



**NUCLEAR FUEL SERVICES, INC.**  
a subsidiary of The Babcock & Wilcox Company

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21G-15-0055  
GOV-01-55-04  
ACF-15-0122

April 29, 2015

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555

**Subject: 30-Day Written Notification of Event (NRC Event No. 50954)**

Reference: Docket No. 70-143: SNM License 124

Gentlemen:

On April 5, 2015, at approximately 0658 hours (ET), Nuclear Fuel Services, Inc. (NFS) made a telephone notification to the Nuclear Regulatory Commission (NRC) Operations Center of an event for which 10 CFR 70.50(b)(1) requires a notification. This letter provides the 30-day written notification of that event.

If you or your staff have any questions, require additional information, or wish to discuss this matter further, please contact me at (423) 743-1705, or Mr. Randy Shackelford, Nuclear Safety and Licensing Manager, at (423) 743-2504. Please reference our unique document identification number (21G-15-0055) in any correspondence concerning this letter.

Sincerely,

**NUCLEAR FUEL SERVICES, INC.**

Richard J. Freudenberger, Director  
Safety and Safeguards

WRS/pj

Attachment: 30-Day Notification of Reportable Event

IE72  
NMSS

Copy:

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Mr. Charles Stancil  
Senior Resident Inspector  
U. S. Nuclear Regulatory Commission

**Attachment**

***30-Day Notification of Reportable Event***

(2 pages to follow)

### **30-Day Notification of Reportable Event**

**1. The date, time, and exact location of the event**

The event in question occurred on April 4, 2015, at approximately 1151 hours (ET). The report for this event was made on April 5, 2015, at approximately 0658 hours (ET). The location of the event is the Nuclear Fuel Services, Inc. (NFS) facility, located in the town of Erwin, Unicoi County, Tennessee.

**2. Radiological or chemical hazards involved, including isotopes, quantities, and chemical and physical form of any material released**

The potential radiological and chemical hazards associated with the event include minor exposure to Nitric Acid, NO<sub>x</sub> and/or uranium contamination. As described below, the container involved in the event contained cleanup material including cheesecloth, trace amounts of Uranium, and nitric acid. All of the material released during the event was contained within the locked storage cage; also, there were no personnel in the storage cage when the event occurred.

**3. Actual or potential health and safety consequences to the workers, the public, and the environment, including relevant chemical and radiation data for actual personnel exposures to radiation or radioactive materials or hazardous chemicals produced from licensed materials (e.g., level of radiation exposure, concentration of chemicals, and duration of exposure)**

There were no actual or potential safety consequences to the public or to the environment associated with the event from exposure to radiation, radioactive materials, or hazardous chemicals produced from licensed materials. There were no actual health and safety consequences to the workers involved in responding to the event based on medical evaluations performed on the individuals. Evaluations of the potential health and safety consequences to workers determined that even if workers had been in the immediate area when the event occurred, the consequences would have remained low and no reporting thresholds would have been exceeded. No radiological or chemical exposures resulted from the event.

**4. The sequence of occurrences leading to the event, including degradation or failure of structures, systems, equipment, components, and activities of personnel relied on to prevent potential accidents or mitigate their consequences**

At approximately 0945 hours (ET) on April 2, 2015, a 2-liter polypropylene container partially filled with cleanup material was closed, inserted into a plastic bag, sealed, and placed in a locked storage cage. At approximately 1151 hours (ET) on April 4, 2015, personnel adjacent to the area of the storage cage noticed an odor and, upon investigation, determined that the container had ruptured releasing some of the contents into the cage area. The plant fire brigade was activated and responded to the

cage. Actions were taken to spread out the contents of the container and ensure the chemical reaction had been terminated. At approximately 1205 hours (ET) the fire brigade on-scene commander declared the situation under control. Access to the area was restricted and the use of respirators was required pending additional assessment of the event. Cleanup activities were commenced and the storage cage was released for routine access at approximately 1000 hours (ET) on April 7, 2015.

The event was reported to the NRC Operations Center under the requirements of 10 CFR 70.50(b)(1). The licensee also notified the NRC Resident Inspector at the time of the event.

5. **The probable cause of the event, including all factors that contributed to the event and the manufacturer and model number (if applicable) of any equipment that failed or malfunctioned**

The root cause investigation of the event is ongoing; however, preliminary results of the investigation indicate that cleanup material may not have been adequately rinsed and dried prior to being placed into the container as required by procedure.

6. **Corrective actions taken or planned to prevent occurrence of similar or identical events in the future and the results of any evaluations or assessments**

Immediate corrective actions included restricting access to the storage cage area until cleanup activities were completed, issuance of a plant-wide communication explaining the event and stressing individual responsibilities, development of a supplemental training document emphasizing the requirements for disposal of cleanup material within the process area, and daily monitoring of similar containers through the use of a thermal imaging camera to ensure no other containers were undergoing an unexpected chemical reaction. Additional corrective actions to prevent recurrence of the event will be developed as part of the ongoing root cause investigation and tracked in the NFS Corrective Action Program.

7. **If the event involved an area or equipment with an approved Integrated Safety Analysis, whether the event was identified and evaluated in the Integrated Safety Analysis**

The event was bounded by the approved Integrated Safety Analysis for the area, as well as the potential chemical and radiological consequences based on the contents of the container.

8. **The extent of exposure of individuals to radiation or radioactive materials**

There were no measurable exposures of individuals to radiation or radioactive materials as a result of this event. Personnel involved in responding to the event were evaluated by medical personnel with no exposures or negative effects identified.