

Natural uranium will be used in the Canadian type of nuclear power plant and it is also used in the power plants which are now being built in the U.K. for the Central Electricity Authority. These U.K. stations are much further advanced than the one being developed in Canada and in addition they have the advantage, from the uranium producer's standpoint, of requiring much more uranium. The U.K. stations need a much larger initial charge of uranium and as they do not utilize the uranium so efficiently, the continuing replacement quantities of uranium needed are at least twice as much as that of the Canadian counterpart. A 300,000 kilowatt station of the Bradwell type requires 500 tons of uranium as an initial charge and will consume 100 tons of uranium per year. In comparison, the first fuel charge for a 200,000 kilowatt station of Canadian design will only require about 70 tons of uranium and the annual replacement needed will be 30 - 40 tons of uranium. Hence, if only the interests of the Canadian uranium mining industry were considered, the best thing would be to get the U.K. type nuclear power plants built extensively in the Euratom countries. Perhaps the U.K. and Canada should jointly consider the possibility of assisting Euratom by which C.E.A. type stations are built in Europe with a guarantee that the initial and continuing supply of uranium required are purchased from Canada.³⁸

However as Euratom already has a certain supply of natural uranium from its member countries and Canada will not be the only country in the world which will have surplus uranium available, it is not clear why Euratom should tie itself to Canada for the supply of uranium unless there is a financial interest in doing so. The obvious incentive is low price Canadian uranium. If the lowest price the Canadian uranium producers can afford to offer and still stay in business is insufficiently low to bring sales, then this situation will further aggravate the likely position of the uranium mining industry in the post 1962-63 period.

In the interests of the Canadian manufacturer it would be desirable to have nuclear power plants of the Canadian type (heavy water moderated, natural uranium fuelled) built in the Euratom countries. At present a development programme on such a power station has just been started and it is expected to take three to four years to complete. In order to meet the less difficult goal of economic nuclear power in a European country compared with that in Canada, this development period might be shortened to perhaps two years. However, it does not seem realistic to suggest that Canada should participate in the construction of a large Canadian designed nuclear power station abroad before one has been constructed in Canada,³⁹ and there would appear to be no justification in building in Canada a large station before it is competitive in the Canadian context.

As a practical means of collaboration with Euratom on the natural uranium-heavy water type of reactor which the Euratom "Three Wise Men" considered "particularly well adapted to European requirements," some qualified Euratom experts could be attached to the Nuclear Power Plant Division of Atomic Energy of Canada Limited. There the experience and contributions of these experts would be of value to the NPP Division and at the same time the Euratom experts would gain by having a thorough understanding of the advantages and possibilities of this type of nuclear power station. On the other hand, such an arrangement would be against the interests of the Canadian manufacturers as the consequence would inevitably be that European manufacturers would be put in the position of

³⁸ Note marginale :/Marginal note:

But UK will fabricate the final elements [Rodney Grey]

³⁹ Note marginale :/Marginal note:

? [auteur inconnu/author unknown]