



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

July 31, 2019

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

SUBJECT: LOUISIANA ENERGY SERVICES, LLC (LES), dba URENCO USA (UUSA) –  
NUCLEAR REGULATORY COMMISSION INTEGRATED INSPECTION REPORT  
70-3103/2019-003

Dear Mr. Cowne:

This letter refers to the inspections conducted by the U.S. Nuclear Regulatory Commission (NRC) from April 1 through June 30, 2019, at the URENCO USA (UUSA) facility located in Eunice, New Mexico. The enclosed report presents the results of these inspections, which were discussed with you and members of your staff on April 18 and July 18, 2019.

These inspections examined activities conducted under your license, as they related to public health and safety, to confirm compliance with U.S. NRC rules and regulations and the conditions of your license. The inspection areas covered radiation protection, inspection of transportation activities, effluent control and environmental protection, and event follow up. Within these areas, the inspections consisted of examinations of selected procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, the NRC has determined that one Severity Level IV violation of NRC requirements occurred. Because the violation was of low safety significance and UUSA entered the issue into the corrective action program, this violation is being treated as a non-cited violation (NCV), consistent with Section 2.3.2 of the NRC Enforcement Policy. The NCV is described in the enclosed inspection report. If you contest the violation or significance of the NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001, with copies to: (1) the Regional Administrator, Region II; and (2) the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

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 website at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response

should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction.

If you have any questions regarding this matter, please contact me at (404) 997-4664.

Sincerely,

**/RA/**

Robert Williams, Chief  
Projects Branch 1  
Division of Fuel Facility Inspection

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

Enclosure:  
Inspection Report No. 70-3103/2019-003  
w/Attachment: Supplemental Information

cc:  
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Chair Rebecca Long  
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SUBJECT: LOUISIANA ENERGY SERVICES, LLC (LES), dba URENCO USA (UUSA) –  
NUCLEAR REGULATORY COMMISSION INTEGRATED INSPECTION REPORT  
70-3103/2019-003

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OFFICE	RII:DFFI	RII:DFFI	RII:DFFI	RII:DFFI	RII:DFFI	DC	RII:DFFI
NAME	RGibson	RWomack	MRuffin	LCooke	BAdkins	LPitts	RWilliam
DATE	7/19/2019	07/23/2019	07/22/2019	07/23/2019	7/23/2019	7/23/2019	07/31/2019

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 70-3103

License: SNM-2010

Report No.: 70-3103/2019-003

Enterprise Identifier: I-2019-003-0015

Licensee: Louisiana Energy Services (LES), LLC

Facility: URENCO USA (UUSA)

Location: Eunice, NM

Inspection Dates: April 1 through June 30, 2019

Inspectors: R. Gibson, Senior Fuel Facility Inspector (Sections A.2 and B.2)  
K. Womack, Fuel Facility Inspector (Section A.1)  
M. Ruffin, Fuel Facility Inspector (Section A.3)

Approved: R. Williams, Chief  
Projects Branch 1  
Division of Fuel Facility Inspection

Enclosure

## **EXECUTIVE SUMMARY**

**Louisiana Energy Services, LLC (LES) dba URENCO USA (UUSA)  
Nuclear Regulatory Commission  
Integrated Inspection Report 70-3103/2019-003  
April 1 – June 30, 2019**

Regional inspectors from the U.S. Nuclear Regulatory Commission (NRC) conducted announced inspections during normal shifts and in-office reviews. The inspectors observed safety-significant activities and equipment, walked down the facility, interviewed licensee personnel, and reviewed facility documents.

### **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 transportation 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 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.3)

### **Other Areas**

- The inspectors performed follow-up inspection activities for an event involving a dropped 30B cylinder. One Severity Level IV, self-revealing, non-cited violation of NRC requirements was identified. (Section B.2)

### **Attachment**

Key Points of Contact

List of Report Items

Inspection Procedures Used

Documents Reviewed

## **REPORT DETAILS**

### **Summary of Plant Status**

The URENCO USA (UUSA) facility in Eunice, New Mexico, enriches uranium hexafluoride (UF<sub>6</sub>) using gas centrifuge technology. During the inspection period, the licensee conducted routine plant operations.

#### **A. Radiological Protection**

##### **1. Radiation Protection (Inspection Procedure 88030)**

###### **a. Inspection Scope**

The inspectors evaluated aspects of the licensee's Radiation Protection program to verify compliance with selected portions of Title 10 of the Code of Federal Regulations (10 CFR) Part 20, the facility's Safety Analysis Report (SAR), and applicable procedures.

The inspectors reviewed section 4.1 of the SAR and procedure RP-2-1000-02 to verify that engineering controls were used to the extent practicable in order to achieve occupational doses as low as reasonably achievable (ALARA) as required by 10 CFR 20.1101(b). The inspectors reviewed Radiation Safety Committee (RSC) meeting minutes to verify that the licensee was periodically reviewing the radiation protection program content and implementation as required by section 4.1.4 of the SAR and 10 CFR 20.1101(c).

The inspectors reviewed section 4.8.1.2 of the SAR and procedure RP-3-2000-06 to verify that the licensee appropriately addressed solubility class of licensed material. The inspectors verified that the licensee had both scheduled and procedural requirements for airborne concentration surveys. The inspectors reviewed air sampling results contained on Form RP-3-2000-06-F-01 for the months of July, August, and September 2018 to verify compliance with section 4.8.1.2 of the SAR. The inspectors accompanied Radiation Safety Technicians and observed the implementation of air sampling procedures. The inspectors verified that procedure RP-3-2000-06 was maintained in order to identify and post areas as Airborne Radioactivity Areas consistent with Section 4.7.1.3 of the SAR and 10 CFR 20.1003. The inspectors observed physical and digital air sampling records to verify that the licensee was retaining records in accordance with the requirements in 10 CFR 20.2103(b).

The inspectors reviewed RP-2-4000-1 and RP-3-4000-1 to verify that the licensee met the requirements for a respiratory protection program as required by section 4.6 of the SAR and 10 CFR 20.1703. The inspectors verified that the licensee required a medical exam and fit testing prior to use in the field and that appropriate National Institute for Occupation, Safety and Health approved respirators were used. The inspectors also verified that appropriate protection factors were used when applying credit for respiratory protection.

The inspectors reviewed RP-3-3000-08 and a selection of licensee and vendor laboratory bioassay results to verify that the bioassay program was being conducted in accordance with requirements in section 4.8.1.1 of the SAR and that records were being retained as required by 10 CFR 20.2103(b)(3).

The inspectors reviewed RP-2-1000-02, RP-3-3000-06, RP-3-3000-07, RP-3-3000-18, and exposure reports for 2018 to verify that the licensee was monitoring employees likely to receive an annual dose in excess of the 10 CFR 20.1502(a) levels for occupational exposure to radiation. During plant walk downs, the inspectors verified that operators and technicians were wearing issued dosimetry. The inspectors reviewed the ionizing radiation dosimetry certificate for the dosimeter supplier to verify accreditation by the National Voluntary Laboratory Accreditation Program (NVLAP) as required by 10 CFR 20.1501(d)(1).

The inspectors reviewed revisions to RP-3-3000-11 in order to verify that any changes to the dose calculation methodology were conservative and would not impact the intent of 10 CFR 20. The inspectors reviewed exposure reports for 2018 to verify that dose results included Total Effective Dose Equivalent, Lens Dose Equivalent, and Shallow Dose Equivalent as required by 10 CFR 20.1201 and were less than regulatory limits. Reviewing previously referenced procedures and results, the inspectors verified that internal dose was monitored and determined in accordance with requirements of 10 CFR 20.1502(b) and 10 CFR 20.1204. The inspectors also verified that combined external and internal doses were determined in accordance with requirements in 10 CFR 20.1202.

b. Conclusion

No violations of more than minor significance were identified.

2. Inspection of Transportation Activities (Inspection Procedure 86740)

a. Inspection Scope

The inspectors evaluated whether the licensee had established, maintained, and implemented an effective management-controlled program to ensure radiological and nuclear safety in the receipt, packaging, delivery to a carrier, and as applicable, private carriage of licensed radioactive materials. The inspectors evaluated whether observed transportation activities were in compliance with the applicable U.S. Nuclear Regulatory Commission (NRC) (10 CFR Parts 20 and 71), and U.S. Department of Transportation (DOT) (49 CFR Parts 171-178) regulations. During the week of the inspection, the licensee had no incoming shipments or outgoing shipments of licensed material. There was a safe "Stop Work" memorandum in effect, due to an event that occurred at the beginning of the inspection week from a dropped 30B cylinder in the Cylinder Receipt and Dispatch Building (CRDB). The inspectors observed container handlers perform inspections of 30B cylinders in the CRDB to verify that the inspections were in accordance with procedure LO-3-4000-03, External Cylinder Inspection, Revision 16. The inspectors also observed container handlers perform an annual inspection of UX-30 overpacks to verify that the inspections were in accordance with procedure LO-3-4000-01, Annual Overpack Inspection, Revision 9.



The inspectors walked down the UF<sub>6</sub> cylinder transporters/movers (i.e., forklifts, floor jacks, and trucks) to verify that only electric drive or diesel-powered equipment was used for cylinder movement. The items relied on for safety (IROFS) 36c and 36f, for the on-site handling of cylinders, were verified by the inspectors to be implemented and effective. The inspectors also observed the licensee perform inspections of the overhead crane and rigging gears in the CRDB to verify no defects or damage to the equipment while in use. The inspectors reviewed records for inspections of the equipment mentioned above to verify that the inspections were conducted in accordance with procedure LO-3-2000-12, Crane Inspection and Operations, Revision 18.

The inspectors reviewed several shipping records involving the shipment and receipt of licensed material and the shipment of waste materials for disposal as required by 49 CFR Parts 171 through 178. The inspectors verified that the licensee recorded the required information on the packaging and shipping orders such as the transportation index, criticality safety index, package activity, labeling, and placards in accordance with the procedure LO-3-2000-08, Sample Shipping and Receiving, Revision 16.

The inspectors reviewed training records of logistics personnel and container handlers to ensure that the licensee had administered hazardous materials transportation training to applicable personnel as required by DOT 49 CFR 172.704.

The inspectors verified that the licensee met the 10 CFR 71.21 conditions required to use the general license provision for transport of licensed material. The inspectors reviewed audits of the transportation program and verified that the licensee was performing periodic audits of the program as required by Section 2.3.5 of the SAR. The results of the audits were appropriately addressed in the licensee's NRC approved corrective action program.

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.

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

a. Inspection Scope

The inspectors reviewed and observed environmental programmatic activities to determine whether the effluent control and environmental protection program was in compliance with the requirements of Chapter 9, "Environmental Protection Measures," of the SAR. The inspectors reviewed programmatic changes and procedures revised since the last inspection to verify the program and procedures were in accordance with Chapter 11, Section 11.4.4, "Changes to Procedures," of the SAR.

The inspectors reviewed the 2018 semi-annual effluent reports to verify the licensee was in compliance with the submission requirements of 10 CFR 70.59. The inspectors

reviewed records of airborne and liquid effluents and conducted walkdowns of perimeter particulate air sampling stations at the facility boundary to verify monitoring system operations were being performed in accordance with EN-3-2020-01, "EN Air Sampling," and 10 CFR 20.2103.

The inspectors observed licensee staff conduct daily checks on various Gaseous Effluent Ventilation System (GEVS) monitoring locations to verify the monitors were adequately capturing air sampling data, the monitors were calibrated, and functional checks were performed in accordance with Chapter 9.2, Section 9.2.2.1, "Effluent Monitoring," of the SAR. The inspectors also evaluated whether the GEVS operation, calibration, and maintenance was conducted in compliance with 10 CFR 20.1501, EN-3-3010-01, "Alpha Monitor (ABPM 201 S) Operation and Maintenance," and EN-3-3020-01, "MacGiver HF-2 Operation and Maintenance."

The inspectors reviewed the public dose assessment to verify the average annual effluent concentrations released in 2018 did not exceed the limits in Table 2 of 10 CFR 20 Appendix B as required by 10 CFR 20.1302 and to verify records were being maintained in accordance with 10 CFR 20.2107. The inspectors also reviewed the airborne portion of the public dose assessment to verify the results were in compliance with the ALARA constraint required by 10 CFR 20.1101(d).

The inspectors walked down environmental monitoring stations including ground water wells, wastewater lift station 1, vegetation sampling locations, and the retention ponds. The inspectors reviewed sampling results of sediment, surface water, soil and vegetation to verify the sampling positions were in compliance with license requirements and results were in compliance as required by Chapter 6 of the Environmental Report.

The inspectors reviewed the 2017 Chemistry Services Environmental Self-Assessment and the 2019 quality assurance audit of the chemistry department to verify audits were being conducted in accordance with Chapter 11.5, "Audits and Assessments," of the SAR and that identified corrective actions were implemented in accordance with license requirements.

b. Conclusion

No violations of more than minor significance were identified.

**B. Other Areas**

1. Event Follow-up

During the inspection, on April 15, 2019, the inspectors followed up on an internal event involving a dropped 30B cylinder containing uranium hexafluoride. The following Severity Level IV, self-revealing, non-cited violation (NCV) of NRC requirements was identified.

Failure to Ensure That Activities Involving Licensed Materials Were Conducted Through the Use of Approved, Written Procedures

### Introduction:

A Severity Level IV, self-revealing, non-cited violation (NCV) of Section 2.3.4 of the SAR was identified for the licensee's failure to ensure that activities involving licensed materials were conducted through the use of approved, written procedures. Specifically, the licensee failed to follow procedure LO-3-2000-12, which required the container handler to visually verify that the rigging was properly attached prior to the lifting of a 30B cylinder. Failure to follow procedure contributed to an event involving a dropped 30B cylinder in the UF<sub>6</sub> Handling Area.

### Description:

On April 15, 2019, a container handler was performing a lift of a full 30B cylinder containing enriched solid uranium from an autoclave saddle on stillage S4. While the cylinder was being lifted, the north hook became disengaged from the cylinder skirt which caused the cylinder to land on the saddle. The force of the impact caused the saddle to move from its stillage pins and the cylinder and saddle came to rest in an abnormal arrangement on the upper and lower structures of the stillage. This resulted in structural damage to the saddle and only slight/superficial damage to the cylinder. The saddle was not in use in the autoclave when the cylinder dropped; therefore, there was no loss or degradation with respect to IROFS 28. IROFS 28 is a passive design feature credited with ensuring autoclave leak tight integrity during natural phenomenon events such as a tornado or earthquake. No personnel injuries or release of licensed material occurred as a result of the event.

The immediate corrective actions taken by the licensee included (1) notifying the shift manager, his supervisor, and security; (2) placing the crane in a safe configuration; (3) removing the rigging from service; and (4) placing danger tape around the immediate area. The area was determined to be in a stable condition. The cylinder and saddle were moved to the CRDB floor in accordance with an emergent work plan. A "Do-Not-Use" tag was placed on the cylinder awaiting further inspection, and a QA hold tag was placed on the saddle pending further inspection for damage. The licensee held a work stand down with the Logistics Execution Team, and the Chief Nuclear Officer initiated a "Safety Stop Work" until a causal evaluation investigation could be performed. The event was entered into the licensee's corrective action program as EV 131808.

The licensee conducted a Root Cause Evaluation of the event and completed its investigation on July 10, 2019. The licensee concluded that a contributing cause of the event was a procedure violation resulting in a missed safety check. Section 8.4 of procedure LO-3-2000-12, Revision 18, stated, in part, "attach one-cylinder hook to each side of the cylinder skirt; take tension out of the slings slowly until the hooks are firmly seated on the skirt; and verify rigging is properly attached". Contrary to this requirement, the investigation concluded that the container handler's method of implementing the procedural requirement to "verify rigging is properly attached," proved to be ineffective since the north hook could not be seen from the south side. Marks on the hook and cylinder skirt indicated that the north hook had slipped while taking slack out of the rigging to the point that the hook was slanted. It appeared that the hook was tip loaded when the cylinder was raised. The planned corrective action developed to address this issue includes developing a continuing training program for the Logistics group to include procedure use and adherence standards. The specific recommendations include (1) evaluating alternate rigging methods, (2) developing new lifting devices that

reduce the potential for human performance error during lifting activities, (3) create and implement lift cards describing critical safety characteristics for each lift and require positive checks of each item prior to each lift, (4) conduct procedure use just-in-time training focusing on verbatim compliance, and (5) evaluate and propose a group lifting and rigging standard.

#### Analysis:

The inspectors determined that the actual safety significance of the event was low as there were no injuries to workers and no release of licensed material. The inspectors reviewed the licensee's integrated safety analysis (ISA) and verified from their cylinder drop analysis that a dropped 30B cylinder during crane movement onto a cylinder stillage is of low consequences to the facility worker and the public.

The inspectors determined that the noncompliance was more than minor based on screening question 1 of Inspection Manual Chapter (IMC) 0616, Appendix B, which asks, "Could the violation reasonably be considered a precursor to a significant event?" The answer is yes, specifically, the licensee failed to use the procedure to control activities involving licensed materials to ensure that the activities were carried out in a safe manner. The cylinder dropped because the worker did not adequately follow the procedure which could have caused a potential injury to worker(s), a potential fatality, or a potential exposure of workers to hydrogen fluoride (HF) or uranyl fluoride.

In accordance with the NRC Enforcement Policy section 2.2.2(d), violations that are less serious, but are of more than minor concern and result in no relatively inappreciable potential safety or security consequences, are characterized as Severity Level IV violations.

#### Enforcement:

Safety Condition 10 of License Number SNM-2010, states, in part, that the licensee shall conduct authorized activities at the NEF in accordance with the statements, representations, and conditions in the Safety Analysis Report dated December 12, 2003, as revised.

Section 2.3.4 of the SAR revision 44 dated December 3, 2018, states, in part, that activities involving licensed materials are conducted through the use of approved, written procedures. Procedures are used to control activities in order to ensure the activities are carried out in a safe manner.

Licensee Procedure LO-3-2000-12, dated April 11, 2019, Revision 18, Section 8.4, titled "Lifting and Movement of Cylinders with Spreader Bar", Subsection 8.4.3.b. states, 1) attach one cylinder hook to each side of the cylinder skirt, 2) take tension out of the slings slowly until hooks are firmly seated on the skirt, and 3) Subsection c., verify rigging is properly attached.

Contrary to the above, a container handler failed to ensure that activities involving licensed materials were conducted through the use of approved, written procedures as required by Section 2.3.4 of the SAR. Specifically, on April 15, 2019, a container handler failed to follow Subsection 8.4.3.c of licensee procedure LO-3-3000-12 to verify that the rigging was properly attached prior to lifting of a 30B cylinder.

In accordance with Section 2.3.2.b of the NRC Enforcement Policy, this violation will be treated as a NCV because the licensee entered the condition into their approved corrective action program and was not willful or repetitive. This violation will be opened and closed as NCV 70-3103/2019-003-01, "Failure to Ensure That Activities Involving Licensed Materials Were Conducted Through the Use of Approved, Written Procedures."

**C. 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 April 18 and July 18, 2019 to R. Shaffer, Operations Manager, and staff. Proprietary information was discussed during the inspection but is not included in this report.

## **SUPPLEMENTAL INFORMATION**

### **1. KEY POINTS OF CONTACT**

<u>Name</u>	<u>Title</u>
T. Anderson	Radiation Protection Technician III
G. Boyd	Container Handler I
S. Cowne	Chief Nuclear Officer (CNO)
J. Dahlin	Logistics Service Manager
M. Fleenor	Chemistry Analyst II
B. May	Principle Training Specialist
R. Medina	Acting Licensing Manager
J. Miller	Chemistry Services Manager
S. O'Brien	Container Handler Supervisor
N. Pankratz	Container Handler I
A. Poortman	Sr. Logistics Specialist
L. Reyes	Container Handler III
J. Rickman	Licensing Specialist
V. Romero	Licensing
J. Sanford	Manager, Safety & Emergency Response
E. Saucedo	Sr. Chemistry and Environmental Specialist
A. Spencer	Chemistry Analyst III

### **2. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**

#### Opened/Closed

70-3103/2019-003-001	NCV	Failure to Ensure That Activities Involving Licensed Materials Were Conducted Through the Use of Approved, Written Procedures
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### **3. INSPECTION PROCEDURES USED**

IP 88030	Radiological Protection Appendix B
IP 86740	Inspection of Transportation Activities
IP 88045	Effluent Control and Environmental Protection

### **4. DOCUMENTS REVIEWED**

#### Records:

2018 Q1 Occupational Radiation Exposure Report  
2018 Q2 Occupational Radiation Exposure Report  
2018 Q3 Occupational Radiation Exposure Report  
2018 Q4 Occupational Radiation Exposure Report  
Annual Overpack Inspection of UX 30 Overpack  
Canberra iSeries Activity Report, dated April 12, 2019  
Canberra iSeries Activity Report, dated April 15, 2019  
CRDB Crane #3 1yr Preventative Maintenance  
Daily Pre-Operational Inspection of 20-metric Ton Bridge Crane

Daily Pre-Operational Yard Tractor Inspection  
 Daily Rigging Inspection  
 Dispatch Shipment of UX 30 Overpacks  
 E-SO-100918 H802879-08, dated November 1, 2018  
 E-VEG-100918 H802880-08, dated November 26, 2018  
 EN-3-2020-01-F-1: EN Air Sampling, dated January 8, 2019  
 EN-3-2020-01-F-1: EN Air Sampling, dated February 4, 2019  
 EN-3-2020-01-F-1: EN Air Sampling, dated February 6, 2019  
 EN-3-2020-01-F-1: EN Air Sampling, dated March 1, 2019  
 EN-3-2020-01-F-1: EN Air Sampling, dated March 5, 2019  
 EN-3-2020-01-F-1: EN Air Sampling, dated March 15, 2019  
 EN-3-2020-01-F-1: EN Air Sampling, dated March 27, 2019  
 EN-3-2020-01-F-1: EN Air Sampling, dated April 12, 2019  
 EN-3-2020-01-F-2, dated January 7, 2019  
 EN-3-2020-01-F-2, dated February 1, 2019  
 EN-3-2020-01-F-2, dated March 11, 2019  
 EN-3-2020-01-F-2, dated April 11, 2019  
 Learning Transcript of Container Handlers  
 Maintenance Work Order #1000315140  
 Maintenance Work Order #1000315143  
 MW10-101218 H802948-01, dated November 5, 2018  
 MW10-101218 DUP H802948-02, dated November 5, 2018  
 MW20-101118 H802922-01, dated October 11, 2018  
 N-VEG-100918 H802880-06, dated November 26, 2018  
 N-SO-100918 H802879-06, dated November 1, 2018  
 NE-SO-100918 H802879-07, dated November 1, 2018  
 NE-VEG-100918 H802880-07, dated November 26, 2018  
 NW-SO-100918 H802879-05, dated November 1, 2018  
 NW-VEG-100918 H802880-05, dated November 26, 2018  
 POND 1-101018 H802924-01, dated November 1, 2018  
 POND 1-101018-DUP H802924-02, dated November 1, 2018  
 POND 1-101018 H802923-01, dated November 15, 2018  
 POND 1-101018-DUP H802923-02, dated November 15, 2018  
 POND 2W-101118 H802924-03, dated November 1, 2018  
 POND 2W-101118 H802923-03, dated November 15, 2018  
 Radiation Safety Committee Meeting Minutes, dated 04/26/2019  
 Radiation Safety Committee Meeting Minutes, dated 10/17/2019  
 RP-3-2000-04-F-1, Radiological Survey – “Damaged Autoclave Saddle,” dated 4/15/2019  
 RP-3-2000-04-F-1, Radiological Survey – “Dropped 30B Cylinder,” dated 4/15/2019  
 RP-3-2000-06-F-1, General Air Sample Record “2018 Q3,” dated 01/22/2019  
 S-SO-100918 H802879-09, dated November 1, 2018  
 S-VEG-100918 H802880-09, dated November 26, 2018  
 SE-VEG-100918 H802880-01, dated November 26, 2018  
 SE-SO-100918 H802879-01, dated November 1, 2018  
 Shipping Documents For Transportation of Dangerous Goods  
 SW-SO-100918 H802879-02, dated November 1, 2018  
 SW-SO-100918-DUP H802879-03, dated November 1, 2018  
 SW-SO-100918 H802879-04, dated November 1, 2018  
 SW-VEG-100918 H802880-02, dated November 26, 2018  
 SW-VEG-100918-DUP H802880-03, dated November 26, 2018  
 W-VEG-100918 H802880-04, dated November 26, 2018

Q1 & Q2 2018 LES-18-111-NRC Semi-Annual Radiological Effluent Release Report, dated August 29, 2018  
Q3 & Q4 2018 LES-19-034-NRC Semi-Annual Radiological Effluent Release Report, dated February 27, 2019

Procedures:

EN-3-2020-01: EN Air Sampling, Rev. 3, dated March 11, 2019  
EN-3-3010-01: Alpha Monitor (ABPM 201 S) Operation and Maintenance, Rev. 1, dated August 30, 2017  
EN-3-3020-01: MacGiver HF-2 Operation and Maintenance, Rev. 1, dated August 29, 2017  
EN-3-3020-01: MacGiver HF-2 Calibration, Rev. 1, dated August 29, 2017  
EN-3-3030-02: iMatic Calibration  
EN-3-2020-02: EN Media Sampling, Rev. 5, dated February 27, 2019  
LO-3-2000-01, Receipt and Shipment of Cylinders, Revision 17  
LO-3-2000-05, Weighing UF<sub>6</sub> Cylinders, Revision 13  
LO-3-2000-08, Sample Shipping and Receiving, Revision 16  
LO-3-2000-12, Crane Inspection and Operation, Revision 18  
LO-3-4000-01, Annual Overpack Inspection, Revision 9  
LO-3-4000-03, External Cylinder Inspection, Revision 16  
OP-3-0660-01: GEVS, Rev. 20, dated August 30, 2018  
RP-2-1000-01, Radiation Protection Program, Rev. 10, dated 11/01/2018  
RP-2-1000-02, ALARA Program, Rev. 6, dated 07/03/2017  
RP-2-4000-01, Respiratory Protection Program, Rev. 4, dated 11/29/2017  
RP-3-2000-04, Radiation and Contamination Surveys, Rev. 12, dated 02/04/2019  
RP-3-2000-06, Airborne Radioactivity Monitoring, Rev. 10, dated 09/20/2017  
RP-3-3000-06, Dosimetry Issue, RP-3-3000-06, Rev. 11, dated 11/30/2017  
RP-3-3000-07, Extremity and Multiple Dosimetry, Rev. 3, dated 11/30/2017  
RP-3-3000-08, Bioassay, Rev. 7, dated 11/29/2017  
RP-3-3000-11, Radiological Dose Reports, Rev. 8, dated 03/20/2019  
RP-3-3000-18, Electronic Alarming Dosimeters, Rev. 3, 11/29/2017  
RP-3-3000-19, Personnel Contamination Monitors, Rev. 8, dated 02/04/2019  
RP-3-4000-01, Respiratory Protection, Rev. 7, dated 03/07/2019

Condition Reports Written as a Result of the Inspection:

EV 131835 Procedure Clarification  
EV 131836, NRC Observation SAR section on Radiation Safety Committee meeting minutes, April 17, 2018

Condition Reports Reviewed:

EV 126444  
EV 130214  
EV 131808

Other Documents:

CA-3-1000-03-F-2, UUSA 30B Cylinder Drop Root Cause Evaluation  
Chemistry Environmental TPE Completion Report  
Environmental Report, Rev. 23  
NVLAP Certificate of Accreditation to ISO/IEC 17025:2005, Mirion Technologies (GDS), Inc., effective 2018-07-01 through 2019-06-30



Safety Analysis Report, Rev. 44  
SA-2017-004: Chemistry Services Environmental Self-Assessment Report, dated  
September 29, 2017  
QA 2018-A-03-009

## **5. ACRONYMS AND INITIALISMS**

ADAMS	NRC's document system
ALARA	As Low As Reasonable Achievable
CFR	Code of Federal Regulations
CRDB	Cylinder Receipt and Dispatch Building
DOT	U.S. Department of Transportation
GEVS	Gaseous Effluent Ventilation System
HF	Hydrogen Fluoride
IMC	Inspection Manual Chapter
ISA	Integrated Safety Analysis
IP	Inspection Procedure
IROFS	Items Relied on for Safety
NCV	Non-Cited Violation
NRC	U.S. Nuclear Regulatory Commission
NVLAP	National Voluntary Laboratory Accreditation Program
Rev.	Revision
RSC	Radiation Safety Committee
SAR	Safety Analysis Report
UF6	Uranium Hexafluoride
UUSA	URENCO USA