

ber of designs offering better long-term prospects for economic power production. As it happens, in spite of the variety of the U.S. projects, all those on which significant progress has so far been made are based on the use of enriched uranium fuel as a result of the ready availability of this material in the United States.

5. Like the United States, Canada has concentrated upon a design likely to lead in due course to power costs comparable to the relatively low cost of conventional power in North America. Lacking facilities for the production of enriched uranium, however, the particular design chosen is the natural uranium heavy water type which has not as yet at least been taken up seriously by any other country.

6. Last year Euratom sent a team of "Three Wise Men" to the United States, the United Kingdom and Canada, whose task was to consider what type or types of reactor Euratom might seek to build, and to recommend a particular initial programme.<sup>37</sup> Their report proposed an ambitious programme of construction but did not specifically come out in favour of any one type of reactor. It appeared to be their judgment that as yet the design which would prove most satisfactory in the long run could not be determined, and that in the meantime construction of several types might well be the most satisfactory approach. The Canadian authorities consider that our type of reactor when developed to a commercial stage should prove satisfactory and competitive with any other now in sight. In particular, it should be suitable for the production of atomic power to meet domestic requirements in Canada when this becomes economically feasible. It will be a number of years yet however before there will be a market within Canada for reactors of this type and indeed it will probably be a very considerable time before this market is large enough to maintain a vigorous atomic engineering industry. In the meantime, therefore, it would appear important to seek foreign markets for reactors of this type in areas such as Western Europe where they may be competitive in the near future, so that when the time comes, there will be in existence an atomic industry capable of exploiting the excellent research and development work which Canada has so far carried out and of supplying Canada's atomic power requirements from domestic sources. These concepts are elaborated by Mr. Bennett in his attached speech† to the Canadian Institute of Mining and Metallurgy, a Canadian Press report of which is also attached.†

7. In addition to seeking the early construction in Western Europe of reactors of Canadian design, there is another important consideration before us. Apart from the United Kingdom with which we already have arrangements in the matter, Western Europe would appear to offer the only significant early market for uranium for civil power reactors. It is certainly in our interest to do what we can to encourage Euratom to devote at least a substantial portion if not all of its effort to reactors using natural uranium fuel. The United States has now developed domestic production of uranium to a point where it may well within a few years satisfy U.S. requirements even perhaps including requirements for export purposes. Hence the construction in Western Europe of reactors using enriched fuel to be obtained from the United States might well afford little or no additional outlet for Canadian uranium even on an indirect basis, since the United States might be able to obtain domestically all the natural uranium required to produce the enriched fuel in question.

8. These various considerations, most of which indeed emerge from Mr. Watson's attached paper, suggest that there are two types of project involving cooperation with Euratom which we might consider. One would be a project directed to the construction by

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<sup>37</sup> Voir/See Volume 23, Document 400.