Global Nuclear Fuel

Scott P. Murray
Manager, Facility Licensing

3901 Castle Hayne Road
P.O. Box 780
Wilmington, NC 28402
USA

T (910) 819-5950
F (910) 362-5950
scott.murray@ge.com

SPM 12-041

September 14, 2012

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

Subject: 30-day Report of Event – Overweight Pellet Boat

References: 1) NRC License SNM-1097, Docket 70-1113
2) GNF-A Event Report 48202, 8/17/2012

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 48202 that was provided on August 17, 2012 (Reference 2). As discussed in the event report, GNF-A discovered that only one Item Relied On For Safety (IROFS) remained in place to prevent a potential criticality event in the Ceramics area of the Fuel Manufacturing Operations facility.

Additional information is provided as follows:

Event Details and Safety Significance

At 12:39 PM on August 17, 2012, it was discovered that only one Item Relied On For Safety (IROFS) for the accident sequence of concern as described in the Integrated Safety Analysis, remained in place to prevent a potential criticality event in the Ceramics area of the Fuel Manufacturing Operations facility. The failed IROFS, Fuel Business System (FBS) Control of Mass of Uranium Transportable Container (IROFS 900-01), was due to an overweight pellet boat (i.e., a transportable container). This IROFS is used to ensure the mass of material in a single transportable container is equal to or less than the mass limit specified in the safety analysis. The reportable event occurred due to a loss of this IROFS as a result of an overweight pellet boat detected at the grinder feed area. The pellet boat in question weighed 15.83 kg net at the pellet grinder, while the FBS mass limit for a pellet boat is 15 kg.

A second IROFS from the accident sequence that remained in place at all times was Spill Identification and Cleanup (IROFS 900-11). This IROFS is the cleanup of spills before they become moderated by external sources in the unlikely simultaneous occurrence of an event involving a fire suppression sprinkler activation or pipe break.

The accident sequence of concern is loss of geometry control due to a spill of one or more pellet containers (e.g., pellet boats or pellet trays). The controls used to prevent a potential criticality after the pellet press boat loading occurs are:

- mass control related to uranium in the pellet container
- moderation control of the material
- geometry control of the pellets in the containers

The specified mass limit of 15 kg for a pellet boat ensures a safe mass is maintained if two pellet boats simultaneously lose geometry control. The initiating event for the accident sequence (spill of a transportable container) did not occur.

Probable Cause of Event

A root cause investigation, which is still in progress, has initially determined two probable causes of the overweight pellet boat:

1) A scale measurement error may have occurred when the pellet boat was filled at the press operation, or
2) Pellets were possibly added to the pellet boat between the FBS weight verification at the pellet press and grinder feed operations.

An amended report will be provided to the NRC once the independent root cause investigation is completed. This update is expected to be completed by October 19, 2012.

Immediate Corrective Actions Taken

The pellets were removed from the overweight pellet boat and placed into an approved container. The subject IROFS for the accident sequence was restored. Other pellet boats in the area were checked and were found to be acceptable. Processes involving similar transportable containers in the fabrication area were shut down.

Complete: August 17, 2012

Short Term Corrective Actions Taken

Pellet boat fill operation target weights were administratively lowered from 15 kg to a maximum of 14 kg in order to provide additional margin to the analysis limit. In addition, a temporary instruction was issued to prohibit pellet additions after the boat has been filled and weighed.

Complete: August 21, 2012

Stand downs were held with all affected fuel production employees to discuss the event and re-enforce the proper weighing of containers.

Complete: August 21, 2012

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

Sincerely,

Scott Murray, Manager
Facility Licensing

Attachment: Event Description

Commitment: Submit amended report by 10/19/12

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

Attachment 1

EVENT DESCRIPTION

At 12:39 PM (EDT) it was discovered that only one Items Relied On For Safety (IROFS) remained in place to prevent a Criticality Event in the ceramics area of the Fuel Manufacturing Operations facility. The failed IROFS was Fuel Business System (FBS) Control of Mass of Uranium Transportable Container (IROFS 900-01), due to an overweight pellet boat. The IROFS that remained in place at all times was Spill Identification and Cleanup (IROFS 900-11). The initiating event for the accident sequences (spill of a pellet boat) did not occur.

Scott P. Murray
Manager, Facility Licensing
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