



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

September 2, 2011

EA-11-095

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

SUBJECT: NRC INSPECTION REPORT NO. 70-1113/2011-009

Dear Ms. Holmes:

This letter refers to five unresolved items (URIs) that were identified by an NRC Special Inspection Team during an inspection to assess the facts and circumstances surrounding the failure to maintain mass control within the uranium dioxide (UO₂) sinter test grinding station high efficiency particulate air (HEPA) filter enclosure on March 1, 2011, and documented in NRC Inspection Report No. 70-1113/2011-006.

Based on the results of the inspection and further review, five apparent violations were identified and are being considered for escalated enforcement action in accordance with the NRC Enforcement Policy. The current Policy is included on the NRC's Web site at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>.

The first apparent violation, derived from URI 70-1113/2011-006-01, involves a failure to ensure that a process design incorporated sufficient margins of safety to require at least two unlikely, independent, and concurrent changes in process conditions before a criticality accident was possible as required by Material License Safety Condition 1, "Authorized Use." Section 5.1.1 of the License Application states that double contingency principle is the fundamental technical basis for design and operation of processes within the GNF-A fuel manufacturing operations using fissile materials. This apparent violation is identified as 70-1113/2011-009-01, "Failure to Meet Double Contingency."

The second apparent violation, derived from URI 70-1113/2011-006-02, involves a failure to apply sufficient controls to the extent needed to reduce the likelihood of occurrence of a criticality, high consequence event, in the sinter test grinder HEPA filter enclosure so that, upon implementation of such controls, the event was highly unlikely. Title 10 of the *Code of Federal Regulations* (10 CFR) 70.61(b) requires, in part, that the risk of each credible high-consequence event must be limited. This apparent violation is identified as 70-1113/2011-009-02, "Failure to Meet Performance Requirements of 10 CFR 70.61(b)."

The third apparent violation, derived from URI 70-1113/2011-006-03, involves a failure to verify as part of the change process that the controls selected and installed for the sinter test grinder HEPA enclosure (Change Request 4127) would limit the UO₂ holdup to less than 25 kgs by controlling a differential pressure across the ventilation housing to 4-inches of water or less as

required by Materials License Safety Condition 1, "Authorized Use" and documented in criticality safety analysis (CSA) – No. 2310.00, Primary HEPA Filter Systems. Section 5.4.1.1, Verification Program, of the License Application, states, in part, that the purpose of the verification program is to assure that the controls selected and installed fulfill the requirements identified in the CSA. This apparent violation is identified as 70-1113/2011-009-03, "Failure to validate assumptions related to mass control."

The fourth apparent violation, derived from URI 70-1113/2011-006-04, involves a failure to conduct a CSA on the Sinter Test Grinder, and instead performed a criticality safety summary that did not meet the license requirement of conducting a CSA as required by Materials License Safety Condition 1, "Authorized Use." Section 5.3.1, General Configuration Management, of the License Application, states, in part, that a CSA is prepared or updated for new or significantly modified fissile units, processes, or facilities within GNF-A. Section 5.4.5.5, Criticality Safety Analysis, of the License Application states, in part, that a CSA includes applicable information requirements as follows: Scope, General Discussion, Criticality Safety Controls/Bounding Assumptions, Model Description, Calculational Results, Safety During Upset Conditions, Specifications and requirements for Safety, Compliance, Verifications, and Appendices. This apparent violation is identified as 70-1113/2011-009-04, "Failure to conduct a CSA as required by the License Application."

The fifth apparent violation, derived from URI 70-1113/2011-06-05, involves a failure to implement Nuclear Safety Instruction (NSI) O-15.0 as required by Materials License Safety Condition 1, "Authorized Use." Section 11.5, Procedures, of the License Application, states that licensed material processing or activities will be conducted in accordance with properly issued and approved management control procedures. Section 5.2.3.3, "Primary HEPA Filter Housing Transition," of NSI O-15.0, Revision 33, stated, in part, that if the survey results of a transition exceed the action limit of 0.5 milliRoentgen/hour above background, Heating, Ventilating and Conditioning personnel, and the area manager are to be notified and request a clean out of the affected transition. This apparent violation is identified as 70-1113/2011-009-05, "Failure to follow procedure for exceeding radiation protection action limits."

Since the NRC has not made a final determination in this matter, a Notice of Violation is not being issued for these inspection findings at this time.

An open predecisional enforcement conference to discuss the apparent violations will be scheduled. Please contact Mr. Marvin Sykes at (404) 997-4629 within ten (10) days of the date of this letter to schedule a date and time for the pre-decisional enforcement conference to be held at the NRC Region II office. This conference will be open to public observation in accordance with Section 2.4 of the NRC Enforcement Policy. The decision to hold a pre-decisional enforcement conference does not mean that the NRC has determined that violations have occurred or that enforcement action will be taken. This conference is being held to obtain information to assist the NRC in making an enforcement decision. The conference will provide an opportunity for you to present your perspectives on these matters and any other information that you believe the NRC should take into consideration in making an enforcement decision. When presenting your perspectives, please be prepared to include all information regarding the significance of the apparent violations, all information related to the identification of violations, and all information related to any corrective actions taken or planned to be taken. In presenting your corrective actions, you should be aware that the promptness and comprehensiveness of your actions will be considered in assessing any civil penalty for the apparent violations. The guidance described in NRC Information Notice 96-28, "Suggested Guidance Relating to

Development and Implementation of Corrective Actions," may be helpful. You will be advised by separate correspondence of the results of our deliberations on this matter. No written response regarding these apparent violations is required at this time.

This letter documents closure of the following unresolved items:

- URI 70-1113/2011-006-01, Failure to maintain double contingency,
- URI 70-1113/2011-006-02, Failure to meet the performance requirements of 10 CFR 70.61,
- URI 70-1113/2011-006-03, Failure to validate assumptions related to mass control,
- URI 70-1113/2011-006-04, Failure to conduct a CSA as required by the license application,
- URI 70-1113/2011-006-05, Failure to follow procedure for exceeding radiation protection action limits.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter 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>. If you choose to response, 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.

Should you have any questions, please feel free to contact Marvin Sykes of my staff at (404) 997-4629.

Sincerely,

/RA/

Anthony T. Gody, Director
Division of Fuel Facility Inspection

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

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

Lee Cox, Chief
Radiation Protection Section
N.C. Department of Environmental
Commerce and Natural Resources
Electronic Mail Distribution

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Electronic Mail Distribution
*see previous concurrence

X PUBLICLY AVAILABLE ☐ NON-PUBLICLY AVAILABLE ☐ SENSITIVE X NON-SENSITIVE
ADAMS: X Yes ACCESSION NUMBER ML11245A088 XSUNSI REVIEW COMPLETE X FORM 665 ATTACHED

OFFICE	RII:DFFI	RII:DFFI	RII:EICS				
SIGNATURE	/RA/	/RA/	/RA/				
NAME	OLopez*	MSykes*	SSparks*				
DATE	8/24/11	8/24/11	9/1/11	9/ /2011	9/ /2011	9/ /2011	9/ /2011
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY DOCUMENT NAME: G:\DNMS\I\FFBI\ENFORCE\GLOBAL NUCLEAR FUEL\EA-11-095 - MASS ACCUMULATION ON HEPA FILTER\PEC INVITATION LETTER REV1.DOCX

Letter to Ms. Nicole Holmes from Anthony T. Gody dated September 2, 2011

SUBJECT: NRC INSPECTION REPORT NO. 70-1113/2011-009

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