

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Michael C. Farrar, Chairman
Dr. Paul B. Abramson
Nicholas G. Trikouros

In the Matter of

SHAW AREVA MOX SERVICES, LLC

(Mixed Oxide Fuel Fabrication Facility
Possession and Use License)

Docket No. 70-3098-MLA

ASLBP No. 07-856-02-MLA-BD01

August 28, 2014

ORDER

(Publicly Releasing Proposed Questions for Evidentiary Hearings on Contentions 9, 10, and 11)

On August 6, 2014, pursuant to 10 C.F.R. § 2.1207(a)(3)(iii), we issued a non-public Order and accompanying attachments placing in the record all proposed questions previously submitted in confidence to the Board by the NRC Staff, Shaw AREVA MOX Services, LLC (“Applicant”), and Intervenor¹ in connection with the two hearings conducted in this proceeding regarding Contentions 9, 10, and 11.² In anticipation of eventual public release of the documents, that Order directed the parties to identify any statements containing Sensitive Unclassified Non-Safeguards Information (“SUNSI”) that would necessitate redaction.³

In a letter dated August 15, 2014, the NRC Staff stated, on behalf of all the parties, that the attachments do not contain SUNSI or Unclassified Controlled Nuclear Material and that “[a]ccordingly, the Parties do not propose any redactions to the attachments.”⁴ That being so, the Board hereby publicly releases all proposed questions submitted prior to the initial evidentiary

¹ Intervenor¹ include Nuclear Watch South, Blue Ridge Environmental Defense League, and Nuclear Information and Resource Service.

² Licensing Board Order (Providing Proposed Questions for Evidentiary Hearings on Contentions 9, 10, and 11 and Directing Parties to Identify SUNSI Material) (Aug. 6, 2014) (unpublished).

³ Id.

⁴ Letter from Christopher Hair, Counsel for the NRC Staff, to the Atomic Safety and Licensing Board (Aug. 15, 2014).

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hearing, on March 7-9, 2012, and the supplemental evidentiary hearing, on May 21, 2013,⁵ both of which were held in the Atomic Safety and Licensing Board Panel's hearing room at the NRC's headquarters in Rockville, MD.

It is so ORDERED.

FOR THE ATOMIC SAFETY
AND LICENSING BOARD

/RA/

Michael C. Farrar, Chairman
ADMINISTRATIVE JUDGE

Rockville, Maryland
August 28, 2014

⁵ Applicant chose not to submit proposed questions prior to the supplemental hearing.

ATTACHMENT 1

NRC Staff's Proposed Questions for Initial Evidentiary Hearing

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February 13, 2012

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	
SHAW AREVA MOX SERVICES	)	Docket No. 70-3098-MLA
)	
(Mixed Oxide Fuel Fabrication Facility)	)	ASLBP No. 07-856-02-MLA-BD01

NRC STAFF'S SUGGESTED CONFIDENTIAL QUESTIONS

Pursuant to 10 C.F.R. § 2.1207(a)(3) and the Atomic Safety and Licensing Board's ("Board") July 26, 2011 Memorandum and Order, September 9, 2011 Order (Summarizing Determinations Related to August 31, 2011 Teleconference), and January 25, 2012 Order (Discussing Suggested Confidential Questions), the NRC staff ("Staff") hereby files *in camera* its suggested questions for the Board's consideration and proposed use at hearing. Consistent with the Board's directions, each of the Staff's suggested series of interrelated questions is prefaced with a short explanation of what the Staff believes would be the probative value thereof at hearing.¹ All of the Staff's proposed questions are intended to be posed to Dr. Lyman, the Intervenor's expert witness.

Proposed Question Series 1

Issue for Examination:

Dr. Lyman's background and experience with respect to material control and accounting ("MC&A") of special nuclear material as particularly related to the regulations at issue in Contentions 9, 10, and 11.

Objective of the Examination:

The purpose of this line of questioning is to establish that Dr. Lyman's testimony should given less weight because he does not possess the requisite technical knowledge, training, and

¹ See Order (Summarizing Determinations Related to August 31, 2011 Teleconference), at 8 (Sept. 9, 2011).

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experience to support the Intervenor's challenge to the NRC Staff's interpretation of 10 C.F.R. Part 74, Subpart E, as related to Contentions 9, 10, and 11.²

Proposed Line of Questioning:

1. Have you had any formal training related to MC&A review?
2. Have you had any formal training or professional experiences related to the development or implementation of a Fundamental Nuclear Material Control Plan ("FNMCP") for a Category I fuel cycle facility?
3. Have you had any formal training or professional experiences related to the development or implementation of item monitoring methodologies and plans pursuant to 10 C.F.R. § 74.55(b)(1)?
4. Have you had any formal training or professional experiences related to the development or implementation of MC&A alarm resolution procedures pursuant to 10 C.F.R. § 74.57(b)?
5. Have you had any formal training or professional experiences related to the development or implementation of theft assessment procedures pursuant to 10 C.F.R. § 74.57(e)?
6. For any question for which your answer is "yes," please describe the nature of your training or experience. Also, please explain where this training or experience is reflected on your resume.

Proposed Question Series 2

Issue for Examination:

The Intervenor's interpretation of the item monitoring requirements in 10 C.F.R. § 74.55(b) at issue in Contention 9.

Objective of the Examination:

Both the Applicant and the Staff have asserted that Dr. Lyman's interpretation of "power of detection," as related to 10 C.F.R. § 74.55(b), is inconsistent with the definition of that term as found in 10 C.F.R. § 74.4.³ In addition, both the Applicant and the Staff have argued, contrary to the assertions of Dr. Lyman, that there is no requirement in 10 C.F.R. § 74.55(b) that the Applicant need demonstrate the accuracy of item monitoring methods against a quantitative

² See *Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), LBP-05-04, 61 NRC 71, 80 (2005).

³ See "Shaw AREVA MOX Services, LLC's Reply Statement of Position on Contentions 9, 10, and 11" at 6-7 (Jan. 24, 2012) ("MOX Reply Position"); "NRC Staff's Response to Intervenor's Initial Statement of Position on Contentions 9, 10, and 11" at 4 (Dec. 20, 2011) ("Staff's Response Position"). Pursuant to 10 C.F.R. § 74.4, the term, "power of detection," means "the probability that the critical value of a statistical test will be exceeded when there is an actual loss of a specific [strategic special nuclear material] quantity."

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metric.⁴ The purpose of this line of questioning is to clarify that Dr. Lyman's view is not consistent with 10 C.F.R. § 74.55(b).

Proposed Line of Questioning:

1. In light of the definition of the term found in 10 C.F.R. § 74.4, please explain your understanding of the statistical term "power of detection" as used in 10 C.F.R. § 74.55(b).
2. How would one calculate the sample size necessary to ensure a specified power of detection for a known population?
3. Does that calculation include as a variable the accuracy of the item monitoring method?
4. Does that calculation include as a variable the frequency of testing?
5. Which would provide a greater power of detection, a sample size equal to the known population or a random subset of that population?
6. Is it your opinion that the physical inspection of a random subset of items required to be monitored per 10 C.F.R. § 74.55(b) would provide a greater power of detection as opposed to the methodology chosen by MOX Services that would cover the entire item population? If so, what is the basis for your opinion?
7. Is it your opinion that 10 C.F.R. § 74.55(b) requires MOX Services to demonstrate, with quantitative evidence, that its chosen item monitoring methods are 99% accurate? If so, what is the basis for your opinion?
8. Regarding the verification of item integrity, the Intervenor's assert that "[i]f it is possible to satisfy the requirements for verifying the *integrity* of items containing strategic special nuclear material [(SSNM)] by verifying the integrity of storage area boundaries, then it follows logically that it should be possible to verify the *presence* of an item in the same way."⁵ Do you agree with this statement? Does this statement take into account the automation of SSNM item movement through the MOX facility?
9. Related to the referenced statement, please explain how the confirmation of the integrity of the containment boundary of an item storage area would provide information related to the items contained therein. If it would not, please explain why the logical inference of the referenced statement holds true.
10. Regarding portions of NUREG-1280 cited by the Intervenor's,⁶ is it your opinion that 10 C.F.R. § 74.55 contemplates item measurement as part of item integrity verification? If so, please explain how your opinion is consistent with 10 C.F.R. § 74.55(a).

⁴ See MOX Reply Position at 8-9; Staff's Response Position at 4.

⁵ "Intervenor's Statement of Position in Rebuttal to NRC Staff's Statement of Position on Contentions 9, 10 and 11" at 5 (Dec. 19, 2011).

⁶ See *id.* at 6-7.

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Proposed Question Series 3

Issue for Examination:

The relevance of the EURATOM requirements with respect to the requirements of 10 C.F.R. § 74.55(b).

Objective of the Examination:

As the Board has already noted, "EURATOM safeguard systems are not binding on U.S. facility operations."⁷ With that said, the Board went on to indicate that it was not "in a position to determine [whether] testimony and exhibits regarding EURATOM safeguard systems do not have any potential to inform our understanding of the issues before us."⁸ The purpose of this line of questioning is to show that there is no relevancy of the EURATOM safeguards requirements with respect to the item monitoring requirements of 10 C.F.R. § 74.55(b).

Proposed Line of Questioning:

1. What is your understanding of the purpose of the "Safeguards Goals" as referenced and discussed in Exhibit INT000004?
2. Do you agree there is no relationship between those Safeguards Goals and the item monitoring requirements of 10 C.F.R. § 74.55(b)?
3. Do you agree that the intent of EURATOM Safeguards Goals is distinct from the intent of the item monitoring requirements of 10 C.F.R. § 74.55(b)? If not, what is the basis for your opinion to the contrary?

Proposed Question Series 4

Issue for Examination:

The Intervenor's interpretation of the alarm resolution requirements in 10 C.F.R. § 74.57(b) at issue in Contention 10.

Objective of the Examination:

The purpose of this line of questioning is to clarify what Dr. Lyman's position is regarding the alarm resolution requirements of 10 C.F.R. § 74.57(b) and to show that it is not correct.

Proposed Line of Questioning:

1. Isn't it true that 10 C.F.R. § 74.57(b) does not mandate the adoption of particular means or mechanisms by which to resolve MC&A alarms?

⁷ Order (Ruling on Applicant's Motions to Dismiss and to Strike), at 5 (Nov. 30, 2011).

⁸ *Id.*

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2. Isn't it true that 10 C.F.R. § 74.57(b) does not require that a MC&A alarm be resolved by means of only one method as opposed to multiple methods?
3. Do you agree that a physical inventory would not always be required to successfully resolve a MC&A alarm?
4. MOX Services has asserted that it would be able to normally perform an inventory in each of four relevant storage areas within three days. Do you dispute this assertion? If so, what is the technical basis of your disagreement?
5. You claim that "MOX Service's interpretation of the word "normally" in its FNMCP commitment is far too narrow to meet the letter of the intent of the regulations, which themselves do not make any such distinction between "normal" and "abnormal" conditions.⁹ Please provide your support for this position, in terms of legal or regulatory history.

Proposed Question Series 5

Issue for Examination:

The Intervenor's interpretation of the requirement for MOX Services to rapidly assess alleged thefts in 10 C.F.R. § 74.57(e) at issue in Contention 11.

Objective of the Examination:

In its December 2010 Safety Evaluation Report, the Staff determined that the use of the MMIS and PLCs to confirm the presence of an individual item and the presence of all items in a vault is acceptable.¹⁰ The purpose of this line of questioning is to demonstrate the Intervenor's have no regulatory basis for their position that MOX Services cannot *solely* rely on these systems to rapidly assess alleged thefts.

Proposed Line of Questioning:

1. You claim that MOX Services has no "backup plan" should the MMIS and PLC mapping systems fail. Isn't it true that 10 C.F.R. § 74.57(e) does not require MOX Services to have a backup plan?
2. Section 3.3 of NUREG-1280 contains acceptance criteria regarding timeframes for a licensee's "contingency capacity" to establish and maintain the ability to respond rapidly to alleged thefts. Is it your opinion that this "contingency capacity" should include a backup system to MOX Services' MMIS and PLC mapping systems? If so, what is the basis for your opinion, in terms of legal or regulatory history?

⁹ See Exhibit INT000001, Direct Testimony of Dr. Edwin S. Lyman in Support of Intervenor's Contentions 9, 10, and 11, at A 6, ¶ 7.

¹⁰ Exhibit NRC000008, NRC Staff's Prefiled Response Testimony of Tom Pham Concerning Contentions 9, 10, and 11, at Q.18.

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Respectfully submitted,

/RA/

Brett M. Klukan
Counsel for the NRC Staff

Dated at Rockville, MD,
this 13th day of February, 2012.

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	
SHAW AREVA MOX SERVICES	)	Docket No. 70-3098-MLA
)	
(Mixed Oxide Fuel Fabrication Facility)	)	ASLBP No. 07-856-02-MLA-BD01

CERTIFICATE OF SERVICE

I hereby certify that a copy of the "NRC STAFF'S SUGGESTED CONFIDENTIAL QUESTIONS" in the above captioned proceeding has been served on the following persons by transmission via e-mail¹ on this 13th day of February, 2012:

Michael C. Farrar, Chair
Lawrence G. McDade
Dr. Nicholas G. Trikouros
c/o Shelbie Lewman and Josh Kirstein
Atomic Safety and Licensing Board Panel
Mail Stop-T-3 F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

/RA/

Dated: February 13, 2012

Brett M. Klukan
Counsel for the NRC Staff

¹ Order (Summarizing Determinations Related to August 31, 2011 Teleconference), Appendix 2, at 4 (Sept. 9, 2011).

ATTACHMENT 2

Applicant's Proposed Questions for Initial Evidentiary Hearing

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Morgan Lewis
C O U N S E L O R S A T L A W

Anna V. Jones
Associate
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February 10, 2012

VIA FIRST CLASS MAIL

Michael C. Farrar, Chair
Lawrence G. McDade, Administrative Judge
Nicholas Trikouros, Administrative Judge
Atomic Safety and Licensing Board
Mail Stop: T-3 F23
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Dear Administrative Judges and Counsel for Intervenors and NRC Staff:

Shaw AREVA MOX Services, LLC ("MOX Services") herein notifies the Atomic Safety and Licensing Board ("Board") and parties that it is submitting its Confidential Questions for the Board, in accordance with the Board's September 9, 2011 Order. MOX Services is enclosing copies of that submittal for the Board only.

Morgan Lewis
C O U N S E L O R S A T L A W

Michael C. Farrar, Chair
February 10, 2012
Page 2

Respectfully submitted,



Anna V. Jones

Enclosures

c: Secretary of the Commission
Joshua Kirstein
Shelbie Lewman
Dealis W. Gwyn
Catherine Scott
Christopher Hair
Glenn Carroll
Mary Olson
Louis A. Zeller

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:
Michael C. Farrar, Chairman
Lawrence G. McDade
Dr. Nicholas G. Trikouros

In the Matter of:

SHAW AREVA MOX SERVICES, LLC

(Mixed Oxide Fuel Fabrication Facility
Possession and Use License)

February 10, 2012

Docket No. 70-3098-MLA

ASLBP No. 07-856-02-MLA-BD01

SHAW AREVA MOX SERVICES LLC'S
CONFIDENTIAL QUESTIONS FOR THE BOARD

I. Introduction

In accordance with the Atomic Safety and Licensing Board's (Board) July 26, 2011 Memorandum and Order¹, and its September 9, 2011 Order², Shaw AREVA MOX Services (MOX Services) hereby submits its proposed confidential questions, to be propounded to the Intervenor's witness Dr. Lyman, at the Board's discretion.

II. Questions and Objective For The Line Of Questioning

MOX Services is not challenging Dr. Lyman's qualifications to testify in this proceeding. However, Dr. Lyman's own testimony states that he is only "generally familiar" with the NRC's

¹ Memorandum and Order (Summarizing Prehearing Conference Call, Revising Protective Order, and Scheduling Evidentiary Proceeding) at 8-9 (July 26, 2011).

² Order (Summarizing Determinations Related to August 31, 2011 Teleconference) at 7-8 (Sept. 9, 2011),

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Material Control and Accounting (MC&A) requirements and guidance.³

In light of the fact that: (1) Dr. Lyman and MOX Services' expert witnesses have differing interpretations of both the relevant regulations and guidance; (2) it is not evident that Dr. Lyman has previously engaged in any detailed analyses of NRC licensee or applicant item monitoring, alarm resolution or theft assessment programs; and (3) Dr. Lyman may not be familiar with or fully understand MOX Services' MMIS or PLC systems or other aspects of the MOX Facility, MOX Services respectfully requests that the Board propound questions that will assist it in evaluating the relative weight to be afforded Dr. Lyman's testimony, versus the weight to be afforded MOX Services' witnesses' testimony.

Such questions would be along the following lines:

1. What precise experience does Dr. Lyman have in interpreting and applying Part 74 in general, and *in particular, in evaluating compliance with* 10 CFR §§ 74.55(b)(1), 74.57(b), and 74.57(e)? Specify such experience.
2. What research, if any, did Dr. Lyman perform in preparing his testimony on the interpretation of the relevant regulations and guidance and its application in the industry in general?
3. What experience does Dr. Lyman have with systems such as the MOX Facility MMIS or PLCs?

³ Exhibit INT000001: Direct Testimony of Dr. Edwin S. Lyman in Support of Intervenors' Contentions 9, 10, and 11 at Q3 (Oct. 19, 2010).

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Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Anna Jones", written over a horizontal line.

Donald J. Silverman, Esq.
Timothy P. Matthews, Esq.
Anna Vinson Jones, Esq.
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Counsel for Shaw AREVA MOX Services, LLC

ATTACHMENT 3

Intervenors' Proposed Questions for Initial Evidentiary Hearing

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

Docket No. 70-3098-MLA

SHAW AREVA MOX SERVICES

ASLBP No. 07-856-02-MLA-BD01

(Mixed Oxide Fuel Fabrication Facility)

February 13, 2012

INTERVENORS' PROPOSED QUESTIONS REGARDING
CONTENTIONS 9, 10, AND 11

OFFICIAL USE ONLY

May be exempt from public release under the Freedom of Information Act (5 U.S.C. 552), exemption number and category: 4 (commercial proprietary) & 7 (law enforcement security)

Department of Energy review required before public release

Name/Org: _____ MOX Services Date: _____

Guidance (if applicable): NRC/DOE Guide

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~~-- Withhold in accordance with 10 C.F.R. 10 C.F.R. § 2.390~~

INTRODUCTION

Intervenors -- Blue Ridge Environmental Defense League, Nuclear Watch South, and Nuclear Information and Resource Service -- hereby present proposed questions for the members of the Atomic Safety and Licensing Board ("ASLB") to ask during the upcoming hearing on Intervenors Contentions 9, 10, and 11.

PROPOSED QUESTIONS

A. Credibility and Strength of MOX Services and NRC Staff Testimony

As summarized in par. 10 of Intervenors' testimony and page 4 of its rebuttal statement, MOX Services' assertion that it can demonstrate that it can meet a quantitative requirement for item monitoring with the use of operating data but without initially preparing detailed procedures for interim sampling and validation of the computer data is based on an unorthodox interpretation of the NRC's MC&A regulations. As further stated in Intervenors' Rebuttal Statement, the NRC Staff's testimony in support of MOX Services' position interprets the MC&A regulations in a way that renders some of their terms meaningless and thereby violates standard principles of statutory and regulatory interpretation. In their reply testimony, however, MOX Services and the NRC Staff continue to assert that their interpretation of the regulations is valid. Intervenors propose questions to expose their lack of a basis for their position.

According to MOX Services' Reply testimony, the item monitoring measures proposed by MOX Services are not at all novel. *Id.* at 23 (response to Q. 30). The witness, Martha Williams, is a former NRC reviewer who should know the answer to this question. Her answer, however, is inconsistent with statements by MOX Services in an undated and unsigned internal document entitled "Food for Thought regarding Item Monitoring Rationale." (Intervenors' Exhibit 7). At page 3 of this document, MOX Services states that before April 2010, MOX

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Services took “the traditional approach to item monitoring” by using a “statistical sampling plan and remotely operated machinery to perform a traditional item monitoring test as is done in the current Uranium facilities licensed under Subpart E.”

The ASLB should ask Ms. Williams if the item monitoring method proposed for the MOX FFF is used at any other facility in the U.S. that handles SSNML. If the answer is no, the ASLB should also ask her to provide a description of how NRC’s item monitoring regulations are met at these other facilities.

B. Additional Questions Regarding Credibility of MOX Services and NRC Staff Testimony

In preparing for the hearing on Contentions 9-11, Intervenor has continued to review the thousands of documents that MOX Services disclosed in discovery, and have found e-mail correspondence indicating that (a) at least some MOX Services officials internally questioned whether the MOX Services FNMCP complies with the MC&A regulations, (b) the National Nuclear Security Administration (NNSA) was concerned that in spite of the current approval in the SER, the NRC Staff may not ultimately approve of MOX Services’ plans and may be planning to change its position in a future SER revision or in the context of pre-operation inspections, and (c) it is possible that there currently is disagreement within the NRC Staff regarding the acceptability of MOX Services’ proposed measures for complying with NRC’s item monitoring requirements.

An overarching and ultimate question is: Does the NRC Staff have two parallel reviews going on here – one for the benefit of the hearing board and the Intervenor, and the other between the NRC Staff and MOX Services? Did the Staff go easy on MOX Services in this proceeding and accept an utterly implausible strategy for complying with NRC item monitoring

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requirements because it expects that NRC regional reviewers, who must approve MOX Services' procedures, will reject them?

Intervenors therefore propose questions regarding the following documents:

- MOXM00001898 ("Questions I had from the presentation (A.K. Johnson, April 12, 2007, p.3) –

MMIS is not being designed as an MC&A system. It is a manufacturing and operations system. They have put some additional info in to assist MC&A (real time tracking, item monitoring, process monitoring) but it is clear that it is secondary and only when convenient (i.e., something that is done in France – since the system is from France). It is not all inclusive. There is important functionality that is NOT covered by MMIS, in particular – accounting functions. For MC&A, the MMIS, the IIMS, and the LMIS are the system. There are not three – there is ONE and its totality is essential. MC&A is being told that we will have to figure out how to do the rest? I believe that the rest of the functionality MC&A will need is to be captured in the sister systems of LMIS and IIMS (at least that was the plan) but since SDG has made no progress in either of those directions, **I am deeply concerned.**

(emphasis in original).

The ASLB should ask MOX Services witnesses: Please explain how the concerns of Ms. Johnson were resolved. Has the "rest of the functionality" of the MC&A system been captured in the LMIS an IIMS? If so, how?

- MOXM0000065 (e-mail exchange between Jeffrey B. Coleman and Douglas A. Yates re: ENMCP & ORR);

This e-mail exchange indicates that NNSA recently performed an audit of the MC&A program for the proposed MOX FFF and may have interviewed NRC Staff members. It also raises the possibility that NRC Staff members did not state their unequivocal approval of the item monitoring provisions of MOX Services' ENMCP, despite the fact that the Staff had already approved the program in its Safety Evaluation Report. The information can be gleaned from this question that NNSA apparently posed to MOX Services, as quoted by Mr. Coleman:

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The FNMCP proposes certain methods of complying with 10 CFR Part 74 that may or may not be accepted by the NRC. Specifically, in the measurements of residual Pu process holdup and in the area of item monitoring in storage areas. [quoted from Risk Item # 22] Since the final MFFF SER has been issued by the NRC, [is] there still some risk or can this risk be closed?

And Mr. Yates' response:

My response would be that the plan is approved by headquarters and not the region. As part of the ORR, the region would be looking at how we execute our implementing procedures developed in support of the MC&A plan. With regards to the final SER, it has been recognized by NRC headquarters that supplements may be issued to the SER to reflect updates resulting from design changes, etc that may occur until completion of construction.

The ASLB should ask MOX Services what basis could the NNSA have had for even suggesting that the item monitoring approach could be overturned after the SER was issued? Doesn't this represent a lack of confidence by NNSA? What was the result of the NNSA audit?

Documentation?

The ASLB should also ask MOX Services: Were you consulted or interviewed for the NNSA audit? Did NNSA interview anyone at the NRC, and if so, whom? What were the results of the NNSA audit discussed in this e-mail?

To establish that this hearing was not seen as the cause of a need to revisit the issues, the ASLB should ask: Isn't it true that the pendency of the hearing could not have been the reason the issues would be revisited, because the Pu process holdup issue was not raised in the hearing?

- MOX Services re MOXM00001830 ("Meeting Topics for Jean-Michel Marin (Undated and unsigned):

In this unsigned and undated document, a MOX Services official questions the credibility of MOX Services' proposed item monitoring program. The official states that the "most logical way" to "verify to their [the NRC's] satisfaction that items are physically located where MMIS

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says they are and in the condition in which MMIS says they are” would be through physical inventories. (However, it is not clear if the NRC’s requirement for semi-annual inventories would allow a sufficiently frequent verification of MMIS to enable it to be used to meet item monitoring requirements.). He or she suggests that adding a provision for a limited sampling plan to verify MMIS would “not mean much” and would likely be rejected by auditors in Region II, even if it were accepted by reviewers at NRC headquarters. The MOX Services official also questions the company’s reliance on security features to satisfy item verification requirements, because “MC&A’s regulatory obligation is not *protection*, but *detection* - regardless of how items are likely to be diverted” Finally, the MOX Services official suggests that NRC reviewer Tom Pham is more lenient than other NRC officials regarding MC&A regulations..

The ASLB should ask MOX Services: Who authored this document and when?

The ASLB should ask the NRC Staff: How many NRC staff members are assigned to MC&A issues? How many were involved in the SER on MOX FFF? Are there differences of opinion within the Staff at NRC headquarters regarding the sufficiency of MOX Services’ program for item monitoring? If so, why aren’t officials with different opinions testifying? How do you expect MOX Services to “verify to [your] satisfaction that items are physically located where MMIS says they are and in the condition in which MMIS says they are...”? Where in the SER is this “expectation” outlined? Is it your position that a full physical inventory is needed to validate MMIS data? If so, how often do physical inventories need to be performed in order to enable MMIS to be used to meet the item monitoring regulations?

C. The meaning of “accuracy” in the Intervenor’s testimony

In MOX Services’ Reply Statement (page 8), it asserts that Dr. Lyman “is confusing power of detection with accuracy ...” This is incorrect. It is MOX Services that attempts to confuse the

~~—MAY CONTAIN SUNSI OR PROPRIETARY INFORMATION—~~
~~—Withhold in accordance with 10 C.F.R. 10 C.F.R. § 2.390—~~

matter. Accuracy, as referred to in the Intervenor's testimony, is used to describe the relationship of the data contained in the MMIS and PLCs with the actual status of physical items. Obviously, if the MMIS PLCs indicate an item is in a certain position and the item is not actually there, the system is not accurate. MOX Services' item monitoring approach is fundamentally rooted in the expectation that MMIS PLC data is a 100 percent faithful representation of the actual status of items, and thus is based on the notion that the data is 100 percent accurate at all times. Put another way, it is based on the assertion that "items are physically located where MMIS says they are and in the condition in which MMIS says they are," as stated by the unnamed MOX Services official quoted above. Notably, MOX Services uses the word "accuracy in the very same way that Intervenor use it at page 15 of its Rebuttal Testimony. Moreover, MOX Services asserts in its Reply Statement that "every process request to supply an item from storage verifies the accuracy of the PLC mapping with the actual physical location of the item." Reply Statement at 14 (Response to Q. 23). Thus MOX Services is implying that the frequency of verification of PLC mapping accuracy through process requests is high enough to allow the data to be used to meet the item monitoring regulations, even though such process requests may involve only a small fraction of the number of items in a storage area per month.

In order to allow Intervenor to clear up the confusion created by MOX Services' Reply Testimony, the ASLB should ask Dr. Lyman to explain the meaning of "accuracy" in his testimony. The ASLB should ask MOX Services to explain if it is relying on the verification of PLC mapping accuracy through process requests to provide sufficient confidence that the data can be used to meet the quantitative standards in NRC's item monitoring regulations.

~~—MAY CONTAIN SENSITIVE OR PROPRIETARY INFORMATION—~~
~~—Withhold in accordance with 10 C.F.R. 10 C.F.R. § 2.390—~~

Respectfully submitted,



Diane Curran

HARMON, CURRAN, SPIELBERG, & EISENBERG, L.L.P.

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202-328-3500

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February 13, 2012

A K Johnson 4/12/07

MC&A Issues identified as a result of MMIS meeting

Primary Issue - The Inventory System (IIMS) is not in existence. During this meeting MC&A was told that IIMS must be designed and developed to perform the inventory functionality to meet MC&A needs. It is my understanding that NFS provided the equivalent of a functional analysis for this work, yet no system has been developed. I understand that the MMIS, the IIMS and the LMIS should function as one big integrated system - however with no development on these other systems, I am concerned. I am concerned that the "difficult issues" or those things that are the result of regulatory differences between the US and France are being put off until the end. Regulatory differences have been identified for quite some time now. With a FA in hand, the MMIS, IIMS, LMIS should all have some path forward and associated schedule. I am worried this is not the case. The SDG mentioned that MC&A will have to "figure some things out" or "do some things". I am not clear on what that means. The SDG is a separate entity with its own budget and scope of work. The MC&A scope of work currently performed by NFS does not include work for SDG (only \$74 E - ENMCP). In the past Terry Lewis has worked under the SDG scope (not MC&A scope) to assist with design for the benefit of MC&A. If there are activities that MC&A needs to perform for SDG - then we will need to add scope of work to cover these activities. I also understand there is not a budget for the IIMS, LMIS work. Of course this is troubling. How then will anything proceed? I can understand why these items are being pushed off by SDG if there is no budget - is there any effort under way to get budget for these activities? The NRC will not license this facility without an MC&A "system" in place and they will most assuredly compare the MOX system to what is in place at BWXT-Lynchburg and NFS-Erwin (our closest cousins). We need to discuss this as a Safeguards issue then decide how we need to proceed.

Second Issue - Training and Qualification does not sound like it is being integrated into MMIS. This is *potentially* a serious hole. We have to be able to ensure that only trained and qualified personnel perform certain activities in the MFFF (of course this issue is much bigger than MC&A - it has site wide implications). At all of the facilities I have worked with, T&Q was integrated into the system. I believe I heard that the MMIS will be classified. We need to get that clarified ASAP. If the system is classified, then it will complicate matters but we need to sit down with training and really think about how we are going to cover this base. From a purely MC&A perspective, we need to be able to assure the NRC that untrained and/or unqualified persons cannot perform sensitive activities. Also the issue of continuing qualification can make things tricky. T&Q is a multi-faceted issue. We must prove that our personnel are trained and qualified and we must deny activities to personnel that are not. I recommend a meeting with the training staff here to discuss needs and potential solutions. We will need a classified computer systems person in the meeting as well to advise. This issue dove-tails with the next issue.

MOXM00001896

Third Issue – Access Control/Cyber Security. I did not get the impression that the SDG truly grasps what MC&A wants with this functionality. This functionality has not been designed into the system, at the level MC&A has requested. What MC&A wants is badge reader or other authentication devices on the computer terminals so that when performing functions that require authorization and/or two persons to “sign off” they can both enter/swipe their information into the device to authenticate their actions/approvals. This is above and beyond logging into the terminal. The SDG seems to think that login is sufficient. It is not. This needs some serious attention. We need a cyber security person to help MC&A and SDG determine the best way to accomplish this and get it fitted into the design now. MC&A needs this functionality to meet TPR, separation of duties, and human error assurances in the ENMCP.

Fourth Issue – Operations Co-operation. I am not sure how much interaction we have had with operations in the past, but I am concerned that SDG should not be negotiating how MC&A will work with Ops. Case in point, at the meeting, SDG mentioned that when MC&A needs 3 and 7 day tests performed, Ops will not be able to empty everything out that often for measurements. This is a product of lack of communication. MC&A will have times that the systems must be “purged” for measurement – primarily at inventory time – but this will be known well in advance and will be coordinated with Ops. MC&A needs to discuss with Ops how we can best meet both of our needs from a production and a safeguards standpoint and still meet our regulations. I am confident we can figure it out. We need to begin this dialogue with Ops as soon as possible to start working out some of these finer details.

Fifth Issue – After much discussion, we determined that the MMIS can possibly get out of sync with the PLCs for storage due to manual activities when the MMIS may be down. We need to ENSURE that some type of check is done daily when processing in this mode to verify that both match systems are in sync when MMIS is back up. It would be a double check of the activities and will stop us from having an inventory problem down the road. I would think that an administrative procedure for manual activities that includes running a “report” (which we need to make sure is developed) and resolving any discrepancies is done. This will have to be coordinated with Operations since the activities will be done by their staff. It is important for MC&A and Security since this could introduce a potential diversion path.

Sixth Issue – Measurement Control. I did not see where there is a mechanism in the MMIS to remove measurement systems/devices from use when they are “out of control” or when they have not been properly checked for use. I believe that this activity may fall under the LMIS, but I think part of it is also in the MMIS (Since the integrations have not been fully fleshed out – I am not sure exactly where this will reside). MC&A needs to be able to assure the NRC that MC&A measurements will not be made on systems that are not authorized to make measurements (i.e. are out of control, or have not been checked). The SDG needs to work with MC&A to make sure this ability is designed into the system. In fact, it will likely be at the PLC/SCADA level (which as I understand it, can be very timely and difficult to accomplish changes to) but must be done. This may be a difficult fight to wage, but I think we have to do it.

Questions I had from the presentation

1. Have we determined a naming/numbering convention for the items and containers? Ken mentioned that it was suggested we work something out with PDCF so that the numbers that they use will be compatible for MOX – seems like a good idea to me, is anyone working this?
2. Is there a waste tracking system? How will it relate to the MMIS LMIS/HMS? How is it defined? When do items “enter” this system? This is a whole other issue that could be quite important from a Security standpoint as well. I think Scott can address this waste issue as far as staging handling packaging, etc. in the MOX.
3. Does the MMIS have alarms in place to signal unauthorized activities? Are there audit logs? An example would be one person trying to move material out of storage. This is different from just giving them an error. I would think we would want to track the attempts. This may be as simple as designing a report that lists all unauthorized denied activities that is reviewed regularly by someone in computer security? MC&A? I think it is worthwhile to at least review this.
4. Have sampling parameters been defined? As I understand it, this will be part of LMIS. Not only are sampling parameters important here, but the measurement methods and all of their parameters must be incorporated. All of this information ties to our SEID calculation. This again brings the lack of activity on the LMIS into focus. I know there are systems available off the shelf – but has anyone assessed their ability to meet our needs. I would guess not. It is likely that we will have to design our own or make significant customization to an off the shelf package. All of which is expensive, but having been down this road – I would rather design my own than try to customize something else if I am going to be paying that much. All of this takes time and means we need to get started now. Of course, there has to be funding to accomplish this activity. Just another issue we have to get on the radar screen and moving quickly.

The Bottom Line

MMIS is not being designed as an MC&A system. It is a manufacturing and operations system. They have put some additional info in to assist MC&A (real time tracking, item monitoring, process monitoring) but it is clear that it is secondary and only when convenient (i.e. something that is done in France – since the system is from France). It is not all inclusive. There is important functionality that is NOT covered by MMIS, in particular – accounting functions. For MC&A, the MMIS, the HMS and the LMIS are the system. There are not three – there is ONE and its totality is essential. MC&A is being told that we will have to figure out how to do the rest? I believe that the rest of the functionality MC&A will need is to be captured in the sister systems of LMIS and HMS (at least that was the plan) but since SDG has made no progress in either of those directions, **I am deeply concerned**.

From: Yates, Douglas A. - DAYates@moxproject.com
Sent: Tuesday, March 29, 2011 6:40 PM
To: Gwyn, Dealis W. - DWGwyn@moxproject.com
Subject: FW: FNMCP & ORR

FYI

My response to Jeff would be that the plan is approved by headquarters and not the region. As part of the ORR, the region would be looking at how we execute our implementing procedures developed in support of the MC&A plan. With regards to the final SER, its been recognized by NRC headquarters that supplements may be issued to the SER to reflect updates resulting from design changes, etc that may occur until completion of construction.

Am I off base?

Doug

From: Coleman, Jeffrey B.
Sent: Tuesday, March 29, 2011 1:17 PM
To: Yates, Douglas A.
Cc: Riggins, Jerry P.
Subject: FNMCP & ORR

Hi Doug,

We are participating in an NNSA MC&A audit. One of the questions in their line of inquiry is:

“The FNMCP proposes certain methods of complying with 10 CFR 74 that may or may not be accepted by the NRC. Specifically in the measurements of residual Pu process holdup and in the area of item monitoring in storage areas.” [quoted from Risk Item #22] Since the final MFFF SER has been issued by the NRC, [is] there still some risk or can this risk be closed?”

I understand that the FNMCP is open to scrutiny any time we revise it, or I suppose whenever it pleases the NRC to examine it. Will the FNMCP be opened to additional scrutiny during the Region II ORR? In other words, will Region II Staff, while verifying that what we defined in the FNMCP is properly proceduralized and implemented, be able to call into question approaches or details of the FNMCP itself, even if it is implemented adequately?

Jeffrey B Coleman
MC&A Lead Statistician
Shaw Areva MOX Services
(803) 819 2590

MOXM00000065

Meeting topics for JEAN-MICHEL MARIN

STORAGE EQUIVALENT TO TAMPER-SAFING

Physical inventory that depends on MMIS' ability to "lock" storage locations

The key to inventorying less than all items in the vault is the NRC's "buy-off" on the MMIS' reliability as a system and the vault's equivalency to a tamper-safed container. Ensuring that the vault is a storage location equivalent to tamper-safing is an achievable goal, I think, and we are well on our way to a successful negotiation on this front.

The NRC has recently allowed us to perform item monitoring test using the MMIS' perpetual inventory report, provided that we can verify to their satisfaction that items are physically located where MMIS says they are and in the condition in which MMIS says they are.

The most logical way to achieve this is through physical inventories— except for the fact that we are also asking that the NRC "trust" the MMIS regarding what we call locked locations— administratively locked by MMIS. Even this might be plausible if we successfully argue the aforementioned inaccessibility to the vault (without detection). The obvious question I foresee from the NRC is, "If we rely on MMIS to perform item monitoring tests pending physical inventory, but then rely on MMIS to conduct the 'physical' inventory, how will you detect an actual loss or diversion of an item if it occurs?"

We could implement a periodic, less-than-100% power of detection sampling plan to verify MMIS. For example, we could site a plan that yields a 95% confidence interval with 20% power of detection, i.e., a random spot check. This would be the easiest solution of all, but it could come back to haunt us during the Operational Readiness Review. Even if the Licensing department at the NRC allowed us to pursue such a plan, Region II auditors and the NRC statistician from headquarters could reasonably take issue with such a plan before they allow us to start. In the end, they would ask what such a sampling plan actually accomplishes, and I'd be forced to admit that it didn't mean much.

We could rely on the robust security features of MOX to argue that the intrusion into a storage location and theft of an item or even an accidental misallocation of an item is well protected-against, making such a scenario not credible. This will definitely be part of our argument, but it will rely heavily on NRC's willingness to go along with such an argument. They could cite that MC&A's regulatory obligation is not *protection*, but *detection*—regardless of how items are likely to be diverted. Depending on to whom we are conversing. So far, I think the NRC will work with us on this. However, the licensing official, Tom Pham, is close to retirement and is likely to be replaced by a person who is much more prescriptive in his view of the regulations.

MOXM00001830

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
ATOMIC SAFETY AND LICENSING BOARD**

In the Matter of)	
)	
Shaw AREVA MOX Services	)	Docket No. 70-3098-MLA
)	
(Mixed Oxide Fuel Fabrication Facility	)	ASLBP No. 07-856-02-MLA-BD01
Possession and Use License))	
)	

CERTIFICATE OF SERVICE

I certify that on February 13, 2012, copies of Intervenor's Proposed Questions Regarding Contentions 9, 10, and 11, were served on the following by overnight mail in conformance with the Atomic Safety and Licensing Board's Protective Order of December 31, 2008 as revised July 26, 2011. I also certify that copies of this certificate of service were sent by e-mail to the NRC's Rulemakings and Adjudications Staff in order to publicly record that the documents were filed.

Michael C. Farrar, Chair
Atomic Safety & Licensing Board
U.S. Nuclear Regulatory Commission
11545 Rockville Pike
Rockville, Maryland 20852

Dr. Nicholas G. Trikouros
Atomic Safety & Licensing Board
U.S. Nuclear Regulatory Commission
11545 Rockville Pike
Rockville, Maryland 20852

Lawrence G. McDade
Atomic Safety & Licensing Board
U.S. Nuclear Regulatory Commission
11545 Rockville Pike
Rockville, Maryland 20852



Diane Curran

ATTACHMENT 4

NRC Staff's Proposed Questions for Supplemental Evidentiary Hearing

May 15, 2013

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	
SHAW AREVA MOX SERVICES	)	Docket No. 70-3098-MLA
)	
(Mixed Oxide Fuel Fabrication Facility)	)	ASLBP No. 07-856-02-MLA-BD01

NRC STAFF'S SUGGESTED CONFIDENTIAL QUESTIONS

I. INTRODUCTION

Pursuant to 10 C.F.R. § 2.1207(a)(3) and the Atomic Safety and Licensing Board's ("Board") May 9, 2013 Order (Summarizing May 9, 2013, Teleconference), the NRC staff ("Staff") hereby tenders *in camera* its suggested questions for the Board's consideration and proposed use at the supplemental evidentiary hearing to commence on May 21, 2013. Section II of this pleading concisely summarizes recent procedural history. Section III details the questions that the Staff suggests that the Board pose at the hearing. Each of the Staff's suggested series of interrelated questions is prefaced with a short explanation of what the Staff believes would be the probative value thereof at hearing.¹ All of the Staff's proposed questions relate to the Intervenor's April 19, 2013 pleading.²

II. RECENT PROCEDURAL HISTORY

In response to the Board's June 29, 2012 request for additional information,³ Shaw AREVA MOX Services, LLC ("MOX Services" or "Applicant") tendered a Supplemental

¹ See Order (Summarizing Determinations Related to August 31, 2011 Teleconference), at 8 (Sept. 9, 2011).

² See "Intervenors' Response to Shaw AREVA MOX Services' Clarified Supplemental Statement of Position on Contentions 9 and 11, Reply to NRC Staff's Response to MOX Services, and Reply to MOX Services' Response to Surreply regarding Contentions 10 and 11" (April 19, 2013) ("Intervenors' Response"). The Intervenor's pleading does not contain any indicia of whether Dr. Lyman, the Intervenor's expert witness, adopts or endorses the positions averred by the Intervenor therein. As such, the questions proposed by the Staff are directed at the Intervenor, as opposed to Dr. Lyman.

³ See Memorandum and Order (Requesting Further Information from the Applicant), at 15 (June 29, 2012).

Statement of Position on Contentions 9 and 11 and a Response to the Intervenor's Surreply, along with additional pre-filed written testimony and exhibits, including Fundamental Nuclear Material Control Plan ("FNMCP") revisions and a proposed data accuracy verification procedure.⁴ In the wake of requests for additional information made by the Staff and its response thereto,⁵ MOX Services proffered a clarification to its Supplemental Statement of Position, along with supporting exhibits.⁶ On January 16, 2013, the Staff filed its Supplemental Response Statements of Position, along with supporting testimony and exhibits.⁷ As earlier noted, on April 19, 2013, the Intervenor submitted their Response. Thereafter, on May 3, 2013, the Applicant tendered its reply to the Intervenor's Response.⁸

III. PROPOSED QUESTIONS FOR INTERVENORS

Proposed Question Series 1

Issue Needing Further Examination:

Whether the Intervenor disputes certain evidence put forward by the Applicant as to which the Intervenor was otherwise silent in their Response.

⁴ "[MOX Services'] Supplemental Statement of Position on Contentions 9 and 11 and Response to Surreply" (Oct. 15, 2012); "[MOX Services'] Pre-Filed Direct Testimony in Response to Board's June 29, 2012 Memorandum and Order," Exhibit APP000037 (Oct. 15, 2012); "SSNM Item Identity and Location Data Verification Procedure, MFFF-APM-MC-SOP-S-67011, Rev. 0," Exhibit APP000038 (Oct. 15, 2012); "Revised FNMCP Chapter 2," Exhibit APP000039 (Oct. 15, 2012); "Revised FNMCP Section 3.3," Exhibit APP000040 (Oct. 15, 2012).

⁵ "NRC Staff Requests for Additional Information on the MOX Services' [FNMCP] Revisions dated October 15, 2012," Exhibit NRC000013 (Jan. 16, 2013); "Response to NRC Requests for Additional Information and Revised [FNMCP] Pages," Exhibit APP000043 (Dec. 5, 2012).

⁶ "[MOX Services'] Clarification of Supplemental Statement of Position on Contentions 9 and 11 and Response to Surreply" (Dec. 5, 2012); "[MOX Services'] Additional Direct Testimony Related to NRC Staff Requests for Additional Information," Exhibit APP000041 (Dec. 5, 2012); "[MOX Services'] Revised Pre-Filed Direct Testimony in Response to Board's June 29, 2012 Memorandum and Order," Exhibit APPR000037 (Dec. 5, 2012); "SSNM Item Identity and Location Data Verification Procedure, MFFF-APM-MC-SOP-S-67011, Rev. 1," Exhibit APPR000038 (Dec. 5, 2012); "Revisions to Prefiled Direct Testimony in Response to Board's June 29, 2012 Memorandum and Order," Exhibit APP000042 (Dec. 5, 2012).

⁷ "NRC Staff's Response to Applicant's Supplemental Statement of Position on Contentions 9 and 11 and Response to Surreply" (Jan. 16, 2013); "NRC Staff's Prefiled Supplemental Testimony of Tom Pham Concerning Contentions 9 and 11," Exhibit NRC000012 (Jan. 16, 2013); Exhibit NRC000013; "Supplement to Final Safety Evaluation Report for the License Applicant to Possess and Use Radioactive Material at the [MOX Facility] in Aiken, SC," Exhibit NRC000014 (Jan. 16, 2013).

⁸ "[MOX Services'] Reply to Intervenor's April 19, 2013 Response to MOX Services and NRC Staff Submittals" (May 3, 2013) ("MOX Reply").

Objective of the Examination:

As the Applicant has noted, no evidentiary materials were included as part of the Intervenor's Response.⁹ Given that, it is currently unclear whether the Intervenor contests certain positions expressed by the Applicant in the evidentiary materials put forward in satisfaction of the Board's June 29, 2012 request for additional information. In light of this, the purpose of this line of questioning is simply to establish whether a factual dispute continues to exist between the Intervenor and the Applicant with respect to certain positions expressed in the Applicant's evidentiary materials.

Proposed Line of Questioning:

1. In your April 19, 2013 Response, you do not specifically discuss the Applicant's FNCMP revision relevant to Contention 9.¹⁰ What, specifically, do you dispute in this revision?
2. What evidence have you provided to refute the technical adequacy of the procedure proposed by MOX Services for data accuracy verification?¹¹
3. MOX Services asserts that "the 'contingency capability' discussed in NUREG-1280 for theft assessment is intended to refer to the primary system used to assess the 'contingency' of an alleged theft, and not some secondary or back-up capability..."¹² Do you dispute this position? If so, upon what grounds and with supporting evidence?

Proposed Question Series 2

Issue Needing Further Examination:

The Intervenor's interpretation of the item monitoring requirements in 10 C.F.R. § 74.55(b).

Objective of the Examination:

The purpose of this line of questioning is to seek some clarity as to what particular practices the Intervenor believes are required in order to achieve compliance with the item presence verification requirement of 10 C.F.R. § 74.55(b). Moreover, the Applicant has averred that the Intervenor "confuse and conflate the Section 74.55(b)(1) quantitative item monitoring requirements with the data accuracy verification method established by MOX Services."¹³ The purpose of this line of questioning is also then to clarify what the Intervenor actually believes to be the relationship between the quantitative item monitoring requirements of 10 C.F.R. § 74.55(b)(1) and the data accuracy verification methodology put forward by the Applicant.

⁹ See *id.* at 3.

¹⁰ See Exhibit APP000039.

¹¹ See Exhibit APPR000038.

¹² MOX Reply at 4.

¹³ *Id.* at 8.

Proposed Line of Questioning:

1. You have stated that 10 C.F.R. § 74.55(b) contemplates "physical verification of the actual presence" of items.¹⁴ What do you mean by "physical verification"? What evidence supports your interpretation?
2. How does MOX Services' proposed strategy for complying with 10 C.F.R. § 74.55(b) materially differ from the "physical verification" approach you believe is contemplated by the regulation?
3. Is it your position that the 3% defect rate proposed by MOX Services is linked to the power of detection specified in 10 C.F.R. § 74.55(b) for the statistical sampling basis? If so, please explain, specifying what evidence supports your position.
4. MOX Services has stated that it based the 3% defect rate on industry standard practices.¹⁵ Is it your position that such reliance is inappropriate? If so, upon what alternative foundation should have MOX Services chosen an acceptable defect rate for its procedure?
5. What in your opinion would be an acceptable defect rate for the procedure? What evidence supports your opinion? What procedures would MOX Services need to implement in order to limit itself to your proposed defect rate?
6. Mr. Bell has stated that "[i]t is important to note that regardless of the defect percentage chosen, it is not possible for a statistical test to prove that the data are error free, even when they are. It is logically impossible to prove a negative, i.e., that there are no errors. No amount of statistical sampling of a data set can prove with a 100% confidence that there are zero errors."¹⁶ Do you disagree with Mr. Bell's statement? If so, upon what basis and what evidence supports your position? If, on the other hand, you do not disagree with Mr. Bell's statement, please reconcile this position with what you have asserted as an appropriate defect rate in response to the preceding question, if such rate is less than what the Applicant otherwise proposed.

Respectfully submitted,

/RA/

Brett M. Klukan
Counsel for the NRC Staff

Dated at Rockville, MD,
this 15th day of May, 2013.

¹⁴ Intervenor's Response at 6.

¹⁵ See MOX Reply at 17.

¹⁶ Exhibit APP000044 at Q4.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	
SHAW AREVA MOX SERVICES	)	Docket No. 70-3098-MLA
)	
(Mixed Oxide Fuel Fabrication Facility)	)	ASLBP No. 07-856-02-MLA-BD01

CERTIFICATE OF SERVICE

I hereby certify that a copy of the "NRC STAFF'S SUGGESTED CONFIDENTIAL QUESTIONS" in the above captioned proceeding has been served on the following persons by transmission via e-mail¹ on this 15th day of May, 2013:

Michael C. Farrar, Chair
Paul B. Abramson
Dr. Nicholas G. Trikouros
c/o Shelbie Lewman and Nicole Picard
Atomic Safety and Licensing Board Panel
Mail Stop – T-3 F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

/RA/

Dated: May 15, 2013

Brett M. Klukan
Counsel for the NRC Staff

¹ See Order (Summarizing May 9, 2013, Teleconference) (May 9, 2013)

ATTACHMENT 5

Intervenors' Proposed Questions for Supplemental Evidentiary Hearing

Harmon, Curran, Spielberg + Eisenberg LLP



1726 M Street NW, Suite 600
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May 15, 2013

BY HAND DELIVERY

Michael C. Farrar, Chair
Dr. Nicholas G. Trikouros
Dr. Paul B. Abramson
Atomic Safety & Licensing Board
U.S. Nuclear Regulatory Commission
11535 Rockville Pike
Rockville, Maryland 20852

SUBJECT: *Filing in Operating Licensing Proceeding for Plutonium MOX
Fuel Fabrication Facility, Docket No. 70-3098*

Dear Administrative Judges:

On behalf of the Intervenors in this proceeding, I am enclosing Intervenors' Proposed Questions for Supplemental Hearing. Copies have also been provided to your law clerks, Shelbie Lewman and Nicole Picard.

Please note that the attached document may contain Sensitive Unclassified Security Information ("SUNSI") or Unclassified Controlled Nuclear Information ("UCNI") and therefore should be protected from public disclosure. However, Intervenors intend to seek public disclosure of the document in the future.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read 'Drane Curran', written over a horizontal line.

Drane Curran

Cc (without attachment): Service list

~~MAY CONTAIN UNCLASSIFIED OR PROPRIETARY INFORMATION~~
~~Withhold in accordance with 10 C.F.R. 10 C.F.R. § 2.390~~

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

Docket No. 70-3098-MLA

SHAW AREVA MOX SERVICES

ASLBP No. 07-856-02-MLA-BD01

(Mixed Oxide Fuel Fabrication Facility)

May 15, 2013

**INTERVENORS' PROPOSED QUESTIONS
FOR SUPPLEMENTAL HEARING**

Unclassified Controlled Nuclear Information
Not for Public Dissemination

Unauthorized dissemination subject to civil and criminal
sanctions under section 148 of the Atomic Energy Act of
1954, as amended (42 U.S.C. 2168)

Reviewing Official: _____
Name/Organization

Date: _____

Guidance Used: _____

OFFICIAL USE ONLY

May be exempt from public release under the Freedom of
Information Act (5 U.S.C. 552), exemption number and
category: 4 (commercial/proprietary) & 7 (law
enforcement/security)

Department of Energy review required before public release

Name/Org: _____/MOX Services Date: _____

~~—MAY CONTAIN UNCLASSIFIED OR PROPRIETARY INFORMATION—~~
~~—Withhold in accordance with 10 C.F.R. 10 C.F.R. § 2.390—~~
~~—MAY CONTAIN UCNI—~~

I. INTRODUCTION

As permitted by the Atomic Safety and Licensing Board (“ASLB”) in its teleconference of May 9, 2013, Intervenors hereby propose questions for the ASLB to ask of MOX Services. These questions relate to Shaw Areva MOX Services, LLC Reply to Intervenors’ April 19, 2013 Response to MOX Services and NRC Staff Submittals (May 3, 2013) (“MOX Services Reply”); Shaw Areva MOX Services, LLC’s Pre-Filed Reply Testimony in Response to Board’s June 29, 2012 Memorandum and Order (May 3, 2013) (“MOX Services’ Reply Testimony”); Shaw Areva MOX Services’ Revised Prefiled Direct Testimony on Contentions 9-11 (Mar. 1, 2012) (“MOX Services’ Revised Direct Testimony”); and MOX Services’ Revised Fundamental Nuclear Material Control Plan (2010) (“Revised FNMCP”).

III. PROPOSED QUESTIONS

1. Cyber attack currently is viewed as a major security threat to the U.S. critical infrastructure. NRC recognizes that “Cyber threats to NRC licensees are dynamic and multi-dimensional due to the continuously evolving capabilities of potential adversaries and emerging technologies.” SECY-12-088, Memorandum to the Commissioners from James T. Wiggins, Director, Office of Nuclear Security and Incident Response, re: the Nuclear Regulatory Commission Cyber Security Roadmap (June 25, 2012). However, the NRC has not yet developed regulations addressing cyber security at fuel cycle facilities. The staff has developed a cyber security roadmap that proposes initiating a rulemaking for cyber security at fuel cycle facilities, but has not yet even developed a timetable for the rulemaking. *Id.*

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~~—Withhold in accordance with 10 C.F.R. 10 C.F.R. § 2.390~~
~~—MAY CONTAIN UCNI—~~

The proposed approach of MOX Services for meeting NRC's item monitoring and alleged theft regulations depends on the reliability of computer data and the integrity of computer systems to a much greater extent than the conventional approach that utilizes physical retrieval and inspection of items. *See, e.g.*, MOX Services' Reply Testimony at 2-3. However, because of the NRC's current lack of cyber security regulations governing these systems, the NRC has no standards by which it can judge whether the cyber security controls proposed by MOX Services are adequate to enable the MFFF to comply with NRC's MC&A regulations.

Questions for MOX Services:

Under these circumstances, why should the NRC approve an MC&A approach that would be more vulnerable to compromise through cyber attack than the conventional approach as required by the regulations?

What standards could the NRC use to approve, inspect and enforce MOX Services' proposed cyber security controls?

2. In its Reply, MOX Services states that it "has not proposed using its MMIS or PLCs to confirm item integrity in satisfaction of Section 74.55(b)(1) item monitoring requirements." *Id.* at 13. Yet, the revised FNMCP's provisions for "the control of seals and seal records" state that the "records of seal receipt, issuance, use, disposal, etc. are maintained in electronic media as part of the MMIS." Revised FNMCP, § 2.4.2.3. Presumably, the seals described § 2.4.2.3 include seals that would be used to secure the containment boundaries that are described in MOX Service' Revised Direct Testimony at 53. MOX Services also states that seal identity will be verified daily. *Id.* at 54.

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~~—MAY CONTAIN UCN—~~

Question for MOX Services:

Given the role of the MMIS in recording data about the seals, how do you verify seal identity without relying on the MMIS?

3. In MOX Services' May 3, 2013 Reply to Intervenor, it states that "an item monitoring approach must be accurate, just not to any quantified degree." Reply at 6.

Question for MOX Services:

Where assessment of data is involved, does the concept of "accuracy" have any meaning without defining the quantitative degree of accuracy?

4. MOX Services asserts that the Intervenor is incorrect in stating that MOX Services' commitment to "verify the presence of all Pu in item form in vault storage within 72 hours" may necessitate a check of item integrity as well as item presence, because Contention 11 is limited only to "verification of the *presence* of plutonium in *item form*." Reply at 29.

Question for MOX Services;

Doesn't verification of the "presence" of plutonium "in item form," as opposed to verification of "the presence of plutonium items," require verification of item integrity?

Is it not correct that if the integrity of an item has been breached, then the total amount of plutonium expected to be "present" within the item may in fact not be "present" within the item?

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~~—MAY CONTAIN UCN—~~

5. Question for MOX Services:

Please explain exactly what the 3% defect rate at page 16 of your Reply Testimony and what that means in a practical sense. For example, is it possible that up to 3% of the items (with 99% confidence) would not be in the place where your computer system tells you it is? Is it also possible that this is not just a matter of an item being a few inches to one side or another of its proper location (see page 13), but in an entirely different location?

Respectfully submitted,



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May 15, 2013

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
ATOMIC SAFETY AND LICENSING BOARD**

In the Matter of)	
)	
Shaw AREVA MOX Services	)	Docket No. 70-3098-MLA
)	
(Mixed Oxide Fuel Fabrication Facility	)	ASLBP No. 07-856-02-MLA-BD01
Possession and Use License))	
)	

CERTIFICATE OF SERVICE

I certify that on May 15, 2013, copies of Intervenor's Proposed Questions for Supplemental Hearing were served on the following parties by hand and in compliance with the Protective Order governing this case:

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)	
)	
Shaw AREVA MOX Services, LLC	)	Docket No. 70-3098-MLA
)	
(Mixed Oxide Fuel Fabrication Facility)	
Possession and Use License))	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing **ORDER (Publicly Releasing Proposed Questions for Evidentiary Hearings on Contentions 9, 10, and 11)** have been served upon the following persons by U.S. mail, first class, or through NRC internal distribution.

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Docket No. 70-3098-MLA

ORDER (Publicly Releasing Proposed Questions for Evidentiary Hearings on Contentions 9, 10, and 11)

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[Original signed by Brian Newell]

Office of the Secretary of the Commission

Dated at Rockville, Maryland,
this 28th day of August, 2014