures something like 10% to 20% of the national load will be provided by this location. The current plan is to export this power over the existing transmission line, albeit they will have to be restrung.

From this there are three major concerns.

(a) The increased load on the transmission lines will increase the electro magnetic flux by about a factor of 4 over the present level. This could have health effects on people who live under or near these lines such as at Aldringham. The scientific evidence on this subject is not clear, although a number of studies have failed to identify effects beyond reasonable doubt but I understand that such studies have not involved such high levels of alternating magnetic flux. Some studies have indicated there could be health effects especially on the very young. **The public should not be subject to this uncertainty and it is likely to devalue their property.**

(b) The sudden loss of 20% or even 10% of its supply would likely cause instability on the National Grid which in turn would cause massive shutdowns across most of England and Wales. This could occur from natural or accidental causes but it also makes a very soft target for terrorist action. Such an event would probably leave the Sizewell power stations without power and they would have to rely on their standby generators for a safe shut down. If these failed then the reactors may have to be written off. **This would represent a huge financial loss to EDF.**

The possible means of avoiding (a) & (b) would be to underground the cables from Station C all the way to where they meet the national grid system.

(c) The local demand is far less than the 5.5GW that would be coming from Sizewell and would need to be routed to London or other large centers of demand. This is a waste of energy, for a 100 miles or so something like 20% of the power will be lost. This does not make economic sense. It would be better to build the additional stations much nearer these demand centers.

2 Protection of the Public from a Nuclear Emergency.

When the Sizewell site was originally selected for nuclear generation it was Government policy to build only in remote areas and to maintain such areas without significant development. This policy was reiterated in 1982 to the Sizewell B Inquiry. The thinking was that in the event of the "Maximum Credible Accident", although the most effected area would be unlikely to exceed 1.5 miles, it could extend into Leiston Town. **Therefore the protection of the population by evacuation had to be a viable option.** In recent years the Suffolk Coastal District Council and the Nuclear Inspectorate have unofficially ignored this policy and consequently the population of the Town of Leiston has doubled and it now has a density comparable with some London Boroughs. **The consequence is that the protection of the Town's population by evacuation is no longer a viable option.**

To overcome this problem and to avoid the possible risk that some future Government might decide, as Germany has now done, to shut down potentially dangerous nuclear plants the EPR design must be such that it's containment building would withstand both external impacts and internal explosions. **If the design can meet these requirements then it should be possible to get them cleared for Urban sites near the centers of demand.**

It appears that the maximum credible accident for Sizewell B has never been considered although it has been operating for 15 years. The yardstick for Sizewell A, which was a completely different design and had a much lower power density, was adopted for Sizewell B and that the old 1.5 miles was changed to a Designated Emergency Plan Zone (DEPZ) without any thought being given to the protection of the people in the Town of Leiston. Now that the permitted development has made evacuation within the required time scale a none starter, it is suggested that the problem could be solved by the residents "sheltering" by closing doors, windows, turning off and sealing ventilation facilities etc. For this to be a viable option the action needs to be taken as soon as the emergency occurs and before the atmosphere in the homes and work places becomes contaminated.

The only possible way I can see of achieving this is to install warning sirens, with dedicated power supplies, in the Town and to educate the population in what action they should take if the siren sounded. **Such a situation would devalue the property in the Town and also place a burden on the local population. They should therefore be offered some form of compensation. This could take the form of free electricity or reduced Community Charge.**

3 Cooling water requirements.

The proposed Station would require very large amounts of cooling water from the sea. It would at least double that which is already taken for Sizewell B. The tidal range, (ie rise and fall of sea level) in this area is amongst the lowest in the UK. There is a possibility that some of the warm water discharged will be drawn into the intakes and thereby reduce the thermal efficiency of the generators. I understand this was noticed in Sizewell A when both stations were operating. The effect is most likely to occur at the turn of the tides when water flow along the coast is slack. Also the discharge of so much warm water into an area where dispersion is limited could effect the marine environment.

This problem could be overcome by separating the intake and outfall by several miles. For example it may be possible to make use of the tidal rip off the Aldeburgh point. Much research is required.

4 Site access requirements.

Leiston is already burdened with heavy traffic in its narrow streets. For example the section of Sizewell Road has very narrow footpaths that do not allow one pedestrian to pass another without stepping into the road which is so narrow road it can be blocked by large vehicles. This is the main route from the Sizewell site into the Town. Although some traffic to and from the site will use Lover's Lane, that approaching from the South and South West, which is very substantial in size and quantity will use the Sizewell Road route. The addition of traffic from two more power stations using this route, even after construction has finished, will be intolerable. EDF should, in addition to the proposed new road in from the North, either construct another road from the site bypassing the Town to the south or block off the C site from the B site so that all traffic for the C site will have to use the new North approach road.

5 Sea Access.

The proposed landing facility for bringing in heavy equipment should be constructed to permanent standards and should not be demolished when the construction work is completed. It should be left as a beach facility for local people

6. Construction Workers.

The accommodation of 2000 construction workers in the Site Camp will put a considerable strain on the local community. In order to alleviate a similar situation during the construction of Sizewell B the CEGB paid for the Town to have a swimming pool added to its Sports Centre. The EDF construction will have a much greater impact than did Sizewell B so EDF should provide for better facilities for entertainment and sport in Leiston . An athletics track and associated facilities, rugby pitch, cricket pitch, tennis and badminton facilities and a much better Town Community Centre would be welcome. So would a much better library and archive centre. **EDF should understand that once the proposed C Station started to operate Leiston will receive no benefit from the Business rates paid by the Station but will have to meet even greater demands on its facilities which are funded by the Town Council. Any direct financial benefit will go the SCDC and National Government and not benefit the residents in Leiston.**

7 Waste Disposal

Arrangements must be made that are viable over the lifetime and decommission period for the disposal of radioactive contaminated waste. There must not be a situation whereby this waste accumulates on the site and is left for future generations.

8 Spent Fuel.

It is not acceptable to store the irradiated spent fuel on the site. As for Sizewell A, when the fuel has been removed from the reactor, after a short cooling period to allow the short lived radio isotopes to decay, the fuel must be sent for reprocessing and final disposal. The technology is available for this. If it is not carried out in the UK then EDF must make arrangements to have it carried out elsewhere. **It is not acceptable for quantities of spent fuel, in short term storage, to be left for future generations.**

9 Decommissioning.

EDF must be responsible for decommissioning the site, especially the radioactive components. To this end, EDF must set up a Trust Fund for this purpose in such a manner that the money can only be used for decommissioning purposes. The Fund must be outside EDF so that if EDF

becomes insolvent, or abandons the site, the money can not be accessed by creditors. The money must also be separate from any H M Treasury funds and must not be available to HMG. **We must not have a situation as occurred with the Magnox Reactors where the CEGB's Nuclear Decommissioning Fund was taken by the Treasury when the industry was privatized so leaving no money for decommissioning the Magnox Reactors.**

Please feel free to discuss any of these matters if you so wish. I would be happy to discuss the matters by phone.

Yours sincerely,

Barrie Skelcher, B Sc, M Sc, MRSC, C Chem, MSRP, C RAD P, MCMI.

cc Leiston Town Council
SCDC Planning Department
Dr T Coffey MP