Comments on the Draft Standard Review Plan for the Review of an Application for a Mixed Oxide Fuel Fabrication Facility

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Chief
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Washington, DC 20555-0001

To Whom It May Concern:

We are pleased to submit our comments on the "Draft Standard Review Plan (SRP) for the Review of an Application for a Mixed Oxide (MOX) Fuel Fabrication Facility" (Draft NUREG-1718, January 2000):

1. A requirement for a MOX fuel fabrication facility quality assurance program plan is needed in the SRP.

The recent revelations of extensive quality control data falsification and defective fuel production at a British Nuclear Fuels Limited (BNFL) MOX fuel fabrication plant at Sellafield have underscored the critical role of MOX quality assurance (QA) programs in providing public and utility confidence in the safety of MOX fuel use. The BNFL scandal resulted in the indefinite postponement of MOX fuel use in Japanese light-water reactors (LWRs), the unscheduled shutdown of a reactor in Germany to remove BNFL MOX fuel, and cancellation of fuel reprocessing contracts with BNFL by Germany, Sweden and Switzerland. It has also led to a dispute between Japan and the United Kingdom over the fate of eight BNFL MOX fuel assemblies that Japan no longer wants. The Chief Executive Officer of BNFL was forced to resign, and the existence of the company is in jeopardy.

With this fiasco in mind, we are deeply concerned that the Draft Standard Review Plan (DSRP) issued by the Nuclear Regulatory Commission (NRC) has only a couple of passing mentions of quality assurance as it relates to MOX fuel fabrication facility operation and none to the quality of MOX fuel that would be produced. The DSRP fails to require that the applicant for a license to construct and operate a MOX fuel fabrication facility submit a plan for a quality assurance (QA) program for the MOX fuel produced by the plant. The DSRP restricts its discussion of QA to items relied on for the safe operation of the plant, and does not address measures to assure the quality of the MOX fuel produced by the plant.

To help avoid the kinds of problems that were experienced at Sellafield, and to strengthen public confidence in the MOX fabrication process, NRC should require that MOX fuel QA procedures be incorporated into the design of the MOX plant at the outset. Moreover, the proposed procedures should be issued for review by the public, so that it can provide its views on the stringency of the QA procedures that should be applied to MOX fuel production in the United States.

The specification of the procedures for MOX fuel production QA should be in accordance with Appendix F of the DSRP, "Checklist for Evaluating Acceptance of Quality Assurance Elements." These elements should include a complete list of the fuel parameters that will be checked during inspection, the sampling

plans for each of these parameters and the techniques that will be used to measure these parameters. Also, the organizational structure, lines of responsibility for fuel QA, and guidance for audits and corrective actions should be specified.

Ordinarily, a nuclear power plant licensee would be responsible for guaranteeing the quality of the fuel that it uses. However, due to the unique consortium structure of the U.S. MOX program, the nuclear plant licensee and the MOX fuel fabricator are part of the same corporate entity. Therefore, it is entirely appropriate that MOX fuel QA issues be addressed at this preliminary stage in the program.

2. The SRP should require that applicants provide operating data from similar facilities to NRC and the public.

Section 1.0 of the DSRP specifies the institutional information that an applicant must provide in order to qualify for a license to build and operate a MOX fabrication plant. However, the DSRP does not require that the applicant provide operating data pertaining to other MOX fabrication plants that it owns and/or operates in foreign countries. Such data would be highly relevant for an assessment of whether the applicant is competent to build and safely operate a similar plant in the United States.

Section 1.2.5.2 requires the primary reviewer to make an evaluation to determine the “acceptability of foreign ownership and control.” Since the parent of company of one of the consortium members, Cogema, is about 80 percent owned by the French government, a detailed determination of the acceptability of foreign ownership and control is required, all the more so as the MOX plant, if built, will involve the processing of weapon-grade plutonium. Therefore, it is imperative from technical, safety, environmental, security and regulatory standpoints that the SRP explicitly require that all operating data relevant to the applicant’s ability to build and safely operate a MOX plant be submitted to the NRC and released to the public (with the exception, of course, of Safeguards Information). This data should include historic routine and accidental gaseous and aqueous emissions, occupational radiation exposures, waste inventories and standard errors of inventory differences, for each MOX plant with which the applicant (including any parent companies) is affiliated.

In addition, NRC should also require that all historical MOX fuel quality assurance data be submitted and released for public review. (In the case of BNFL, audits of publicly released quality control data by Japanese independent experts revealed irregularities in MOX pellet lots that BNFL, Japanese utilities and Japanese government agencies had previously claimed had met specifications).

This requirement is all the more urgent given the recent revelations of irregularities in quality control data recording procedures at Cogema’s MOX fuel fabrication plant at Cadarache, which has affected the fuel for at least one nuclear power plant in Germany (Siemens press release, March 24, 2000).

These two elements must be essential components of any license application review for the construction and operation of a MOX fuel fabrication facility in the United States. Otherwise, it will be impossible for the U.S. public to have confidence in the safety of any NRC-licensed MOX plant or the fuel it produces.

Sincerely,

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