



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

October 26, 2010

Ms. Nicole Holmes
Chief Operating Officer and Facility Manager
Global Nuclear Fuel – Americas, L.L.C.
P.O. Box 780, Mail Code J20
Wilmington, NC 28402

SUBJECT: NUCLEAR REGULATORY COMMISSION INSPECTION REPORT
NO. 70-1113/2010-008

Dear Ms. Holmes:

The U.S. Nuclear Regulatory Commission (NRC) conducted an announced, routine inspection from October 11-14, 2010, at your Wilmington, North Carolina, facility. The enclosed report presents the results of the inspection. The purpose of the inspection was to perform a routine review of the implementation of the Radioactive Waste Management and Transportation programs. This review was performed to determine whether activities authorized by the license were conducted safely and in accordance with NRC requirements. At the conclusion of the inspection, the findings were discussed with members of your staff at an exit meeting held on October 14, 2010.

The inspection was an examination of 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 inspection consisted of facility walk downs; selective examinations of relevant procedures and records; interviews with plant personnel; and plant observations. Throughout the inspection, observations were discussed with your managers and staff.

Based on the results of the inspections, no violations of regulatory requirements occurred.

In accordance with 10 CFR 2.390 of NRC's "Rules of Practice," 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 document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

N. Holmes

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If you have any questions, please call me at (404) 997-4629.

Sincerely,

/RA/ M. Thomas for

Marvin D. Sykes, Chief
Fuel Facility Inspection Branch 3
Division of Fuel Facility Inspection

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

Enclosure: NRC Inspection Report

cc w/encl:
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Facility Licensing
Global Nuclear Fuels – Americas, L.L.C.
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***see previous concurrence**

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ADAMS: Yes ACCESSION NUMBER: _____ SUNSI REVIEW COMPLETE

OFFICE	RII:DFFI	RII:DFFI					
SIGNATURE	RP 10/26/10	MT 10/26/10					
NAME	RPrince*	MThomas*					
DATE	10/ /2010	10/ /2010	10/ /2010	10/ /2010	10/ /2010	10/ /2010	10/ /2010
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

U.S. NUCLEAR REGULATORY COMMISSION
REGION II

Docket No.: 70-1113

License No.: SNM-1097

Report No.: 70-1113/2010-008

Licensee: Global Nuclear Fuel - Americas, LLC

Location: Wilmington, North Carolina

Dates: October 11-14, 2010

Inspector: Robert Prince, Fuel Facility Inspector

Approved by: Marvin D. Sykes, Chief
Fuel Facility Branch 3
Division of Fuel Facility Inspection

Enclosure

EXECUTIVE SUMMARY

Global Nuclear Fuel - Americas, LLC
NRC Inspection Report No. 70-1113/2010-008

A routine, announced inspection was conducted by a regional inspector during normal shifts in the areas of radioactive waste management and transportation. During the inspection period, normal production activities were ongoing. This inspection included field observations of work activities, review of selected records, and interviews with plant personnel.

Radioactive Waste Management

Radioactive waste storage containers were properly labeled and maintained, and radioactive waste storage areas were properly posted and maintained in accordance with approved procedures. Activities associated with the handling, packaging, and storage of radioactive waste were adequate to ensure the health and safety of workers and members of the public. Calibration and operation of waste assay systems were maintained in accordance with approved procedures.

Transportation

Plant procedures adequately specified the responsibilities of personnel and organizations responsible for the transportation of radioactive materials. Activities associated with the receipt and handling of UF₆ cylinders were performed in a safe manner in accordance with approved procedures. Radioactive material shipment manifests were complete and accurately reflected the contents of shipments.

Attachment

List of Persons Contacted
List of Items Opened, Closed, and Discussed
Inspection Procedures Used
Documents Reviewed

REPORT DETAILS

1. Summary of Plant Status

Global Nuclear Fuels - America, LLC manufactures uranium dioxide (UO₂) powder, pellets, and light water reactor fuel bundles at its Wilmington, NC facility. During the inspection, the facility was converting uranium hexafluoride (UF₆) to UO₂ with a Dry Conversion Process (DCP) and performing UO₂ and gadolinia pellet and fuel fabrication operations. Waste operations consisted primarily of packaging and storage of dry waste and processing of wet sanitary waste.

2. Radioactive Waste Management (IP88035)

a. Inspection Scope and Observations

The inspection consisted of a review of the licensee's radioactive waste management procedures, field observations, and discussions with responsible personnel.

The inspector toured radioactive waste storage and handling areas. The areas were properly posted and storage containers were labeled in accordance with approved procedures and regulatory requirements. The inspector noted that the physical condition of storage containers was acceptable and adequate housekeeping standards were maintained in radioactive waste storage areas. The inspector noted that the licensee had made a significant reduction in the number of radioactive material combustible storage containers and ash metal containers stored in outside radioactive material storage areas since the last inspection. The reduction in the onsite radioactive material inventory resulted in several storage areas no longer containing any radioactive material. Through discussions with waste management personnel, the inspector determined that personnel were knowledgeable of the requirements associated with the storage and control of radioactive waste material and routine inspection requirements to maintain the integrity of storage containers.

The inspector reviewed Functional Test (FT) packages for various components classified as IROFS associated with the waste handling and processing systems. The requirements of the FT packages adequately tested the automatic functions and control features of the specified component.

Calibration procedures for various uranium assay systems were reviewed. The inspector reviewed the most recent calibration packages for the uranium assay systems. Calibration acceptance criteria were provided in the work package and supporting calibration procedures. The inspector discussed daily operational checks with an assay system operator. The individual was knowledgeable of key system operating parameters and actions to take in the event that performance criteria could not be met. The inspector noted that the facility where the "elephant gun" assay system is located had been refurbished since the previous inspection. Based on discussions with licensee personnel and review of documents the inspector noted that system out-of-service time had been significantly reduced since the refurbishment. A more stable operating environment has been established which has minimized impact on assay system electronic components and the supporting hardware.

The inspector observed the storage and handling of radioactive material within the Controlled Area. Storage containers and storage areas were adequately maintained. Controls to ensure that the quantity of uranium allowed storage within a given area were in place in accordance with approved procedures. Indicators to inform workers that allowable quantities of uranium were within approved storage limits were functional.

No findings of significance were identified.

b. Conclusions

Radioactive waste storage containers were properly labeled and maintained, and radioactive waste storage areas were properly posted and maintained in accordance with approved procedures. Activities associated with the handling, packaging, and storage of radioactive waste were adequate to ensure the health and safety of workers and members of the public. Calibration and operation of waste assay systems were maintained in accordance with approved procedures.

3. Transportation (IP 86740)

a. Inspection Scope and Observations

The inspection consisted of field observations, discussions with responsible personnel, and a review of selected documents.

Through a review of procedures, the inspector determined that the responsibilities and roles of Logistics personnel and organizations responsible for the transportation of radioactive and hazardous materials were adequately described. Training and qualification records for personnel appointed to the Logistics group since the last inspection were current.

The inspector observed the offloading, weighing and movement of incoming UF₆ cylinders. The handling and movement of cylinders was performed in a controlled manner. Licensee personnel verified that weights of the cylinders were within acceptable limits and entered appropriate data into the material electronic tracking data base. Storage areas containing UF₆ cylinders were noted to be properly posted and access controlled in accordance with approved procedures. Cylinders were stored in the proper configuration.

The inspector reviewed manifests for export shipments of uranium oxide powder. Manifests accurately reflected the contents of the shipments and all required supporting documentation was included in the manifests. The contents of shipments were in accordance with the export licenses under which the shipment was made.

The inspector reviewed manifests associated with shipments of radioactive waste materials to disposal facilities. Manifests accurately characterized the waste material and quantity of radioactive material associated with a given shipment.

No findings of significance were identified.

b. Conclusions

Plant procedures adequately specified the responsibilities of personnel and organizations responsible for the transportation of radioactive materials. Activities associated with the receipt and handling of UF6 cylinders were performed in a safe manner in accordance with approved procedures. Radioactive material shipment manifests were complete and accurately reflected the contents of shipments.

4. Off Normal Event

On October 14, 2010, at approximately 3:40 p.m. licensee personnel reported the presence of propane odors in the vicinity of process furnaces. Response teams were dispatched to the affected areas. Elevated levels of carbon monoxide were discovered. The concentrations of carbon monoxide were below established actions levels and below OSHA exposure limits. As a precautionary measure the licensee activated the onsite Emergency Control Center (ECC) and restricted access to affected areas. The licensee obtained additional measurements of carbon monoxide (CO) concentrations in affected plant areas. Follow-up measurements confirmed that CO levels were within normal ranges and that no exposure limits had been exceeded.

Work to repair the underground natural gas feed pipe line to the facility had been previously scheduled. Natural gas is utilized as the fuel source for various furnaces used in fuel pellet fabrication processes. The licensee suspected that the cause of the odor was most likely a result of incomplete combustion of the feed gas to the furnaces when the fuel supply was switched to the backup propane source when work commenced on the natural gas feed line. Pending final evaluation of the event the licensee believes the most likely cause of the event was improper setting of the regulator to ensure complete combustion of the propane. There was no impact on plant operations or personnel injuries as a result of this situation. The event did not involve license material and was not reportable.

The inspector noted that the licensee made a conservative decision in activating the onsite ECC. Licensee personnel responded in a timely and effective manner. ECC operations adequately assessed the situation and implemented response measures to ensure the safety of workers and plant areas.

5. Exit Meeting

The inspection scope and results were summarized on October 14 with S. Murray, Manager, Licensing & Liabilities and other members of the licensee's staff. Although proprietary information and processes were reviewed during this inspection, proprietary information is not included in this report.

ATTACHMENT

1. LIST OF PERSONS CONTACTED

F. Beaty, FMO Controls
C. Goode, Logistics Team Leader
D. Holden, Sr. Logistics Specialist
M. Huntley, Nuclear Measurements
R. Martyn, Manager, Material control & Accounting
K. McGowan, DCP Engineer
S. Murray, Manager, Licensing & Liabilities
P. Ollis, Licensing Engineer, Licensing & Liabilities
M. Short, Area Manager
W. Stout, Project Manager, Energy Solutions

2. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

<u>Item Number</u>	<u>Status</u>	<u>Description</u>
EN 42747	Closed	Failure of the criticality warning system to sound during a routine monthly horn test.
EN 43637	Closed	Investigation of an unusual sinter test measurement result, it was determined that one of the IROFS, as documented in the ISA summary, had degraded.
EN 44161	Closed	35 quart mop bucket being placed into an unauthorized area.
EN 45785	Closed	SNM being placed into a waste collection bag which violated one of the administrative requirements for double contingency.
EN 46168	Closed	Failure of safe geometry IROFS 30206, "Slugger Hood Geometry," on the gadolinia slugger press in FMO.

Note: All the above items were previously closed in Inspection Report number 70-1113/2010-202.

3. **INSPECTION PROCEDURES USED**

IP 88035 Radioactive Waste Management
 IP 86740 Transportation

4. **LIST OF DOCUMENTS REVIEWED**

OP 2000.04, Rev. 15, Shipment & Traffic General Instructions
 OP 2000.01, Rev. 19, Shipment of NPC
 OP 2000.10, Rev. 10, Shipment of UF6 Material & Containers
 OP 2000.12, Rev. 2, Shipment of Radioactive Materials Limited Quantity Samples
 OP 2000.02, Rev. 21, PA Outer Container Refurbishing
 OP 1080.12, Rev. 27, Outside Pad Storage
 OP 1080.20, Rev. 30, Decon Facility Operations
 OP 1080.60, Rev. 16, Elephant Gun
 OP 1080.01, Rev. 19, Incinerator
 Quality Notice QN-00686, Rev. 2, E-Gun Verification Limits for Combustible Waste Boxes
 Quality Notice QN-00642, Rev. 4, ICAMS-New Verification limits for Both the ABM and ACM
 Calibration Work Order 336257, Annual Calibration V-9010 Recirculation Density DT-9010 V-9 (Tag #DT)
 Calibration Work Order 317870, Annual Calibration, Liquid Uranium Waste Water Pipe Detector (Tag #AE271)
 Technical Report TR 1900.00, Rev. 4, FMO Rad Waste Overview & Utilities
 Technical Report INC-547, Rev. 8, Contaminated Combustible Waste Incinerator
 Technical Report NDA-005a, Rev. 0, Development of Gamma Ray Scanner for Uranium Assay of Ash Cans
 Functional Test Instruction, PRI 5-05, Rad Lermeate Flow to Sewer ID Stopped on High U (Pipe Detector Test) AE-638
 Functional Test Instruction 1910.02, Rev. 2, Density Interlock on Rad Aging Tank (IROFS 60303)
 Functional Test Instruction 1910.01, Rev. 2, Density Interlocks on Rad Accumulators (IROFS 60301)
 Functional Test Instruction 2100.00, Rev. 4, Scrap Metal Can Mass Hood and Material Type Control at the Entrance Gate and Exit Gate of Scrap Can Transfer Hood EN1100