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CABINET

MINISTERIAL COMMITTEE ON ECONOMIC STRATEGY

FAST REACTOR POLICY

Note by the Secretaries

The attached minute from the Chief Scientist, Central Policy Review Staff, to the Prime Minister is circulated for the information of the Committee.

Signed ROBERT ARMSTRONG

P L GREGSON

M S BUCKLEY

Cabinet Office
12 October 1982

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PRIME MINISTER

FAST BREEDER REACTOR POLICY

The discussions of the Working Group on Technology, Growth and Employment set up by Heads of State at the Versailles Summit have included material which is relevant to the policy decision on the United Kingdom Fast Breeder Reactor programme to be discussed at "E" on 14 October.

2. There is substantial international disagreement on the likely relative costs of FBR electricity to PWR electricity at current uranium prices. The French claim that the ratio is already down to 1.3 so that a small increase in uranium prices would make FBR electricity the cheaper. The Americans claim that the ratio is about 3. Differences in the assumed capital cost of an FBR station probably account for much of this variation but the extrapolated cost of PWR electricity, the accounting treatment of the power station capital cost, and the allocation of future FBR R & D expenditure also contribute.

3. The American position is that the unexpectedly low uranium price means that the commercial switch from PWR to FBR is further away than had been anticipated. The additional time available, coupled with the high capital cost of present FBR designs, suggest that a new engineering R & D programme aimed at a fundamental improvement in the reactor core design is desirable.

4. The Americans are therefore proposing an international collaborative project on FBR core design to the Versailles Working Group. They seem confident of getting the Japanese in and are pushing hard to have our support as well. They believe that

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USA/UK/Japan collaboration would subsequently bring Germany in as well, leaving the French with an expensive programme in obsolescent technology which they will be too proud to drop.

5. Whether or not the American prognosis is right, the Versailles Working Group (which has to report by 31 December) will almost certainly influence the pattern of international collaboration on Fast Reactors. Thus the Secretary of State's proposal to ask UKAEA to re-examine the scope for international collaboration as a means of making the best possible use of the proposed reduced level of funding is very timely.

6. However it is important not to prejudice the UKAEA's negotiating position over the next few months by making too negative a statement in Parliament. Rather than concentrating on cost reduction, I suggest that the statement has the following components:

(a) The UK's "indigenous reserves" of uranium from the thermal reactor programme are comparable with our fossil fuel reserves if we use FBR technology, hence FBR is an attractive future source of power.

(b) FBR costs will not be lower than thermal reactor costs until the next century - therefore it makes sense to stretch out our R & D programme and not build a CDFR at present.

(c) Our FBR technology is highly regarded abroad and we propose to seek R & D partnerships with one or more other countries as a means of getting maximum benefit from our continuing R & D programme.

RBN.

ROBIN B NICHOLSON
Chief Scientist