

Report from “**Radiocative Waste in Somerset**” held in Taunton on 19th March 2015 by Stop Hinkley.

Allan Jeffrery (Science teacher):

Nuclear energy production creates waste in the form of spent nuclear fuel, which has to be cooled, contaminated materials (intermediate level waste) and gas and aqueous emissions.

Hinkley A and B are gas cooled reactors. A was closed in 2000 for safety reasons and has a 100 year decommissioning programme. B has had its life extended to 2023, but the graphite core is cracking. C is planned to have 2 water cooled reactors, but this model has not been successfully completed anywhere and all 4 in construction are over budget and behind time.

Spent fuel from A and B is cooled for 90 days and transferred weekly to Bridgwater in flasks to travel to Sellafield by train for reprocessing. This transport on road and rail is vulnerable to terrorist attack. The train transport was stopped for the duration of the Olympics for this reason.

Spent fuel from C is proposed to be cooled for 10 years and stored for a further 100 years in cooling ponds adjacent (15 metres) to the low cliffs which are vulnerable to erosion and rising sea levels. This is deemed “temporary” storage, but in effect will be a medium term depository which will need constant security and monitoring. The sea defence wall had to be raised in 1980 and in 1981 the area on the landward side of Hinkley flooded extensively.

Intermediate waste from A and B is encased in concrete and stored on site in Yellow metal boxes. This process has now been changed to concrete boxes at a saving of £10,000 per box , down from £30,000.

Low Level waste is dissolved and the fluid discharged to the sea or solid waste is placed in public landfill. The Drigg site in Cumbria is used and is vulnerable to sea erosion over the next 100 years. 2/3 rds of the heat produced by B is released into the Severn

Tim Deere-Jones (Marine radioactivity consultant)

Because the origins of nuclear power in 1940's were based on the need for weapons material , national security dictated that large emissions were allowed and the “ the justifying hypothesis” that radioactive emissions are not harmful was propagated through science education and nuclear training up to the present day, despite the lack of evidence that it was true. The JH posits that soluble emissions dissolve to infinity in the sea and solids sink and become incorporated in sedimentary rock in the long run. Two trained scientists in the audience confirmed that this is what they were taught. One worked at Hinkley and now thinks it should be closed down and C not constructed for safety reasons. Of 54 radioisotopes produced in nuclear fission only 24 have been researched. The Environment Agency refuse to monitor them (they are possibly reconsidering this) and denies there is any risk of sea to land transfer of contamination. Privately funded research has found high concentrations of radioactive contamination in river estuaries which seem to concentrate the density 10 fold, possibly because silt/clay has a greater particle surface than sand. If silt is dug out and allowed to dry out there is a risk of inhalation.

Other risks

The risk of a tsunami in the area was also discussed. It is now thought that the tsunami in the 17th century, which affected large parts of Somerset was due to the slump of a build-up of silt on the edge of the continental shelf tipping over into deeper water and setting off the tidal wave.

The terrorism risk is impossible to avoid and it is thought that a nuclear power station could be knocked out with two drones aimed at the main and back-up power supply systems.

It was confirmed that there is a geological fault under the Hinkley site and this necessitated the rotation of the footprint of B before it was constructed, to avoid placing it directly on the fault line.

Molly Scott Cato MEP

Economic arguments rather than safety carry weight at the European level. Despite the general belief that mature energy industries should not receive subsidy, the outgoing Commission refused to take this into account in 2014 and approved the "Contract for Difference" or strike price for Hinkley C. This is now being tested in law and will cause further delay to EDF's Investment decision.

A report due on renewable energy in SW will show that 124,000 jobs and 66 MWhs p.a. can be produced by renewable energy in the region.

The overall theme of the meeting was that it is immoral to leave the legacy of this waste and its cost to future generations, especially as alternatives are available, not least being energy conservation which attracts almost no funding.

Cllr Maureen Smith

Hinkley Shadow Portfolio

26.03.2015