

January 22, 2001

MEMORANDUM TO: Gary M. Holahan, Director, DSSA:NRR
John A. Zwolinski, Director, DLPM:NRR

FROM: Farouk Eltawila, Acting Director, DSARE:RES **/RA/**

SUBJECT: REQUEST FOR FUEL RODS FROM MOX LEAD TEST ASSEMBLIES
FOR TESTING IN NRC RESEARCH PROGRAM

The MOX consortium, Duke Cogema Stone & Webster (DCS), is planning a lead-test-assembly (LTA) program for mixed-oxide fuel (MOX), which it intends to burn in the plutonium disposition program. Of the three areas of interest to NRC (normal operation, accidents, and storage), the LTAs as now planned would only address one area directly (normal operation). We do not expect these LTAs to provide sufficient testing under accident conditions and storage conditions for an independent confirmatory assessment that we think is warranted.

We have, nevertheless, experienced cooperation from the industry when we have taken the initiative to set up such a test program. By generating a shared data base, yet interpreting it independently, we have avoided unnecessary duplication of effort while retaining an independent capability for NRC. We believe that this model can be used for the MOX program to ensure that an adequate database is provided for MOX licensing efforts.

To accomplish this, we would need several fuel rods with target exposures from the LTAs. In the long run, it would be much easier and less expensive if these fuel rods could be of the segmented type so they could be disassembled in the pool and shipped directly to a hot laboratory for testing. We would probably use Argonne National Laboratory, where we and the industry have current experience and where the hot cells are well equipped for the kinds of tests that are needed.

Although RES has worked directly with DOE on cooperative programs in the past, because of DOE's role supporting the licensee, requests for LTA rods will have to be made to the licensee, DCS. Therefore, we ask that you request such fuel rods from DCS. We will propose to DCS/DOE to share expenses in a joint test program with NRC. Details of a test program can be worked out rather quickly as we have current experience in this area.

cc: J. D. Nulton, DOE

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