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Fast Reactor Breeds Controversy

by our Washington Correspondent

ALTHOUGH demonstration liquid metal fast breeder reactors (LMFBRs) are on the verge of starting up in Britain and the Soviet Union, and are well along the road in France and West Germany, the US Atomic Energy Commission is only now talking about arrangements for constructing the first commercial demonstration reactor in the United States. The reasons why the United States seems to be uncharacteristically lagging in this area of high technology are many and varied, but during the past two years the Atomic Energy Commission, at the personal behest of President Nixon, has been proceeding at breakneck speed towards the goal of commercial production of electricity from the LMFBR. And it has also run headlong into spirited opposition from environmentalist groups, and some scientists and economists.

In June last year, President Nixon sent an energy message to Congress in which he called the LMFBR "our best hope today for meeting the nation's demand for economical clean energy", and since then the Atomic Energy Commission has announced that a 350 MWe demonstration plant is to be built at Oak Ridge, Tennessee. If all goes according to the AEC's plan, the plant will be producing electricity by 1980. Last week, the arrangements by which this goal are to be met were reviewed by the Joint Committee on Atomic Energy. The committee nodded its grave head, asked a few searching questions, but showed no signs of modifying its unflinching commitment to the project. To give the appearance of even-handedness, however, the committee did give opponents of the project an opportunity to present their views, but precluded debate on their testimony by the simple but effective expedient of not asking them any questions.

The arrangements for constructing the demonstration plant, which are set out in a so-called memorandum of understanding adopted last month by the AEC and the utilities concerned, involve the Tennessee Valley Authority, which will provide the site and test and operate the plant, the Commonwealth Edison Corporation, which will supply top management personnel for the project, a company to be known as the Breeder Reactor Corporation and a second company called the Project Management Corporation. Essentially the Breeder Reactor Corporation (BRC), whose board of directors is drawn from the electricity companies in the United States, will be responsible for collecting contributions from utility companies, and it will provide liaison between the project and the electricity industry. The Project Management Corporation (PMC), on the other hand, will be concerned with overseeing the development of the project and it will clearly have the chief executive authority.

One of the chief questions raised last week by the joint committee involved the financing of the project, a factor which is destined to become a bone of contention between critics of the LMFBR and the AEC. The issue is essentially this. The share of the financing from private industry has been set at $250 million, while the Atomic Energy Commission will be required to foot the rest of the bill for construction of the reactor and five years of operation. The figure mentioned last week for the total bill is $699 million. The arrangements discussed last week would commit the AEC to meeting cost overruns on the project, and the contention is that the Tennessee Valley Authority and Commonwealth Edison would have little incentive to stay within their budget if they knew that the taxpayer will foot the bill for cost overruns. After some questioning of AEC and electricity officials on this point, however, members of the committee seemed to be satisfied that the AEC would retain some control over the project, and that the arrangements are about the best that can be worked out to guard against cost overruns.

But the project's critics lack the joint committee's trust in the desire of the participants to keep within budget with little control from the AEC. Mr David Brower, President of Friends of the Earth, told the committee, for example, that "the AEC is trying to accept on the taxpayers' behalf an open-ended commitment to escalating costs and unlimited indemnities". He suggested that either public control over the project be increased or the public share of the funding be decreased "so that commercial participation in its support and in its administration are made commensurate". Moreover, on the same point, Mr Sam Love, Coordinator for Environmental Action, suggested to the committee that public representatives should be placed on the boards of the BRC and the PMC. The joint committee's refusal to discuss these two statements gave little indication of the members' feelings about them.

Financial control over the project, although a symbolic as well as an important point of principle as far as opponents of the project are concerned, is by comparison one of the minor criticisms that have been raised so far. More far-reaching are criticisms directed towards the safety of the LMFBR, its economics and the fact that it is receiving priority funding while other sources of energy such as solar power, geothermal power and controlled thermonuclear fusion are receiving inadequate attention.

The project's critics have charged, for example, that because fast breeder reactors produce large quantities of plutonium, which is the chief constituent of a simple atomic weapon such as the bombs dropped on Hiroshima and Nagasaki, the potential for clandestine diversion to other countries is greatly increased. Moreover, since plutonium is an extremely long lived isotope and is highly toxic, an accident in an LMFBR would be even more devastating that an accident in a plant fuelled by enriched uranium alone. Critics of the project have also pointed out that if energy production is based on the fast breeder reactor (the AEC estimates that more than a hundred may be operating by the year 2000), enormous problems of transporting plutonium will arise, and they claim that this question has not been properly addressed by the AEC.

These points were all raised in a statement signed by 31 scientists in April this year, who asked for a moratorium on the construction of an LMFBR. The signatories include Linus Pauling, Barry Commoner, John Edsall, James Watson and George Wald. Moreover, the Scientists' Institute for Public Information filed suit in the District Court claiming that the AEC's environmental impact statement for the demonstration project was inadequate and should have a discussion of the impact of the complete programme which will develop if the demonstration plant proves to be successful. The suit has been turned down by the court but it is being appealed.

There seems therefore to be little chance that the project will now be stopped by opposition from environmentalists or other groups. The Administration is firmly committed to the LMFBR, the money has already been authorized by the Joint Committee on Atomic Energy, and the committee has consistently reaffirmed its support for the breeder reactor concept. The chief obstacles in its path are now technical and it is unlikely that American technology will falter.