



Global Nuclear Fuel

A Joint Venture of GE, Toshiba, & Hitachi

Global Nuclear Fuel

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July 27, 2012

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

Subject: 30-day Report of Event – Gad Pellet Press

References: 1) NRC License SNM-1097, Docket 70-1113
 2) NRC Inspection Report No. 70-1113/2012-002 and Notice of Violation, 4/30/12
 3) GNF-A NOV Response 6/29/2012
 4) GNF-A Event Report 48057, 6/29/2012

Dear Sir or Madam:

In accordance with 10 CFR 70.50(c)(2), Global Nuclear Fuel–Americas, LLC (GNF-A) hereby submits its 30-day report for Event Notification 48057 that was provided on June 29, 2012 (Reference 4). As discussed in the initial event report, the mass control limit in the gadolinia pellet press operation was exceeded on February 13, 2012. A review of the event by NRC resulted in a Notice of Violation (NOV) dated April 30, 2012 associated with NRC Inspection Report 70-1113/2012-002 (Reference 2). Upon GNF-A's acceptance and response to the NOV, the event was reported to the NRC Operations Center on June 29, 2012. Consistent with 10 CFR 70.50(c)(1), a facsimile was submitted on June 29, 2012 providing additional information and is included as an attachment to this letter.

Additional information is provided as follows:

Event Details and Safety Significance

On February 13, 2012 it was discovered that the mass control limit in the gadolinia pellet press operation was exceeded. An improperly installed valve allowed a total of 43 kg of uranium powder into the favorable geometry press feed tube, exceeding the 36 kg limit. This resulted in a failed IROFS condition where a criticality control was not maintained. The press feed mass control is a sole IROFS for a fire accident sequence. Control indications functioned as designed and provided notification of the malfunction to the operator and the operation was secured. The other controls on geometry and moderation were maintained at all times.

Probable Cause of Event

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.

For reportability determination, GNF-A was guided by NRC's guidance "NRC Fuel Cycle Safety Interim Staff Guidance (ISG)-12", (July 2010). ISG-12 states that a report is required except when:

IROFS listed for other accident sequences are applicable to the accident sequences where the ISA summary indicates that the failed or degraded IROFS were needed to meet the performance requirements. These other IROFS must be in place physically where the event occurred; the IROFS must also perform a safety function that prevents or mitigates the event in question. In this case, the performance requirements were met, but had not been adequately demonstrated in the ISA Summary.

GNF-A had available, reliable and physically in-place IROFS where the event occurred listed for other accident sequences. These other IROFS perform a safety function that would have prevented the event in question (criticality accident) and are documented in the ISA Summary, Revision 15 dated January 30, 2012. The applicable IROFS listed for other accident sequences are geometry (IROFS 30304) and moderation (IROFS 30301), and both remained available to perform their intended safety function throughout the event.

Consequently, based on the Staff's guidance, GNF-A concluded that the event condition was not reportable.

Immediate, short term, and long term actions taken were communicated to NRC in GNF-A's NOV response and are repeated below.

Immediate Corrective Actions Taken

Production operations in the affected area were suspended. Approval was given to run out the material in the gad press feed tube per procedure and the powder was removed by 1000 on February 13, 2012.

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

Conducted stand downs with all fuel manufacturing operators to review the event and reinforce procedure adherence expectations.
Complete: February 16, 2012

Short Term Preventive Actions

The GNF-A internal reportability procedure (WI-27-104-01) has been revised to clarify the reporting determination process for a failed or degraded sole IROFS that could lead to a one hour event report.
Complete: March 29, 2012

The fabrication ISA Summary has been updated to more clearly describe the press operation controls for a potentially challenging fire in or near the press operations area.
Complete: April 30, 2012.

Longer Term Preventive Actions

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Murray". The signature is fluid and cursive, with the first name "Scott" and last name "Murray" clearly distinguishable.

Scott Murray, Manager
Facility Licensing

Attachment: Event Description

Commitments: Complete Longer Term Preventative Actions 3/31/2013

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 Notification Description

It was discovered on 2/13/12 that the mass control limit in the gadolinia pellet press operation was exceeded. An improperly installed valve allowed a total of 43 kg of uranium powder into the favorable geometry press feed tube, exceeding the 36 kg limit. This resulted in a failed IROFS (< 1 hour) condition where a criticality control was not maintained. The press feed mass control is a sole IROFS for a fire accident sequence. Control indications functioned as designed and provided notification of the malfunction to the operator and the operation was secured. The other controls on geometry and moderation were maintained at all times.

At no time was an unsafe condition present. The gadolinia pellet press operation was shut down and the powder was removed by 1000 on 2/13/2012.

Additional corrective actions, extent of condition, and extent of cause have been documented.

This event is being communicated in order to administratively meet the reporting requirements of 10CFR70, Appendix A.

Scott Murray,
Manager, Facility Licensing
1400 6/29/2012