

## **Bradwell site – NFLA response comments to the DECC consultation**

### **Section C1 – Demographics**

In the absence of demographic information provided by the owner of the Bradwell nuclear power station, the Nuclear Free Local Authorities (NFLA) believes the Government applies remote siting criteria and recommends a full, independent, examination of the Bradwell site.

The NFLA believe such an independent examination of the Bradwell site should consider the possible effects of a nuclear accident or emergency (including a terrorist attack) at the reactor or spent fuel store, to see whether the production of a credible emergency plan, including evacuation, is possible.

The NFLA wish to note to the Government that a major study of reactor hazards by two leading scientists and an international energy specialist (published by Greenpeace in April 2005) concluded that risks from the new types of reactors currently being assessed under the Nuclear Regulators (Nuclear Installations Inspectorate and Environment Agency) Generic Design Assessment, although heralded as fundamentally safe, have their own specific safety problems. In addition they cannot be sufficiently protected against a terrorist threat. There are several scenarios – aside from a crash of an airliner on the reactor building – which could lead to a major accident. (H Hirsch - Nuclear Reactor Hazards Report, April 2005)

New risks have emerged since nuclear reactors were built on the Bradwell site, such as the risk of terrorist attack, flooding due to climate change and the storage of spent fuel on site, increasing the overall level of risk to nearby communities.

An examination of the possibility of evacuating Mersea Island, for example, which is only around 2 miles just across the Blackwater estuary from the Bradwell site, gives cause for concern. The Strood is the road leading off Mersea Island to the mainland, the one exit route in the case of a nuclear incident. It also floods twice a day at the highest tides in Spring and Autumn, sometimes for as much as two hours. Mersea Island has a large additional summer population of perhaps 5,000 tourists, many of whom would be at caravan and camp sites, without the shelter of permanent accommodation. This would further compound the difficulty of implementing an evacuation plan.

### **Section C2 – Proximity to military activities**

The NFLA has no comment to make on this area.

### **Section D1 – Flooding**

The Nuclear Free Local Authorities (NFLA) would reiterate the point made above in the demographics section about risks of flooding near the Bradwell site, and particularly the possibility of evacuating Mersea Island, for example, which is only around 2 miles just across the Blackwater estuary from the Bradwell site, gives cause for concern. As noted above, the Strood is the road leading off Mersea Island to the mainland, the one exit route in the case of a nuclear incident. It also floods twice a day at the highest tides in Spring and Autumn, sometimes for as much as two hours. Mersea Island has a large additional summer population of perhaps 5,000 tourists, many of whom would be at caravan and camp sites, without the shelter of permanent accommodation. This would further compound the difficulty of implementing an evacuation plan.

The NFLA also note that climate scientists warned at the international climate change conference in Copenhagen in March 2009 that rising sea levels pose a far greater danger to the planet than previously estimated. There is now a major risk that many coastal areas around the world will be inundated by the end of the century because Antarctic and Greenland ice sheets are melting faster than previously estimated. (Observer, 8th March 2009 and Guardian 11th March 2009)

The International Panel on Climate Change (IPCC) - when it presented its most up-to-date report on the likely impact of global warming in 2007 - concluded that sea-level rises of between 20 and 60 centimetres would occur by 2100. These figures were derived from estimates of how much the sea will increase in volume as it heats up, and from projected increases in run-off water from melting glaciers. The IPCC now has a much better idea of what is going on in Greenland and Antarctica and can make much more accurate forecasts about ice-sheets melting and their contribution to sea-level rises. These revisions suggest sea-level rises could easily top a metre by 2100 - a figure that is backed by the US Geological Survey, which has warned that they could reach as much as 1.5 metres. And sea-level rises will continue for hundreds of years

beyond 2100, even if we do manage to stabilise carbon dioxide emissions and halt the rise in atmospheric temperature.

Some scientists, and Ban Ki Moon, the Secretary-General of the United Nations, have warned that sea level rises could happen much more quickly, with a rise of up to 6 metres in a few decades. (News Weather 16th November 2007)

There will also be an increase in major storms, more intense gales and hurricanes and these, in turn, will produce massive storm surges as they pass over the sea. The result will be a “climatic double whammy” that will savage low-lying regions including Britain's south-eastern coastline, in particular East Anglia (where Bradwell is situated) and the Thames Estuary.

The Institute of Mechanical Engineers says the Sizewell nuclear site on the Suffolk coast will certainly be affected by rising sea levels, and the NFLA believes similar concerns exist for Bradwell. Engineers say they can build concrete walls that will keep out the water throughout the working lives of these new plants. But that is not enough. Nuclear plants may operate for 60 years (up to around 2080), but it could take hundreds of years to decommission them, and spent nuclear waste fuel could be stored there for 160 years or more.

In 2007 a report for Greenpeace by the Middlesex University Flood Hazard Research Centre which looked at the effect of the expected sea level rises and increases in storm surge over the next 200 years on four reactors sites, concluded that the Bradwell site is under significant threat. It is also important to note that even the lowest estimates of sea-level rise could significantly increase long-term dependence on defence at the stations and increase the current rate of loss in the physical stability of the environments in which Bradwell is situated. It is currently difficult and costly, and in the future is likely to be increasingly unsustainable, to maintain the presence of power stations in three of the four sites studied (Bradwell, Sizewell and Dungeness).

The report concludes that defending the sites from sea water will mean they are "likely to become economically unsustainable" and they "cannot be considered as suitable locations for new reactors". (The Impacts of Climate Change on Nuclear Power Station Sites by the Flood Hazard Centre, presented to Greenpeace, 2007)

## **Section D2 – Coastal Processes**

Please note the comments about coastal flooding mentioned under Section D1.

## **Section D3 – Proximity to industrial processes and hazardous materials**

Please note the comments made below in Section D10.

## **Section D4 – Proximity to civil aircraft movements**

NFLA have no comment to make in this area.

## **Section D5 – Proximity to military activities**

NFLA have no comment to make in this area.

## **Section D6 – Internationally designated sites of ecological importance**

Please see comments made in section D7.

## **Section D7 – Nationally designated sites of ecological importance**

As there is nowhere else to put comments on the environmental aspects of the siting assessment, the NFLA is putting its comments here.

The NFLA would like to know when the Government is going to assess launching a ‘local energy revolution’ – based on energy efficiency and decentralized energy – as an alternative to designating sites for new nuclear reactors. A non-nuclear “Green New Deal”- type of economic stimulus package would create alternative employment opportunities around Bradwell and the other ten proposed sites.

The NFLA also notes that in its earlier submission to the Government on the Strategic Siting Assessment (SSA) consultation, it concluded that a wide ranging engagement process needed to be carried out with local communities around existing nuclear sites which did not just cover the possibility of new reactor building, but also looked at all the alternatives with a focus on producing energy. (the earlier NFLA submission can be accessed at the following weblink: [www.no2nuclearpower.org.uk/ground/SSAResponse\\_NFLA.pdf](http://www.no2nuclearpower.org.uk/ground/SSAResponse_NFLA.pdf))

The Government's response to the consultation (Towards a Nuclear National Policy Statement, DECC, Jan 2009) highlighted the fact that several respondents were particularly interested in how alternative energy generation technologies will be addressed as part of the environmental assessment. The Government's response simply says it "continues to believe that it is in the public interest that new nuclear power stations should have a role to play in this country's future energy mix alongside other low-carbon sources.

The NFLA submission described the SSA process as "simply a way of legitimising nuclear siting decisions which have already been taken - a step backwards to the old and discredited 'Decide Announce Defend' approach." This informal consultation on each of the eleven nominated sites confirms that view.

Nuclear power will be too late to help tackle climate change and its contribution will be too little when it eventually arrives; it will be too expensive, will create waste we have no idea what to do with; reactors pose a risk of serious accident and environmental contamination and they exacerbate problems of nuclear proliferation. Not only will new reactors divert attention and delay the implementation of a local energy revolution in the immediate vicinity of the proposed sites, but they will sap funding and political energy for implementing a green economic stimulus required and supported by all the NFLA member authorities.

### **Section D8 – Areas of amenity, cultural heritage and landscape value**

The NFLA are concerned about the issue of planning blight that may take place in the wider area around the Bradwell site.

Given the credit crunch, delays and cost overruns on other large-scale new build projects, along with problems and delays with planning laws it could be at least 10 years before a site is built. Indeed, the only major nuclear reactor being built at present, in Finland, is now over 3 years behind schedule with no clear idea of opening, £2.5 billion over budget and the Finnish nuclear regulator has deep concerns over a number of key safety issues. Should the Government be promoting the Bradwell and other sites at such a time, when money is sparse and the effects of climate change means times is not on our side.

The time and money also may actively discourage other forms of electricity distribution to be pursued in the Essex area and could stop other industries moving into the area, creating planning blight and negative effects on house prices. What guarantees can the Bradwell site operator give that the new reactor will be built on time and to budget? If such guarantees are not forthcoming then what will the Government do to ensure there is no long-term negative impact on the area?

### **Section D9 – Size of site to accommodate operation**

The NFLA are concerned that the plans for Bradwell and the other 10 sites do not adequately show where spent fuel stores or the spent fuel encapsulation plant will be. Such stores are to hold 60 years of spent fuel and the encapsulation plant is meant to enclose it in a form to make it safe for disposal. Is the proposed Bradwell site going to be large enough to facilitate all the stores that will be required?

The NFLA are also concerned about the financial settlement for decommissioning the existing site on Bradwell should nuclear new build take place on a nearby site. Can the Government give assurances that decommissioning will not be affected by the huge resources required for a new site?

### **Section D10 – Access to suitable sources of cooling**

The NFLA have a concern that, unlike existing reactors, the Government is not expecting new reactor operators to despatch their spent fuel to Sellafield for reprocessing. This means that highly radioactive spent nuclear fuel could remain at the new reactor sites for at least 160 years. The spent nuclear waste fuel will be particularly hot and radioactive as it is expected to be 'high burn-up' fuel that will be used in the reactors. There is still much uncertainty about how easy it will be to include this spent fuel in the "geological disposal facility" planned for all the nuclear waste that Bradwell and other nuclear sites have already created.