



**Global Nuclear Fuel**

A Joint Venture of GE, Toshiba, & Hitachi

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April 7, 2011

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D.C. 20555-0001

Attn: Document Control Desk

Subject: 30 Day Report of Event – Loss Or Degradation Of An Item Relied On For Safety Resulting In A Failure To Meet The Performance Requirements Of 10 CFR 70.61.

References: 1) NRC License SNM-1097, Docket 70-1113  
2) GNF-A Event Report 46669, 03/11/11

Dear Sir or Madam:

Pursuant to CFR 70.50(c)(2), the Global Nuclear Fuel – Americas L.L.C. (GNF-A) facility in Wilmington, North Carolina hereby submits the required written report for a condition where an isolation valve for a laser optical device failed to close. This resulted in a loss or degradation of an Item Relied On For Safety (IROFS) resulting in a failure to meet the performance requirements of 10 CFR 70.61. This represents an event reportable as per the requirements of 10 CFR 70 Appendix A(b)(2).

An initial report was made via facsimile to the NRC on March 11, 2011 (see Attachment) in accordance with 10 CFR 70.50(b)(2). This event did not result in an unsafe condition and is considered to be of no significance with respect to the health and safety of onsite personnel and the public.

Additional information is provided as follows.

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### **Event Details and Safety Significance**

On March 10, 2011, a Temporary Operating Procedure (TOP) was performed in preparation for a planned maintenance shutdown of the facility Test Loop (TL). As part of the TOP, two redundant sets of isolation valves for a TL laser optical device were required to be manually closed. Closure of each set of valves is designated as separate IROFS. Operability of both of these IROFS is required to meet the performance requirements of 10 CFR 70.61.

At approximately 0915 on March 10, 2011, during performance of the TOP, isolation valves comprising one of the IROFS closed as required. However, one of the isolation valves comprising the second IROFS failed to close. This condition represented a loss or degradation of an IROFS resulting in a failure to meet the performance requirements of 10 CFR 70.61. This is a condition reportable as per 10 CFR 70 Appendix A(b)(2).

At the time of the event, the TL laser was not operating and the laser optic device served by these IROFS was shutdown. In addition, the redundant IROFS operated as designed to isolate the laser optic device. Therefore, this event did not result in an unsafe condition and is considered to be of no significance with respect to the health and safety of onsite personnel and the public.

### **Probable Cause of Event**

An investigation identified debris in the poppet cylinder of the solenoid valve in the operating air supply to the isolation valve that failed to close. This debris prevented proper internal operation of the solenoid valve which precluded operating air from closing the isolation valve on demand. Causal analysis identified the cause of this event to be an inadequate installation specification which allowed the solenoid valve to be installed in an orientation that allowed external debris to fall into the poppet cylinder of the solenoid valve.

### **Immediate Corrective Actions**

- Secure and tag out the beam block for the laser optic device.  
Completed 3/10/11
- Remove debris from the affected solenoid valve.  
Completed 3/10/11
- Inspect and remove any debris from the solenoid valves in the operating air supply to other isolation valves for the affected laser optic device.  
Completed 3/10/11
- Notify the NRC in accordance with 10 CFR 70 Appendix A(b)(2) and 10 CFR 70.50(b)(2).  
Completed 3/11/11

### **Near-term Corrective Actions Taken**

- Assemble an Integrated Safety Analysis (ISA) team to review the event and augment laser optical device operation with a new IROFS. Revise analyses and supporting documents per internal configuration management procedures.  
Completed 3/25/11

- Per ISA team recommendations, update operating procedures, functional tests, and physical hardware for the laser optical device.  
Completed 3/25/11
- Change orientation of solenoid valves on the affected laser optical device to prevent debris intrusion.  
Completed 3/15/11

#### **Long-term (Preventive) Corrective Actions**

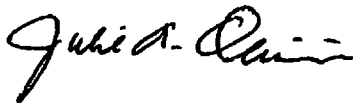
- Share design specifications operating experience (OE) from this event with controls team, engineering, and manufacturing personnel. Documented OE in a lessons learned database.  
Completed 3/16/11
- Determine if additional solenoid valves might be susceptible to the failure associated with this event and evaluate their installation method based on lessons learned.  
Completed 3/16/11 (No additional concerns were identified).

#### **Evaluation for 10 CFR Part 21 Notification**

This event was caused by an inadequate specification for installation of the affected solenoid valve. It does not represent a component defect or failure reportable under the requirements of 10 CFR 21. Therefore, GNF-A has determined that Part 21 notification requirements do not apply.

If additional information is needed regarding this report, please contact me on (910) 819-4799.

Sincerely,



Julie Olivier, Manager  
Global Laser Enrichment  
Licensing and Regulatory Affairs

Commitments: None

Attachment: Event Description

cc: NRC Region II Administrator, Atlanta, GA  
Nick Baker, HQ Washington, DC  
David Hartland, Region II, Atlanta, GA

## **Attachment – Description of Event Number 46669**

During a performance of temporary operating procedure on a laser optical device, it was identified that one of two valves used to isolate the device failed to operate. The valves are operated as a pair and the valves are redundant to provide defense in depth. One valve shut as expected. The second valve did not shut.

The valves are identified as an Item Relied on For Safety (IROFS). The system was not operating and one of the valves operated as designed. No unsafe condition existed.

Operability of both valves is required to meet the performance requirements of 10CFR70.61.

This event is being reported pursuant to the requirements of 10CFR70 Appendix A(b)(2) within 24 hours. The affected device will remain shutdown pending further investigation and implementation of associated corrective actions.

This event is of low safety significance - the discovery did not result in an unsafe condition.

Julie Olivier  
Licensing and Regulatory Affairs Manager