



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

July 28, 2015

Mr. Adam Hilton
FMO Facility Manager
Global Nuclear Fuel – Americas, L.L.C.
P.O. Box 780, Mail Code J20
Wilmington, NC 28402

SUBJECT: GLOBAL NUCLEAR FUEL – AMERICAS, L.L.C. – U.S. NUCLEAR REGULATORY
COMMISSION INTEGRATED INSPECTION REPORT 70-1113/2015-003

Dear Mr. Hilton:

This letter is to document the closure of U.S. Nuclear Regulatory Commission (NRC) Integrated Report 70-1113/2015-003 for the second quarter in calendar year 2015 (April 1 through June 30, 2015). The purpose of the inspections were to review the implementation of programs and procedures for Nuclear Criticality Safety, Maintenance and Surveillances, Radiation Protection, Environmental Monitoring and Transportation. The reviews conducted helped to determine that licensed activities were conducted safely and in accordance with NRC requirements. The enclosed report presents the results of these inspections. At the conclusion of these inspections, the inspectors discussed the results with you and members of your staff at exit meetings on April 23 and May 21, 2015.

During the inspections, the staff examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspections consisted of facility walk-downs; selective examinations of relevant procedures and records; interviews with plant personnel; and plant observations. Throughout the inspections, observations were discussed with your managers and staff. Based on the results of these inspections, there are no identified violations of NRC requirements.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, of NRC's "Rules of Practice and Procedure," a copy of this letter and the enclosure will be made available electronically for public inspection in the NRC Public Document Room, or from the NRC's Agency wide 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, please call me at 404-997-4555.

Sincerely,

/RA/

Eric C. Michel, Chief
Projects Branch 2
Division of Fuel Facility Inspection

Docket No. 70-1113
License No. SNM-1097

Enclosure:
NRC Inspection Report 70-1113/2015-003
w/Supplemental Information

cc:
Scott Murray, Manager
Facility Licensing
Global Nuclear Fuels – Americas, L.L.C.
Electronic Mail Distribution

W. Lee Cox, III, Chief
North Carolina Department of Health and Human Services
Division of Health Service Regulation
Radiation Protection Section
Electronic Mail Distribution

If you have any questions, please call me at 404-997-6509.

Sincerely,

/RA/

Eric C. Michel, Chief
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☒ PUBLICLY AVAILABLE ☐ NON-PUBLICLY AVAILABLE ☐ SENSITIVE ☒ NON-SENSITIVE
ADAMS: ☒ Yes ACCESSION NUMBER: ML15209A011 ☒ SUNSI REVIEW COMPLETE ☒ FORM 665 ATTACHED

OFFICE	RII:DFFI	RII:DFFI	RII:DFFI	RII:DFFI	RII:DFFI	RII:DFFI	
SIGNATURE	MCrespo for	/RA/	/RA/	/RA/	/RA/	/RA/	
NAME	RGibson	NPitoniak	PStartz	TSippel	JMunson	MCrespo	
DATE	7/27/2015	7/21/2015	7/21/2015	7/21/2015	7/22/2015	7/27/2015	
E-MAIL COPY	YES NO	YES NO	YES NO	YES NO	YES NO		

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U.S. NUCLEAR REGULATORY COMMISSION
REGION II

Docket No.: 70-1113

License No.: SNM-1097

Report No.: 70-1113/2015-003

Licensee: Global Nuclear Fuel - Americas, LLC

Location: Wilmington, North Carolina 28402

Dates: April 1 through June 30, 2015

Inspectors: R. Gibson, Senior Fuel Facility Inspector (Section B.2)
N. Pitoniak, Fuel Facility Inspector (Section C.1)
P Startz, Fuel Facility Inspector (Sections B.1)
T. Sippel, Fuel Facility Inspector (Section C.2)
J. Munson, Fuel Facility Inspector (Sections A.1, D.1, and D.2)

Approved by: E. Michel, Chief
Projects Branch 2
Division of Fuel Facility Inspection

Enclosure

EXECUTIVE SUMMARY

Global Nuclear Fuel - Americas, LLC
NRC Integrated Inspection Report Nos. 70-1113/2015-003
April 1 through June 30, 2015

Inspections conducted by NRC regional inspectors during normal shifts in the areas of Criticality Safety, Maintenance and Surveillance, Radiation Protection, Environmental Protection, and Transportation. During the inspection period, normal production activities were ongoing. These announced, routine inspections consisted of a selective examination of procedures and representative records, observations of activities, walk-downs of items relied on for safety (IROFS), and interviews with licensee personnel. There were no safety significant findings identified during these inspections.

Safety Operations

- The nuclear criticality safety program was implemented in accordance with the license application and regulatory requirements. (Paragraph A.1)

Radiation Safety

- The radiation protection program was implemented in accordance with the license application and regulatory requirements. (Section B.1)
- The environmental protection program was implemented in accordance with the license application and regulatory requirements. (Section B.2)

Facility Support

- Shipments of radioactive materials were prepared and shipped in accordance with applicable regulations and plant procedures. Certificates of compliance were maintained current. Shipping records were properly completed and maintained in accordance with applicable regulations. (Paragraph C.1)
- The maintenance and surveillance of safety controls program was implemented in accordance with the license application and regulatory requirements. (Paragraph C.2)

Attachment

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

REPORT DETAILS

Summary of Plant Status

Global Nuclear Fuel – Americas (GNF-A), LLC manufactures uranium dioxide (UO₂) powder, pellets, and light water reactor fuel bundles at its Wilmington, NC facility. The facility converts uranium hexafluoride (UF₆) to UO₂ using a Dry Conversion Process (DCP) and performs UO₂, gadolinium pellet and fuel fabrication operations. During the inspection period, normal production activities were ongoing.

A. Safety Operations

1. Nuclear Criticality Safety (NCS) (Inspection Procedures (IPs) 88015, 88016, and 88017)

a. Inspection Scope and Observations

The inspectors evaluated the adequacy of the licensee's NCS program and analyses to assure the safety of fissile material operations. The inspectors reviewed selected NCS documents to determine whether criticality safety of risk-significant operations was assured with adequate safety margin. The inspectors verified that NCS documents were prepared and reviewed by qualified staff. The inspectors verified that NCS analyses demonstrated adequate identification and control of NCS hazards to assure subcriticality of operations through appropriate limits on controlled parameters. The inspectors reviewed aspects of selected NCS-related items relied on for safety (IROFS), including 503-12, 503-14, 402-14, 401-05, 503-02, 403-01, and 501-02 to verify that the performance requirements were met for selected accident sequences.

The inspectors reviewed the procedures and commitments for NCS audits and accompanied licensee NCS engineers on audits of dry scrap recovery (DSR) and various high-efficiency particulate arresting (HEPA) filters. The inspectors also reviewed the results of the most recent NCS audits to verify that appropriate issues were identified and resolved. The audits were performed by NCS engineers who reviewed open NCS infractions, plant operations for compliance with license requirements, procedures and postings, and equipment to verify that past evaluations remained adequate. The inspectors confirmed that deficiencies identified during audits were communicated to area supervision and entered into the licensee's corrective action program.

The inspectors reviewed various documents related to the Criticality Accident Alarm System (CAAS), including recent audibility tests. The inspectors discussed whether or not an extension to the fuel bundle forest would affect CAAS coverage and detector placement.

The inspectors performed plant walk-downs of the DCP, DSR, and Gadolinium process area and performed interviews with NCS Engineers to verify that risk-significant fissile material operations were being conducted safely and in accordance with regulatory requirements. The inspectors verified that controls identified in NCS analyses were installed or implemented and were adequate to ensure safety.

The inspectors reviewed training records of licensee NCS staff. The inspectors verified that licensee NCS engineers were qualified in accordance with license commitments and that only qualified staff performed NCS-related audits.

The inspectors reviewed the licensee's response to a selection of recent internally reported events identified in Section 4.0 of the Attachment, and a recent NCS-related event that the licensee reported to the NRC (Licensee Event Report (LER) 2015-001). The inspectors reviewed the progress of investigations and interviewed licensee staff considering the events and the associated corrective actions. The inspectors observed that the events were investigated in accordance with procedures and appropriate corrective actions were assigned and tracked.

b. Conclusion

No findings of significance were identified.

B. Radiological Controls

1. Radiation Protection (IP 88030)

a. Inspection Scope and Observations

The inspectors reviewed the 2014 radiation safety committee meeting minutes and the current As Low As Reasonably Achievable (ALARA) program in order to ensure that the program performance was being reviewed, at least annually, to comply with 10 CFR 20.1101. The inspectors interviewed the radiation safety program manager and radiological supervisors to determine that the radiation protection program responsibilities and functions are independent and separate from operations. The inspectors reviewed radiological protection procedures in order to determine that changes to these procedures were consistent with the licensee requirements.

The inspectors reviewed calibration stickers on survey instruments and monitoring equipment, corresponding calibration records, and functional test records. The inspectors also observed source/response checks. It was determined that the performance of radiation survey/detection instruments and equipment was in accordance with licensee requirements and procedures.

The inspectors reviewed the Total Effective Dose Equivalent results for plant personnel and determined that they were less than the regulatory limit. The inspectors reviewed the latest available 2014 plant personnel dosimeter results, as submitted by the licensee, and determined that the Lens Dose Equivalent and Shallow Dose Equivalent results were less than the regulatory limits. The inspectors verified that records were maintained in accordance with 10 CFR 20.2106.

The inspectors determined the respiratory protection program was in compliance with 10 CFR 20.1703. The respiratory protection program adequately identified potential hazards and that users were properly trained and qualified in the use of respiratory protection equipment. The respirators inspected were NIOSH-approved and did not show any physical indications of deterioration. The inspectors evaluated the respirator reprocessing areas including respirator washing, drying, visual inspections, cartridge testing, reassembly, radiological contamination assessment, and repackaging.

Inspectors verified that radiological signs and postings accurately reflected radiological conditions in the fuel production areas, decontamination processing areas, and radiological waste processing areas of the facility. The inspectors verified that 10 CFR Part 20 Form 3, Notice to Employees, was posted in high traffic areas in accordance with 10 CFR 19.11.

The inspectors determined that radiological assessments were adequately evaluated the magnitude and extent of radiation levels in accordance with 10 CFR 20.1501. The inspectors also reviewed the most current 2014 ALARA report and corrective actions in response to that assessment and determined that 10 CFR 20 requirements were satisfied.

b. Conclusion

No findings of significance were identified.

2. Effluent Control and Environmental Protection (IP 88045)

a. Inspection Scope and Observations

The inspectors interviewed licensee staff on program changes and verified that there were no significant program changes within the last 12 months. The inspectors also determined that there were no significant personnel changes during this same time period. The inspectors verified that the environmental program functions remained independent from operations in accordance with license requirements. The inspectors reviewed revisions to procedures revised since the last inspection and determined that changes complied with procedural requirements and did not reduce safety.

The inspectors observed the collection and change-out of radioactive gaseous effluent filters for selected ventilation stacks. The inspectors interviewed staff on the analysis of the samples and noted that the licensee staff demonstrated adequate knowledge regarding sampling. This activity was conducted in accordance with the procedure and within the required frequency. The inspectors verified that the stacks were sampled and analyzed weekly, as described in the license application, and verified that the associated flowmeters were within calibration. The inspectors reviewed records of airborne effluents and found the results to be below the requirements in Appendix B of 10 CFR Part 20.

The inspectors reviewed the calendar year 2014 semi-annual effluent reports and verified compliance with 10 CFR 70.59. The inspectors also verified that the licensee maintained records and reports in accordance with 10 CFR 20.2101.

The inspectors observed the collection of liquid effluent (a composite sample), which is discharged to the aeration tank and basins, then to the lagoons, and finally to the Northeast Cape Fear River. The sampling activity was conducted in accordance with the procedure and within the required frequency. The inspectors reviewed the daily analytical data results of the uranium concentration at Outfall 1 and determined that the annual averages of the liquid effluent samples were less than the regulated limits. The inspectors verified that the licensee discharged certain liquid effluents to the sanitary sewer on site. The total quantity of radioactive material released into the sanitary sewer did not exceed the regulatory limits for the calendar year 2014, as required by 10 CFR 20.2003.

The inspectors reviewed sludge samples results taken from the sanitary sewer. These samples were analyzed for uranium concentration on-site. The sludge results from 2014 through current sample results were below the investigation limits specified in the license application. The inspectors determined from a review of records that the sampling of sludge was in accordance with approved procedures.

The inspectors reviewed IROFS, preventative maintenance forms, and condition reports (CRs) for the Primary HEPA Filter monitoring, the Heating Ventilation and Air-condition (HVAC) duct design and holdup monitoring, and the Scrubber Sump – Safe Geometry. The IROFS were available and reliable to function in accordance with performance requirements in 10 CFR 70.61.

The inspectors reviewed the 2014 Annual Public Dose Report and determined that the public dose corresponding to the airborne emissions was less than the 10 CFR 20.1101 ALARA constraints on air emissions. The inspectors also reviewed the quarterly sampling results for external radiation from the environmental thermoluminescent dosimeter located on the fence line and at the Wilmington Field Service Center on-site. The inspectors determined that the annual public dose associated with licensed activities were less than that required by 10 CFR 20.1301.

The inspectors reviewed the 2014 environmental sampling results for soil, sediment, vegetation, and groundwater. Inspectors verified that the soil samples were conducted semi-annually and were analyzed for uranium, as required by the license application. The sediment and vegetation samples were collected monthly and were sampled for fluoride in accordance with the license application. The inspectors reviewed groundwater-sampling results and determined that the samples were collected and analyzed semiannually for gross alpha and beta as required by the license.

b. Conclusion

No findings of significance were identified.

C. Facility Support

1. Transportation of Radioactive Material (IP 86740)

a. Inspection Scope and Observations

The inspectors evaluated whether the licensee had established and was maintaining an effective program to ensure radiological and nuclear safety during the receipt, packaging, delivery, and private carriage of licensed radioactive materials. The inspectors also evaluated whether transportation activities complied with the applicable transport regulations.

The inspectors reviewed a number of shipping records involving the shipment and receipt of special nuclear material products and waste disposal. The licensee ensured that the appropriate documentation accompanied the packages. The licensee recorded the required information on the packaging and shipping orders including the transportation index, package activity, labeling, and placards.

The inspectors reviewed the 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 their license. The inspectors observed the receipt, survey, and offload of type 30B cylinders for processing. The inspectors also observed the loading of several fuel assembly shipments.

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 determined the licensee was performing periodic audits of the program as required. The results of the audits were appropriately addressed in the corrective action program.

b. Conclusion

No findings of significance were identified.

2. Maintenance and Surveillance of Safety Controls (IP 88025)

a. Inspection Scope and Observations

The inspectors interviewed managers, engineers, technicians, and operators to evaluate maintenance and surveillance program activities. The inspectors reviewed records and procedures, including six of the most recently completed Functional Test Instruction (FTI) records for IROFS 401-10, 405-06, 406-04, 503-07, 504-06, 505-04, and records for the CAAS, to verify that the licensee staff is adequately performing testing and surveillance as required to ensure the availability of safety related equipment. The inspectors also reviewed records to verify that selected safety related equipment are tested within the required periodicity, and that the required data is being properly documented. The inspectors focused on the Gadolinium, and UO₂ Areas, and the DCP HVAC system and verified that the selected IROFS are being properly maintained.

The inspectors verified through interviews that the licensee's work control program has provisions to ensure adequate pre-job planning and preparation of work orders to support maintenance and surveillance activities. The inspectors also reviewed work orders for accuracy and to verify that selected test packages challenged and verified operability of IROFS and safety controls.

The inspectors verified that the selected work activities were conducted in accordance with licensee requirements and approved procedures, including CP-24-100, "Wilmington Maintenance Administration." The inspectors verified that post-maintenance testing and calibrations as specified by the licensee's requirements were performed in accordance with CP-24-100 prior to restoring equipment to operational status. Completed work orders were reviewed by a verifier as required prior to returning equipment to service.

The inspectors reviewed the licensee's corrective action program (CAP) for issues relating to the maintenance and surveillance of IROFS and safety controls. The inspectors verified that the licensee entered issues into the CAP and adequate corrective actions were assigned, taken, and tracked in accordance with approved procedures. The inspectors verified, for the sample reviewed, that the licensee took effective corrective actions when a safety control was failed or degraded. The

inspectors also interviewed the maintenance manager, engineers, and maintenance workers about the use of the corrective action system to verify that licensee staff was familiar with its use and the licensee's procedures for the CAP.

b. Conclusion

No violations of NRC requirements were identified.

D. Other Areas

1. Follow-up on Previously Identified Issues

a. (Closed) Inspector Follow-up Item (IFI) 70-1113/2014-004-01, Tracks the licensee's basis for determining the choice of statistical methods for determining the USL in the SCALE-6.1 validation report

On a previous inspection, inspectors identified a potential issue with the licensee's choice of statistical method for determining the upper subcritical limit in the SCALE 6.1 validation report (documented in NRC Inspection Report 70-1113/2014-004). The inspectors identified that for area of applicability (AOA) 4, the licensee used the single-sided lower tolerance limit (SSLTL) method for data where the reactivity coefficient values were normally distributed but the residuals (difference between the observed value and the *predicted* value using regression) were not. This is a contradiction to the validation report, which states that nonparametric methods should be used when the calculated reactivity coefficient values or their residuals are not normally distributed.

The inspectors reviewed the SCALE 6.1 validation report and CR 11770, which was generated to address this potential issue. The licensee's evaluation of the issue determined this statement to contain an editorial error. For data with an apparent trend, reactivity coefficient values may not necessarily be normally distributed, but the data may still be used if the residuals are normally distributed and pass certain validity criteria. For data with no apparent trend, the SSLTL method may be used if reactivity coefficient values are normally distributed; otherwise, nonparametric treatment should be used. This is independent of whether the residuals are normally distributed. Thus, for the issue previously identified regarding AOA-4, where there was no apparent trend and the reactivity coefficient values were normally distributed but the residuals were not, the inspectors determined that the SSLTL method is appropriate.

The inspectors reviewed the licensee's corrective actions to address this issue. The licensee's actions were to revise the validation report to remove the editorial error. The licensee had not yet applied this AOA to any analyses or operations. The inspectors determined that the licensee's corrective actions were adequate.

2. Event Follow-up

a. (Closed) Licensee Event Report (LER) 2015-001, During a GNF-A review of FMO ISA, it was determined the initiating event frequency for a cold trap system accident sequence was higher than documented in the ISA, Event Notification (EN) 50750

On January 21, 2015, the licensee determined that a risk assessment associated with the DCP cylinder cold trap operation was not properly analyzed in the current ISA. The IROFS and other controls associated with preventing overfilling the cold trap system

remained available and reliable; however, the initiating event frequency for one accident sequence was determined to be higher than that documented in the current ISA. The licensee submitted a report to the NRC under 10 CFR 70 Appendix A (b)(1) on January 22, 2015.

The initiating event described in the current ISA is the overfilling of a cold trap with a frequency of 1×10^{-1} per year. The licensee discovered that two events had occurred in a 17 year time period, challenging this assigned frequency. Probabilities associated with initiating event frequencies are predictions about the likelihood of future events, not absolute values of how many events will occur in a given time period. The inspectors evaluated both initiating event frequencies using Poisson statistics and verified that the two frequencies are statistically indistinguishable. Therefore, the inspectors concluded that the licensee's determination that the DCP cylinder cold trap operation was improperly analyzed was conservative and that the performance requirements were met.

The licensee's immediate corrective actions were to stop cold trapping operations. The licensee has revised the ISA to demonstrate compliance with the performance requirements of 10 CFR 70.61.

E. 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 23 and May 21, 2015, to A. Hilton and staff. No dissenting comments were received from the licensee. Proprietary information was discussed but not included in the report.

SUPPLEMENTAL INFORMATION

1. KEY POINTS OF CONTACT

<u>Name</u>	<u>Title</u>
Beaty, F.	PP &SS Area Engineer
Berger, J.	Manager, PP &SS
Cable, R.	Radiation Protection Supervisor
Conner, M.	Manager, Fabrication
Crott, R.	Manager, Environmental Health and Safety Program
Dodds, M.	Sr. Criticality Safety Engineer
Dunn, E.	Criticality Safety Engineer
Eghbali, D.	Criticality Safety Engineer
Grant, S.	Logistics Supervisor
Haney, M.	Radiation Protection Supervisor
Head, J.	General Manager, Regulatory Affairs
Hilton, A.	FMO Operations Leader & Facility Manager
Huntley, M.	Nuclear Measurements Engineer
Latham, U.	Sr. Admin Specialist, Licensing
Mabry, A.	Radiation Safety Program Manager
Macdonald, B	Logistics Supervisor
McGowen, K.	Transportation Logistics Manager
Murray, S	Manager, Licensing
O'Connor	Environmental Engineer, EHS
Ollis, P.	Licensing Engineer, Licensing and Liabilities
Reeves, J.	Manager, Integrated Safety Analysis
Rizzo, V.	Transportation Operations Manager
Rohner, J.	Manager, Criticality Safety Program
Saito, E.	Nuclear Safety Manager
Warmkessel, G.	Quality Manager

2. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

<u>Closed</u>	<u>Type</u>	<u>Title</u>
70-1113/2015-001	LER	EN 50750 – During a GNF-A review of FMO ISA, it was determined the initiating event frequency for a cold trap system accident sequence was higher than documented in the ISA
70-1113/2014-004-01	IFI	Tracks the licensee's basis for determining the choice of statistical methods for determining the USL in the SCALE-6.1 validation report

3. INSPECTION PROCEDURES USED

IP 86740	Transportation of Radioactive Material
IP 88030	Radiation Protection
IP 88045	Effluent Control and Environmental Protection
IP 88015	Headquarters Nuclear Criticality Safety Program
IP 88016	Nuclear Criticality Safety Evaluations and Analyses
IP 88017	Criticality Alarm Systems

4. DOCUMENTS REVIEWED

Procedures:

EPI No. O-6.0 Stack Sampling Program, Revision (Rev.) 69
 EPI No. O-8.0 Sample Collection from Site Wells at GE/GNF-A, Rev. 54
 EPI No. O-9.0 Environmental Ambient Air Sampling Stations, Rev. 35
 CP-12-102 Calibration Program for Instrumentation and Controls, Rev. 1
 OP 1080.69 Measurement of Trace Uranium in Wastewater, Rev. 0
 OP 1050.70.000, Fuel Bundle Packing, Rev. 0
 OP 1050.70.100, Fuel Bundle Packing - General Information, Rev. 1
 OP 1050.70.101, Fuel Bundle Packing – MC&A, Rev. 0
 OP 1050.70.201, Fuel Bundle Packing – Startup, Rev. 2
 OP 1050.70.202, Fuel Bundle Packing – Packing Channeled Fuel Bundles, Rev. 0
 OP 1050.70.203, Fuel Bundle Packing – Packing Non-Channeled Fuel Bundles, Rev. 2
 OP 1050.70.204, Fuel Bundle Packing – Packing Loose Fuel Rods, Rev. 0
 OP 1050.70.205, Fuel Bundle Packing – Packing Outer Containers, Rev. 0
 OP 1050.70.206, Fuel Bundle Packing – Unpacking Containers, Rev. 0
 OP 1050.70.207, Fuel Bundle Packing – Miscellaneous Operations, Rev. 0
 OP 1050.70.300, Fuel Bundle Packing – Process Information, Rev. 1
 OP 1080.02, Combustible Material Control – UF6 Storage and Handling, Rev. 5
 OP 1080.70, UF6 Cylinder Dock Operations, Rev. 53
 CP-20-05-04, Training and Evaluation Plan, Rev. 1
 CP-13-103, Radioactive Material, Rev. 0
 NSI 0-17.0 Form 806, UF6 Incoming – GNF-A Radiation Survey Report, Rev. 6
 NSI 0-17.0 Form 807, UF6 Outgoing – GNF-A Radiation Survey Report, Rev. 6
 CP-16-108, “Corrective Action Program,” Rev 7.1.
 CP-17-103, “Nuclear Safety Records,” Rev. 0.
 CP-18-104, “EHS Regulatory Compliance Audits,” Rev. 1.
 CP-18-104-F01, “EHS compliance Auditor Certification,” Rev. 0.
 CP-20-103, “Nuclear Safety Training,” Rev. 2.
 CP-24-100, “Wilmington Maintenance Administration,” Rev. 0.
 CP-27-104, “Nuclear safety Assurance,” Rev. 1.
 OP-2310.00.400, “CAAS-Operating, Maintenance, Testing, and Response Procedure
 Detector Functionality Testing,” Rev 00.
 OP-2310.00.500, “CAAS-Operating, Maintenance, Testing, and Response Procedure
 Routine Maintenance & Troubleshooting,” Rev 00.
 TOP 16878, “Exemption for Annual Verification of Media Mass in DM-10 Vibromills located
 in GAD and DSR MRA, Rev. 0.
 TOP 16891, “Exemption for 5-year Inspection of GAD Slugger Felt Seats,” Rev.0.
 WI-16-106-02, “Configuration Management Program – Nuclear Manufacturing Operations,”
 Rev. 0.1.
 WI-18-104-02, “Internal Nuclear Safety Audits,” Rev. 0.
 WI-27-104-03, “Nuclear Safety Reviews,” Rev. 0.

WI-27-104-04, "Nuclear Safety Design Criteria," Rev. 1.
 WI-27-104-05, "Nuclear Criticality Safety Postings," Rev. 0.
 WI-27-104-07, "Nuclear Safety Release Requirements," Rev. 2.
 WI-27-104-08, "Safestore of Former Fissile Process Equipment," Rev. 1.
 WI-27-104-15, "NCS Calculational Methods and Verification," Rev. 1.
 WI-27-104-28, "CWS General System Monitoring and Outages," Rev. 10.
 WI-27-104-29, "CWS Detector Calibration, Zone Coverage, and Maintenance," Rev. 6.

Condition Reports Written as a Result of the Inspection:

15161 Missed signoff for security seal
 15165 Expired Security Awareness Training for an individual

Other Documents:

WI-27-105-09-01 Tennelec Calibration and Operation at FMO, Rev 1
 WI-27-105-25 HVAC Surveys to Detect Uranium Accumulation, Rev 3
 Hazardous Material training records for various personnel
 Shipping Papers for Limerick, dated February 18, 2015
 Shipping Papers for Hope Creek, dated March 8, 2015
 Shipping Papers for Perry, dated February 1, 2015
 Shipping Papers for Areva, dated April 28, 2015
 Shipping Papers for URENCO Capenhurst, dated April 15, 2015
 Shipping Papers for Energy Solutions, 1/27/15
 Drawing 105E3737, RAJ-II Outer/Inner Container Assembly Drawing, Rev. 6
 GNF RAJ-11, Safety Analysis Report, Rev. 7.1
 NQA-2012-04, GNF-A Fuels Manufacturing Operation – Packaging and Shipping of
 Radioactive Material 10CFR71 Audit, dated November 18, 2013
 NQA-2014-14, Global Nuclear Fuel – Americas Transportation Audit
 NRC Form 618, Certificate of Compliance for Radioactive Material Packages Model UX-30,
 Rev. 29
 NRC Form 618, Certificate of Compliance for Radioactive Material Packages Model TNF-
 X1, Rev. 7
 NRC Form 618, Certificate of Compliance for Radioactive Material Packages Model NPC,
 Rev. 7
 CSA-301.01.001, "WI-18-104-02-F01, "Criticality Safety Analysis: DSR Furnace Output
 System and Vibromill," Rev. 0
 CSA-1240.00, "Criticality Safety Analysis: DSR Container Transfer Station," Rev. 0
 CSA-502.01-100, "Criticality Safety Analysis: Gad R53-Sikugger Unit Analysis," Rev. 0
 CSA-1333.01, "Criticality Safety Analysis: DCP Conversion Process – Powder Outlet,"
 Rev. 09
 CSA-1050.700, "Criticality Safety Analysis: Bundle Forest," Rev. 05
 CSA-706.01.100, "Criticality Safety Analysis: Outside Storage Pads," Rev. 0
 CSA-805.140423, "Criticality Safety Analysis: Chemet Lab," Rev. 12
 CSA-806-08, "Criticality Safety Analysis: Refurbished RA-J and RA-3 Inner Containers,"
 Rev. 0
 CSA-701.00.100, "Criticality Safety Analysis: Decon," Rev. 0
 CSA-701.00.200, "Criticality Safety Analysis: Decon – Appendices," Rev. 0
 FTI 1020.13, F2, "Mass Control at Lower Mass Sensor for 3B, 4B, or 6B Presses," Rev. 3.1,
 completed April 14, 2015
 FTI 1020.13, F1, "Mass Control at Feed Tubes on Presses 3B, 4B & 6B Using Capacitive
 Sensors," Rev. 5.1, completed May 16, 2014
 FTI 1030.10, F1, "#1, 3, 4, and 6 Sintering Furnace Main Pusher Overload Shutdown,"
 Rev. 1.2, completed November 24, 2014

FTI 1030.10, F2, “#1, and #3 Sintering Furnace In-Out Logic Test,” Rev. 0.3, completed November 24, 2014
 FTI 1030.20, F1, “No. 2, Sintering Furnace Main Pusher Overload Shutdown,” Rev. 0.3, completed November 24, 2014
 FTI 1030.30, F2, Sintering Furnace #5 In-Out Logic Test,” Rev. 0.3, completed January 8, 2013
 FTI 1040.12, F1, Rev. 1.0, completed January 28, 2015
 FTI 1040.12, F2, Rev. 1.1, completed April 12, 2015
 FTI 1070.35, F5, Rev. 3, completed February 16, 2015
 FTI 1070.40, F1, Rev. 0.3, completed May 29, 2014
 FTI 1070.40, F1, Rev. 0.3, completed April 20, 2015
 FTI 1070.47, F1, Rev. 1, completed April 15, 2015
 FTI 1070.47, F2, Rev. 1.1, completed April 14, 2015
 FTI LIMS-FRS_F1, Rev. 0, completed July 3, 2014
 FTI LIMS-FRS_F2, Rev. 0, completed July 1, 2014
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 QRA-501/502, Rev. 11
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 WI-18-104-02-F01c, Nuclear Safety Quarterly Audit Form,” 2014 Quarter 4, completed December 16, 2014
 WI-18-104-02-F01, “Nuclear Safety Quarterly Audit Form,” 2014 Quarter 4, completed December 10, 2014
 WI-18-104-02-F01, “Nuclear Safety Quarterly Audit Form,” 2014 Quarter 4, completed November 20, 2014
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 SPM 15-006, 30-day Report of Event – DCP Cold Trap Event Frequency, dated February 20, 2015

Condition Reports Reviewed:

10564, 10805, 10920, 11054, 11081, 11144, 11318, 11442, 11574, 11770, 11799, 11834, 12006, 12091, 12229, 12305, 12405, 12516, 12579, 12613, 12817, 12854, 12858, 12912, 12924, 13014, 13104, 13155, 13176, 13202, 13204, 13211, 13274, 13368, 13378, 13395, 13483, 13595, 13619, 13646, 13788, 13821, 13986, 14035, 14122, 14141, 14183, 14257, 14313, 14325, 15127, 15152, and 15158