



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION II
245 PEACHTREE CENTER AVENUE N.E., SUITE 1200
ATLANTA, GEORGIA 30303-1200

July 23, 2020

Mr. Brad Beard
Plant Leader
Global Nuclear Fuel-Americas, L.L.C.
P.O. Box 708, Mail Code J20
Wilmington, NC 2842

SUBJECT: GLOBAL NUCLEAR FUEL- AMERICAS, L.L.C. – NUCLEAR REGULATORY
COMMISSION INTEGRATED INSPECTION REPORT 70-1113/2020-002

Dear Mr. Beard:

The Nuclear Regulatory Commission (NRC) conducted inspections during the second quarter of calendar year 2020 (April 1 – June 30, 2020), of the Global Nuclear Fuel-Americas, L.L.C. facility in Wilmington, NC. During this period, the NRC implemented alternative ways to complete the core inspection program for your site in response to the public health emergency declared by the Secretary of Health and Human Services on January 31, 2020, and the National Emergency declared by the President of the United States on March 13, 2020, regarding the public health risks of the novel coronavirus (COVID-19) disease. On March 19, 2020, the NRC transitioned into a mandatory telework posture for all staff consistent with social distancing and travel recommendations issued to federal agencies. Consequently, the NRC Region II staff continues to evaluate how to best conduct inspections while balancing determinations of reasonable assurance of adequate protection and ensuring the health and safety of inspectors and the public at large.

The enclosed report presents the results of the inspections, which were conducted through remote reviews. The inspectors reviewed activities authorized under the license in the area of Radiological Controls to determine whether they were conducted safely and in accordance with NRC requirements. The inspections consisted of reviewing procedures and representative records remotely and conducting telephonic interviews with site personnel. At the conclusion of these inspections, the inspectors discussed the results with you and members of your staff at an exit meeting held on June 18, 2020.

Based on the results of these modified inspections, no violations of more than minor significance were identified.

The NRC will continue evaluating the guidelines and recommendations from federal and state authorities, along with the conditions of your facility, to determine when to resume onsite inspection activities. In the interim, the NRC plans to continue to conduct a combination of remote and onsite inspections as appropriate. The NRC will also maintain frequent communications with your staff to discuss regulatory compliance matters and gather information to inform the decisions about future inspections.

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 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>.

Should you have any questions concerning these results during this modified inspection phase, please contact Leonard Pitts of my staff at 404-997-4708.

Sincerely,

/RA/

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

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

Enclosure:
NRC Inspection Report 70-1113/2020-002
w/Attachment: Supplemental Information

cc w/ encl: Distribution via LISTSERV®

SUBJECT: GLOBAL NUCLEAR FUEL– AMERICAS, L.L.C – NUCLEAR REGULATORY
COMMISSION INTEGRATED INSPECTION REPORT 70-1113/2020-002 dated
July 23, 2020

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ADAMS: ☒ Yes ACCESSION NUMBER: **ML20205L564** ☒ SUNSI REVIEW COMPLETE ☒ FORM 665
ATTACHED

OFFICE	RII:DFFI/PB1	RII:DFFI/PB1	RII:DFFI/PB1	RII:DFFI/PB1	RII:DFFI/PB1	
NAME	L. Pitts	M. Ruffin	L. Cooke	R. Womack	R. Williams	
DATE	7/22/2020	7/22/2020	7/21/2020	7/13/2020	7/23/2020	
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

INSPECTION REPORT

Docket No.: 70-1113

License No.: SNM-1097

Report No.: 70-1113/2020-002

Enterprise Identifier: I-2020-002-0069

Licensee: Global Nuclear Fuel - Americas, LLC

Facility: Global Nuclear Fuel - Americas

Location: Wilmington, North Carolina 28401

Dates: April 1, 2020 to June 30, 2020

Inspectors: L. Pitts, Senior Fuel Facility Inspector (Section A.3)
L. Cooke, Fuel Facility Inspector (Section A.2)
R. Womack, Fuel Facility Inspector (Section A.1)

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

Enclosure

EXECUTIVE SUMMARY

Global Nuclear Fuel - Americas, LLC
Nuclear Regulatory Commission Integrated Inspection Report 70-1113/2020-002
April 1 – June 30, 2020

Nuclear Regulatory Commission regional inspectors conducted remote inspections during the public health emergency in response to the public health risks of COVID-19. During the inspections, normal production activities were ongoing. These announced, routine inspections consisted of a selective examination of licensee activities accomplished by telephonic interviews and discussions with licensee personnel, and a review of facility records and procedures. There were no violations of more than minor significance identified during these inspections.

Radiological Controls

- In the area of Radiation Protection, no violations of more than minor significance were identified. (Section A.1)
- In the area of Environmental Protection, no violations of more than minor significance were identified. (Section A.2)
- In the area of Waste Management, 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

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 fuel fabrication operations. During the inspections, normal production activities at the facility were ongoing.

A. Radiological Controls

1. Radiation Protection (IP 88030, Appendix A) – Remote Inspection

a. Inspection Scope

The inspectors reviewed, in part, the licensee's radiation protection program as part of a remote inspection to verify the program complied with Title 10 of the Code of Federal Regulations (10 CFR) Parts 20 and 70 and the license application. The inspectors reviewed the Environmental Health & Safety (EHS) organization chart to verify any changes to the radiation protection program were in compliance with Chapter 2 of the license application, "Organization and Administration." The inspectors reviewed procedures and procedural changes to verify the radiation protection program remained independent of operations as required by Section 2.2.1.7, "Radiation Safety Function," of the license application. The inspectors also reviewed the 2019 As Low As Reasonably Achievable (ALARA) reports to verify the licensee met the requirements of 10 CFR 20.1101.

The inspectors reviewed the latest EHS audit of the radiation protection program to verify compliance with Section 11.6.1, "Criticality, Radiation, Chemical, and Fire Safety Audits," requirements for audits in the license application. The inspectors noted that there were no safety significant events in the area of radiation protection since the last inspection and reviewed the licensee's corrective action program entries for reportable events. The inspectors reviewed changes to radiation protection program procedures since the last inspection to verify the licensee followed their procedural change process and that changes were consistent with regulations and license requirements.

The inspectors reviewed past and current procedures for licensed material control to verify radioactive material areas remained controlled as required by 10 CFR 20.1801. Through review of the 2019 ALARA reports and the EHS audit, the inspectors reviewed the annual dose assessment for workers to verify the licensee complied with the requirements of 10 CFR 20 Subpart C.

b. Conclusion

No violations of more than minor significance were identified.

2. Effluent Control and Environmental Protection (IP 88045) – Remote Inspection

a. Inspection Scope

The inspectors reviewed the licensee's effluent control and environmental protection program as part of a remote inspection to verify the program complied with 10 CFR Parts 20 and 70 and the license application. The inspectors reviewed environmental protection procedures listed in the attachment that had been revised since the last inspection to verify no safety significant changes were made without prior evaluation and approval. The inspectors reviewed personnel technical qualifications to verify environmental health and safety personnel were qualified in accordance with chapters 2, "Organization and Administration," and 11, "Management Measures," of the license application.

The inspectors reviewed the previous three semi-annual effluent reports, issued since the last inspection, to verify the reports contained the information required by 10 CFR 70.59. The inspectors also reviewed the public dose assessment and interviewed licensee staff to verify the total dose to an individual from licensed operations did not exceed the 10 CFR 20.1301 limits in 2019. The inspectors reviewed the airborne portion of the public dose assessment and other airborne monitoring data to verify compliance with the ALARA requirements of 10 CFR 20.1101(d).

The inspectors reviewed a sample of records for liquid effluent discharges in 2019 and 2020 to verify all results did not exceed the 10 CFR 20 Appendix B Table 2 limits. The inspectors also reviewed effluent monitoring data of discharges to the sewer to verify they complied with 10 CFR 20.2003 limits. The inspectors reviewed environmental monitoring records to verify the licensee was in compliance with the record retention requirements of 10 CFR 20.2107.

The inspectors reviewed the data in the 2019 Environmental Monitoring Program Radiation Notebook. These results included effluent monitoring at ambient air stations, groundwater monitoring wells, sediment and soil, final process effluent, the Cape Fear River, the Site Dam, Wastewater Treatment, and vegetation. The inspectors interviewed licensee staff and reviewed corrective action entries to verify the licensee was following their environmental sampling procedures and identifying and analyzing trends in the data.

The inspectors reviewed calibration records for pH monitoring equipment and stack rotometers to verify the equipment was calibrated in accordance with licensee procedures and the license application.

The inspectors reviewed recent audits of the environmental protection program to verify the audits were performed by qualified individuals and at the frequency required, in accordance with Chapter 11, "Management Measures," of the license application. The inspectors reviewed the corrective action program entries documenting audit findings and interviewed staff to verify audit findings were communicated to the cognizant Area Manager.

b. Conclusion

No violations of more than minor significance were identified.

3. Radioactive Waste Processing, Handling, Storage and Transportation (IP 88035) – Remote Inspection

a. Inspection Scope

The inspectors reviewed, in part, the licensee's radioactive waste program as part of a remote inspection to verify whether the licensee's performance was in accordance with the requirements of 10 CFR Part 20 and 10 CFR Part 61 and in compliance with the license application and commitments for the processing, handling, storage and transportation of radioactive waste.

The inspectors reviewed portions of the radioactive waste program to verify the licensee's implementation was in accordance with the licensee's procedures, license application and regulatory requirements.

The inspectors reviewed the licensee's program for classifying low-level radioactive waste and mixed waste to verify compliance with 10 CFR 61.55 and 10 CFR 20 Appendix G. Specifically, the inspectors reviewed the procedures for classifying waste as well as records relating to waste. The inspectors reviewed the licensee's program for packaging waste to verify the waste form met the requirements of 10 CFR 61.56 and 10 CFR 20, Appendix G.

The inspectors reviewed safety-significance changes to verify they were made in accordance with the licensee's procedure revision process. The following series of procedures were reviewed:

- OP-1080.12.100 Outside Pad Storage General Information
- OP-1080.12.201 Outside Pad Storage Requirements
- OP-1080.12.202 Outside Pad Storage Abnormal and Emergency Operations
- OP-1081.01.100 Incinerator General Information
- OP-1081.01.101 Incinerator MC&A
- OP-1081.01.201 Incinerator Startup
- OP-1081.01.202 Incinerator Normal Operations
- OP-1081.01.203 Incinerator Shutdown
- OP-1081.01.204 Incinerator Abnormal Operations
- OP-1081.01.205 Incinerator Emergency Operations
- OP-1081.01.206 Incinerator Basic Operator Maintenance
- OP-1081.01.300 Incinerator Process Operations

The inspectors reviewed whether the licensee was identifying issues in the area of radioactive waste and entering them into the corrective action program. The inspectors reviewed the following corrective action entries: 32431, 32461, 32497, 32733, 32953, 33047, 33221, 33260, and 34470.

The inspectors reviewed the training for radiological waste workers to verify the training addressed the various aspects of radiological waste handling, packaging, storage, and preparation for shipment.

The inspectors reviewed the training records for select radiological waste workers to verify they were qualified and maintained their training current.

The inspectors reviewed the licensee's quality assurance (QA) program to verify the program was adequately maintained to comply with the waste classification and characterization requirements.

The inspectors reviewed records to verify the licensee identified and classified radioactive waste streams associated with plant operations in accordance with 10 CFR 61.55 and the license.

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 June 18, 2020 to Mr. Brad Beard and staff. Proprietary information was discussed but not included in the report.

SUPPLEMENTAL INFORMATION

1. KEY POINTS OF CONTACT

Licensee personnel

<u>Name</u>	<u>Title</u>
B. Henderson	Radiation Safety Manager
D. Nay	GNF Engineering and Technology
P. Ollis	Facility Licensing
J. Rohner	Manager, Fuels EHS
K. Williams	EHS Specialist

2. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

3. INSPECTION PROCEDURES USED

88030, Appendix A	Radiation Protection
88035	Radioactive Waste Management
88045	Effluent Control and Environmental Protection

4. DOCUMENTS REVIEWED

Records:

2019 Aeration Basin Trace U Results
2019 ALARA Environmental Monitoring and Effluent Review, dated 05/11/2020
2019 Annual ALARA Review, - FMO, WFSC, GLE and SCO
2019 FMO COMPLY Report, dated 01/13/2020
2019 Radiation Protection Performance Assessment
Drew Reeside EHS Compliance Auditor Certification, dated 04/29/2019
EHS-2020-15, 2020 Wilmington RP Annual Assessment, Rev. 0, dated 06/10/2020
Environmental Monitoring Program 2019 Radiation Notebook, dated 03/05/2020
First Quarter Environmental Audit 2020, dated March 20, 2020
Fourth Quarter Environmental Audit 2019, dated 12/09/2019
GE EHS Org Chart, dated 05/29/2020
GNFA Semi-Annual Effluent Monitoring Report July 2018 to December 2018, dated 02/22/2019
GNFA Semi-Annual Effluent Monitoring Report January 2019 to June 2019, dated 08/29/2019
GNFA Semi-Annual Effluent Monitoring Report July 2019 to December 2019, dated 02/25/2020
GNFA Written Follow-up Report NPDES Bypass, dated 11/0/2019
Karen Williams EHS Compliance Auditor Certification, dated 07/30/2018

Karen Williams Emergency Organization Position Candidate Nomination, dated 08/01/2018
 Quarterly Aeration Basin pH Calibration, 1Q 2019 to 1Q 2020, dated 05/13/2020
 Quarterly Aeration Tank pH Adjustment Calibration, 1Q 2019 to 1Q2020, dated 05/13/2020
 Quarterly North Final Process Lagoon Weir Box pH Calibration, 1Q 2019 to 1Q 2020, dated 05/08/2020
 Quarterly North Lagoon Outfall Structure pH Transmitter Calibration, 1Q 2019 to 1Q 2020, dated 05/08/2020
 Quarterly Site Dam pH Indicator and Alarm Calibration, 1Q 2019 to 1Q2020, dated 05/13/2020
 Quarterly South Final Process Lagoon Weir Box pH Calibration, 1Q 2019 to 1Q 2020, dated 05/08/2020
 Quarterly South Lagoon Outfall Structure pH Transmitter Calibration, 1Q 2019 to 1Q 2020, dated 05/08/2020
 Second Quarter Environmental Audit 2019, dated 06/28/2019
 Semi-annual Verification of Stack Rotometer GAD EXH 2088, dated 03/20/2020
 Semi-annual Verification of Stack Rotometer Old Blender 620X, dated 03/20/2020
 Semi-annual Verification of Stack Rotometer PTL 641X, dated 03/20/2020
 Semi-annual Verification of Stack Rotometer WHSE621X, dated 03/20/2020
 Third Quarter Environmental Audit 2019, dated 09/27/2019

Procedures:

COI-6004, Determination of Trace Uranium in Soil, Vegetation, Sludge, or Slurry using Kinetic Phosphorescence Analyzer, Rev. 3
 CP-18-104, EHS Regulatory Compliance Audits, Rev. 3, dated 01/25/2016
 EPI-E-5.0, Generation of Semi-Annual Effluent Report, Rev. 20, dated 11/21/2019
 EPI-O-2.0, Environmental Sampling of the Final Process Lagoon System, Aeration Basin, and Site Dam, Rev. 47, dated 01/15/2020
 EPI-O-3.0, Sample Collection at GE River Dock and Castle Hayne, Rev. 45, dated 06/02/2020
 EPI-O-6, Stack Sampling Program, Rev. 76, dated 06/02/2020
 EPI-O-7, Soil, Ditch, Vegetation, and State Split Sampling Program, Rev. 47, dated 06/08/2020
 EPI-O-8, Sample Collection from Site Wells, Rev. 62, dated 06/05/2020
 EPI-O-9, Environmental Ambient Air Sampling Stations, Rev. 41, dated 06/02/2020
 OP 1080.69.100, Waste Treatment Sampling—General Information, Rev. 02, dated 01/04/2019
 OP 1080.69.202, Waste Treatment Sampling—Normal Operations, Rev. 02, Dated 02/08/2019
 OP-1080.12.000, Outside Pad Storage Table of Contents, Rev 00, dated 7/21/2016
 OP-1080.12.100, Outside Pad Storage General Information, Rev 03, dated 8/5/2019
 OP-1080.12.201, Outside Pad Storage Requirements, Rev 09, dated 5/18/2020
 OP-1080.12.202, Outside Pad Storage Abnormal and Emergency Operations, Rev 01, dated 3/29/2017
 OP-1081.01.100, Incinerator General Information, Rev 02, dated 5/29/2018
 OP-1081.01.101, Incinerator MC&A, Rev 01, dated 4/18/2019
 OP-1081.01.201, Incinerator Startup, Rev 10, dated 1/8/2020
 OP-1081.01.202, Incinerator Normal Operations, Rev 14, dated 5/21/2020
 OP-1081.01.203, Incinerator Shutdown, Rev 04, dated 1/8/2020
 OP-1081.01.204, Incinerator Abnormal Operations, Rev 06, dated 6/9/2020
 OP-1081.01.205, Incinerator Emergency Operations, Rev 02, dated 5/21/2020
 OP-1081.01.206, Incinerator Basic Operator Maintenance, Rev 06, dated 9/18/2019

OP-1081.01.300, Incinerator Process Operations, Rev 05, dated 5/21/2020
WI-27-102-05, Waste Control and Disposal, Rev. 2.2, dated 01/17/2020
WI-27-102-08, Contamination Measurement and Control, Rev. 6.0, dated 10/17/2018
WI-27-102-14-02, Calibration and Operation of the Canberra AFH2000 Hand and Foot Monitor, Rev. 3.0, dated 05/01/2020
WI-27-102-16, Respiratory Protection Program, Rev. 5.0, dated 08/26/2020
WI-27-102-25, HVAC Surveys To Detect Uranium Accumulation, Rev. 8.0, dated 06/01/2020

Condition Reports Reviewed:

CR 31880, CR 32431, CR 32461, CR 32497, CR 32685, CR 32733, CR 32953, CR 33047, CR 33129, CR 33212, CR 33221, CR 33260, CR 33315, CR 33355, CR 33446, CR 34394, CR 34470, CR 34494

Other Documents:

Compliance Sampling Action Level Investigation for Monitoring Well PL-11A, dated 10/29/2015
GEH EHS Organization Chart, dated 05/29/2020
NSR/R 15.01.01, DCP General, Rev. 9, dated 03/25/2019
Power Point Presentation for 49 CFR 172.704(A), Training Requirements for the radiation Protection Monitor