

PRIME MINISTER

FAST REACTOR POLICY

My Paper, E(82)67, set out fully the considerations and analyses which led me to the conclusions and recommendations recorded in paragraph 20. This supplementary note identifies for discussion the key propositions of E(82)67.

- (i) The energy potential of the fast reactor gives it major strategic importance: the energy which it could release from depleted uranium and spent fuel which has already arisen from our thermal programme is equivalent to our economically workable coal reserves.
- (ii) The fast reactor is not yet economically viable. Recognising the great uncertainties it seems unlikely to be competitive with thermal reactors before 2015, and could be very much later.
- (iii) This is a much longer timescale than had earlier been envisaged.
- (iv) Nonetheless the fast reactor is likely to be needed in due course, and it would be prudent to plan on that assumption. Accordingly our objective should be to have access to the necessary technology, when required.
- (v) Complete reliance on licensing from other countries is unwise. It would throw away the advantages we can derive from the technology we have already established.
- (vi) The next major step in establishing the commercial viability of the fast reactor is construction of a CDFR (which could cost some £2000m at current prices). But the longer timescale now envisaged means that there is less urgency to proceed to this stage.
- (vii) To date, the UK's development programme has been geared to building a UK CDFR in the late 80s. The longer time available before commercial operation is likely to be required allows us



to restructure the current R&D programme so as (a) to develop further the design concept and improve the economics of a CDFR (and hence of a CFR) before detailed design starts, (b) to improve the cost-effectiveness of our programme, preferably by international collaboration with partners whose national programmes face a similar difficulty to our own. The result will be a reduction in our R&D spend and postponement of any public expenditure commitment to CDFR and associated hardware.

- (viii) Co-operation with other countries would enable the costs and risks associated with both the R&D programme and the CDFR stage to be pooled.

While the AEA have told me that £70m per annum is the minimum they could recommend for a restructured programme, the private sector NNC believes that as little as £50m p.a could suffice. My judgement is that it should be possible to devise an R&D programme suited to the new situation which would settle at around £60m in the late 80s. This should give us the option of joining in international collaboration as a credible partner or getting to an independent CDFR on a longer timescale.

The final figure which we settle on must depend on careful examination by the AEA of a programme to meet the new situation, the size of any contributions by the rest of the industry and the scope for international collaboration.

In comparison with a national programme on the present timescale, public expenditure savings would come from:

- (i) taking more time to tackle development problems
- (ii) specialising in certain aspects (eg the fuel cycle)
- (iii) sharing costs through international collaboration
- (iv) contributions by the generating boards, NNC and BNFL.

Presentation of our decision is going to be very important both for morale at Dounreay and our negotiating posture with foreign countries. I believe we should make an announcement without delay; the present uncertainty is damaging.



Attached at Annex A is a possible text which emphasises the importance which we attach to the development of the fast reactor; draws attention to the less pressing timescale (both in relation to the R&D programme and the timing of a CDFR): and makes positive reference to our continuing interest in international collaboration.

I am copying this minute to the Chancellor of the Exchequer, the Secretary of State for Scotland, the Minister of State, Foreign and Commonwealth Office, Sir Robert Armstrong and Dr Nicholson.

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Secretary of State for Energy

27 October 1982

LONDON

FAST REACTOR POLICY

The Government has now completed its review of the Fast Reactor.

There can be no doubt that the Fast Reactor is of major strategic significance for the UK's and the world's future energy supplies. It is 50 times as efficient a user of uranium as thermal reactors, such as the Advanced Gascooled Reactor and Pressurised Water Reactor, and can create out of the spent fuel and depleted uranium which has so far arisen from our thermal programme energy equivalent to our economically recoverable coal reserves. The Government therefore believes we should continue to prepare for the time when fast reactors are needed.

But while the work of the Atomic Energy Authority on fast reactor research and development at Dounreay has established the technical feasibility of the fast reactor, it is not at present competitive with thermal reactors in cost terms. Moreover, the slower growth of thermal reactor building programmes in many countries has depressed uranium prices, so that the need to proceed to commercial application of fast reactor technology, via construction of a Commercial Demonstration Fast Reactor, is less immediate than it was.

The Government has therefore asked the Chairman of the Atomic Energy Authority, Sir Peter Hirsch, in consultation with the generating boards, British Nuclear Fuels Ltd and the National Nuclear Corporation to structure a future R&D programme based on the Prototype Fast Reactor and fuel plants at Dounreay which makes the best use of the more extended timescale that is now appropriate. Any proposal for a commercial scale reactor would of course be subject to a full public inquiry.

This revised assessment of the timescale for commercialisation of the fast reactor is shared by most other leading fast reactor nations. We have been having exploratory discussions with other countries to establish whether a satisfactory basis for international co-operation can be worked out.

The Government wishes to see these discussions continue, and has asked the Atomic Energy Authority to take account, in their advice about the future programme, of the potential for collaborating with other countries as a means of securing the maximum benefits from our continuing R&D programme.

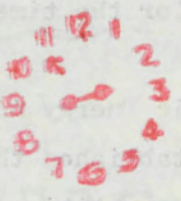


STATE OF GUJARAT

The Government has now completed the review of the report.

There can be no doubt that the report contains a wealth of information for the State and the world. It is in the line of effort a step of turning a report into a report, and the Government has decided and presented the report, and on the part of the Government to ensure that the report is as complete as possible. The Government therefore believes that the report is a valuable one.

27 OCT 1982



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