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CABINET

MINISTERIAL COMMITTEE ON ECONOMIC STRATEGY

FAST REACTOR POLICY

Note by the Central Policy Review Staff

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1. In E(82)67 the Secretary of State for Energy presents options for fast reactor policy. The CPRS believes that the United Kingdom will want the option to build a series of commercial fast reactors in the first half of the next century. The main issue therefore concerns the route that is taken to commercialisation. There are three principal options:

(i) no domestic fast reactor programme and reliance on licensed technology from abroad;

(ii) continuation of a domestic R & D programme, with no commercial demonstration fast reactor (CDFR), but with sufficient international collaboration to maintain partnership status and access to commercial technology;

(iii) the AEA and NNC to build at least one CDFR in collaboration with overseas partners.

2. There are risks and benefits associated with each option, as identified in E(82)67 but in principle each could lead to commercialisation when the United Kingdom requires, despite differences in the development times.

Availability of technology when required

3. A successful CDFR in the United Kingdom would offer the quickest route to commercialisation, perhaps by the end of this century. However, E(82)67 estimates that fast reactors will not become commercially competitive with thermal reactors before 2015 and the most likely variations in the underlying

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assumptions (e.g. increased capital costs and lower uranium price rises) would put back that date rather than advance it. In these circumstances, options (i) or (ii) above are preferable.

4. Should fast reactors be required on strategic grounds, that need will be felt hardest in countries such as France and Japan which do not have major indigenous fuel reserves. They and their collaborators should be in the vanguard of fast reactor development. The main risk associated with relying on developments abroad and on licensing is not that the technology will be unavailable for commercialisation when required, but that it will not be accessible on terms acceptable to this country. The main justification for a continuing domestic R & D programme should be to reduce this risk rather than develop fast reactor technology ahead of other countries. To the extent that option (ii) reduces the risk through international partnerships, it is therefore preferable to option (i).

CPRS conclusions

5. The CPRS supports the proposals of the Secretary of State for Energy that there should be no commitment to building a CDFR.

6. The CPRS supports the proposal that the viability of a continuing, but reduced, R & D programme with international partnerships be explored further. The CPRS recommends that, in the viability study, the following aspects be given due weight:

(i) the international partnerships should be sufficient to give access to the full range of fast reactor technology and so reduce significantly the United Kingdom's reliance on licensing;

(ii) the international partnerships should allow the United Kingdom to take the lead in some aspects, e.g. the fuel cycle, and so preserve a place in the eventual export market;

(iii) there are problems keeping a large R & D team active and motivated with a commercial reactor only in prospect in the next century.

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