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DEC 4 1979

Project M-29

MEMORANDUM FOR: Leland C. Rouse, Chief  
Advanced Fuel and Spent Fuel Licensing Branch

FROM: A. Thomas Clark, Jr.  
Advanced Fuel and Spent Fuel Licensing Branch

SUBJECT: ATTENDANCE AT OAK RIDGE NATIONAL LABORATORY (ORNL)  
MEETING ON HOT EXPERIMENTAL FACILITY (HEF) PROJECT  
STATUS

On November 6 and 7, 1979 I attended the subject meeting. The HEF project is a research and development effort in support of breeder reactor development. It has been included as a part of our task work in accord with the Department of Energy letter dated May 15, 1979 (see attached). The activity is budgeted by the NRC in FY 1981, but not in FY 1980.

The HEF project is being actively undertaken by ORNL at the Consolidated Fuel Reprocessing Site. A staff of about 165 people presently are working full time on the project. Bechtel Corporation is the principal contractor to Union Carbide on the project. A number of other sub-contractors have been involved in the project. They are listed in the attached copy of slides presented at the meeting.

In addition to the presentation on process, equipment designs, and schedules, I also met with Bill Burch, Orlen Yarbrow, Dave Swindle, and Mildred Sears to discuss how the NRC might be involved in this project. Harry Schneider and Bill McVey of the DOE, who also attended the meeting, participated in some of the discussions.

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Development of some key process equipment has progressed nicely. A full scale dissolver and voloxidizer are presently being tested. One key activity is the development of the Conceptual Design Report (CDR). A present feature of the project is an "H" shaped "canyon" or process cell which would contain remotely operated and maintained modules. Unlike previous designs for processing facilities such as this, wall penetrations are kept to a bare minimum (to enhance material protection from diversion) and most equipment including motors and pumps are in the cell. Remote methods for completely removing any component or module, including remote pipe welding, are being developed. Most waste seems to be destined for a national repository.

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It is evident from my discussion that the "licensibility" bounds for our review will have to be established very soon. The DOE is anxious to have our participation. Among the topics needing resolution are:

- 1) the inclusion of safeguards aspects in a technical review,
- 2) the limits to some topics such as Quality Assurance review, operator training and licensing of financial qualification review, and management organization,
- 3) the acceptance for early review of preliminary design concepts,
- 4) the installation of a public document room and docketing,
- 5) the handling of governmental "proprietary" information,
- 6) the preparation and/or review of an EIS considering the new Council on Environmental Quality guidelines
- 7) Any bounds applied to an early site selection review,
- 8) approach to ALARA in a research and development project in which the equipment performance is to be tested and evaluated,
- 9) the development of technical specifications which apply to operation, cover performance testing, and may or may not involve the NRC,
- 10) the application of 40 CFR Part 190 to this project,
- 11) the actual disposition of NRC recommendations, if any, during the course of the review, and
- 12) interfacial jurisdiction for other review areas, such as product transportation.

In addition, the use of a risk assessment approach in the review of the HEF was discussed with ORNL and DOE staff.

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Leland C. Rouse

- 3 -

DEC 4 1979

It is apparent that a memorandum of understanding, or some other vehicle for clarification, will be necessary before further work proceeds. We will continue discussion with our contacts at the DOE to that end.

Original signed by  
A. Thomas Clark

A. Thomas Clark, Jr.  
Advanced Fuel and Spent Fuel  
Licensing Branch  
Division of Fuel Cycle and  
Material Safety

Attachments:

1. Ltr frm Ferguson to Dircks  
dtd May 15, 1979
2. Status review agenda

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