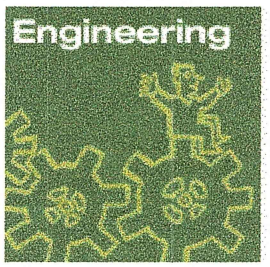

Engineering

Safety fears shut oldest nuclear plant

Financial worries grow at BNFL as fuel rod accident inquiry spells shutdown for two power stations

Paul Brown, environment correspondent
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The Guardian

Calder Hall in Cumbria, the world's oldest nuclear power station, which was opened by the Queen in 1956 to herald the start of the atomic age, has closed because of safety fears. It will probably never be reopened.

The four reactors have been taken out of service because years of exposure to high levels of radiation appear to have distorted fittings, making it impossible to guarantee the safe loading and extraction of fuel rods.

The shutdown is costing £30,000 a day in lost output for BNFL, which runs the plant to provide power to run its two Sellafield reprocessing works. Three hundred people work at the power station.

Calder Hall's sister plant Chapelcross, at Annan in Dumfries and Galloway, is also to be closed. Two of the four reactors are already shut and the others will switch off in January. Currently, 400 people are employed at the site.

It was at Chapelcross that the distortion fault was first discovered, during work to retrieve 24 fuel rods that had accidentally been dropped 80 feet during defuelling operations. Shrinkage of graphite because of intense radiation had caused the heavy plates placed on top of the reactor tubes to tilt.

Fearing that this might cause difficulties loading and unloading the fuel, the government's safety watchdog, the nuclear installations inspectorate, ordered a full inspection of all eight reactors at the two stations to see if it was an isolated problem. It is understood that two more tilting "charge pans", as they are known, have been found.

BNFL is now faced with making a "safety case" to the inspectorate for restarting the two stations. Insiders were not certain how the fault could be fixed, but the company

"remained optimistic" that it could do so in 2002.

The problem for BNFL is that the stations are due to be closed anyway in 2006 and 2008, and heavy repair expenditure could not be justified. Faults that could not be fixed "without disproportionate cost" at four other Magnox stations have caused their closure earlier than originally planned.

Although Calder Hall is often cited as the first commercial producer of electricity from nuclear power, it was primarily a military reactor - designed to produce plutonium for nuclear weapons.

Although tiny by comparison with modern reactors, with a total output of one-tenth of the Sizewell B reactors in Suffolk, it was big enough to give Britain its independent nuclear deterrent.

Once Britain had enough plutonium for its needs, Calder Hall was gradually run more and more for electricity production, and in the 1990s was no longer needed for defence purposes.

The Chapelcross station was also used for plutonium, although latterly it has been run to produce tritium for the Trident programme. Tritium may now have to be bought from the United States, since the UK has no other defence reactors.

If the stations are closed, it will further damage BNFL's financial standing. Part of BNFL's income has come from supplying surplus power from Calder Hall to the national grid.

Last month, Patricia Hewitt, the trade secretary, admitted to parliament that the company's liabilities exceeded its assets. If Calder Hall and Chapelcross were to provide no further income, the debt burden faced by the taxpayer would continue to rise steeply.

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