



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

July 13, 2017

Stephen Cowne, Chief Nuclear Officer
and Compliance Manager
URENCO USA
P.O. Box 1789
Eunice, NM 88231

**SUBJECT: LOUISIANA ENERGY SERVICES, LLC, URENCO USA – NUCLEAR
REGULATORY COMMISSION INTEGRATED INSPECTION REPORT
70-3103/2017-003**

Dear Mr. Cowne:

This letter refers to the inspections conducted from April 1 through June 30, 2017, at the Louisiana Energy Services, LLC, URENCO USA facility located in Eunice, New Mexico. The purpose of the inspections was to determine whether licensed activities were conducted safely and in accordance with Nuclear Regulatory Commission (NRC) requirements. The enclosed report presents the results of these inspections, which were discussed with you and members of your staff on May 25, 2017.

The inspections examined activities conducted under your license, as they related to public health and safety, to confirm compliance with NRC rules and regulations and with the conditions of your license. The inspections covered radiological controls for the areas of effluent control and environmental protection, radiation protection, and transportation. Within these areas, the inspections consisted of examination of selected procedures and representative records, observations of activities, and interviews with personnel. No violations of more than minor significance were identified.

In accordance with Title 10 of the Code of Federal Regulations, Section 2.390 of the NRC's "Rules of Practice and Procedure," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

If you have any questions regarding this matter, please contact me at (404) 997-4629.

Sincerely,

/RA/

Marvin D. Sykes, Chief
Projects Branch 1
Division of Fuel Facility Inspection

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

Enclosure:
Inspection Report No. 70-3103/2017-003
w/Attachment: Supplementary Information

cc: (See page 3)

cc:

Butch Tongate, Deputy Secretary
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Lea County Board of County Commissioners
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Daniel F. Stenger, Counsel
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PO Box 5469
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cc: (Cont'd on page 4)

S. Cowne

4

(cc: cont'd)

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SUBJECT: LOUISIANA ENERGY SERVICES, LLC, URENCO USA – NUCLEAR
 REGULATORY COMMISSION INTEGRATED INSPECTION REPORT
 70-3103/2017-003

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 ADAMS: Yes ACCESSION NUMBER: ML17194A848 SUNSI REVIEW COMPLETE FORM 665 ATTACHED

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NAME	MSykes					
DATE	7/13/2017					
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U. S. NUCLEAR REGULATORY COMMISSION
REGION II

Docket No.: 70-3103

License: SNM-2010

Report No.: 70-3103/2017-003

Licensee: Louisiana Energy Services, LLC

Facility: URENCO USA

Location: Eunice, NM

Inspection Dates: April 1 through June 30, 2017

Inspectors: N. Peterka, Fuel Facility Inspector (Section A.2)
T. Vukovsky, Senior Fuel Facility Inspector (Section A.3)
K. Womack, Fuel Facility Inspector (Section A.1)

Approved: M. Sykes, Chief
Projects Branch 1
Division of Fuel Facility Inspection

Enclosure

EXECUTIVE SUMMARY

Louisiana Energy Services, LLC
URENCO USA

Nuclear Regulatory Commission Integrated Inspection Report 70-3103/2017-003
April 1 – June 30, 2017

Regional inspectors from the Nuclear Regulatory Commission (NRC) conducted announced inspections during normal shifts. The inspectors performed a selective examination of licensee activities by direct observation of safety-significant activities and equipment, tours of the facility, interviews and discussions with licensee personnel, and a review of facility records.

Radiological Controls

- The inspectors reviewed a sample of activities in the radiation protection area to verify compliance with conditions of the license and regulatory requirements. No violations of more than minor significance were identified. (Section A.1)
- The inspectors reviewed a sample of activities in the effluent control and environmental protection area to verify compliance with conditions of the license and regulatory requirements. No violations of more than minor significance were identified. (Section A.2)
- The inspectors reviewed a sample of activities in the transportation area to verify compliance with conditions of the license and regulatory requirements. No violations of more than minor significance were identified. (Section A.3)

Attachment

Key Points of Contact
List of Items Opened, Closed, and Discussed
Inspection Procedures Used
Documents Reviewed

REPORT DETAILS

Summary of Plant Status

The URENCO, USA facility enriches uranium hexafluoride using a gas centrifuge technology. During the inspection period, the licensee conducted routine plant operation of the operating cascades.

A. Radiological Controls

1. Radiation Protection, Exposure Controls and Dose Analyses (Inspection Procedure 88030, Appendix B)

a. Inspection Scope

The inspectors reviewed changes in the radiation protection program organization to verify that changes to the organizational structure were in compliance with requirements in the Safety Analysis Report (SAR). The inspectors reviewed changes to procedures to verify that they are updated on a timely basis when deficiencies are found. The inspectors reviewed corrective action program (CAP) entries as well as audit and quality assurance findings to determine whether the licensee was identifying radiation protection issues at an appropriate threshold and entering them into the CAP.

The inspectors reviewed survey procedures and records to verify that the licensee performed periodic scheduled radiation and contamination surveys in accordance with licensee procedures to meet the requirements of 10 CFR 20.1501(a) and (b). The inspectors toured work and storage areas in the controlled area to verify that the licensee posted the areas in accordance with 10 CFR 20.1902 and 20.1903, and that radiological signs and postings accurately reflected radiological conditions within the posted area.

The inspectors reviewed procedures, dose records, and “as low as reasonably achievable” (ALARA) reports to verify that the licensee monitored employees for occupational exposure to radiation who were likely to receive, in one year, a dose in excess of the 10 CFR 20.1502(a) levels. The inspectors reviewed the dosimetry type and the licensee's procedures for evaluating and using personnel monitoring data to control and minimize exposures to determine whether these aspects were appropriate to account for occupational radiation doses to personnel resulting from exposures to licensed material. The inspectors reviewed certification documents to determine whether the personnel dosimeter processors maintain accreditation from National Voluntary Laboratory Accreditation Program in accordance with 10 CFR 20.1501(c). The inspectors observed operators and technicians during walk downs to verify that they were properly wearing dosimetry.

The inspectors reviewed CAP entries and procedures to verify that the bioassay program was in compliance with requirements in the SAR. The inspectors reviewed the methodology and programmatic assumptions made by the licensee in the calculation of dose to verify that the licensee correctly calculated the dose to workers. The inspectors reviewed methodology of analytical equipment and processes used to evaluate internal

exposures to verify that the internal dose results were determined in accordance with 10 CFR 20.1204, and that internal dose was monitored when required by 10 CFR 20.1502(b).

The inspectors reviewed procedures and air sampling results to verify that the air sampling program complies with the license requirements for internal dose calculations and airborne concentration surveys. The inspectors reviewed licensee dose calculations for workers who exceeded bioassay action limits to verify that the assumptions used in the calculations were conservative and meet the intent of the regulations and that intake of uranium did not exceed the limits of 10 CFR 20.1201(e).

The inspectors reviewed the 2016 annual ALARA Report to determine if the ALARA program was in compliance with 10 CFR 20.1101(b), requirements in the SAR, and to determine whether the ALARA program monitored, trended, and where practical, addressed adverse exposure trends. The inspectors reviewed Radiation Safety Committee meeting minutes and Safety Review Committee meeting minutes to determine whether the ALARA Committee was in accordance with the SAR.

b. Conclusion

No violations of more than minor significance were identified.

2. Effluent Control and Environmental Protection (Inspection Procedure 88045)

a. Inspection Scope

The inspectors reviewed program changes and procedures revised since the last inspection. There were no program changes and procedural changes were conducted in accordance with Chapter 11, Section 11.4.4, Changes to Procedures, of the SAR. The inspectors were informed of personnel changes within the program. The inspectors subsequently reviewed the position description qualifications versus the individual's qualifications.

The inspectors reviewed the 2016 semi-annual effluent reports and verified that the licensee was in compliance with the submission requirements of 10 CFR 70.59. Within these two reports, the inspectors reviewed records of airborne and liquid effluents for uranium-234, -235, and -238 and noted that all effluent concentrations were well-below 10 CFR 20, Appendix B, Table 2 restriction levels.

The inspectors witnessed part of the bi-weekly filter change-outs of the continuous air monitors, performed in accordance with EN-3-2020-01, "EN Air Sampling," Revision (Rev.) 1. Based on the airborne concentration data, inspectors also noted that the airborne dose to the hypothetical individual member of the public likely to receive the highest dose from facility operations satisfied the 10 CFR 20.1102(d) requirement (ALARA).

The inspectors observed the locations of perimeter thermoluminescent dosimetry (TLD). The inspectors discussed the TLD change out frequency and the procedure for performing the change outs. The inspectors reviewed the latest perimeter TLD data and ascertained that the total annual public dose was less than the limit established in 10 CFR 20.1301(a) (1).

The inspectors also walked down the Gaseous Effluent Ventilation System (GEVS) in Separations Buildings Modules 1001. The inspectors observed the configuration and flow of effluent through ductwork, banks of filters, and monitoring equipment for alpha radiation and hydrogen fluoride (HF). All equipment was found to be proper operation. The inspectors noted that alpha and HF monitors were calibrated and maintained in accordance with 10 CFR 20.1501; EN-3-1000-36, "Alpha Monitor (ABPM 201 S) Calibration and Maintenance," Rev. 1; and EN-3-100-37, "MacGiver HF-2 Monitor Maintenance & Calibration," Rev. 2, respectively.

The inspectors noted that there were no process-related liquid effluent discharges off-site. Inspectors also recognized that all rain water run-off and groundwater was sampled in wells or from the on-site retention ponds in accordance with EN-3-1000-38, "Environmental Water Sampling," Rev. 2. The inspectors reviewed the concentrations of sanitary liquid releases discharged to the sanitary sewer and verified that the licensee was in compliance with 10 CFR 20.2003.

The inspectors reviewed one internal audit and verified that identified areas were implemented entered timely into corrective actions. These assessments and audit were conducted in accordance with Chapter 11, Section 11.5, Audits and Assessments, of the SAR.

The inspectors examined certificates of accreditation and found that the laboratories used by the licensee to perform isotopic analysis uranium of environmental samples were properly accredited.

b. Conclusion

No violations of more than minor significance were identified.

3. Inspection of Transportation Activities (Inspection Procedure 86740)

a. Inspection Scope

During the week of the inspection, the licensee only had incoming shipments (receipt) of enriched and natural uranium. No outgoing shipments (delivery) of uranium were scheduled or occurred. The inspectors verified the licensee had established and maintained an effective program to ensure radiological safety during the receipt and handling of licensed radioactive materials. The inspectors also determined that the observed transportation activities were in compliance with the applicable transport regulations (10 CFR 71 Subparts A, C, G, and H and 49 CFR 171-177).

The inspectors reviewed 10 shipping records, such as manifests (bills-of-lading) and checklists, involving the receipt of special nuclear material. The inspectors ensured that the appropriate documentation accompanied the packages being received. The inspectors confirmed the required information on the packaging and receipt orders including the transportation index, package activity, labeling, and placarding.

The inspectors reviewed a sampling of logistic personnel training records to ensure that the licensee had administered 49 CFR 172.704 hazardous materials transportation training to affected personnel as required by the Department of Transportation and the plant license.

The inspectors observed activities involving the on-site transport, and handling of 48Y and 30B cylinders. Items relied on for safety (IROFS) for the on-site handling of cylinders were verified to be implemented and effective. The inspectors observed radiological surveys of the UX-30 overpacks and cylinders, as required by procedure, and confirmed subsequent results were below limits and in compliance with 10 CFR 20.1906. The inspectors observed the storage of the 48Y and 30B cylinders and determined the cylinders were stored in accordance with site procedures.

The inspectors observed the material condition of the UX-30 overpacks and the 48Y and 30B cylinders and determined that the licensee was maintaining them in an adequate condition. The inspectors toured the uranium byproduct cylinder storage pad and noted that UF6 cylinders were stored in the proper configuration. Based on observations and discussions with licensee personnel, the inspectors determined that cylinder handling equipment was adequately maintained.

The inspectors also reviewed the licensee's quality assurance program for the transportation of radioactive materials; specifically audits 2015-IA-06-007, 2015-IA-06-007, and 2016-IA-10-022; and determined that the licensee was in compliance with 10 CFR Part 71 Subpart H. The licensee also met 10 CFR 71.21 requirements for foreign approved packaging and demonstrated that the packages were revalidated by the Department of Transportation. The results of the audits were appropriately addressed in their CAP.

The inspectors reviewed plant procedures for recordkeeping and interviewed the personnel involved. The inspectors verified that a system was in place to maintain shipment records for the lifetime of the facility and confirmed the licensee was in compliance with 10 CFR 71.91(a).

b. Conclusion

No violations of more than minor significance were identified.

B. Exit Meeting

The inspection scope and results were presented to members of the licensee's staff at various meetings throughout the inspection period and were summarized on March 25, 2017, with you and your staff. Proprietary information was discussed but not included in the report.

SUPPLEMENTARY INFORMATION

1. KEY POINTS OF CONTACT

<u>Name</u>	<u>Title</u>
R. Albright	Principle Radiation Protection Technician
A. Anaya	Senior Radiation Protection Technician
P. Lorskulsint	Logistics Services Manager
W. Padgett	Licensing Manager
G. Poortman	Logistics Planning & Administration Supervisor
J. Rickman	Licensing Specialist
B. Saucedo	Senior Chemistry Environmental Specialist
J. Taylor	Licensing Specialist
W. Terry	Environmental Analysis Supervisor

2. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

None

3. INSPECTION PROCEDURES USED

88030	Radiation Protection
88045	Effluent Control and Environmental Protection
86740	Inspection of Transportation Activities

4. DOCUMENTS REVIEWED

Records:

2016-S-11-050, Report for the URENCO USA Surveillance of Facility Radiation Protection Practices, dated December 21, 2016
2017-A-04-007, Report for the URENCO USA Radiation Protection Program Audit, dated 10 May 2017
Alpha Filters 033117 Records on iMatic
Cardinal Laboratories Semi-Annual Sampling Results
Certificate of Accreditation to ISO/IEC 17025:2005, Effective 2016-07-01 through 2017-06-30
EN Filters 033017 & 041217
EN-3-2020-01-F-1, Urenco USA Perimeter Filter Collection, dated May 11, 2017
EN-3-2020-01-F-2, Urenco USA Stack Filter Collection, dated May 1, 2017
EN-3-2020-02-F-3, Basin Sediment Sampling, dated October 04, 2016
EN-3-2020-02-F-6, Domestic Wastewater Sampling, dated October 04, 2016
EN-3-2020-02-F-7, Low Flow Groundwater Sampling, dated February 1, 2017
EN-3-3010-02-F-1, Annual Source Calibration Data Sheet, dated February 18, 2017
EN-3-3010-02-F-2, Energy Check Data Sheet, dated January 12, 2017
EN-3-3010-02-F-3, Flowmeter Test/Verification Form, dated May 11, 2017
Global Dosimetry Solutions Environmental Report, dated January 1, 2017
LES-16-00148-NRC, Semi-Annual Radiological Effluent Release Report for January 1, 2016 through June 30, 2016, dated August 29, 2016
LES-17-00031-NRC, Semi-Annual Radiological Effluent Release Report for July 1, 2016 through December 31, 2016, dated February 8, 2017

Maintenance Work Order Number: 1000288068
 Shipping Records 80010003, 80009907, 80009778, 80009653, 80009521, 80009402,
 80009306, 80009216, 80009015 and 80008722
 WO 1000263995, Annual WOHWA Scale Calibration

Procedures:

LO-3-2000-01, Receipt and Shipment of Cylinders, Rev. 11
 LO-3-2000-02, On-Site Handling of UF6 Cylinders, Rev. 5
 LO-3-2000-05, Weighting UF6 Cylinders, Rev. 10
 LO-3-2000-08, Sample Shipping and Receiving, Rev. 13
 LO-3-2000-12, Crane Inspection and Operation, Rev. 11
 RP-3-2000-01, Radiation Work Permits, Rev. 9, dated June 1, 2012
 RP-2-1000-01, Radiation Protection Program, Rev. 7, dated May 25, 2016
 RP-3-2000-07, Personnel Contamination Events, Rev. 8, dated June 8, 2016
 EN-3-2030-03, Environmental Water Analysis, Rev. 0, dated August 1, 2016
 EN-3-3020-02, MacGiver HF-2 Calibration, Rev. 0, dated August 5, 2016
 EN-3-3030-02, i-Matic Calibration, Rev. 0, dated August 5, 2016
 RP-3-3000-23, Personal Air Monitors, Rev. 4, dated December 19, 2016
 EN-3-2020-01, EN Air Sampling, Rev. 1, dated December 20, 2016
 EN-3-2020-02, EN Media Sampling, Rev. 3, dated February 27, 2017
 EN-3-3010-02, Alpha Monitor (ABPM 201S) Calibration, Rev. 1, dated March 20, 2017
 EN-1-1010-01, Environmental Policy, Rev. 1, dated May 15, 2017
 EN-2-1010-03, Environmental Regulatory Requirements, Rev. 0, dated July 25, 2016
 EN-3-3020-01, MacGiver HF-2 Operation and Maintenance, Rev. 0, dated August 5,
 2016
 EN-2-1010-02, Radiological Effluent Monitoring Program, Rev. 1, dated August 8, 2016
 RP-3-2000-04, Radiation and Contamination Surveys, Rev. 9, dated December 2, 2015
 EN-3-3030-01, i-Matic Operation and Maintenance, Rev. 0, dated August 5, 2016
 EN-3-2030-01, Environmental Analyses of Uranium Using Quadrupole ICP-MS, Rev. 0,
 dated August 1, 2016
 LO-3-3000-01, Transport Planning, Rev. 14
 EN-3-3010-01, Alpha Monitor (ABPM 201S) Operation and Maintenance, Rev. 0, dated
 August 5, 2016
 MA-3-3862-01, Calibration of the WOHWA Type 2 Inventory Weight Scale System,
 Rev. 3

Condition Reports:

EV 100031
 EV 101102
 EV 102288
 EV 102465
 EV 106731
 EV 109205
 EV 110354
 EV 112614
 EV 112674
 EV 113191
 EV 114528
 EV 115185
 EV 116945
 EV 117114

EV 118727
 EV 118748
 EV 118752
 EV 118753
 EV 118796
 EV 118845
 EV 118864
 EV 118910
 EV 118961

Condition Reports Written as a Result of the Inspection:

EV 119112, Non-Compliance with RP-3-2000-04, dated March 23, 2017
 EV 119121, Timing Requirement for Verification Signature for MA-3-3862-01
 EV 119152, Administrative Errors in Shipping Paperwork

Other Documents:

2015-IA-06-007, Report for the Urenco USA Audit of Logistics Feed Receipt, Rev. 1
 2015-IA-06-008, Report for the Urenco USA Audit of Logistics – Planning and Administration
 2016-IA-10-022, Report for the Urenco USA ISO Audit of the Logistics Department: Product Shipments
 2016-S-03-008, Report for the Urenco USA surveillance of UUSA Logistics
 2016-S-06-018, Report for the Urenco USA surveillance of UUSA Logistics
 Designation of Responsibilities in RP-3-2000-04 Memorandum, Radiation and Contamination Surveys, dated May 19, 2017
 Dose Equivalent from the Uranium Byproduct Cylinder Storage Pad, 32-2400507-00, dated November 14, /2003
 Evaluation Report 2016-E-04-041, WIPP Laboratories
 May 2, 2017 Radiation Safety Committee meeting minutes, dated May 24, 2017
 NELAP Accreditation of Cardinal Labs
 Organization Chart
 Radiation Safety Committee meeting minutes, dated December 9, 2016
 Radiation Safety Committee meeting minutes, dated May 26, 2016 and August 17, 2016
 Radiation Safety Committee meeting minutes, dated September 27, 2016
 Report for the URENCO USA Environmental Compliance Audit, 2016-A-05-018, dated June 24, 2016
 Safety Review Committee Meeting 2016-02 Minutes, dated April 1, 2016
 Safety Review Committee Meeting 2016-03 Minutes, dated April 13, 2016 and April 20, 2016
 Safety Review Committee Meeting 2016-04 Minutes, dated August 18, 2016, and November 22, 2016
 Safety Review Committee Meeting 2016-05 Minutes, dated December 14, 2016
 Safety Review Committee Meeting 2016-06 Minutes, dated February 28, 2017