

**CB&I AREVA MOX SERVICES, LLC**  
**DOCKET NO. 70-3098**  
**MIXED OXIDE FUEL FABRICATION FACILITY**  
**CONSTRUCTION AUTHORIZATION**

Construction Authorization No. CAMOX-001, Revision 4

1. The United States Nuclear Regulatory Commission (the Commission) having found that:
  - A. the Construction Authorization Request (CAR), as revised, submitted by CB&I AREVA MOX Services, LLC (MOX Services) [formerly known as Shaw AREVA MOX Services with a previous name of Duke Cogema Stone and Webster, LLC] complies with the requirements of the Atomic Energy Act of 1954, as amended (the Act), and the rules and regulations of the Commission, and there is reasonable assurance that the activities authorized by this construction authorization, as revised, will be conducted in compliance with those rules and regulations, as more fully documented in the Final Safety Evaluation Report (FSER) in the CAR;
  - B. in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 70.23(b), on the basis of information described in the CAR, as revised, ~~and the additional statements and commitments heretofore made by MOX Services in docketed correspondence listed in Attachment A,~~ the design bases of the principal structures, systems, and components (PSSCs) for the proposed Mixed Oxide Fuel Fabrication Facility (MFFF) [sometimes referred to, hereafter, as “the facility”], and the quality assurance program, provide reasonable assurance of protection against natural phenomena and the consequences of potential accidents;
  - C. findings necessary to authorize possession and use of licensed material at the facility are deferred pending evaluation of an application requesting such a license;
  - D. after weighing the environmental, economic, technical, and other benefits of the facility against environmental costs, and considering available alternatives, the issuance of a construction authorization, as revised, is in accordance with 10 CFR 70.23(a)(7), 10 CFR Part 51, and the requirements of Sections 102(2)(A) and (C) of the National Environmental Policy Act; and
  - E. the issuance of this construction authorization, as revised, will not be inimical to the common defense and security, and will not constitute an unreasonable risk to the health and safety of the public.

Pursuant to 10 CFR Part 70, the Commission hereby issues a construction authorization, as revised, to MOX Services for a plutonium processing and fuel fabrication plant as described in the revised CAR filed by MOX Services. The plant, known as the MFFF, will be located on the U.S. Department of Energy’s (DOE’s) Savannah River Site, near Aiken, South Carolina.

3. This construction authorization, as revised, is subject to all applicable requirements of the Act and the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the conditions specified or incorporated below:
  - A. Authorized activity: To construct a plutonium processing and mixed oxide fuel fabrication plant in accordance with the statements, representations, and conditions of: (1) the CAR dated October 30, 2002 (as revised in supplements dated December 12, 2002; February 18, 2003; April 1, 2003; April 8, 2003; July 28, 2003; June 10, 2004; January 27, 2005, and February 9, 2005); (2) the MOX Project Quality Assurance Plan, dated March 26, 2002 and supplements thereto; and (3) the Environmental Report, dated December 19, 2000 (as revised in supplements dated July 11, 2002; December 10, 2002; January 15, 2003; June 20, 2003; August 13, 2003; and June 10, 2004) and as revised in the License Application (LA), dated September 26, 2006, and supplements thereto;
  - B. The facility shall be constructed and located at the site, as described in the CAR, on the DOE's Savannah River Site, near Aiken, South Carolina.
  - C. This construction authorization authorizes MOX Services to construct the facility in accordance with the design bases of the PSSCs described in the CAR as refined in the LA's items relied on for safety design basis sections (and supplements thereto), and environmental protection commitments set forth in MOX Services' Environmental Report and revisions thereto.
  - D. During construction of the facility, the inspection program set forth in 10 CFR 70.55 will apply to all of MOX Services' construction-related activities.
  - E. As more fully set forth in the FSER for the CAR, the facility will be designed so that effective neutron multiplication factor ( $k_{\text{eff}}$ ) shall not exceed an upper subcritical limit of 0.9249 for normal and credible abnormal conditions covered by Area of Applicability (4), [AOA(4)]. MOX Services shall not increase the  $k_{\text{eff}}$  limits or change the AOA boundaries beyond those contained in FSER Chapter 6 without prior Commission's review and approval.
4. This construction authorization is subject to the limitation that a license authorizing operation of the facility will not be issued by the Commission until the Commission has reviewed and approved a request by MOX Services for a license to possess and use licensed material at the facility.

5. This construction authorization is effective as of its original date of issuance, and shall expire on March 30, 2025. However, the Director of the Office of Nuclear Material Safety and Safeguards may, in writing and for good cause, shown by MOX Services in writing, not less than 90 days before the date of expiration, extend this authorization.

For the U.S. Nuclear Regulatory Commission

**/RA/**

Robert Johnson, Chief  
Fuel Manufacturing Branch  
Division of Fuel Cycle, Safety  
and Safeguards  
Office of Nuclear Material Safety  
and Safeguards

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