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Crashing about in the nuclear wilderness

As the Government nears its decision on Sizewell B, Walter Patterson reflects on nuclear confusions of the past

US Reactors may power Britain - *front-page headline in The Guardian, 15 October 1973.*

The story was the opening salvo in what was to become the first major public controversy about British nuclear power policy. At its height national newspapers were carrying full-page ads for nuclear reactors.

Yet who remembers that only 12 years ago the CEBG wanted to order by 1983 not just one pressurised-water reactor (PWR), but 32?

As Britain awaits the report on the Sizewell inquiry, it might be salutary to reflect on the CEBG's previous attempt to introduce the PWR to this country. The episode appears to have been expunged from the collective memory of Britain's official energy planners. The CEBG in particular has good reason to hope that no one harks back to its aberration of 1972-74.

On August 2, 1972, the then chairman of the CEBG, Arthur Hawkins, told the Select Committee on Science and Technology that until after 1980, the CEBG would need to order at most four nuclear stations; a more realistic estimate would be only one. The CEBG already had abundant generating capacity; stations ordered in the 1960s were still to come on stream; and electricity use was not increasing rapidly enough to justify any more orders. The Committee, staunch advocates of nuclear power, were profoundly unhappy about this; but what Hawkins told them only 16 months later left them even more unhappy.

The *Guardian* story of October 1973 triggered a flurry of speculation. In response the Select Committee convened a fresh series of hearings, commencing December 11, 1973, with Sir Arnold Weinstock, managing director of the National Nuclear Corporation. In March 1973, Weinstock had told the committee that for reasons of both economics and safety he would not suggest that Britain should move to water-cooled reactors. On December 11 he did just that.

On December 18 Hawkins took the witness stand. There had been, he said, no significant change in estimates of electricity use; and the CEBG's new plan predated the Yom Kippur war of October 1973. "May I assure you," said Hawkins, "that there is nothing in anything we are doing or suggesting at the moment which suggests there is a need for panic. I prefer to say 'crash programme'."

What did this "crash programme" entail? "We would like to order in 1974 two stations ... in 1975 one station, another in 1976, another in 1977, two in 1978 and two in 1979 - nine new stations - and nine more from 1980 and (sic) 1983 ... With possibly two exceptions, these are twin-reactor stations on the basis of 1200 megawatts to 1300 megawatts per reactor."

The committee members were dumbstruck. Had not this same man told them only 16 months earlier that the CEBG could not foresee ordering more than four stations before 1980, and more probably only one? What had changed? According to Hawkins, nothing at all.

Furthermore, the CEBG was indeed proposing to abandon the British-designed advanced gas-cooled reactor (AGR) in favour of what Hawkins called "bread and butter plant . . . as proven as it can possibly be" - the Westinghouse PWR. Committee member Airey Neave pressed Hawkins on the apparent discrepancy between his reference to a "1300-megawatt" unit as "proven" and the fact that no such unit was in operation

anywhere in the world. The exchanges were tense and acrimonious; but Hawkins stood by his claim. He also denied that ordering such reactors might lead to delays of various kinds.

One obvious source of delay, however, became evident the next day. Eric Williams, Chief Inspector of Nuclear Installations, told the committee that his testimony of March 1973, during its previous hearings, was still valid. He had still received no formal application to licence a PWR; and full approval of such a plant would still take two years. How Hawkins and Weinstock could reconcile this clear-cut two-year hiatus with their desire for "bread and butter plant" on the timetable suggested was one of the more egregious discrepancies in the CEGB/GEC proposal.

Several eminent witnesses submitted evidence to the committee questioning the advisability, not to say the feasibility, of the PWR proposal. One was Lord Hinton, whose impressive nuclear credentials included his role as first chairman of the CEGB.

All this was taking place against the background of the first oil price shock, the coal-miners' go slow and strike, and the Heath Government's three day week. On February 7, 1974, Mr Heath called a general election; on February 28, he lost it. The change of Government set many developments in train, not least that which put a headlong PWR enthusiast in Downing Street in the 1980s. But in 1974, the Government changeover presaged, in the short term, a less propitious outlook for the PWR. The Wilson Government was far less solicitous about the future fortunes of GEC; and the trades unions emerged as stout defenders of the British lineage of reactors against the American interlopers.

After many weeks of lobbying, Government hawing and procrastination, the Energy Secretary, Eric Varley, on July 10, 1974, delivered the Cabinet's verdict.

No, the CEGB could not order its 32 PWRs. It could order six reactors, and the South of Scotland Electricity Board could order two more. The chosen design was to be the British steam-generating heavy water reactor. Two years later that decision, too, took its place in the annals of Great British Nuclear Cockups; but that is another story. Varley's announcement left PWR proponents puce with fury. Hawkins' deputy Donald Clark at once resigned from the CEGB. Weinstock and GEC soon let it be known that their eagerness to continue managing the National Nuclear Corporation had all but evaporated.

The PWR faction retreated to regroup. When it reappeared, it was flying the banner of Sizewell B; and the outcome of the latest sortie awaits the report of Sir Frank Layfield, and the Government's response.

Those with a sense of nuclear history continue, however, to wonder. What if the PWR people had got their way in 1973? What if the CEGB had ordered 32 1300-megawatt PWRs by 1983? What would they have cost and who would now be paying for them? What would the country do with more than twice as much generating plant as it has ever had to use? Is the Sizewell B proposal, however modest by comparison, as far out of touch with reality as the PWRs of 1973?

Walter C. Patterson's latest book, Going Critical: an unofficial history of British nuclear power, will be published by Paladin on November 21.