

October 19, 2009

Mr. David Stinson  
President and COO  
Shaw AREVA MOX Services  
P.O. Box 7097  
Aiken, SC 29804-7097

SUBJECT: APPROVAL OF CHANGES TO THE MIXED OXIDE PROJECT QUALITY  
ASSURANCE PROGRAM, REVISION 8

Dear Mr. Stinson:

By letter dated September 8, 2009, Shaw AREVA MOX Services submitted proposed changes to the Mixed Oxide Project Quality Assurance Plan (MPQAP) for U. S. Nuclear Regulatory Commission (NRC) review and approval in accordance with Paragraph 70.23(b) of Title 10 of the *Code of Federal Regulations* (10 CFR). The proposed changes would: (1) include visual testing as a nondestructive examination for special processes; (2) provide alternative methods to shipping requirements established in the American Society of Mechanical Engineers Nuclear Quality Assurance Standard (ASME NQA-1), 1994 edition with the 1995, addenda; and (3) make clarifying changes to non-safety related components. The changes related to non-safety components were not evaluated.

The enclosed safety evaluation documents the NRC staff's conclusion that changes to the MPQAP continue to satisfy the criteria of Appendix B to 10 CFR Part 50 as required by Footnote 3 of 10 CFR 70.23(b).

In accordance to 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's Agency-wide Documents Access and Management System (ADAMS). ADAMS is accessible through the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

If you have any questions related to this letter or our MPQAP review, please contact David Tiktinsky at (301) 492-3229, or via e-mail at [David.Tiktinsky@nrc.gov](mailto:David.Tiktinsky@nrc.gov).

Sincerely,

**/RA/**

Marissa G. Bailey, Deputy Director  
Special Projects and Technical  
Support Directorate  
Division of Fuel Cycle Safety  
and Safeguards  
Office of Nuclear Material Safety  
and Safeguards

Docket No: 70-3098

Enclosure: As stated

cc w/enclosure:

S. Glenn, NNSA/SRS

J. Olencz, NNSA

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D. Silverman, Esq., MOX Services

G. Shell, MOX Services

A.J. Eggenberger, DNFSB

L. Zeller, BREDL

G. Carroll, Nuclear Watch South

D. Curran, Esq., Nuclear Watch South

D. Gwyn, MOX Services

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SAFETY EVALUATION  
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS  
PROPOSED CHANGES TO THE MIXED OXIDE PROJECT  
QUALITY ASSURANCE PLAN, REVISION 8

## 1.0 INTRODUCTION

By letter dated September 8, 2009, Shaw AREVA MOX Services ((MOX Services), the applicant) submitted proposed changes to the Mixed Oxide Project Quality Assurance Plan (MPQAP) for U. S. Nuclear Regulatory Commission (NRC) review and approval in accordance with Paragraph 70.23(b) of Title 10 of the *Code of Federal Regulations* (10 CFR). The proposed changes include: (1) the addition of visual testing for nondestructive examination; (2) the exception to shipping requirements established in the American Society of Mechanical Engineers Nuclear Quality Assurance Standard (ASME NQA-1), 1994 edition with the 1995 addenda; and (3) clarifying changes to non-safety components descriptions.

## 2.0 REGULATORY EVALUATION

The applicant's quality assurance (QA) program for design and construction of the Mixed Oxide (MOX) Fuel Fabrication Facility (MFFF) is described in the MPQAP. The MPQAP identifies the regulatory guides and standards to which the applicant has committed in satisfying the criteria of Appendix B to 10 CFR Part 50 as required by Footnote 3 of 10 CFR 70.23(b). The predominant criteria of Appendix B that are related to the proposed MPQAP changes and which may be affected are Criteria 9 and 11. The applicant also proposes changes to the descriptions of Quality Level (QL) 3 and QL-4 designations which apply to non-safety related components. These non-safety related changes were not evaluated.

Criterion 9, "Control of Special Processes," requires nondestructive examination to be performed by qualified and certified personnel.

Criterion 11, "Handling, Storage and Shipping," requires that handling, storage, cleaning, packaging, shipping and preservation of items be controlled to prevent damage or loss and to minimize deterioration.

NUREG-1718, "Standard Review Plan for the Review of an Application for a MFFF," states that an acceptable means for meeting the requirements of 10 CFR Part 50 Appendix B is to follow the 1994 edition of the ASME NQA-1, with the 1995 addenda.

## 3.0 TECHNICAL EVALUATION

### 3.1 MPQAP, Section 9 "Control of Special Processes"

The applicant proposes the addition of visual testing to their nondestructive examinations. ASME NQA-1, Basic Requirement 9, "Control of Processes," states that "[s]pecial processes that control or verify quality, such as those used in welding, heat treating and nondestructive examination, shall be performed by qualified personnel using qualified procedures in accordance with specified requirements." The requirements for the qualification of personnel performing nondestructive examination, as described in Section 2, have not changed. They were developed in accordance with the American Society of Nondestructive Testing (ASNT) Recommended Practice No. SNT-TC-1A, "Personnel Qualification and Certification in

Nondestructive Testing,” which is the accepted standard for qualification of personnel who performs visual testing as referenced in ASME Boiler and Pressure Vessel Code Section III and incorporated by reference in 10 CFR 50.55a. For this reason, the MPQAP continues to meet the requirements of ASME NQA-1, Basic Requirement 9, and is acceptable.

### 3.2 Shipments from Countries Outside the United States

The applicant proposes to take exception to paragraphs 4.5.2 and 4.5.3 of Subpart 2.2, “Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Nuclear Power Plants,” of ASME NQA-1. Paragraph 4.5.2 requires that items from countries outside the United States (U.S) be inspected at the point of shipment to ensure integrity of packaging or protective enclosures after being loaded aboard ship. Paragraph 4.5.3 requires that items from countries outside the U.S be inspected to ensure the integrity of packaging or protective enclosures when items are off loaded at the port of entry. The applicant states that on-board ship and port-entry inspections are no longer allowed after the terrorist attacks of September 11, 2001. The applicant proposes alternatives to the code-required inspections. These alternatives are: (1) to perform packaging inspections prior to shipment; and (2) to perform receipt inspections to ensure the acceptability of the items received. The staff has determined that compliance with these code requirements is impractical. The staff evaluated the proposed alternatives and found them acceptable because they achieve the same result of providing reasonable assurance that (1) components are properly packaged for shipment; and (2) any damage to components is identified before installation in the facility.

### 4.0 CONCLUSIONS

The NRC staff has reviewed the proposed changes to the quality assurance program as documented in MPQAP, Revision 8 and evaluated the changes against the requirements of the 1994 edition of ASME NQA-1 with the 1995 addenda. Based on its review, the staff determined that the proposed changes to the MPQAP continue to satisfy the criteria of Appendix B to 10 CFR Part 50 as required by Footnote 3 of 10 CFR 70.23(b) and are acceptable for design and construction activities at the MFFF.