



Global Nuclear Fuel

A Joint Venture of GE, Toshiba, & Hitachi

Global Nuclear Fuel

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SPM 16-048

November 18, 2016

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

Subject: GNF-A Written Follow-up Report – UF6 Scrubber Exhaust System

References: 1) NRC License SNM-1097, Docket 70-1113
2) GNF-A Event Report 52251, 9/19/2016

Dear Sir or Madam:

In accordance with 10 CFR 70.74(b), Global Nuclear Fuel–Americas, LLC (GNF-A) hereby submits a written follow-up report for Event Notification 52251 that was provided to NRC on September 19, 2016 (Reference 2). As discussed in the initial event report, GNF-A reported the discovery of an inoperable UF6 scrubber exhaust system in the Fuel Manufacturing Operations (FMO) building. Consistent with 10 CFR 70.74(a) and 70.50(c)(1), a facsimile was submitted on September 19, 2016 providing additional information and is included as an attachment to this letter.

Additional information is provided as follows:

Event Details and Safety Significance

It was determined at approximately 0600 on September 19, 2016 that an Item Relied on for Safety (IROFS) associated with a Fuel Manufacturing Operation (FMO) exhaust system was not operating as required. An FMO scrubber exhaust system blower was determined to be not operating and resulted in a failure to meet performance requirements.

The safety function of the scrubber exhaust system is to limit the release of uranium hexafluoride (UF6) and its byproducts to the environment in the unlikely event of an accidental airborne release in a process area. Other upstream controls remained available and reliable and prevented significant quantities of UF6 and its byproducts from being released into the scrubber exhaust system. There was no release of material and at no time was an unsafe condition present.

Additional controls on combustibles, geometry and containment remained intact and at no time was an unsafe condition present.

Immediate Corrective Actions Taken

On September 19, 2016, the Dry Conversion Process (DCP) was shutdown. Other similar exhaust systems were inspected and no similar conditions were identified.

Probable Cause of Event

An investigation determined that the exhaust scrubber went out of service due to an exhaust fan motor failure on September 18, 2016 at approximately 1930. The FMO Integrated Safety Analysis (ISA) documents that if the UF6 exhaust scrubber goes offline then it will alarm in the DCP control room where actions will be taken to shut down the vaporization process. The computer that receives these alarms for the FMO building was not communicating with the air handling monitoring system due to an issue with a component that failed in the line of communication between the computer and the air monitoring system.

As a result, the DCP control room did not receive an alarm when the scrubber went offline and the conversion process continued to operate.

Short Term Corrective Actions

- 1) The UF6 exhaust scrubber was brought back on-line at approximately 0600 on September 19, 2016.
- 2) Communications between the DCP control room and the air handling monitoring system were restored by September 20, 2016.

Prior to restart of the conversion process the following actions occurred:


- 3) Periodic system checks to ensure the affected communications remain intact were initiated by September 23, 2016.
- 4) Periodic equipment surveillances were added to ensure normal equipment operation were initiated by September 23, 2016.
- 5) ISA documentation changes to credit improved surveillances for detecting failures and limiting the duration of unavailability for the exhaust scrubber were made by September 23, 2016.

Longer Term Corrective Action

None

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: None

cc: NRC Region II Administrator, Atlanta, GA
E. Michel, NRC RII Atlanta. GA
T. Vukovsky, NRC RII Atlanta. GA
T. Naquin, NRC NMSS, Washington, DC

Attachment 1

Event Notification Description

It was determined at approximately 6 AM today (Eastern) that an Item Relied on for Safety (IROFS) associated with a Fuel Manufacturing Operation (FMO) exhaust system was not operating as required. An FMO scrubber exhaust system blower was determined to be not operating and resulted in a failure to meet performance requirements.

The safety function of the scrubber exhaust system is to limit the release of uranium hexafluoride (UF₆) and its byproducts to the environment in the unlikely event of an accidental airborne release in a process area. Other upstream controls remained available and reliable and prevented significant quantities of UF₆ and its byproducts from being released into the scrubber exhaust system. There was no release of material and at no time was an unsafe condition present.

The Dry Conversion Process has been shutdown. An investigation is continuing which will provide additional corrective actions and extent of condition.

While this did not result in an unsafe condition, the event is being reported pursuant with the reporting requirements of 10CFR70 Appendix A (b)(2) within 24 hours of discovery.

Scott Murray
Manager, Facility Licensing
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