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HUNTERSTON 'B' 'A CATASTROPHE WE MUST NOT REPEAT'

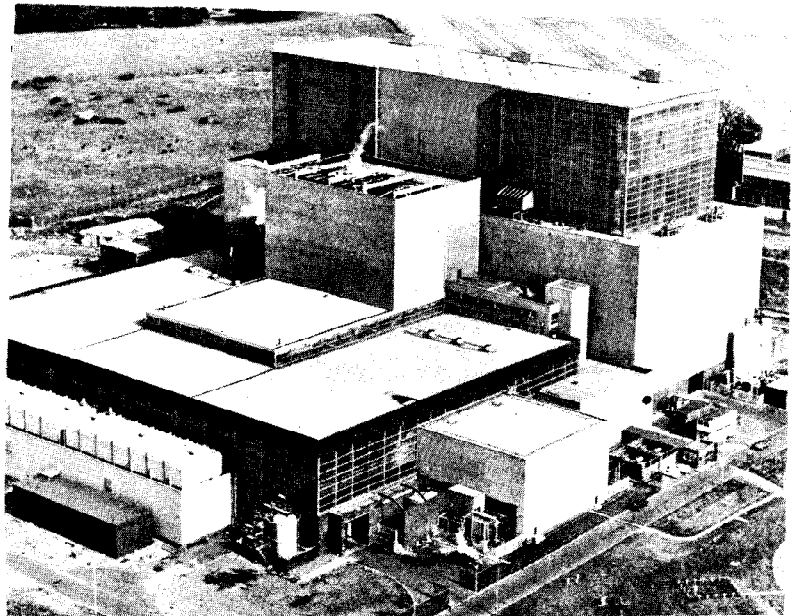
As the South of Scotland Electricity Board (SSEB) spends increasing sums of public money in lavish last-minute attempts to allay public fears over their plans to build the next Advanced Gas-Cooled Reactor (AGR) Nuclear Power Station at Torness in East Lothian, little is said on the disastrous economic history of their last AGR - at Hunterston in Ayrshire.

The whole sad story, compiled here for the first time, reveals a series of persistent blunders and miscalculations which together suggest that the Hunterston B AGR is an economic catastrophe which we cannot afford to repeat.

As part of Britain's first AGR programme, construction work was started on Hunterston B in November 1967, on a site adjacent to the existing Magnox Station (Hunterston A). The first reactor unit was finally commissioned in February 1976, followed by the second unit in March 1977 - 3 years later than expected. In the case of Hunterston B such a delay was particularly costly.

Back in December 1968, the North of Scotland Hydro-Electric Board (NSHEB) signed a contract with the British Aluminium Company (BAC) under which they were to provide electricity to the aluminium reduction plant at Invergordon for thirty years at an agreed price. The huge amounts of electricity consumed by the plant were far beyond the resources of the NSHEB, so a special 'Smelter Account' was set up, whereby the electricity would be supplied directly by the SSEB's station Hunterston B.

The contract, based on "reasonable expectations for the construction and performance of Hunterston B" (ref.1) was in the spirit of the heady days prior to



the 1973 oil crisis, when cheap and plentiful electricity from nuclear power was - as some say it is today - "just around the corner". In retrospect, it is clear that BAC are paying a ridiculously low price for their power.

The three year delay cost the 'Smelter Account' £52 million (March 1976 cost levels). In addition, due to the need to restrict the operating temperature of the AGR to reduce the risk of corrosion of boiler tubes, the Hunterston AGR had to be significantly "de-rated" - at a cost to the 'Smelter Account' of a further £13.3 million. (over)

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The situation was so serious that in April 1976 the Government was forced to introduce a special Bill into Parliament (The Electricity (Financial Provisions) (Scotland) Bill 1976) in order to increase the Scottish Electricity Boards' upper limit on borrowing and to facilitate Government repayment of the deficit incurred by the BAC contract. In drawing up the original contract the Government had provided a let-out clause for the NSHEB, just in case "substantial loss did arise" (ref.1), suggesting that they would foot the bill. In the event that is just what they did.

The total deficit involved over the 30 years of the contract was estimated in 1976 by the Scottish Economic Planning Department (ref.1) to run to at least £95 million. This, however, was only an "indicative" estimate, and no upper limit was actually included in the Bill. The lump sum eventually paid to the Smelter Account has never been confirmed, but is reckoned to be at least £200 million (ref.2). The hard-pressed taxpayer has forked out to offset the losses incurred by foolishly optimistic electricity planners. Such a huge subsidy is not taken into account when the electricity boards do their sums which 'prove' the comparative cheapness of nuclear electricity.



Hunterston B then ran more or less properly for 6 months - until, in October 1977, a "human error" allowed over 1000 gallons of the Clyde to flood the pressure vessel of the second reactor unit. At a press conference in December the SSEB calmly announced that the total cost of the incident could amount of £14 million (£3 million to repair the damage, £11 million to meet the cost of generating replacement electricity) and that this could add 2p in the pound onto electricity bills. Earlier that year, the SSEB had included a circular with all electricity bills, signed by their Chairman, Mr. Roy Berridge, proudly proclaiming that, "The increasing output of nuclear electricity from Hunterston is continuing to back our fight against inflation". Many could not help but notice the irony.

A mere £14 million has however proved to be a rather optimistic estimate. In Parliament in July this year, Mr. Gregor MacKenzie, Under-Secretary with the responsibility for the Scottish Electricity Boards, revealed that in fact the cost of the repair would be £8 million and the cost of generating alternative electricity "almost £28 million".

That brings the total cost of the Hunterston B incident to a staggering £36 million - 2½ times the original estimate. The reactor will also be out of service for at least another year. How much the whole incident will actually cost is of course going to be another question.

The precise effects of such a history are difficult to specify. An analysis of the comparative cost-per-unit figures in the SSEB's 1977/8 Annual Report shows that the competitiveness of nuclear electricity, always a marginal matter, has decreased sharply over the last year. Nuclear electricity last year cost 1.2p per unit, compared to 1.3p per unit for coal, oil and gas-fired electricity. If this trend continues into next year, nuclear electricity will be more expensive than the alternatives.

There is no doubt, though, that the SSEB figures mask the true situation. A footnote to the cost-per-unit figures is revealing :-

"All figures exclude...decommissioning expenditure, and the repair to Reactor 4 unit insulation at Hunterston B Power Station following the sea-water incident."

In addition, their calculations take no account of the Government £200 million subsidy (explained above); the future cost of waste disposal; and the hidden costs of fuel cycle services carried out by British Nuclear Fuels Ltd., such as enrichment and reprocessing (both heavily subsidised by the Ministry of Defence).

Hunterston B, in spite of all this, has been referred to as "the best AGR in the world". This claim is not so ludicrous as it might at first appear. The only AGRs in the world are in this country and of the five started between 1966 and 1970, only two have actually come on stream (Hunterston B and Hinkley B). One of the Hinkley B reactor units suffered a serious incident in June 1977 which resulted in it going out of commission for several months. The other three, Heysham, Hartlepool and Dungeness B, are, according to Government estimates, going to be respectively at least 5, 7 and 9 years late.

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It is no wonder, then, that the former head of the Central Electricity Generating Board, Sir Arthur Hawkins, described the AGR programme as "a catastrophe which we must not repeat".

The full deficits of Hunterston B have not yet been calculated. But the signs are that its public costs will far outweigh its supposed benefits. What you haven't paid for as an electricity consumer, you have paid for as a taxpayer.

At the very least, the Government ought to suspend construction of the AGR proposed for Torness pending a detailed investigation into the economic consequences of the Hunterston B fiasco. It could save us all a good deal of wasted time and money.

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