

April 11, 2013

Mr. Timothy Knowles  
Licensing and Performance Assessment Manager  
Louisiana Energy Services, LLC  
P.O. Box 1789  
Eunice, NM 88231

SUBJECT: LICENSE AMENDMENT REQUEST 12-17 CRITICALITY NEUTRON DOSIMETER PROGRAM CHANGE

Dear Mr. Knowles:

By letter dated December 11, 2012, Louisiana Energy Services, LLC (dba Urenco USA [UUSA]) submitted License Amendment Request (LAR) 12-17, requesting a change to the criticality neutron dosimetry program. Specifically, UUSA requested that the NRC review and approve its request to remove its previous commitment to ANSI/ANS 8.23 4.1. (9) concerning personal and fixed neutron dosimetry in its Safety Analysis Report (SAR) and Integrated Safety Analysis Summary (ISAS) as part its criticality accident alarm system (CAAS), with respect to providing a nuclear accident dosimetry system as specified in "Dosimetry for Criticality Accidents," ANS/ANSI N13.3-1969 (R1981).

In part, Title 10 of the *Code of Federal Regulations* (10 CFR) 70.24, Criticality Accident Requirements, states that: *"(b) Each licensee authorized to possess special nuclear material in quantities in excess of those specified in paragraph (a) shall: (1) Provide the means for identifying quickly which individuals have received doses of 10 rads or more."*

Currently, based on your license application, in order to demonstrate compliance with 10 CFR 70.24, for personnel and area criticality neutron dosimetry monitors, you committed in both the Safety Analysis Report and Integrated Safety Analysis Summary to meeting the specifications in American National Standards Institute (ANSI)/ANS 8.23 4.1 (9) concerning personal and fixed neutron dosimetry. In part, American Nuclear Society (ANS) 8.23- 2007 states that management shall ensure that: a nuclear accident dosimetry system as specified in ANS "Dosimetry for Criticality Accidents," ANSI N13.3-1969 (R1981), is provided.

The acceptance criteria for compliance with 10 CFR 70.24 (b)(1) is found in NUREG-1520, the Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility (SRP). The SRP specifies that *"the applicant commits to the provision of fixed and personnel accident dosimeters in areas that require a CAAS. These dosimeters should be readily available to personnel responding to an emergency, and there should be a method for prompt onsite dosimeter readouts."* The SRP also specifies that "(t)he applicant commits to the requirements in ANSI/ANS-8.23-1997, "Nuclear Criticality Accident Emergency Planning and Response," which states, in part, that management shall ensure that: a nuclear accident dosimetry system as specified in "Dosimetry for Criticality Accidents," ANS/ANSI N13.3-1969 (R1981), is provided.

In Section 4, **Basic Requirements** of ANS/ANSI N13.3-1969, the dosimetry system should:

- provide absorbed dose information within 24 hours.
- include personnel dosimeters supplemented by dosimeters at fixed stations.
- If dosimeters are employed in fixed plant locations, a system of personnel dosimetry shall also be employed to permit the extrapolation of fixed-dosimeter data to exposed persons.

In addition to these basic requirements, which appear to be captured by 10 CFR 70.24, ANS/ANSI 13.3-1969 also lists a number of best practices and system performance requirements and guidance for using the dosimetry system as well as descriptions of various methods for measuring doses in mixed neutron and gamma radiation fields. Although it contains useful basic information, especially in the 1969 era in which the standard was produced, current dosimetry systems have advanced in the ensuing 44 years, and commercial services are available to ensure the prompt and accurate measurement of doses to exposed individuals from criticality accidents; therefore, requiring commitment to ANS/ANSI N13.3-1969 appears to be unnecessarily prescriptive in the current performance based regulatory environment of today to meet the 10 CFR 70.24 requirement.

Therefore, UUSA's request to remove its commitments to this ANSI standard, and its commitment to meeting the performance requirements of the 10 CFR 70.24, do not represent an exemption from the regulations, nor would it in anyway increase the potential for, or consequences of, a radiological accident. Thus, upon review of the revisions, the staff found that the changes are consistent with the regulatory requirements in 10 CFR Part 70. Accordingly, the amendment request is approved. A revised license incorporating this change will be provided with the next major licensing action.

Since the change requested involves administrative actions, the U.S. Nuclear Regulatory Commission (NRC) staff has determined that the proposed activities do not individually or cumulatively have a significant effect on the human environment. Therefore, in accordance with 10 CFR 51.22(c)(11), neither an Environmental Assessment nor an Environmental Impact Statement is warranted for this action.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records System component of NRC's Agencywide Documents Access and Management System (ADAMS) system. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

If you have any questions, please contact Mr. Michael Raddatz at (301) 492-3108, or at [Michael.Raddatz@nrc.gov](mailto:Michael.Raddatz@nrc.gov).

Sincerely,

*/RA/*

Brian W. Smith, Chief  
Uranium Enrichment Branch  
Division of Fuel Cycle Safety  
and Safeguards  
Office of Nuclear Material Safety  
and Safeguards

Docket No. 70-3103  
License No. SNM-2010

cc:

Mr. Jay Laughlin/LES  
William Szymanski/DOE  
Sam D. Cobb/Hobbs  
Marilyn Burns/Tatum  
Glen Hackler/Andrews  
Gary Schubert/Lea County  
Daniel Stenger/H&H  
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Matt White/Eunice  
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Dave Martin/NMED  
Michael Ortiz/NMED

If you have any questions, please contact Mr. Michael Raddatz at (301) 492-3108, or at [Michael.Raddatz@nrc.gov](mailto:Michael.Raddatz@nrc.gov).

Sincerely,

Brian W. Smith, Chief  
Uranium Enrichment Branch  
Division of Fuel Cycle Safety  
and Safeguards  
Office of Nuclear Material Safety  
and Safeguards

Docket No. 70-3103  
License No. SNM-2010

Enclosure:  
Safety Evaluation Report for License Amendment Request 12-13

cc:

Mr. Jay Laughlin/LES  
William Szymanski/DOE  
Sam D. Cobb/Hobbs  
Marilyn Burns/Tatum  
Glen Hackler/Andrews  
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