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URENCO

LES-12-00105-NRC

ATTN: Document Control
Director
Office of Nuclear Material Safety and Safeguards
U.S Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Louisiana Energy Services, LLC
NRC Docket No. 70-3103

Subject: Response to Request for Additional Information on LAR-12-02

Reference: 1. Letter from B. Smith (NRC) to Z. Rad (LES), Request for Additional Information, URENCO USA/Louisiana Energy Services, LLC, Fundamental Nuclear Material Control Plan, Revision 14 (TAC No. L34149), dated June 20, 2012
2. LES-12-00036, Revised Fundamental Nuclear Material Control Plan Update, Revision 14; and License Amendment Request (LAR-12-02), dated March 12, 2012
3. Letter from P. Habighorst (NRC) to J. Laughlin (LES), U.S. Nuclear Regulatory Commission Inspection Report No. 70-3103/2011-204 and Notice of Violation, dated December 15, 2011

Pursuant to the Ref. 1 Request for Additional Information (RAI) on the LAR-12-02 portion of the Ref. 2 submittal, Louisiana Energy Services, LLC (dba "UUSA") herewith provides the enclosed response (see Enclosure). In regard to this response, the following points provide evidence that supports the adequacy of UUSA Safeguards Staff to maintain current knowledge of all Special Nuclear Material (SNM) items onsite on a real time basis:

- 1) UUSA has successfully implemented a site-wide automated material tracking system (SAP) that provides real time material tracking; and
- 2) During the recent annual inspection at the UUSA Facility, NRC Inspectors spent considerable time reviewing the Ref. 3 Notice of Violation (NOV) on Item Monitoring and related item monitoring activities; and were provided a detailed brief and status of SAP implementation and the associated benefits of real time tracking by UUSA. As a result, the Inspectors indicated they were going to recommend closure of the NOV to NRC management.

It should be noted that the information provided in Attachment 1 to the Enclosure is proprietary. Accordingly, UUSA requests that this information be withheld under 10 CFR 2.390.

Should there be any questions concerning this submittal, please contact Perry D. Robinson, VP of Regulatory Affairs & General Counsel, at 575.394.6598.

Respectfully,



Russell Williams for
Jay Laughlin
Chief Nuclear Officer and Head Technical Services

Enclosure: UUSA Response to NRC Request for Additional Information (RAI) on LAR-12-02

NM5501

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ENCLOSURE

UUSA Response to NRC Request for Additional Information (RAI) on LAR-12-02

NRC RAI 1: (a) Provide a listing of immobile (non-moving) special nuclear material (SNM) items and mobile (moving) SNM items, and (b) describe the applicable frequency used to verify the presence and integrity of these item classifications.

UUSA Response 1(a):

A current listing (effective date 6/26/12) of immobile items (defined as requiring multiple persons and equipment to move) for Source Material (natural and depleted Uranium) and Special Nuclear Material (SNM) (low enriched Uranium) items and mobile (defined as hand portable) SM and SNM items is presented in Attachment 1 as follows:

Attachment 1A: Part 1, Source Material (SM) – Immobile

Attachment 1A: Part 2, Special Nuclear Material (SNM) – Immobile

Attachment 1B: Part 1, Source Material (SM) – Mobile

Attachment 1B: Part 2, Special Nuclear Material (SNM) - Mobile

UUSA Response 1(b):

All items (immobile and mobile) are currently verified monthly.

NRC RAI 2: In order to evaluate the consequences of your amendment request to reduce inspection frequency, please provide (a) information on how many times item monitoring has been performed and (b) how many (if any) discrepancies were found during each item monitoring activity. Also, provide (c) information concerning the approximate total number of items present at the site during each item monitoring check and (d) the approximate sample size used.

UUSA Response 2(a), 2(b) and 2(c):

Seven (7) occurrences of Monthly Item Monitoring of all Material Control Areas have been performed; and the information is tabulated below:

- The date of the start of action is given in Column A with the completion of the reconciliation in Column B.
- The number of missing items are indicated in Column E
- The number and type of discrepancies are in Columns F and G
- The number of items are given in Column D (if exclusions were made it is indicated in Column C)

Tabulation of Monthly Item Monitoring Results

A	B	C	D	E	F	G
Item Monitoring Date	Reconciliation Complete Date	Sampling Exclusions	Number of Items	Number of Missing Items	Discrepancies (ITAS incorrect paper work correct) (Resolved)	Discrepancies (moves without paperwork)
11/28/2011	12/2/2011	0	329	0	61	0
Note: 100% verification of items and records for immediate compliance						
12/21/2011	1/9/2012	45	354	0	17	0
Note: 45 Items were chosen randomly from feed and 45 were marked as excluded from item monitoring. Due to the nature of the verification process these 45 items were verified for 100%.						
01/31/2012	2/8/12	44	373	0	23	0
Note: 51 Items were chosen randomly from feed and 44 were marked as excluded from item monitoring (Some cylinders were selected for exclusion twice). Due to the nature of the verification process these items were verified for 100%.						
02/6/2012	2/15/2012	0	401	0	0	0
Note: Completed with annual inventory therefore 100%.						
03/16/2012	3/26/2012	53	423	0	29	12
Note: 55 Items were chosen randomly from feed and 53 were marked as excluded from item monitoring (Some cylinders were selected for exclusion twice). Due to the nature of the verification process these items were verified for 100%.						
CR-2012-786 was written to document the following paperwork discrepancies:						
<ul style="list-style-type: none"> • 11 - 1S cylinders found consolidated to one locker same location without documentation. • One Product Cylinder was moved to a new UX30 over-pack without documentation. 						
04/16/2012	5/9/2012	0	530	0	38	0
Note: No sampling was used, 100% verification.						
05/25/2012	6/20/2012	0	635	0	84	0
Note: No sampling was used, 100% verification.						

UUSA Response 2(d):

100% verification of product. Verification of feed and tails made based on: 1) the following equation;

$$n = N \left[1 - (0.10)^{\bar{x}/DQ} \right]$$

where: n = number of items to be verified

N = total number of items in stratum

\bar{x} = average mass of ^{235}U per item (kg)

DQ = Detection Quantity (kg ^{235}U)

and 2) the following specific criteria:

- Cylinder sampling assumed “N” was total number of items in the stratum (i.e., Tails, and Feed).
- The number of items to be sampled (n) was subtracted from the total (N) to determine the number of items excluded and that many random numbers were chosen to select items for exclusion (Table above, Column C).
- Source Material (natural - immobile feed cylinders) assumed an average ^{235}U mass of 59 kilograms and (depleted – immobile tails cylinders) with an average ^{235}U mass of 19 kilograms.
- Special Nuclear Material (low enriched – immobile product cylinders) assumed an average ^{235}U mass of 66 kilograms.
- Detection Quantities (DQs) are determined as follows:
 - DQ is defined in the FNMCP for Feed as 75kg ^{235}U
 - The DQ for LES is a site-specific quantity of ^{235}U and is a goal quantity. The loss or theft of this goal quantity must be detected with a 90% or greater power of detection whenever a physical inventory is taken.
 - NUREG/CR-5734 sets the maximum DQ at 1.3% of the annual quantity of ^{235}U introduced into the enrichment process, except when 1.3% results in a value less than 25 kg of ^{235}U . In this latter case, the DQ need not be less than 25 kg of ^{235}U .
 - Therefore, for LES, the DQ is determined as follows:
DQ = (0.013) (AE_{U235}) or 25 kg ^{235}U , whichever is greater

The above method allowed the same item to be selected more than once for exclusion, thereby ensuring that more than the required number of items are verified.