



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
SAM NUNN ATLANTA FEDERAL CENTER  
61 FORSYTH STREET, SW, SUITE 23T85  
ATLANTA, GEORGIA 30303-8931

November 6, 2009

EA-09-268

Mr. Sean Fuller  
Chief Operating Officer and Facility Manager  
Global Nuclear Fuel - Americas, L.L.C.  
P.O. Box 780  
Wilmington, NC 28402

SUBJECT: PRE-DECISIONAL ENFORCEMENT CONFERENCE, INSPECTION REPORT  
NO. 070-1113/2009-010

Dear Mr. Fuller:

This letter refers to inspections conducted from November 7, 2008, through August 28, 2009, at your Wilmington, NC facility. The inspections examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions in your license. Within these areas, the inspections consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel. One of the inspections was a supplemental inspection to follow up on issues related to your Integrated Safety Analysis. Enclosure 1 of this letter summarizes several issues which were documented in references 1, 2 and 3 of Enclosure 2. References 4 and 5 provided additional background information.

Based on the results of the inspections, five apparent violations were identified and are being considered for escalated enforcement action in accordance with the Nuclear Regulatory Commission's (NRC) Enforcement Policy. The current Enforcement Policy is included on the NRC's web site at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforc-pol.html>. The apparent violations involve the failure to identify credible accident scenarios during process hazard analyses or document them in the Integrated Safety Analysis Reference Report; the failure to identify criticality accident scenarios as high consequence events; and three separate failures to designate controls as items relied on for safety when they were necessary to meet the performance requirements of Title 10 of the Code of Federal Regulations (CFR) 70.61(b).

The apparent violations are of concern to the NRC because they appear to indicate a programmatic issue with your Integrated Safety Analysis. Specifically, these apparent violations indicate a systematic and consistent failure to identify and categorize accident sequences and declare items relied on for safety in accordance with your Integrated Safety Analysis methodology and the requirements of 10 CFR Part 70. Since the NRC has not made a final determination in this matter, a Notice of Violation is not being issued for these apparent violations at this time.

In addition, please be advised that the number and characterization of apparent violations described in Enclosure 1 may change as a result of further NRC review.

The NRC is requesting your attendance at a pre-decisional enforcement conference to discuss the apparent violations. Please contact Mr. Daniel Rich at (404) 562-4721 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 V of the NRC Enforcement Policy.

The decision to hold a pre-decisional enforcement conference does not mean that the NRC has determined that a violation has 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 perspective on these matters and any other information that you believe the NRC should take into consideration in making an enforcement decision. When presenting your perspective, please include information related to whether the violations occurred, information to determine the significance of the violations, your assessment of the programmatic nature of these violations, information related to the identification of the violations, and information related to any corrective actions taken or planned. 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 Action," may be helpful.

Two unresolved items identified in references 2 and 3 of Enclosure 2 addressed failures to designate controls as items relied on for safety when they were necessary to meet performance requirements, and are re-characterized by this letter as apparent violations 4 and 5 in Enclosure 1. Unresolved items (URIs) 070-1113/2009-006-001 and 2009-005-002 are closed and apparent violations (APVs) 070-1113/2009-010-001 and 2009-010-002 are opened by this letter.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosures 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>.

Should you have any questions, please feel free to contact us.

Sincerely,

/RA/

Eugene Cobey, Deputy Director  
Division of Fuel Facility Inspection

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

Enclosures: (See page 3)

Enclosures: 1. Summary of Apparent Violations  
2. References

cc w/encls:  
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Facility Licensing  
Global Nuclear Fuels - Americas, L.L.C.  
Electronic Mail Distribution

Beverly Hall, Chief  
Radiation Protection Section  
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PUBLIC

\*see previous concurrence

PUBLICLY AVAILABLE       NON-PUBLICLY AVAILABLE       SENSITIVE       NON-SENSITIVE  
ADAMS:  Yes      ACCESSION NUMBER: \_\_\_\_\_       SUNSI REVIEW COMPLETE

OFFICE	RII:NMSS	RII:DFFI	RII:DFFI	RII:EICS	RII:NMSS	RII:NMSS	
SIGNATURE	/RA/	/RA/	/RA/	/RA/	/RA/	/RA/	
NAME	M.Bailey*	RGibson*	DRich*	CEvans*	DMorey*	PSilva*	
DATE	11/ /2009	11/ /2009	11/ /2009	11/ /2009	11/ /2009	11/ /2009	11/ /2009
E-MAIL COPY?	YES NO						

## SUMMARY OF APPARENT VIOLATIONS

1. (Apparent Violation 70-1113-2009-203-01) Safety Condition S-1 of Special Nuclear Material License 1097 requires that material be used in accordance with the statements, representations, and conditions of the application dated June 5, 1997, and December 7, 1999; and supplements thereto. Section 3.3 of the License Application states that the purpose of the process hazard analysis, which is part of the Integrated Safety Analysis, is to: identify the hazards associated with the fuel manufacturing facility; identify credible accident scenarios and their causes; and determine the unmitigated risks of these hazards. The results of the process hazard analysis are documented in the Integrated Safety Analysis Reference Report. On or before July 2, 2009, the licensee failed to identify the following credible accident scenarios and their causes in the process hazard analysis or document them in the Integrated Safety Analysis Reference Report:
  - Operator removes a unicorn from a moderator restricted area (MRA), thus defeating all MRA controls;
  - Water leaks through roof and enters process equipment or spilled powder within an MRA;
  - Operator brings in more water than permitted in the MRA and spills onto process equipment or spilled powder;
  - Non-carbon dioxide fire extinguisher is used in MRA and fissile material becomes moderated; and
  - Moderator from process piping leaks through secondary pipe and enters process equipment or spilled fissile material in an MRA.
  
2. (APV 70-1113/2009-203-02) Safety Condition S-1 of Special Nuclear Material License 1097 requires that material be used in accordance with the statements, representations, and conditions of the application dated June 5, 1997, and December 7, 1999; and supplements thereto. Section 3.3.5 of the License Application states that for each credible accident scenario identified, the Integrated Safety Analysis team assigned a severity rank for the consequences using the consequence severity ranking in Table 3.1 and documented the assigned severity rank in the Integrated Safety Analysis database. Table 3.1 of the License Application states that criticality accidents are a severity rank of 3, which corresponds to a high consequence event. On or before July 2, 2009, the licensee failed to identify nearly 300 criticality accident scenarios as high consequence when it assigned the scenarios a severity rank of 1 (i.e., low consequence).

3. (APV 70-1113/2009-203-03) As stated in Title 10 of the Code of Federal Regulations (CFR) 70.61(e), each engineered or administrative control or control system necessary to comply with the performance requirements of 10 CFR 70.61(b), (c), or (d) shall be designated as an item relied on for safety. On or before July 2, 2009, the licensee failed to designate controls as items relied on for safety when they were necessary to meet the performance requirements of 10 CFR 70.61(b) for the following cases:
  - Gadolinia vibro-mill, dry conversion, and other processes where criticality accidents are prevented by moderation controls associated with moderator restricted area;
  - Line 5 grinder and associated equipment;
  - Primary high efficiency particulate air filter system; and
  - Outside scrap storage.
4. (APV 70-1113/2009-010-01; Unresolved Item (URI) 70-1113/2009-006-001 closed) As stated in 10 CFR 70.61(e), each engineered or administrative control or control system necessary to comply with the performance requirements of 10 CFR 70.61(b), (c), or (d) shall be designated as an item relied on for safety. On or before August 28, 2009, the licensee failed to designate controls as items relied on for safety when they were used to consider an accident scenario as not credible. Specifically, Section 27 of the Integrated Safety Analysis Reference Report, "Reactor off-gas line, including hydrofluoric acid condensers," states, in part, that a large release of reactor off-gas to the environment (between the dry conversion process and hydrogen fluoride buildings), which is identified as a high consequence event, has an unmitigated likelihood of not credible. The Reference Report lists safeguards, such as shutdown of all dry conversion process lines if a high lift or crane is used near the hydrogen fluoride exhaust lines between buildings and periodic visual inspection of the piping system, but did not designate these controls as items relied on for safety.
5. (APV 70-1113/2009-010-02; URI 70-1113/2009-005-002 closed) As stated in 10 CFR 70.61(e), each engineered or administrative control or control system necessary to comply with the performance requirements 10 CFR 70.61(b), (c), or (d) shall be designated as an item relied on for safety. On or before July 30, 2009, the licensee failed to designate controls as items relied on for safety when they were relied on to reduce the likelihood of occurrence of a high consequence event so that, upon implementation of such controls, the event would be highly unlikely. Specifically, for accident sequences 1.4 and 110.7, the licensee relied on control of combustibles and flammable materials to reduce the likelihood of occurrence of a fire that could challenge the integrity of a uranium hexafluoride cylinder, but did not designate this control as an item relied on for safety.

## REFERENCES

1. Inspection Report 070-1113/2009-203, dated August 13, 2009 (ML092080048)
2. Inspection Report 070-1113/2009-005, dated September 10, 2009 (ML092530713)
3. Inspection Report 070-1113/2006-006, dated October 5, 2009 (ML092780283)
4. Inspection Report 070-1113/2008-206, dated November 7, 2008 (ML082950719)
5. Inspection Report 070-1113/2009-202, dated June 17, 2009 (ML091520223)