

November 23, 2015

Mr. Dealis W. Gwyn  
Licensing Manager  
CB&I AREVA MOX Services  
P.O. Box 7097  
Aiken, SC 29804-7097

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION REQUEST FOR ADDITIONAL INFORMATION RELATED TO REVISION TO THE FUNDAMENTAL NUCLEAR MATERIAL CONTROL PLAN, DATED JANUARY 19, 2015, FOR THE "MIXED OXIDE PROJECT QUALITY ASSURANCE PLAN" FOR THE MIXED OXIDE FUEL FABRICATION FACILITY

Dear Mr. Gwyn:

On January 29, 2015, CB&I AREVA MOX Services submitted a revision to the Fundamental Nuclear Material Control Plan (FNMCP) for review and approval.

In order to complete the review the staff needs additional information as shown in the enclosure to this letter. Please provide responses to these information requests in the form of FNMCP change pages and provide a description of the changes made.

In accordance with Title 10 of the *Code of Federal Regulations* Section 2.390 of the U.S. Nuclear Regulatory Commission's (NRC) "Agency Rules of Practice and Procedure," 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 Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at: <http://www.nrc.gov/reading-rm/adams.html>.

D. Gwyn

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If you have any questions, please contact me at (301) 415-8740, or via e-mail to [David.Tiktinsky@nrc.gov](mailto:David.Tiktinsky@nrc.gov).

Sincerely,

**/RA/**

David Tiktinsky, Senior Project Manager  
Fuel Manufacturing Branch  
Division of Fuel Cycle Safety, Safeguards,  
and Environmental Review  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-3098

Enclosure:  
Request for Additional Information

cc: See next page

D Gwyn

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**ML15320A065**

<b>OFFICE</b>	FCSE/FMB	FCSE/FMB	FCSE	FSCE/FMB
<b>NAME</b>	DTiktinsky	TBrockington	TPham	RJohnson
<b>DATE</b>	11/20/15	11/17/15	11/23/15	11/23/15

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**REQUEST FOR ADDITIONAL INFORMATION  
MOX FUEL FABRICATION FACILITY  
FUNDAMENTAL NUCLEAR MATERIAL CONTROL PLAN, REVISION JANUARY 29, 2015  
DOCKET NO.: 70-3098**

Title 10 of the *Code of Federal Regulations* (10 CFR) Paragraph 70.22(b) states that the application must contain a full description of the applicant's program for control and accounting of special nuclear material or enrichment equipment that will be in the applicant's possession under the license to show compliance with the requirements of 10 CFR Sections 74.31, 74.33, 74.41, or 74.51 as applicable.

Please respond to the following request for additional information (RAI) with respect to your Fundamental Nuclear Material Control Plan (FNMCP), Revision dated January 29, 2015.

**MCA-1**

Section G.4 of the FNMCP contains a high level summary discussion of the Material Control and Accounting (MC&A) program. The following should be included in the general discussion.

Revise Section G.4, "Summary Description of the Mixed Oxide Fuel Fabrication Facility (MFFF) MC&A Program", to include additional discussion of each of the five performance objectives stated in 10 CFR 74.51(a) that were previously included in affirmation statements in the currently approved version of the FNMCP.

The regulatory requirements in 10 CFR 74.51(b) stipulates that the licensee's MC&A program must include the system capabilities to meet the general performance objectives of 10 CFR 74.51(a).

**MCA-2**

Section G.4 of the FNMCP contains a high level summary discussion of the MC&A program. The following should be included in the general discussion.

Revise Section G.4, "Summary Description of the MFFF MC&A Program" to include an additional program description that discusses compliance with the requirement of 10 CFR 74.11 with respect to reports of loss or theft or attempted theft or unauthorized production of special nuclear material.

The regulatory requirements in 10 CFR 74.11 requires reports of loss or theft or attempted theft or unauthorized production of special nuclear material.

**MCA-3**

Revise Section 4.1.1, "MC&A Organization" to clarify the statement that the individuals responsible for each MC&A function will have sufficient authority to "perform the function in the prescribed manner" by providing the specifics on the functions responsibilities and authorities of MC&A personnel.

Enclosure

The regulatory requirements in 10 CFR 74.59(b) stipulates, in part, that the licensee shall establish and maintain a management structure that includes clear overall responsibility for planning, coordinating, and administering MC&A functions.

#### MCA-4

Section 4.1.2 of the FNMCP contains a list of policies and procedures that are to be developed and documented in order to direct MC&A activities in a consistent and effective manner. This also includes the development and review of procedures. The applicant should either add the following procedures to this section or show that the items listed below are contained in the current list of policies and procedures in this section.

Section 4.1.2, "Policies and Procedures", and Section 4.6, "Accounting": A procedure on the material status reports (DOE/NRC Form 742) in accordance with the Nuclear Materials Management and Safeguards System (NMMSS).

Section 4.1.2, "Policies and Procedures", and Section 4.7, "Shipments and Receipts": A procedure on the nuclear material transaction reports (DOE/NRC Form 741) in accordance with the NMMSS.

Section 4.1.2, "Policies and Procedures", and Section 4.9.1, "MC&A Procedures": A procedure on the human errors program.

Section 4.1.2, "Policies and Procedures", and Section 4.10.1, "Assessment Program": A procedure on the independent assessment program.

Section 4.1.2, "Policies and Procedures", and Section 4.11, "Strategic Special Nuclear Material (SSNM) Custodianship": A procedure on the material custodianship program.

The regulation 10 CFR 74.59(b)(2) stipulates that the licensee shall provide for the adequate review, approval, and use of those MC&A procedures that are identified in the approved FNMCP as being critical to the effectiveness of the described system.

#### MCA-5

Revise Section 4.3.2.1.3, "Determination of Total Element by Thermal Ionization Mass Spectrometry (TIMS)", and Section 4.3.2.1.5, "Isotopic Analysis by TIMS" to clarify: a) the use of the TIMS instrument; and b) the measurement methods for analyzing the element and fissile isotope content of all SSNM received, produced, and transferred between areas of custodial responsibility, on inventory, or shipped, discarded, or otherwise removed from inventory.

Section 10 CFR 74.59(d) stipulates, in part, that the licensee establish and maintain a system of measurements sufficient to substantiate the plutonium element and uranium element and isotope content of all SSNM.

MCA-6

Revise Section 4.7.1, "Receiving Procedure", to provide a statement to ensure that the received materials are not placed into process until completion of receipt measurements.

Paragraph 74.59(h)(1) of 10 CFR stipulates, in part, that the licensee shall establish procedures for shipping and receiving SSNM that provide for accurate identification and measurement of the quantities shipped and received.

cc:

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