FINAL DRAFT

PROPOSED LETTER TO HANS BLIX
DIRECTOR GENERAL OF THE IAEA

Dear Hans,

MAR 11 1986

OSTI

It was very good seeing you on the occasion of your recent visit to Washington. As you will recall, during our visit you left with us, for review and comment, a draft report prepared by the IAEA Secretariat outlining a possible model for sharing responsibilities between various parties on behalf of a postulated advanced reactor project - that would include an opportunity for IAEA participation. We understand that this draft also was the subject of an earlier discussion by the Agency's technical working group on the high temperature gas cooled reactor.

We have reviewed the subject report with interest and in our view the model that is presented has some positive features that are similar to concepts for sponsorship that some proponents of advanced reactor concepts have advocated in this country. However, some of the ideas that have been presented are arguable, and there are, of course, other institutional approaches that have been discussed that could be equally attractive. We would by no means rule out the possibility that at an appropriate time the advocates and sponsors of an advanced reactor concept might seek to organize an advanced reactor project roughly along the lines the IAEA Secretariat has proposed. However, at this particular stage we know of no advanced reactor project that is about to be undertaken on the basis that you have described or in some comparable fashion and until this evolves more fully at a national level we question the wisdom of any international initiative.

In the first instance, and as a practical matter, we believe it must be up to national entities including vendors, utilities and governments, to organize appropriate support of various advanced

concepts and that this must first take place - to a significant degree - before the question of international participation can be addressed in a useful fashion. We also, frankly do not believe it is within the IAEA's capabilities to organize, from the start, international participation in an advanced reactor project. Moreover, we fear that it would be extremely difficult for the Agency to take a lead in this area without possibly offending some parties, bearing in mind that national practices and policies differ and that competitive commercial interests are very much involved. However, if the national entities involved in a project deem it desirable, then it should be feasible to invite the Agency and others into a venture in an appropriate manner.

As a related basic point, at this particular stage we have doubts whether it would be wise for the IAEA or any other international body to express a definite preference (as the paper suggests) for seeing reactor demonstration projects organized in one particular way as against another. Given the wide range of parties that may be interested in supporting the demonstration of advanced reactor projects, we believe a variety of institutional and related technical approaches are likely or possible. For example, while suggestions have been made that special independent power producing companies should be established to organize such ventures, it is conceivable that such a role could be assumed by individual utilities, by some groups of utilities or even by some governmental organizations. Also, special operating companies may or may not be formed and the financial responsibilities may be shared in various ways. Thus, in any further revisions of your paper we would urge that the point be made that the draft model only is intended to be illustrative and that there are a variety of approaches that the IAEA member states might elect to use in best promoting their interests in advanced reactor development.

As a further point, we question whether it is desirable to suggest, as the Secretariat draft does, that to be successful, any reactor demonstration projects for advanced concepts necessarily have to be large scale in nature. For example, within the United States, some institutions believe it should be feasible to adequately demonstrate some advanced reactor concepts by constructing and operating one module of a concept rather than an entire commercial-scale plant. The question of indemnification against change also is extremely sensitive. The idea has some obvious appeal but it must be balanced against governmental prerogatives to protect the national interest and public health and safety. Thus, how the principle is expressed and translated into tangible national practice and law will be extremely important.

Further, even if one concedes that the scenario in the Secretariat draft has some merit, the issue would still face the prospective participants as to which advanced reactor type or types should receive the benefits that are described. Given budgetary constraints it may not be feasible for the governments and other parties involved to extend such benefits to more than a very limited number of such projects. This is another consideration that suggests to us that extensive flexibility will have to be preserved to allow the industrialized nations involved to adopt such formulations as best fit their national interests and programs while advancing reactor technology.

Taking these various factors into account, we believe it is probably premature to contemplate having the Agency actively involved in an international advanced reactor demonstration project. Having said this, we believe the Secretariat should be commended for having prepared a thought provoking document which should contribute to the on-going analysis and discussion of this issue.

I am grateful to you for having brought this item to our attention and for giving us the opportunity to comment.

Sincerely yours,

ANALYSIS

SUBJ: PROPOSAL FROM DR. BLIX CONCERNING AN INTERNATIONAL
ADVANCED REACTOR PROJECT

DATE:

It will be recalled that on October 19, Dr. Hans Blix, Director General of the IAEA passed over to DOE, for review and comment, an IAEA Secretariat paper postulating a proposed scheme and model for organizing and running a proposed advanced reactor project that might involve a significant degree of international participation. This is the latest conceptual approach to discussions that have taken place in Vienna on what new role the IAEA should play in helping foster advanced reactor systems.

It also will be recalled that the U.S. has been cool to the idea of the IAEA becoming heavily involved in the organization and operation of a specific project. Rather, the U.S. has encouraged the Agency to focus its energies in the advanced reactor area on facilitating the exchange of information and to attempting to define desired general attributes (or requirements) of advanced reactor systems without attempting to take the principal responsibility for putting together any specific project or projects. We have felt that the pursuit of specific projects is obviously better left to national governments and institutions for a variety of reasons. However, it appears that some staff members of the IAEA Secretariat are continuing to look for ways to involve the Agency in a specific project.

In brief, the IAEA paper postulates a proposed "international demonstration project" having the following features:

- . joint financing of a proposed lead plant by a group of interested investors;

- . an assumption that the plant would be of "global" interest in terms of its intended application and market,
- . an assumption that an investor owned independent power producing company would buy and sell the power to the local utility,
- . a premise that a special operating company would operate and maintain the plant; and
- . a premise that a group of government-supported R&D organizations or agencies would join together to make cost/risk sharing commitments regarding the funding of the project.

The coverage of the total costs of the project would be split between the IPP generating company (which would contribute up to the "equivalent economic value of the project") and the sponsoring government R&D organizations that would cover the remainder. Also the governmental R&D agencies contributing to the project as well as the regulatory agencies involved would provide for "indemnification" for changes that they may cause including changes in design or actions causing delays after the project obtains a license to construct and/or operate the plant.

The paper strongly argues that there could be substantial merit in structuring the project on an international basis. This could include international participation in all aspects of the venture ranging from such participation in the proposed generating company, to participation in the postulated operating company, to the support of R&D work associated with the venture. Various key roles are visualized as possibilities for the IAEA - some of which we judge to be potentially controversial. This could include, helping "in the coordination" of evaluations of various advanced reactor systems particularly by developing countries in

terms of suitability of a concept for a particular need, assisting in site selections, soliciting various entities to participate in the proposed generating and operating companies, and "coordinating" efforts to obtain financing from lending institutions. Most of these concepts would actively involve the IAEA in the planning and execution of actual projects, including in activities for which the Agency has little or no operational experience. Among other things, the IAEA might find itself in the process of recommending the selection of one advanced reactor type against another.

Several of the concepts in the IAEA paper for organizing a demonstration project (and dividing risks and responsibilities) are similar to those that have been espoused by some U.S. private interests - including proponents of the HTGR such as the U.S. Gas Cooled Reactor Associates Group. It is possible that such groups have encouraged the IAEA to move in this direction on the belief that the MHTGR might be one of the concepts that might be particularly amenable to such international cooperation.

Conclusion

It is believed that it is fundamentally impracticable for the IAEA, at this stage, to visualize taking a lead in organizing any advanced reactor demonstration project or projects. In the first instance, in the view of the authors of this report, this should be a responsibility of the appropriate national entities in the more advanced member states. Also, it is difficult to see how the IAEA would be able to choose between various contending advanced reactor designs in differing countries to select the project or projects to receive Agency sponsorship. However, when new advanced reactor projects are initiated in some nations, it might well be feasible, depending on the merits, to invite in some foreign participation including appropriate IAEA involvement. That would depend on the wishes and preferences of the actual sponsors and operators of the ventures.

A possible draft response to Dr. Blix reflecting these sentiments is enclosed for the consideration of Los Alamos, and if appropriate. DOE.

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