

April 30, 2003

Mr. Robert H. Ihde  
President and CEO  
Duke Cogema Stone & Webster  
P.O. Box 31847  
Mail Code FC12A  
Charlotte, NC 28231-1847

SUBJECT: DRAFT SAFETY EVALUATION REPORT ON CONSTRUCTION OF PROPOSED  
MIXED OXIDE FUEL FABRICATION FACILITY, REVISION 1

Dear Mr. Ihde:

By letter dated October 31, 2002, Duke Cogema Stone & Webster (DCS) submitted a revised Construction Authorization Request (CAR) to the U.S. Nuclear Regulatory Commission (NRC) for authorization to construct a Mixed Oxide (MOX) Fuel Fabrication Facility (MFFF) on the U.S. Department of Energy's (DOE) Savannah River Site (SRS). The revised CAR contained general information about DCS, and detailed information concerning the bases of the facility design to safely resist natural phenomena and to minimize the risk of potential accidents. In support of the CAR, DCS had previously submitted a Quality Assurance Plan, Revision 3 (dated March 26, 2002) and an Environmental Report (dated July 11, 2002).

In the letter, DCS stated that the revised CAR replaces, in its entirety, the CAR submitted by DCS on February 28, 2001. The purpose of this revised CAR is to describe changes necessary to process plutonium feed materials from DOE sources other than the Pit Disassembly and Conversion Facility (PDCF), incorporate information previously provided in DCS' responses to NRC's requests for additional information and provide additional information to address open items identified in NRC's Draft Safety Evaluation Report, dated April 30, 2002.

Pursuant to 10 CFR Part 70, applicants seeking to construct a plutonium processing and fuel fabrication facility must obtain NRC approval before starting construction. 10 CFR 70.23(b), states that NRC will approve construction of the principal structures, systems and components of a plutonium processing and fuel fabrication facility if the NRC finds that the design bases of the principal structures, systems, and components and the quality assurance program provide reasonable assurance of protection against natural phenomena and the consequences of potential accidents.

The NRC staff documented its review and preliminary conclusions on the safety-related aspects of the revised CAR and its supporting information in the attached revised DSER. In the revised DSER, the staff concludes that, due to the open items discussed in the revised DSER pertaining to the proposed MFFF, DCS has not satisfied all of the baseline design criteria requirements set forth in 10 CFR 70.64. Further, until the open items are resolved, the staff cannot conclude, pursuant to 10 CFR 70.23(b), that the applicable design bases described by DCS provide reasonable assurance of protection against natural phenomena and the consequences of potential accidents. The staff notes that in some cases, the item is designated as "open" because the staff has not finished its review of the material provided by DCS.

The staff notes that you submitted a letter dated April 10, 2003, in which you provided responses to some of the staff's questions. Some of that information has been incorporated into the staff's revised DSER. The staff is continuing to review the information contained in your letter.

The staff requests that DCS review the staff's revised DSER for technical accuracy and inform the staff, within 30 days, of any information contained in the revised DSER that DCS believes to be inaccurate.

If you have any questions, please contact Andrew Persinko at (301) 415-6522.

Sincerely,

***/RA/***

Robert C. Pierson, Director  
Division of Fuel Cycle Safety  
and Safeguards  
Office of Nuclear Material Safety  
and Safeguards

Docket: 70-3098

cc: James Johnson, DOE  
Henry Porter, SC Dept of HEC  
John T. Conway, DNFSB  
Louis Zeller, BREDL  
Glenn Carroll, GANE  
Peter Hastings, DCS  
Diane Curran, Esq., DCS  
Donald Silverman, Esq., GANE

The NRC staff documented its review and preliminary conclusions on the safety-related aspects of the revised CAR and its supporting information in the attached revised DSER. In the revised DSER, the staff concludes that, due to the open items discussed in the revised DSER pertaining to the proposed MFFF, DCS has not satisfied all of the baseline design criteria set forth in 10 CFR 70.64. Further, until the open items are resolved, the staff cannot conclude, pursuant to 10 CFR 70.23(b), that the applicable design bases described by DCS provide reasonable assurance of protection against natural phenomena and the consequences of potential accidents. The staff notes that in some cases, the item is designated as "open" because the staff has not finished its review of the material provided by DCS.

The staff notes that you submitted a letter dated April 10, 2003, in which you provided responses to some of the staff's questions. Some of that information has been incorporated into the staff's revised DSER. The staff is continuing to review the information contained in your letter.

The staff requests that DCS review the staff's revised DSER for technical accuracy and inform the staff, within 30 days, of any information contained in the revised DSER that DCS believes to be inaccurate.

If you have any questions, please contact Andrew Persinko at (301) 415-6522.

Sincerely,  
**/RA/**  
 Robert C. Pierson, Director  
 Division of Fuel Cycle Safety  
 and Safeguards  
 Office of Nuclear Material Safety  
 and Safeguards

Docket: 70-3098

cc: James Johnson, DOE  
 Henry Porter, SC Dept of HEC  
 John T. Conway, DNFSB  
 Louis Zeller, BREDL  
 Glenn Caroll, GANE  
 Peter Hastings, DCS  
 Diane Curran, Esq., DCS  
 Donald Silverman, Esq., GANE

**DISTRIBUTION:**

|                |                |        |                  |               |              |
|----------------|----------------|--------|------------------|---------------|--------------|
| Docket 70-3098 | ADAMS          | PUBLIC | SPIB r/f         | FCSS r/f      | Hearing File |
| RMartin,NRR    | DAyres, RII    |        | THarris, DWM     | WGloersen,RII | DBrown       |
| TPham,NSIR     | Jkramer,RES    |        | EJohanneman,NSIR | TJohnson      | RWescott     |
| KEverly,NSIR   | MChatterton    |        | WTroskoski       | CTripp        | SSteele      |
| MLamastra,FCFB | FBurrows,FCFB  |        | HGraves,RES      | PCastleman    | AMurray      |
| BSmith, EDO    | RVirgilio, OSP |        |                  |               |              |

**ML031060101**

G:\SPB\AXP1\MOX SER transmittal tr04-30-03.wpd \*Please see previous concurrence.

| OFC  | SPIB*     | SPIB*     | SPIB*     | OGC*        | FCSS      |
|------|-----------|-----------|-----------|-------------|-----------|
| NAME | APersinko | LGross    | JGitter   | JHull (NLO) | ELeeds    |
| DATE | 4/ 29 /03 | 4/ 29 /03 | 4/ 30 /03 | 4/ 30 /03   | 4/ 30 /03 |