



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

FEB 26 1982

Note to Homer Lowenberg

SUBJECT: REVIEW OF THE DOE DRAFT AMENDMENT XIII TO THE CRBR FUEL CYCLE  
ENVIRONMENTAL REVIEW

The purpose of this note is to transmit to you the results of our review of the DOE draft Amendment XIII to the CRBR Fuel Cycle Environmental Review. Tom Clark and I met with you on Friday, February 19, to let you know that the subject document was acceptable for review initiation but that more information was required. As requested in your memorandum of February 23, we are now identifying specific areas or points where additional information is needed.

In general, the needed information is that data that was used as a basis for the DOE determination of environmental impact. For instance, DOE states in their draft Amendment XIII to the CRBR Environmental Review that: "CRBRB fuel fabrication will require about 65 percent of the SAF line capability on an annual average basis" and, that the data presented for mixed oxide fuel fabrication are based on the impacts in DOE-EA-0116. A review of the referenced DOE-EA-0116 does not present a ready and clear connection between the data base and the impacts presented in Table 5.7-1. This may arise, in part, from the fact that DOE-EA-0116 has no estimate of the fabrication capacity of design throughput of the SAF/FMEF. It also has no references or documentation for such statements as "the facility is designed ... (versus) tornado ... earthquake...." nor does it have even the most elementary diagrams showing effluent streams and their treatment or disposition. The same document has what appears to be an error in the isotopic composition of feed plutonium shown on page 11. We need resolution of these points, as well as the present status of the FMEF including the SAF.

Several documents are used as references to support summaries of environmental impact. We will need to obtain and review these documents in order to develop a clear path from bases to supportable conclusions regarding the environmental impact. These documents are among others:

- . The High Performance Fuel Laboratory (HPFL) Final Environmental Impact Statement, ERDA-1550
- . The Final Environmental Impact Statement Waste Management Operation, Hanford Reservations, ERDA-1538

- . WASH-12 for Clinch River Breeder Reactor Blanket Fabrication Impacts
- . WASH-1535 for Reprocessing Plant Impacts

A statement was made in Amendment XIII, page 5.7-4 that "some preliminary conceptual desing of the DRP, sufficient for completion of an environmental analysis which indicates that such a facility can be operated within existing and proposed environmental guidelines." We certainly need to discuss that statement with our DOE counterparts. Among the subjects that we would discuss with DOE would be maintenance by using radio-controlled articulated recovery/maintenance vehicles, which is given no mention in Amendment XIII.

In addition, we would like to know the design philosophy for the "Breeder Head End" alternative. For instance, is it identical with DRP design? What is the difference between the model LMFBR reprocessing plant and the DRP relative Carbon-14 disposition? What is the cooling time for reprocessed fuel and how does that affect the data given on Table 5.7-6? What is the basis for Table 5.7-1 calculations? Fuel reprocessing and processing throughput must be based upon reactor reload schedules. What are those schedules?

The above specific areas or points are not exhaustively treated, but they should give you an idea of what we feel is necessary to develop supportable argument for an environmental impact assessment relative to fuel demands of the CRBR.

James E. Ayer