It was not till January 2008 that the UK government decided to again embrace nuclear power and chose eight sites all majority owned by *Electricité de France* (EDF), with EDF predicting UK people would be be able to cook their Christmas dinners in 2017 with electricity from the new PWR reactors.

Cap being lifted on to Hinkley Point C number one reactor December 2023

This proved wildly optimistic. It was not till March 2017 that the first of these eight planned stations even started being built. This was a 2-reactor power station at Hinkley Point C in Suffolk, with connection to the grid scheduled for 2025. This last date has steadily slipped, with latest predictions for it opening date ranging from 2030 to 2033.

A major problem with Hinkley C is paying for it. EDF claimed originally that the station would cost £18bn to build. The latest estimate of the cost is £46bn. The other problem is that the Chinese power company CGN holds a 33% stake in Hinkley C but has stopped paying instalments towards the cost of the project. This seems the consequence of the UK government reneging on a agreement it had signed on October 2015 with EDF and CGN to permit CGN to build a nuclear station at Bradwell in Essex of its own design if it took stakes in Hinkley Point C and Sizewell C, as it proceeded to do. The UK government's reason for later reneging on the deal, by refusing to allow CGN to build Bradwell B after all, were security concerns amid deteriorating diplomatic relations with China. Subsequently the French government refused to help out by investing in Hinkley C.

Sizewell C, artist's impression

As far as the planned nuclear power station at Sizewell C (planned since 2009!) the British Government has bought out CGN's 20% stake in the plant for £100m; at the same time it bought out another 30% of the project from EDF for £679m. I would presume this is because EDF, having failed to find any other private or state firms besides CGN willing to take a stake in the project while costs were soaring, was threatening to walk away from the project. This means that the government and EDF now own the project 50:50

So why did the government buy out the 20% CGN stake in Sizewell C for security reasons but not the 33% CGN stake in Hinkley C? Surely the same security concerns applied, perhaps more strongly in the case of Hinkley since it was actually being built? I can only think that the government baulked at the idea of buying the 33% stake in a now enormously expensive project. In this case the concern about cost must have trumped safety concerns.

Given the dire problems of finding investors willing to invest in Hinkley Point C, with costs of building spiralling and any profit on it being earned delayed till the every more distant day when the power station starts producing electricity, the government decided on a different model of funding for Sizewell C, one called the "regulated asset base model."

In essence this means that electricity bill payers are surcharged to cover the money spent on the project while it is being built. Of course, if costs and delays spiral, as they have for Hinkley Point C, this will mean the surcharge consumers will pay will increase in amount as well as the length of time they have to pay it before the plant actually produces any electricity and they won't get any of this money beck if the station fails to be completed.

In other words the financial risk involved is moved from EDF and the UK government (with a 50% stake in the project) to electricity customers.

David Polden.

SACRIFICING FISH!

The original plan to build Hinkley Point C included an innovative "acoustic fish deterrent" system (AFD) to prevent millions of fish being killed by being drawn into the reactors with the large amounts of fresh water needed to be fed continuously into the reactors to keep them from overheating and a chain reaction resulting. The Severn Estuary and Bristol Channel from which the water will be drawn are very important for fish, including salmon and eels.

The plan involved some 300 underwater "sound projectors" being situated near the water intakes for the cooling water producing a sound louder than a jumbo jet to deter fish from approaching the inlets.

In February this year it was reported that this plan had been dropped, EDF claiming that AFD would risk the lives of the divers that would need to be involved in installing and maintaining it, and over concerns about the impact of the noise on porpoises, seals and whales.

However EDF proposed as "compensation" for dropping AFD: an environmental scheme that would create about 773 acres of new salt marsh and create or enhance local oyster beds, kelp forest and seagrass habitats. The marsh proposal is very contentious locally as it would involve some 30 landowners losing their land and destroy a large area of wildlife-rich grassland and hedges.

It is suspected that dropping AFD in favour of the environmental proposals is all about saving money. To test this suspicion, a *Guardian* reporter asked EDF for the figures for the cost of carrying out its environmental proposals compared with the cost of AFD. The response was that the salt marsh scheme was only in the "concept" stage so there were no figures, though it beggars belief that they have drawn up such a scheme without considering the cost.. It seems EDF didn't give an estimated figure for the AFD scheme either, tending to prove the suspicion of cost-cutting for dropping AFD. It may also be suspected indeed that the "concept" of the salt marsh plus environmental scheme will remain no more than that.

KICK NUCLEAR

March 2024

The monthly newsletter of the Kick Nuclear group.

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We hold **"Remember Fukushima – End Nuclear Power" vigils** in London **on the last Fridays of each month,** from 11am to 12.30pm outside the Japanese Embassy at 101-104 Piccadilly, followed by from 1 to 1.30pm outside the offices of the Tokyo Electric Power Company at Marlborough Court, 14-18 Holborn. All anti-nuclear welcome to join us! Copy date for April edition: April 22.

UK'S NUCLEAR PLANS IN DIRE STRAITS

The most recent nuclear reactor to be connected to the grid in the UK was Sizewell B, which was was connected on Valentine's Day 1995 – 29 years ago. It is currently due to remain in operation until 2035, though it has been proposed that its life could be extended for another 20 years

Sizewell B was originally intended to be one of eight new nuclear power stations equipped with PWR reactors to replace older types of nuclear reactors then in operation. However the other seven were never built

In 1995 as many as 34 other nuclear reactors were operating in the UK , producing some 25% of its electricity. 20 of these (eight of them low-powered) were of Magnox type and joined to the grid between 1956 and 1971. They have all now been decommissioned. Also operating were 14 of the more advanced Advanced Gas-Cooled Reactor (AGR) type, which were joined to the grid between 1976 and 1988. Six of these have now been decommissioned and the rest are all due to be closed down by 2028.

This means that after 2028 there will be only one civil reactor operating in the UK, claimed to be able to supply 7% of the UK's electricity.