

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

In the Matter of

SHAW AREVA MOX SERVICES

(Mixed Oxide Fuel Fabrication Facility)

Docket No. 70-3098-MLA

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

April 19, 2013

**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**

This document has been determined to be uncontrolled.
Counsel for the Applicant represented at the
May 21, 2013 Evidentiary Hearing that the proper officials
have determined that this document is uncontrolled.
(See May 21st Hearing Transcript (ML13149A528)
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I. INTRODUCTION

As provided in the Atomic Safety and Licensing Board's ("ASLB's") Memorandum and Order (Requesting Further Information from the Applicant) (June 29, 2012) ("6/29/12 Memorandum and Order"); the ASLB's Orders of July 16 2012, July 27, 2012, and February 21, 2013, Blue Ridge Environmental Defense League, Nuclear Watch South, and Nuclear Information and Resource Service ("Intervenors") hereby respond to Shaw Areva MOX Services LLC Supplemental Statement of Position on Contentions 9 and 11 and Response to Surreply (Oct. 15, 2012) ("MOX Services' Supplemental Statement"), as clarified in Shaw Areva MOX Services LLC's Clarification of Supplemental Statement of Position on Contentions 9, 10, and 11 (Dec. 5, 2012) ("MOX Services' Clarification"). Intervenors also address Shaw Areva MOX Services, LLC's Pre-filed Direct Testimony in Response to Board's June 29, 2012 Memorandum and Order (Oct. 15, 2012) (Exh. APP000037), as amended in Shaw Areva MOX Services, LLC's Revised Pre-filed Direct Testimony in Response to Board's June 29, 2012 Memorandum and Order (Dec. 5, 2012) (APPR000037) ("MOX Services' Revised Testimony").

In addition, Intervenors reply to NRC Staff's Response to Applicant's Supplemental Statement of Position on Contentions 9, 10, and 11 and Response to Surreply (Jan. 16, 2013) ("NRC Staff's Response") and NRC Staff's Prefiled Supplemental Testimony of Tom Pham Concerning Contentions 9 and 11 (Jan. 16, 2013) ("Pham Supp. Testimony").

As previously set forth in Intervenors' testimony and proposed findings, MOX Services has completely failed to satisfy its burden of demonstrating compliance with the requirements of 10 C.F.R. §§ 74.51, 74.55(b)(1), 74.57(b), and 74.57(e). MOX Services' inability to satisfy the regulations can be traced to a fundamental and insurmountable design problem: the proposed

MOX Fuel Fabrication Facility is based on a French design that was never intended to meet, and is unable to meet, the physical verification requirements of U.S. NRC material control and accounting (“MC&A”) regulations with regard to item monitoring, alarm resolution, and assessment of alleged thefts.

In this proceeding, MOX Services argues that computer programs that were designed to keep track of the factory’s inventory for management purposes can be relied on as a substitute for the physical retrieval and inspection activities necessary for verification of the presence and integrity of strategic special nuclear material (“SSNM”) items as mandated by NRC’s MC&A requirements. In the supplemental arguments and evidence presented by MOX Services in response to the ASLB’s 6/29/12 Memorandum and Order, MOX Services also offers a procedure that purportedly will verify the accuracy of the computer programs. But MOX Services asserts that there are no requirements that such a standard must meet, and consequently it has not attempted to demonstrate that its procedure will guarantee that these programs are accurate enough to assure compliance with the quantitative standards for item monitoring that are specified in the regulations.

MOX Services also argues that there are no quantitative standards for compliance with NRC’s requirement that it establish a capability for rapid assessment of the validity of alleged thefts. Therefore, it has backed away from the commitment it made in the Fundamental Nuclear Material Control Plan (“FNMCP”) and during the March 2012 hearing to resolve alleged thefts within the quantitative timeliness prescribed in NUREG-1280. MOX Services now argues that NUREG-1280’s quantitative guidelines for timely detection of alleged thefts apply only to updating records systems and not actual physical location of items. But this legal argument is

based on an illogical and incomplete reading of the guidance. Thus, in responding to the ASLB's questions, MOX Services has weakened its MC&A program instead of providing new evidence of its strength.

For its part, the NRC Staff once again presents only generalizations and conclusory statements, and completely fails to provide any detailed analysis of its reasons for asserting that the supplemental information provided by MOX Services supports a finding of regulatory compliance and issuance of a license. Given the Staff's lack of explanation for its position, its conclusions must be disregarded.

II. DISCUSSION

A. MOX Services' Response to ASLB Questions on Contention 9

1. Background

As discussed in the ASLB's 6/29/12 Memorandum and Order, in its initial testimony, MOX Services claims that it can verify the presence of SSNM items by comparing the data generated by its computerized Manufacturing Management Information System ("MMIS") with the data generated by its Programmable Logic Controllers ("PLCs"). *Id.*, slip op. at 8-9. In making this assertion, MOX Services also takes credit for "robust physical protection features." *Id.*, slip op. at 9.

In lieu of verifying the integrity of items, MOX Services proposes to define a new concept called the "containment boundary" and to periodically inspect that boundary to confirm that it has not been breached. *Id.* It also variously proposes to confirm the integrity of the seal for a container containing more than one SSNM item, or to confirm the integrity of the seal for an entire storage location, depending on the nature of the items and storage areas in question. *Id.*

To effectively execute and interpret all of these confirmation steps, MOX Services may need to rely on the MMIS and PLCs.

Despite its reliance on these computer programs in its proposed approach to complying with the NRC's item monitoring regulations, however, MOX Services' initial testimony did not present any means of verifying the accuracy of the data generated by the computer programs.

In its 6/29/12 Order, the ASLB asked MOX Services to provide:

a document, accompanied by supporting testimony and evidence, setting forth the approach to and criteria underlying its planned process for verifying the accuracy of the data generated by the PLCs and MMIS throughout the life of the MOX Facility. The Applicant may provide an amendment to the 2010 FNMCP [Fundamental Nuclear Material Control Plan], or a similarly consequential document of its choosing. In any event, this document must be easily identifiable and enforceable by future inspectors if the MOX Facility is indeed granted a possession-and-use license.

Id., slip op. at 12.

In response to the ASLB's request, MOX Services presents "a specific implementing procedure" that it purports to satisfy the ASLB's concerns. MOX Services' Supplemental Statement at 7. Before embarking on a discussion of the merits of the procedure, however, MOX Services makes four legal arguments that the procedure is not required. *Id.* None of these arguments has merit.

2. Legal arguments

a. Argument that procedures are not required in hearing

First, MOX Services argues that there is no regulatory requirement to develop implementing procedures at the licensing stage for the MOX Facility, and that MOX Services may wait until the "pre-operational" stage to submit them for Staff approval. *Id.* at 8. MOX Services is correct that the NRC's MC&A regulations do not require the submission of

implementing procedures as part of a license application. As MOX Services acknowledges, however, the ASLB did not insist on the submission of implementing procedures. Rather, the ASLB asked MOX Services to provide a document -- of MOX Services' own "choosing" -- "setting forth the approach to and criteria underlying its planned process for verifying the accuracy of the data generated by the PLCs and MMIS throughout the life of the MOX Facility." *Id.*, slip op. at 12. MOX Services, not the ASLB, chose to satisfy the ASLB's request by submitting implementing procedures.

There can be no doubt that the "approach to and criteria underlying [MOX Services'] planned process for verifying the accuracy of the data generated by the PLCs and MMIS" are material to the NRC's determination of whether MOX Services satisfies 10 C.F.R. § 74.55(b)'s requirement to "verify on a statistical sampling basis, the presence and integrity of SSNM items," for the simple reason that MOX Services' interpretation of § 74.55(b) strays so far from the plain language of the regulations. As discussed in ¶ 4.20 of Intervenors' Proposed Findings, it is implicit in the applicant's approach that the data in the computer systems is a 100% accurate representation of the presence of items stored in the MOX Facility. That is an astounding level of accuracy that should be supported by something more than a naked claim. By proposing to substitute checks on computer data for the physical verification of the actual presence and integrity of containers that is plainly contemplated by § 74.55(b), MOX services begs the question of how it can avoid the uncertainty that is inherent in failing to inspect actual containers. This is not a "minor procedural or verification question[]" that can be deferred to post-hearing resolution. *Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-96-8, 44 NRC 107 (1996) (citing *Consolidated Edison Co. of New York* (Indian Point, Unit 20,

CLI-74-23, 7 AEC 947, 951-52 (1974); *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-836, 23 NRC 479, 494 (1986)). The “posthearing approach should be employed sparingly and only in clear cases.” *Id.* (quoting *Consolidated Edison*, 7 AEC at 952).

With respect to contested issues, MOX Services’ license application must stand or fall on the documents that are submitted in the hearing. *Louisiana Energy Services*, 44 NRC at 109. By stating that the information supplied by MOX Services to date is insufficient to permit a decision on the adequacy of its license application (*see* Memorandum and Order (Granting Intervenors’ Motion for Extension of Time to Respond to Post-Hearing Information) at 7 (Feb. 21, 2013)), the ASLB implies that the application may indeed fall if it is not adequately supplemented. As discussed below, Intervenors do not believe the additional information submitted by MOX Services, in the form of implementing procedures, is sufficient to overcome the fundamental deficiencies of MOX Services’ operating license application. Nevertheless, to the extent that MOX Services’ implementing procedures are relevant in more than a minor way to the question of whether MOX Services’ operating license application satisfies NRC’s MC&A requirements, they are reviewable by the ASLB.

b. Argument that MMIS and PLCs are irrelevant to item integrity

Next, MOX Services argues that it uses the MMIS and PLCs only to verify item presence and not integrity. Supplemental Statement at 9. According to MOX Services, MMIS and PLC data “are not necessary components of the integrity verification activities.” *Id.* at 10. Therefore, MOX Services argues, “questions regarding the accuracy of MMIS and PLC data have no bearing on MOX Services’ integrity verification approach.” *Id.* at 11.

In making this argument, MOX Services attempts to sidestep the integral relationship between item presence verification and item integrity verification in the NRC's regulations. As discussed in Intervenors' Proposed Findings of Fact and Conclusions of Law, the regulations contemplate that licensees will have direct access to items to verify *both* their presence and integrity through random selection and physical inspection of items. *Id.*, ¶¶ 4.10 and 4.11. An applicant must demonstrate the same capability to statistically sample and physically inspect items to verify their integrity as it does to verify their presence. *Id.*, ¶ 4.29. MOX Services effectively abandons any attempt to comply with the regulations and substitutes unorthodox and noncompliant measures that do not involve physical inspection or sampling of items and therefore cannot be integrated.

c. Argument re lack of requirement to verify accuracy of item monitoring "approach"

Offering a radically and self-servingly abbreviated paraphrasing of 10 C.F.R. § 74.55(b)(1), MOX Services argues that the regulation requires an applicant to demonstrate that it "can detect the loss of 5 formula kilograms of SSNM in item form in 30 days for Category IA items and 60 days for Category IB items." *Id.* at 10. MOX Services correctly argues that this language "does not call for a system to verify the accuracy of a licensee's item monitoring approach, and none is required to meet the rule." Supplemental Statement at 10.

But the regulation contains other requirements that MOX Services conveniently omits from its paraphrase. The regulation in its entirety requires that the applicant must verify the presence and integrity of the items on a statistical sampling basis that achieves a prescribed power of

detection within a prescribed period of time.¹ MOX Services has yet to demonstrate that it meets this standard. Nor does MOX Services explain how the “particular elements of MOX Services’ chosen system for item presence verification” – *i.e.*, “a high degree of automation, limited human intervention, and robust reliability and protection features – amount to anything more than substitutes for compliance with the plain language of the regulations.

Fundamentally, the approach offered by MOX Services does not provide a means for compliance with the NRC’s MC&A regulations, but is in fact an alternative to compliance, which would require an exemption. MOX Services may well be capable of meeting the standard for an exemption from the NRC’s MC&A regulations. But in this proceeding, MOX Services does not seek an exemption. Instead, it claims to satisfy the regulations with substitute measures that plainly fail to address the regulations, let alone satisfy them. MOX Services’ argument only serves to illustrate the absurdity of claiming that a computer system that only approximates the location of items to an unknown degree, and cannot verify their integrity at all, could satisfy a regulation that requires actual verification of presence and integrity of items by using a statistical sampling plan with specified performance parameters.

¹ The full text of 10 C.F.R. § 74.55(b)(1) provides that:

The licensee shall verify on a statistical sampling basis, the presence and integrity of SSNM items. The statistical sampling plan must have at least 99 percent power of detecting item losses that total five formula kilograms or more, plant-wide within:

- (1) Thirty calendar days for Category 1A items and 60 calendar days for Category 1B items contained in a vault or in a permanently controlled access area isolated from the rest of the material access area (MAA).

d. Argument re lack of requirements for MMIS and PLCs

In its final legal argument, MOX Services contends that “[b]ecause NRC regulations do not require a system to verify the accuracy of the MMIS and PLC data, they also do not contain a quantitative standard by which MOX Services’ commitment must be judged.” Supplemental Statement at 11. Therefore, according to MOX Services, “[w]hile MOX Services has adopted an approach that includes a quantitative element, the ultimate test must be a common sense reasonable assurance or adequacy standard.” *Id.*

MOX Services is simply incorrect that NRC regulations lack a quantitative standard applicable to MOX Services. Section 74.55(b)(1) contains a very explicit quantitative standard for the item monitoring that must be conducted by MOX Services.²

Therefore, contrary to MOX Services’ argument, this is not a matter of the “level of confidence” needed to approve the application, *see AmerGen Energy Co., LLC* (License Renewal for Oyster Creek Nuclear Generating Station), CLI-09-7, 69 NRC 235, 262-63 (2009); nor is it a question of giving “context” to the adequate protection standard, *see Union of Concerned Scientists v. NRC*, 880 F.2d 552, 558 (D.C. Cir. 1989) (cited in Supplemental Statement at 12). Instead, it is a question of whether an apple can be substituted for an orange or whether a square peg fits into a round hole.

By presenting a virtual model -- computer tracking -- as a substitute for the actual physical verification of item presence and integrity, MOX Services is defying the regulations. This constitutes grounds for denying the license application, not for deferring the review to the

² Not surprisingly, § 74.55(b)(1) does not contain a quantitative standard for MOX Services’ computer system as a substitute for item monitoring, because substitution of a computer system for item monitoring was never contemplated by the regulations.

Staff. The only viable route by which MOX Services could seek approval of its operating license application would be to apply for an exemption from the regulations (an option that MOX Services tried in 2009 and then abandoned in 2010) or to petition the NRC to revise the regulations. But no amount of rationalizing can alter the fact that the computerized system proposed by MOX Services for tracking items lacks the capacity to verify their presence and integrity as required by the rule.

2. Factual arguments

Setting aside its legal arguments, MOX Services describes “five different methods” that purportedly verify the accuracy of MMIS and PLC data: control over the development and life cycle of the software; preoperational in-plant testing of the data systems; daily verification of operational MMIS and PLC software against the approved software configuration; daily comparison of MMIS data against PLC data; and physical retrieval of individual items, reading of unique item identifiers, and confirmation that the as-read identity and location of items corresponds to identity and location information retained by PLCs. *Id.* at 13. In addition, MOX Services has modified the FNMCP to commit MOX Services to “taking actions to ensure and verify the accuracy of item identity and location data provided by the MMIS and PLCs.”

In support of its argument, MOX Services attaches the testimony of its expert witnesses. But this testimony does not avail MOX Services, because none of the experts claim that MOX Services will satisfy the requirement of 10 C.F.R. § 74.55(b) for a statistical sampling plan that verifies the presence and integrity of SSNM with at least 99 percent power of detecting item losses that total five formula kilograms or more, plant-wide within 30 calendar days for Category 1A items and 60 calendar days for Category 1B items contained in a vault or in a permanently

controlled access area isolated from the rest of the material access area (MAA). Instead, MOX Services all but concedes that it can't or won't meet the standard. According to MOX Services, on a monthly basis "[t]he number of item verifications conducted will be comparable to that required to detect a 3% defect rate at a 99% confidence level." Supplemental Statement at 14. *See also* Revised Testimony at 14-17.³ However, MOX Services has not shown how such a sampling plan would validate the MMIS and PLC data to the extent necessary to demonstrate compliance with 10 C.F.R. § 74.55(b).

It is unclear how MOX Services' proposed system would be consistent with the NRC's requirement to be able to detect the loss of 5 formula kilograms of Category 1A SSNM within 30 days. Under the standard proposed by MOX Services, for example, in the DCM vault containing the maximum of 1728 3013 cans holding up to 4.4 kilograms each of plutonium, the system proposed by MOX Services would tolerate, each month, the presence in the wrong place of up to 52 cans, holding more than 200 kilograms or 100 formula quantities of plutonium. It is hard to see how that level of error could provide the level of assurance required by the regulations.⁴ Not only is the standard to which MOX Services has pegged its program inconsistent with the NRC's regulations in the extreme, but it has appalling implications for the security of plutonium at the MOX Facility.

³ The sources of MOX Services' alternative standard are "DOE Standard 1194-2011 (in conjunction with DOE Order 474.2), DOE Manual 470.4-6c-1, and DOE manual 474.1-1B. Revised Testimony at 15. But this proceeding concerns compliance with NRC regulations, not DOE guidance. To Intervenor's knowledge, DOE does not have a quantitative performance standard for item monitoring comparable to 10 CFR 74.55(b), and MOX Services does not cite one. Therefore, the sampling parameters in the DOE standard were intended to support a program with different objectives than NRC's requirements and have limited relevance, at best.

Given MOX Services' failure to even assert that it can detect SSNM losses with the level of confidence required by NRC regulations, and given the disturbing implications of the low standard it has set for itself, the ASLB has no basis for concluding that MOX Services has supplemented its license application in a manner that is sufficient to justify issuance of an operating license.

Other aspects of MOX Services' supplemental information further illustrate the extreme degree to which it fails to satisfy the NRC's MC&A regulations. For instance, MOX Services witness Gary Bell asserts that "[t]o verify the accuracy of the MMIS and PLC data, MOX Services will . . . ensure that the software that manages the data is the current approved software and that the software has not been changed in an unauthorized fashion." Revised Testimony at 11. According to Mr. Bell, MOX Services will use a special software program to make sure the software used for the PLC and MMIS software has not been changed in an unauthorized fashion. *Id.* at 12. But Mr. Bell's testimony begs the question: if the special software program has been tampered with, how will MOX Services know? Using one vulnerable software program to verify that another has not been tampered would be the equivalent of looking for an accurate reflection in a funhouse hall of mirrors.

In addition, MOX Services proposes to control the development and life cycle of the software used in the MMIS and PLC data systems "in accordance with stringent Quality assurance (QA) standards, based on ASME NQA-1." Supplemental Statement at 13. Similarly, MOX Services states that preoperational, in-plant testing of the data systems will be conducted in accordance with stringent QA standards, based on ASME NQA-1. But MOX Services has testified that the PLC and MMIS were not developed for safety, security or MC&A purposes;

rather they were developed for purposes of managing the MOX Facility inventory. Thus, the relationship between the ASME NQA-1 standard and the standard necessary for validating use of those programs for compliance with MC&A regulations is unclear. Accordingly, MOX Services lacks a legal basis for asserting that compliance with ASME NQA-1 standards is sufficient for the application it proposes.

B. MOX Services' Response to ASLB Question on Contention 11

NRC regulation 10 C.F.R. § 74.57(e) requires a license applicant to “provide an ability to rapidly assess the validity of all alleged thefts.” In NUREG-1280, the Staff defines rapid assessment as locating on demand any specific tamper-safed or encapsulated item or an unencapsulated item stored in a vault equivalent to tamper-safing within 8 hours, and verifying the presence of all items in a vault within 72 hours. NUREG-1280 at 49. MOX Services has stated that it intends to rely on the MMIS and PLC computer systems to fulfill these requirements.

In its 6/29/12 Memorandum and Order, the ASLB expressed concern about MOX Services' reliance on the MMIS and PLCs, “considering that the allegation that generates an alarm may well include an assertion that an external entity compromised the MMIS and PLC systems remotely and maliciously changed their respective data.” *Id.*, slip op. at 14. Therefore it requested MOX Services to provide:

a contingency plan, along with supporting testimony and evidence, for assessing within the 8 and 72 hour timeframes to which Applicant has committed, an external alarm that includes an assertion that an external entity compromised the MMIS and PLC systems remotely and maliciously changed their respective data.

Id., slip op. at 15.

In response to the Board's request, MOX Services denies that the regulations require it to locate one item within 8 hours and all items within 72 hours. Supplemental Statement at 19. In any event, MOX Services claims that its program – which commits only to using the record system to confirm the location of items -- is consistent with the regulatory guidance.

MOX Services claims to comply with NRC guidance, but has seriously misread the plain language of the standard. As MOX Services characterizes the guidance, it recommends that licensees demonstrate:

That the records of the identity and location of every item can be updated with sufficient speed to support the commitment[] that any randomly selected item within a vault can be located within 8 hours The capability also exists to locate all items within a vault within 72 hours

Id. (citing NUREG-1280, § 3.3.1). But MOX Services is only quoting from a portion of § 3.3.1, the Acceptance Criteria. MOX Services asserts that it does not need to separately comply with the Affirmation portion of § 3.3.1.

In the “Acceptance Criteria” for § 3.3.1, recordkeeping is used to “support” the applicant’s “commitment[] that any randomly selected item within a vault can be located within 8 hours” and that all items can be located within 72 hours. The Acceptance Criteria are given context in the “Affirmations” section of § 3.3.1:

A contingency capability is maintained to locate on demand any specific tamper-safed or encapsulated item or an unencapsulated item stored in a vault equivalent to tamper-safing within 8 hours, and to verify the presence of all items in a vault within 72 hours.

Notably, the Affirmations section does not have language regarding record-keeping.

MOX Services has watered down its commitment in a way that doesn't make sense. The commitment to establish the contingency capability as described in the Affirmations section

necessitates more than merely updating the records system. MOX Services says licensees cannot determine what is missing unless they know what material they expect to have on hand.

Supplemental Statement at 20. Likewise, however, simply knowing what material licensees expects to have on hand is of little use in assessing the validity of alleged thefts unless licensees are also able to confirm that they *actually* have what they *expect* to have. If one's house is burglarized, in order to figure out what was stolen the police not only need to know what one owns, but also what can't be located. MOX Services, by claiming that its commitment "is essentially all about a licensee's records system," (Supplemental Statement at 21), leaves out that crucial step, and thereby is inconsistent with the guidance. Such disregard for the NRC's guidance is only permitted if the applicant offers an acceptable alternative for satisfying the regulation can a license applicant avoid compliance with the Staff's guidance. *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 & 2), ALAB-644, 13 NRC 903, 937 (1981). MOX Services may not reject the guidance of NUREG-1280 without providing a reasonable justification.

Finally, in response to the Board's request for information as to how it would assess an alleged theft that includes an assertion that MMIS and PLC data are compromised, MOX presents four specific sets of actions. MOX Services admits, however, that these actions could only be completed "within a matter of days," and in one case, "in several days." Revised Testimony at 51, 47. "Several" days is a much longer time period than 8 hours and could even be longer than 72 hours. Thus MOX Services likely would be unable to meet even its revised, watered down commitment to update its records system in time to rapidly assess the validity of

an alleged theft, should that allegation also contain a claim that the records system itself has been compromised.

MOX Services attempts to justify this additional retreat by alleging that it is not required to meet any quantitative timelines at all, stating that “asking MOX Services to assess an alleged theft within 8 or 72 hours is simply beyond the scope of MOX Services’ commitment, NUREG-1280’s recommendation, and the regulation’s requirement.” Revised Testimony at 29.

Intervenors frankly are astonished by MOX Services’ attempt to nullify its past commitments at this stage in the licensing proceeding.

In summary, MOX Services has backed away from its original commitment in the FNMCP to locate items within set timelines, contending that all it has to do is update the records within those timelines. Yet MOX Services then admits that it could take several days to update the records if there were an allegation that the records were compromised. So even after eviscerating the standard, MOX Services cannot meet it. And as a final trapdoor, MOX Services denies having to meet any quantitative standard at all. Intervenors submit that these developments have further undermined MOX Services’ claim that it is capable of rapidly assessing the validity of alleged thefts in accordance with NRC’s requirements.

C. Response to MOX Services Regarding Intervenors’ Surreply

On May 25, 2012, Intervenors submitted a surreply to two incorrect statements made by MOX Services in its Proposed Findings of Fact and Conclusions of Law. These statements are relevant to the alarm resolution issues raised in Contentions 10 and 11. MOX Services disputes Intervenors’ assertions in its Supplemental Statement at pages 26-30.

The first incorrect statement appears in footnote 133 on page 30 of MOX Services' Proposed Findings, where MOX Services states that it has "not represented – in testimony or in legal statements of position – any intention of conducting a physical inventory or measuring items as part of alarm resolution." Intervenors asserted that this statement was inconsistent with representations made in Sections 3.1.3, 3.1.4.2, and 3.1.4.3 of the FNMCP.

MOX Services first contends that Sections 3.1.3, 3.1.4.2, and 3.1.4.3 of the FNMCP do not refer to "physical inventories," and therefore there is no inconsistency between the FNMCP and MOX Services' proposed findings on that score. But item inventory is a subset of a physical inventory. Item inventory is functionally equivalent to physical inventory of items if item integrity is maintained as MOX Services alleges, because there would be no question that the documented quantity of material within a particular item is the correct quantity, and the "piece count" of a particular set of items would be directly related to the total SSNM content within those items.

With respect to item measurement, the FNMCP also makes commitments that are repudiated in the proposed findings. For instance, Section 3.1.3 refers to the procedures in Section 3.1.4.2 "for the remeasurement of a compromised item" that are "normally completed within two working days." Similarly, Section 3.1.4.2 states that "[w]hen a tamper-safed item is found to have been compromised, a remeasurement of the item contents is initiated." These statements are inconsistent with the assertion in MOX Services' Reply Proposed Findings that it has not represented "any intention" of "measuring items as part of alarm resolution."⁵ Section

⁵ Intervenors do not dispute MOX Services' assertion that FNMCP § 3.1.4.1 is not relevant because it relates to processing rather than storage.

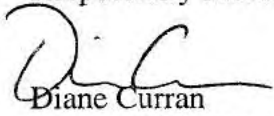
3.1.4.3 states that when process storage has been determined as compromised, among other things, MC&A personnel will review MMIS records and operations records for discrepancies and that “[i]tem count and weighing of containers may be required.” MOX Services contends that item count and weighing does not equate to measuring items for MC&A purposes. Supplemental Statement at 31. However, MOX Services has not explained what additional measures would be employed for measuring items during, for example, a periodic physical inventory. The FNMCP only states that “MC&A procedures are in place that include “inventory procedures for sealed sources and containers, or vaults containing SSNM that assure reliable identification and quantification of contained SSNM ...” 2010 FNMCP, Section 4.5 at 269.

MOX Services’ second incorrect statement appears in ¶ 3.67 on page 35 and note 164 of its Reply Proposed Findings, where MOX Services implicitly asserts, for the first time, that NRC regulations addressing theft of SSNM are concerned only with theft of entire containers of SSNM and not with theft of SSNM *from* containers. This interpretation is inconsistent with the language of 10 C.F.R. § 74.57(e), which broadly requires licensees to “provide an ability to rapidly assess the validity of alleged thefts.” In its Supplemental Statement, MOX Services has conceded that it made an error in stating in its Reply Findings that “verification of item integrity is not a component of 10 C.F.R. § 74.57(e) ...”. However, it maintains that “verification of item integrity” is not a component of the contention at issue (i.e. Contention 11). However, this is also incorrect. Contention 11 addresses the ability of MOX Services to meet its commitment to rapidly assess the validity of alleged thefts” by, inter alia, “verifying the presence of all Pu in item form in vault storage within 72 hours.” Since this commitment refers to the presence of plutonium and not simply the presence of items, the need to verify integrity of items is implicit.

III. CONCLUSION

For the foregoing reasons, the ASLB should find for the Intervenors on Contentions 9 10, and 11 and reject MOX Services' operating license application.

Respectfully submitted,



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April 19, 2013

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

In the Matter of)
)

Shaw AREVA MOX Services)
)

(Mixed Oxide Fuel Fabrication Facility)
Possession and Use License))

Docket No. 70-3098-MLA

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

CERTIFICATE OF SERVICE

I certify that on April 19 and April 22, 2013, copies of 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 were served on the following parties in compliance with the Protective Order governing this case:

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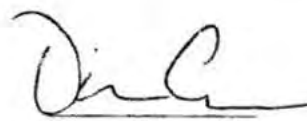
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