



## **Global Nuclear Fuel**

A Joint Venture of GE, Toshiba, & Hitachi

## **Global Nuclear Fuel**

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SPM 11-047

September 16, 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 – Sinter Furnace Floor Trench

References: 1) NRC License SNM-1097, Docket 70-1113  
2) GNF-A Event Report 47161, 8/17/11

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 47161, which was submitted on August 17, 2011 (Reference 2). As discussed in the event report, GNF-A discovered a condition that had not been properly analyzed in the Fuel Manufacturing Operation (FMO) building involving the UO<sub>2</sub> sinter furnace area. Consistent with 10CFR70.50(c)(1), a facsimile was submitted on August 17, 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), facility walk downs of the UO<sub>2</sub> sinter furnace area were performed that identified a configuration that had not been properly analyzed. Based on a review of this as-found condition, it was determined at approximately 12PM on August 16, 2011 that a floor trench in the furnace area was improperly analyzed in a criticality safety evaluation. This resulted in a condition in which criticality controls that were necessary to meet double contingency were not maintained or available because the geometry of the trench was not properly modeled. Consistent with GNF-A internal reporting requirements, the discovery was then reported within 24 hours to the NRC.

The floor trench does not normally contain uranium, and has removable covers in place to prevent material accumulation. Per procedure, the trench was inspected for material accumulations during the routine maintenance shutdown last spring and inspected again on August 17, 2011. These inspections confirmed that no visible uranium accumulation was present.

At no time was an unsafe condition present.

### **Probable Cause of Event**

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

- It is believed that during the trench modeling activity in 2008, a full verification of the piping configuration did not occur to confirm the pipes ran the full length in the trench because of difficulties in removing the covers due to activities in the area.

#### **Immediate Corrective Action Taken**

A walk down was conducted of the sinter furnace area to determine extent of condition and confirm as-built conditions of the trench piping configuration.

Complete: August 16, 2011

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

The analysis performed in 2008 incorrectly assumed the likelihood of a significant, undetected, build-up of uranium in the trench to be a credible event when in fact a more recent review has determined this to not be the case.

The sinter furnace floor trench has now been evaluated as part of the overall criticality safety analysis for the furnace area. In this analysis, the amount of time for a significant, undetected, build-up of uranium to occur (in excess of a safe mass) as a result of pellet boat spills with improper clean-up, missing trench covers and no periodic inspection was determined to be many years. The criticality safety analysis revision has clarified that the existing controls of covering or attending the furnace trenches, along with periodic inspection of the trenches, are adequate to meet double contingency.

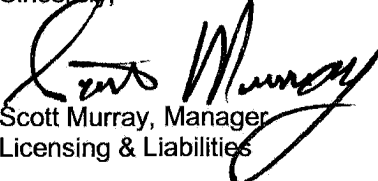
Complete: September 15, 2011

#### **Longer-term Preventive Actions**

None

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. Sykes, NRC RII Atlanta. GA  
M. L. Thomas, NRC RII Atlanta. GA  
M.N (Nick) Baker, NRC NMSS, Washington, DC

**Attachment 1**

**EVENT DESCRIPTION**

As part of the ongoing GNF-A review of the Fuel Manufacturing Operation (FMO) Integrated Safety Analysis (ISA), facility walk downs of the UO<sub>2</sub> sinter furnace area were performed that identified a configuration that had not been properly analyzed. Based on a review of this as-found condition, it was determined at approximately 12PM on August 16, 2011 that a floor trench in the furnace area was improperly analyzed in a criticality safety evaluation. This resulted in a condition in which criticality controls that were documented as being necessary to meet double contingency were not maintained or available because the geometry of the trench was not properly modeled. There was no actual loss of double contingency.

The floor trench does not normally contain uranium, and has removable covers in place to prevent material accumulation and per procedure, is routinely inspected. It was inspected during the spring maintenance shut down and was inspected again today. These inspections confirmed that no visible uranium accumulation was present. At no time was an unsafe condition present. Additional corrective actions and extent of condition are being evaluated.

This event is being conservatively reported pursuant to GNF-A internal procedure reporting requirements within 24 hours of discovery.

Scott Murray  
Manager, Licensing and Liabilities  
11:15 AM 8/17/11