



**Global Nuclear Fuel**

A Joint Venture of GE, Toshiba, & Hitachi

**Global Nuclear Fuel**

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SPM 11-041

September 12, 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 – Hydrogen Supply Piping System

References: 1) NRC License SNM-1097, Docket 70-1113  
2) GNF-A Event Report 47152, 8/13/11

Dear Sir or Madam:

In accordance with 10CFR70.50(c)(2), Global Nuclear Fuel – Americas L.L.C. (GNF-A) hereby submits the 30 day follow-up report to Event Notification 47152, which was submitted on August 13, 2011 (Reference 2). As discussed in the event report, GNF-A discovered an unanalyzed condition in the Fuel Manufacturing Operation (FMO) building involving the hydrogen gas supply system. Consistent with 10CFR70.50(c)(1), a facsimile was submitted on August 13, 2011 providing additional information and is included as an attachment to this letter.

Additional information is provided as follows:

**Event Details and Safety Significance**

As part of the ongoing GNF-A review of the FMO Integrated Safety Analysis (ISA), accident sequences associated with hydrogen piping were being evaluated. As part of this evaluation, facility walk downs of the hydrogen supply piping were performed that identified a configuration that had not previously been analyzed. Sections of piping in the hydrogen supply system were identified without adequate leak protection measures. Based on a review of this as-found condition, it was determined at approximately 12PM on August 12, 2011 that the existing system was improperly analyzed in the ISA and resulted in a failure to meet performance requirements. Consistent with 10CFR70 Appendix A, the discovery was then reported within 24 hours to the NRC.

At no time was an unsafe condition present.

**Probable Cause of Event**

An investigation determined that the probable causes of the event were:

- The identified portion of the hydrogen supply piping system was inactive for many years and believed to have been partially removed in the mid 1990's.
- At that time, there were inadequate controls on methods to isolate and remove out of service piping.

**Immediate Corrective Actions Taken**

The hydrogen gas flow to the affected piping system inside the building was valved out on August 12, 2011.

The affected hydrogen piping system was purged and isolated with a threaded cap on August 13, 2011.

A walk down was conducted of the FMO combustible gas piping and valves on August 13, 2011 to determine extent of condition and confirm as-built conditions.

**Near-term Corrective Actions Taken**

Additional controls for hydrogen containment were identified and implemented. Specifically, unnecessary branches of the hydrogen supply network were disconnected and welded caps were installed to isolate it from the necessary portion of the hydrogen supply system.

Complete August 24, 2011.

A review team evaluated accident scenarios involving the hydrogen supply system to determine potential accident scenario likelihood and severity. Following the NRC approved ISA methodology, a quantitative risk assessment was performed and an IROFS for leak detection was identified for the necessary portion of the hydrogen supply piping.

Complete August 31, 2011.

**Longer-term Preventive Actions**

- 1) Implement management measures and training for the additional hydrogen supply IROFS.

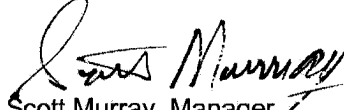
Scheduled completion – November 30, 2011

- 2) Minimize potential for accumulation and reduce or eliminate potential accident scenarios by rerouting the hydrogen piping outside the facility. This will eliminate the need for IROFS on the necessary portion of hydrogen supply piping.

Scheduled completion – December 31, 2011

If you have any questions regarding this matter, please contact me at (910) 819-5950.

Sincerely,



Scott Murray, Manager  
Licensing & Liabilities

Attachment 1: Event Description

cc: NRC Region II Administrator, Atlanta, GA  
M.N (Nick) Baker, NRC NMSS, Washington, DC  
M. L. Thomas, NRC RII Atlanta, GA

**Attachment 1**

**EVENT DESCRIPTION**

As part of the ongoing GNF-A review of the Fuel Manufacturing Operation (FMO) Integrated Safety Analysis (ISA), accident sequences associated with hydrogen piping are being evaluated. As part of this evaluation, facility walk downs of the piping were performed that identified a configuration that had not previously been analyzed. Based on a review of this as found condition, it was determined at approximately 12PM on August 12, 2011 that the system was improperly analyzed in the ISA and resulted in a failure to meet performance requirements.

Hydrogen supply to the affected piping system inside the building has been isolated. Additional corrective actions and extent of condition are being evaluated.

This event is being reported pursuant to the reporting requirements of 10CFR70 Appendix A (b)(1) within 24 hours of discovery.

Scott Murray  
Manager, Licensing and Liabilities  
11:00AM 8/13/11