

SPM 11-049

September 28, 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 – Criticality Accident Alarm System (CAAS) Horn Inoperable

References: 1) NRC License SNM-1097, Docket 70-1113 2) GNF-A Event Report 47220, 8/30/11

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 47220, which was provided on August 30, 2011 (Reference 2). As discussed in the event report, GNF-A discovered a portion of the outdoor CAAS had improper voltage to properly sound a local alarm horn. Consistent with 10CFR70.50(c)(1),a facsimile was submitted on August 30, 2011 providing additional information and is included as an attachment to this letter.

Additional information is provided as follows:

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

On August 29, 2011, it was discovered during troubleshooting on an outdoor (CAAS) Data Acquisition Module (DAM #21), that the module had inadequate voltage to properly sound its local alarm horn in the Wilmington Field Services Center (WFSC) field services tooling rebuild building. While another module provides overlapping detector coverage, it does not provide overlapping horn audibility in this building. There were no fissile material operations impacted by this failure, thus no unsafe condition existed.

#### Immediate Corrective Actions

- 1. The module was repaired and the system returned to normal on August 29, 2011.
- 2. The outdoor CAAS horns were tested to ensure proper system operability.

## **Probable Cause of Event**

The event was caused by several factors all of which were present before Hurricane Irene, but were highlighted by the weather causing a power outage and subsequent battery backup usage. We also looked into the organizational and programmatic weaknesses and found none within this event. The causal factors for this event are listed below:

## **Global Nuclear Fuel**

Scott P. Murray Manager, Licensing & Liabilities

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

(910) 819-5950 (910) 362-5950 scott.murray@ge.com US NRC September 28, 2011 Page 2

- 1. A failed thermally damaged connector was found after AC to DC power supply on the negative leg of the system.
- 2. The battery control module (BCM) was designed to turn the system off when the batteries reached 10.5 volts, but instead continued to drain the batteries to 3 volts.

#### **Short Term Corrective Actions**

1. Evaluate power connectors, wiring, terminations and components of all outside DAMs, for signs of thermal stress and general condition. Initiate a maintenance work order to correct any deficiencies.

Scheduled complete - October 30, 2011.

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

1. Evaluate the battery control module to determine why it did not shut the batteries off at 10.5 volts.

Scheduled complete - November 30, 2011.

2. Evaluate the alarm circuit of outside DAMs to determine if it is possible to provide a "failsafe" feature to sound a failure alarm on any outside DAMs.

Scheduled complete - November 30, 2011.

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

Sincerely,

Phillip D Ollin for

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

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# Attachment 1

# **EVENT DESCRIPTION**

On 8/29/11, it was discovered during troubleshooting on an outdoor Criticality Accident Alarm System (CAAS) Data Acquisition Module (DAM #21), that the module had inadequate voltage to properly sound its local alarm horn in the Wilmington Field Services Center (WFSC) building #1. While another module provides overlapping detector coverage, it does not provide overlapping horn audibility in this building. The cause of the event is believed an AC to DC converter component failure related to the loss of offsite AC power and subsequent restoration during Hurricane IRENE.

The module has been repaired and the system returned to normal on 8/29/30. There were no active fissile material operations impacted by this failure, thus no unsafe condition existed.

This event is being reported pursuant to the requirements of 10CFR70.50 (b)(2).

SP Murray

Manager, Licensing & Liabilities

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