



**Global Nuclear Fuel**

A Joint Venture of GE, Toshiba, & Hitachi

**Global Nuclear Fuel**

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US Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Nuclear Material Safety and Safeguards  
Division of Fuel Cycle Safety and Safeguards  
Washington, DC 20555

Subject: Reply to Notice of Violation

References: 1) SNM-1097, Docket 70-1113  
2) NRC Inspection Report No. 70-1113/2012-201 and Notice of Violation, 4/5/12  
3) GNF-A Extension Request, S.P. Murray to T. Hiltz, 4/27/12  
4) NRC Approval of Request for Extension, T. Hiltz to S.P. Murray, 5/31/12  
5) Discussion between S.P. Murray and T. Hiltz, 6/12/12  
6) GNF-A Extension Request, S.P. Murray to T. Hiltz, 6/13/12  
7) NRC Approval of Request for Extension, T. Hiltz to S. P. Murray, 6/14/12

Dear Mr. Hiltz:

Enclosed with this letter is Global Nuclear Fuel – Americas, LLC's (GNF-A) response to the Notice of Violation described in Reference 2.

Attachment 1 provides GNF-A's response to the violation.

Please contact me at (910) 819-5950 if you have any questions or would like to discuss this matter further.

Sincerely,

Scott Murray, Manager,  
Facility Licensing

Commitment: Complete long term preventive action by 3/31/13

cc:

V. M. McCree, NRC Regional Administrator, Region II Atlanta  
M. Sykes, USNRC RII Atlanta  
M. Thomas, USNRC RII Atlanta  
R. Johnson, USNRC NMSS HQ  
M. N. Baker, USNRC NMSS HQ  
L. Cox, NCDECNR

Attachment 1

The information provided below summarizes the Notice of Violation dated April 5, 2012 associated with NRC Inspection Report 70-1113/2012-201

**VIOLATION NO. 2012-201-01**

**During a Nuclear Regulatory Commission (NRC) inspection from March 5 through 8, 2012, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:**

**Safety Condition No. S-1 of Special Nuclear Material License No. 1097 requires that material be used in accordance with the statements, representations, and conditions of the application dated April 2, 2007, and November 25, 2008; and supplements thereto.**

**License application Section 5.1.1, Nuclear Criticality Design Philosophy, states that process designs shall incorporate sufficient margins of safety to require at least two unlikely, independent, and concurrent changes in process conditions before a criticality accident is possible. For each process that has accident sequences that could result in an inadvertent nuclear criticality, a defense of one or more system parameters provided by at least two independent controls is documented in the criticality safety analysis, which is reviewed and enforced.**

**Contrary to the above, on February 13, 2012, the licensee failed to incorporate sufficient margins of safety into the process design to require at least two unlikely, independent, and concurrent changes in process conditions before a criticality accident is possible. Specifically, the licensee conducted operations of the Gadolinia Rotary Press Valve without a defense of system parameters provided by at least two independent controls. Such operational activities permitted the possibility of a criticality accident with only one change in process conditions.**

**This is a Severity Level IV Violation (Section 6.2 Fuel Cycle Operations).**

**GNF-A's Response to Violation:**

GNF-A concurs with the violation as described in inspection report number 70-1113/2012-201 in that there was a failure to maintain at least two independent controls for the pellet fabrication gadolinia press operation, as documented in the criticality safety analysis (CSA).

1) The reason for the violation

During a routine reassembly of the rotary feed valve on February 13, 2012, an operator error caused an incomplete valve assembly and led to an open pathway for powder from the feed hood to enter the feed tube. During the subsequent system startup, a second operator improperly loaded three cans of material to the feed hood. Due to improper seating of the rotary valve, material in excess of 36 kg was able to enter the feed tube. A root cause investigation determined the root causes of the event were less than adequate error prevention and detection practices and less than adequate worker oversight systems, processes and practices.

2) Short term corrective actions taken

- 1) Notified operations and EHS of the situation. Approval was given to run out the material in the gad press feed tube per procedure. The gad press operation was shut down along with other operations with similar feed hoods. Additional instructions and a fit-up go-no go gauge was fabricated and implemented for the valve reassembly process to ensure proper valve assembly.

Complete: February 13, 2012

- 2) Conducted stand downs with all fuel manufacturing operators to review the event and reinforce procedure adherence expectations.

Complete: February 16, 2012

- 3) Convened a Special Wilmington Safety Review Committee (WSRC) meeting to discuss event and issued EHS stop work notice for all press feed operations.

Complete: February 16, 2012

- 4) Completed retraining and recertification of affected operators including confirmed understanding of procedural compliance expectations. Additional surveillance of fuel manufacturing activities provided by supervision and engineers.

Complete: February 20, 2012

- 5) Convened a Special WSRC meeting to review completed actions and authorize restart of fabrication press feed operations.

Complete: February 20, 2012

- 6) Established ongoing surveillances of fuel manufacturing activities regarding procedure compliance.

Complete: March 12, 2012

3) Longer term preventive actions

- 1) Enhance both the mass control (in addition to the existing feed tube level sensor) and the feed tube geometry control on the gadolinia press operation. Update the affected ISA press operation accident sequences.

Scheduled completion: March 31, 2013

4) The date when full compliance will be achieved

Full compliance has been achieved. A longer term preventive action has been scheduled.