

UK REPROCESSING CONTROVERSY

Suffering Fuels gladly

IT IS all down to a Cabinet decision. The media have had their field day, the antinuclear lobbies have voiced their objections and the Select Committee on Science and Technology has declined to investigate the issue. If British Nuclear Fuels Limited (BNFL) gets the green light it wants in the near future the few remaining wrinkles will be ironed out of the deal with the Japanese Enrichment and Reprocessing Group, and irradiated nuclear fuel from Japan will be all but on its way to Britain for reprocessing.

Although spent Japanese fuel is already reprocessed in Britain, few people doubt that the Secretary of State for Energy, Mr Anthony Wedgwood Benn, aimed to give this deal, involving the reprocessing of 4,000 tonnes of fuel over the decade from 1979, a wide public airing. The recent, unattributed "leak" to the popular UK press put the issue before a wider audience than was already following its progress in the up-market newspapers. Speculation over Mr Benn's own attitude added zest to the coverage. And when BNFL followed a public debate in Barrow with another in London this month the presence of Mr Benn ensured a glare of publicity that opponents to the deal could not afford to miss.

But the odds have been stacked against them from the start. Mr Benn has promised that the government will weigh the issues raised by the debate in making its final decision. But the economic benefits which the deal offers, the essential role of reprocessing in Britain's future nuclear programme, and the excellent safety record of the British nuclear industry, all point to a decision in favour of BNFL.

Nor is there any chance that this particular deal will be affected by suggestions that nuclear reprocessing be conducted on a non-commercial basis through an international arrangement. The Pugwash symposium to outline plans towards that end is still some months off; even then it may take several years before proposals percolate through to effective executive levels. The suggestion is anyway irrelevant to concerns about the wisdom of importing foreign radioactive material to Britain. The BNFL reprocessing plant at Windscale in Cumbria, where the Japanese will send their fuel, with its established facilities and 25 years of operational experience, makes it a prime choice for internationally supervised reprocessing.

Most critics believe that reprocessing can actually be avoided altogether.

Some have suggested that benign energy resources be developed to replace nuclear energy, a view more widely regarded as unrealistic, in the short-term at least. Those who accept the need for a continuing reliance on nuclear power, the Pugwash group among them, suggest that a switch to the thorium cycle would provide a viable alternative to reprocessing. That, however, ignores Britain's commitment to the fast breeder reactor. The first FBR will be on-stream by the turn of the century and reprocessing will be an essential part of their nuclear fuel cycle. Moreover, only the most optimistic interpretations of known uranium reserves suggest that there are sufficient natural resources to fuel second generation reactors until FBRs come into their own. The shortfall, it is argued, must inevitably come from reprocessing.

Another factor in Britain's decision, inevitably, will be finance. Throughout the final rounds of its publicity campaign, BNFL has made great play of the deals' commercial advantages. Apart from attracting other foreign customers, mostly in western Europe, the state-owned BNFL could add an estimated £600 millions to Britain's import earnings on completion of the deal. Though the finer details are still under negotiation it is certain that a substantial proportion of that amount—probably between £100–200 millions—will come as a downpayment on the signing of the contract. Payment of the remainder will be spread over the ten-year period covered by the deal. With each consignment sent to Windscale the Japanese will pay an agreed proportion of each batch's reprocessing cost, the total to be made up when the reprocessed material is returned to Japan.

There is no danger that the Japanese fuel will remain in Britain indefinitely. Should BNFL fail to develop the vitrification technique which will allow them to classify the reprocessed material for relatively safe transport, they will withdraw from the deal and the Japanese will repossess the fuel untreated. The Japanese Enrichment and Processing Group are apparently satisfied with that condition. BNFL confidently expect that their recent step-up of vitrification research will ensure the viability of the process by the mid-1980s.

The reprocessed material will contain a small but significant amount of plutonium, a key element of nuclear weaponry. But suggestions that in completing the deal Britain will thereby

contravene the Non-Proliferation Treaty are ill-founded. The present signatories unanimously recognise that the present agreement is not intended to ban nuclear trade with outsiders; moreover, Japan is in a position to ratify the treaty at any time. In addition, under a system administered jointly by the International Atomic Energy Agency and Euratom, a series of detailed arrangements, to which the parties involved must accede, provide safeguards for nuclear trade agreements. The safeguards are specifically designed to prevent the clandestine diversion of material to military uses, and allow the IAEA to conduct checks at any time. It was by entering into a similar agreement that West Germany was recently able to sell a complete nuclear fuel cycle to Brazil. Similar provisions will apply to the reprocessing deal between Japan and Britain.

There is another area of uncertainty relating to the reprocessing itself. Critics are concerned because the Japanese, who have now adopted the American light water reactor, will send oxide fuel, and not magnox fuel, to Britain. Most of the foreign fuel so far reprocessed at Windscale, coming in the main from Latina in Italy and Tokai Mura in Japan, has been magnox from first generation reactors. The reprocessing of oxide fuel poses greater problems because of the higher activity of the waste. BNFL has gained little experience in oxide reprocessing and what they have is not entirely encouraging. The first oxide reprocessing plant is yet to be built at Windscale, though up until 1973 BNFL reprocessed minor amounts of foreign oxide fuels using a head-end adaptation on the existing magnox plant. The operation was discontinued following a minor incident in which a small cloud of radioactive dust escaped during servicing, contaminating workers. Nonetheless, BNFL aim to have two plants operational by the mid-1980s, handling 1,000 tonnes of material annually. Most of it will come from abroad, according to the company's projections, though all but a small percentage will return to the country of origin.

Trades union officials in Cumbria are eager to see the deal go through. For them at least the issues are clear cut. The deal is likely to create an estimated 2,000 jobs in the area—at the sizeable projected cost of some \$900 million. This the Cabinet may also consider relevant in its deliberations: BNFL itself has deployed the jobs argument in support of its view. But this issue aside, few people doubt the final outcome.

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