1. The United States Nuclear Regulatory Commission (the Commission) having found that:

A. The Construction Authorization Request (CAR), as revised, submitted by Duke Cogema Stone & Webster (DCS) complies with the requirements of the Atomic Energy Act of 1954, as amended (the Act), and the rules and regulations of the Commission, there is reasonable assurance that the activities authorized by this construction authorization will be conducted in compliance with those rules and regulations, as more fully documented in the Final Safety Evaluation Report (FSER) on the CAR;

B. In accordance with 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 DCS 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 (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 submission and 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 is in accordance with 10 CFR 70.23(a)(7), 10 CFR Part 51, and the requirements of Section 102(2)(A) and (C) of the National Environmental Policy Act; and

E. The issuance of this construction authorization 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.

2. Pursuant to 10 CFR Part 70, the Commission hereby issues a construction authorization to DCS for a plutonium processing and fuel fabrication plant as described in the revised CAR filed by DCS. The plant, known as the Mixed Oxide Fuel Fabrication Facility, will be located on the Department of Energy’s Savannah River Site near Aiken, South Carolina.
3. This construction authorization 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 (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).

B. The facility shall be constructed and located at the site as described in the CAR on the Department of Energy’s Savannah River Site, near Aiken, South Carolina.

C. This construction authorization authorizes DCS to construct the facility in accordance with the design bases of the PSSCs described in the CAR, and environmental protection commitments set forth in DCS’ 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 DCS’ construction-related activities.

E. As more fully set forth in the FSER, the facility will be designed so that $k_{\text{eff}}$ shall not exceed an Upper Subcritical Limit of 0.9249 for normal and credible abnormal conditions covered by Area of Applicability (4), [AOA\(4\)]. DCS shall not increase the $k_{\text{eff}}$ limits or change the AOA boundaries beyond those contained in FSER Chapter 6 without prior Commission review and approval.

F. As more fully set forth in the FSER, the facility will be designed so that a safety function of the Emergency Control Room (ECR) Air Conditioning System will maintain hazardous chemical concentrations in each ECR below CAR Table 8-5 TEEL-1 limits for the duration of credible hazardous chemical release events.

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 DCS has submitted, and the Commission has reviewed and approved, a request for a license to possess and use licensed material at the facility.
5. This construction authorization is effective as of its date of issuance, and shall expire ten years from its date of issuance, provided, however, that the Director of the Office of Nuclear Material Safety and Safeguards may, in writing and for good cause shown by DCS in writing not less than 90 days before the date of expiration, extend the authorization.

For the Nuclear Regulatory Commission

/RA/

Jack R. Strosnider, Director
Office of Nuclear Material Safety
and Safeguards

Date of Issuance: March 30, 2005
DCS shall conduct its operations in accordance with all commitments, representations, and statements made by DCS that are contained in the following submittals, and which are hereby incorporated by reference, except where superceded by conditions in this construction authorization.


Attachment A


Attachment A


Attachment A


Attachment A


Attachment A


