

AUG 03 2011

LES-11-00101-NRC

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

Louisiana Energy Services, LLC
NRC Docket Number: 70-3103

Subject: Reply to Notice of Violation 70-3103/2011-010

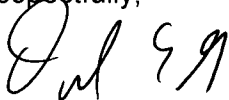
- Reference:
1. Letter from J. Calle (NRC) to D. Sexton (LES) NRC Inspection Report No. 70-3103/2011-010 and Notice of Violation, dated June 22, 2011
 2. Email from J. Calle (NRC) to J. Rollins (LES), Re: Extension Request for LES Reply to NOV 70-3103/2011-101, dated July 21, 2011
 3. LES-11-00100-NRC, Request for Exception to License Condition 10.f of Materials License SNM-2010, dated August 3, 2011

In response to the Ref. 1 NRC Notice of Violation (Notice), and consistent with the submittal schedule extension approved in Ref. 2, URENCO USA (UUSA) herewith provides the enclosed Reply (Enclosure). The Reply addresses Examples 1-3 of Violation A of the Notice as they relate to Section 21 (Quality Assurance Program for Quality Assurance Level-1 Graded (QL-1G)); Section 21.15 (Nonconforming Items); and Section 21.8 (Identification and Control Materials, Parts and Components) of the LES Quality Assurance Program Description (QAPD), respectively. Examples 1 and 3 of Violation A are further addressed in the Ref. 3 Exception request.

Pursuant to the provisions of 10 CFR 2.201(a) and the NRC's corresponding instructions specified in the Notice, the Enclosure addresses for each of the Examples of Violation A: 1) the reason for the violation; 2) the corrective steps that have been taken and the results achieved; 3) the corrective steps that will be taken; and 4) the date when full compliance will be achieved.

Should there be any questions regarding this submittal, please contact Perry Robinson, VP Regulatory Affairs, at 575.394.6598.

Respectfully,



David E. Sexton
Chief Nuclear Officer and Vice President of Operations

Enclosure: Reply to Notice of Violation 70-3103/2011-010

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LES-11-00100-NRC

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ENCLOSURE

REPLY TO NOTICE OF VIOLATION (NOTICE) 70-3103/2011-010

Restatement of Violation:

During a Nuclear Regulatory Commission (NRC) inspection conducted from April 25 through May 25, 2011, a violation of NRC requirements was identified.

In accordance with the NRC Enforcement Policy, the violation is listed below:

- A. Special Nuclear Material (SNM) License No. 2010 requires, in part, that the licensee shall conduct authorized activities at the Louisiana Enrichment Services, L.L.C. (LES) National Enrichment Facility (NEF) in accordance with statements, representations, and conditions in the approved Quality Assurance Program Description (QAPD), dated January 6, 2011, and supplements thereto.

Section 21.15, Nonconforming Items, of the QAPD states, in part, that "Controls for the Nonconforming Items for the QL-1G Program shall be in accordance with the requirements of Section 15 of the QAPD."

Section 15, Nonconforming Items, of the QAPD states, in part, that a process shall be developed to document, provide notification, evaluate, review and approve nonconforming items. The review shall also include determining the need for additional corrective actions. The disposition, such as "use-as-is," "reject," "repair," or "rework," of nonconforming items shall be identified and documented. The technical justification for the acceptability of a nonconforming item that has been dispositioned "repair" or "use-as-is" shall be documented.

LES procedure EG-3-2100-09, Rev. 5, Identification, Disposition, and Resolution of Nonconforming Items, states, in part, in paragraph 5.1.2 d. 1) Dispositions of "repair" or "use-as-is" require technical justification for the acceptability of the nonconforming item to be documented and shall be subject to design control measures commensurate with those applied to the original design.

Contrary to the above, before May 25, 2011, the licensee failed to provide an adequate technical justification to support the "use-as-is" disposition of NCR 2009-0889. Specifically, the licensee failed to resolve the differences between the Quality Level (QL) -1 G requirements and the QL-3 as-installed condition of the Cylinder Receipt and Dispatch Building (CRDB) foundation/footing system which required the Nonconformance Report (NCR) to be generated. The acceptability of the CRDB foundation/footing system was not adequately verified, as evidenced by the following examples:

1. LES NEF failed to adequately demonstrate that Quality Control (QC) inspections performed by Field Engineers (FE) met the applicable QL-1G requirements for QC inspections credited in the technical evaluation for NCR 2009-0889. Section 21 of the QAPD states, in part, that construction activities shall be performed in accordance with documented work instructions. QC Hold Points shall be identified for inspection of critical elements. Such inspections will be subject to the full requirements applied to

QC Hold Points under the QA Level 1 Program. Specifically, the technical justification for NCR 2009-0889 credited QC inspections that were not shown to be performed by personnel that were qualified and independent of the work activities as required by Section 21 of the QAPD.

2. LES NEF failed to adequately implement procedures associated with Section 21.15 of the QAPD. For dispositions of use-as-is, procedure EG-3-2-2100-09, Rev. 5, requires a technical justification for the acceptability of a nonconforming item to be documented and shall be subject to design control measures commensurate with those applied to the original design. The technical justification for NCR 2009-0889 did not evaluate all failure modes and assumptions associated with the CRDB foundation/footing system. For example, the technical justification provided in NCR 2009-0089 did not adequately evaluate the following failure modes/mechanisms or document the assumptions as to why the failure modes/mechanisms were not considered:

- a) Anchor Bolts

1. Steel failure due to insufficient thread engagement between nuts and rods

- b) Reinforcing Bar

1. Failure due to insufficient development or bond

3. LES NEF failed to adequately demonstrate that traceability of the anchor bolts and reinforcing steel within the CRDB foundation/footing system was maintained to prevent the use of defective or incorrect items. Section 21.8, Identification and Control of Materials, Parts and Components, of the QAPD, states in part, that when required by specifications or codes and standards, identification of material or equipment with traceability to the corresponding mill test reports, certifications and other required documentation is maintained throughout fabrication, erection, and installation. Section 21.8 also states, in part, that verification of correct identification of materials shall be required to prevent the use of incorrect or defective items. Specifically, the technical justification provided in NCR 2009-0089 failed to demonstrate that material identification was maintained to the point of installation for the anchor bolts and reinforcing steel used within the CRDB foundation/footing system and that the correct material was verified prior to installation to prevent the use of incorrect or defective items.

This is a Severity Level IV Violation (Enforcement Policy 6.5.d)

UUSA Reply to Violation A-Examples 1, 2 and 3:

1. The Reason for Violation A –Examples 1, 2 and 3

1.1 Example 1: The engineers preparing the evaluation acknowledged in the NCR that the QL-1G requirement for inspection should have been performed by qualified QC inspectors and not by Field Engineering (FE) and Construction Engineering (CE) personnel. Since the documentation provided in the NCR provided evidence that the inspection did take place, they believed that this was sufficient justification. Although this provided a technical degree of assurance that the CRDB foundation/footers would perform as designed, it failed to reconcile the licensing requirement that the activity be performed in accordance with the written requirements of the QAPD (cf. License Condition 10.f). The NCR evaluation was a unique situation, and the engineers were operating in rule based space and made an error in judgment regarding the level of justification required to support this position.

1.2 Example 2: One element of the approach taken by the engineers preparing the evaluation focused on the similarities and differences between the processes and procedures used in QL-1 verse QL-3 concrete placement activities (gap analysis). Quality Level 1 concrete placements are well defined activities on site and the required inspections are well defined in implementing specifications and procedures. The same procedures and specifications were used during the placement of the concrete, reinforcing steel, and anchor bolts used in the QL-2/3 CRDB foundation footing system being evaluated in the NCR.

Another element of the evaluation addressed assessment of failure modes. The approach used in the NCR evaluation was consistent with CGD elements at the time the original CRDB CGD plans (summer 2010) were generated and approved. The calculation of record for the CRDB foundation/footing system (ARC-711) was reviewed to determine the applicable failure modes that would require verification. Accepted CGD practices do not require verification of all design characteristics in a CGD plan, but only a sufficient number of critical characteristics to assure that the item will perform its intended IROFS function. This approach lead the personnel who prepared the evaluation to believe the selected critical characteristics would adequately address a sufficient number of the overall characteristics to provide reasonable assurance for the adequacy of the installed components. A majority of the failure modes were assumed to be "enveloped" by the critical characteristics for verification which were listed in the Failure Modes and Effects (FMEA) tables in the NCR evaluation as "installed per design drawings."

However this approach failed to take the analysis one level further back to underlying codes and standards that contained additional critical characteristics and assumptions that might require verification. For example, the calculation required that a certain grade of material is required and accordingly critical characteristics for material properties were assigned for verification. Other critical characteristic were not explicitly stated in the calculation (rebar bend radius,

development length) but were assumed to be met through compliance of the design to ACI 318 and ACI 349. These ACI characteristics are embedded in the Site's approved specification and procedures. Since the gap analysis had determined that the process used for placement of concrete, reinforcing steel, and anchor bolts were essentially the same, the engineering personnel did not critically analyze all activities for those attributes that may have required verification during the procurement process which would not be addressed by field inspections.

A third element was an overall assessment of the CRDB foundation/footing system to perform the required design function (IROFS27e). The engineers believed that the preponderance of evidence submitted demonstrated the adequacy of the CRDB superstructure foundation/footing system to perform their function during design basis events outweighed individual discrepancies in the documentation available.

In preparing the FMEA, the engineers were operating in rule based space and failed to validate all assumptions associated with their methodology.

Example 3: In preparing the evaluation, the engineers recognized that requirements for material traceability were not maintained as required under the QL-1G program and stated so in the evaluation. Sampling guidelines which are used for commercial grade dedication of components allow for the engineering determination of lot formation. The statistical sampling approach provided a reasonable assurance that any deficient heat lots would be identified. In addition, since significant design margin exists (over 50%) for the anchor bolts in the foundation/footing system and all samples tested exceeded the design requirements, a reasonable assumption was made that the lot formation and sampling plan was adequate.

Similar analysis was provided for the reinforcing steel. Complete records for the reinforcing steel were available from the supplier for all heat lots of material provided, including material test reports and shipping documentation. Material traceability to the final installed location was not maintained by the contractor once the material arrived onsite (nor was it required under the QL-2 program). Over sampling of the rebar under a QL-1 program was performed to provide assurance that material matched what was specified.

For both cases (anchor bolts and rebar), engineering judgment was applied to determine that the materials supplied for the CRDB foundation/footing system were adequate to perform their IROFS27e function. This judgment failed to reconcile the licensing requirement that the activity be performed in accordance with the written requirements of the QAPD (license condition 10.f). The NCR evaluation was a unique situation and the engineers were operating in rule based space and made an error in judgment regarding the level of justification required to support this position.

2. The Corrective Steps That Have Been Taken and the Results Achieved for Violation A – Examples 1, 2 and 3

2.1 Examples 1 and 3: Prepared and submitted to the NRC an Exception request to License Condition 10.f for the CRDB superstructure foundation/footers for those aspects of Section 21 of the QAPD that cannot be met by the as-installed foundation/footing system.

2.2 Example 2: Initiated a revision of NCR 2009-0889 to address all credible failure modes; and document assumptions for where a failure mode is not considered a critical characteristic requiring verification.

3. The Corrective Steps That Will Be Taken for Violation A - Examples 1, 2 and 3

3.1 Examples 1, 2 and 3: Present the Detailed Apparent Cause Evaluation (DACE) for Condition Report CR-2011-1738 to the Project Engineering organization. Expectations of the Director of Engineering will be conveyed in the presentation to the organization regarding the use of NCRs to resolve QAPD nonconformances and the process for issuing configuration changes as partial releases.

3.2 Example 2: Complete the revision of NCR 2009-0889, as described in Corrective Step 2.2 above, within 30 days of NRC approval of the Exception request (cf. Cover Letter, Ref. 3).

4. The Date When Full Compliance Will Be Achieved for Violation A - Example 1, 2 and 3

Full compliance will be achieved upon completion of Corrective Step 3.2 above, which will occur within 30 days of NRC approval of the Exception request.