



**NUCLEAR FUEL SERVICES, INC.**

*a subsidiary of The Babcock & Wilcox Company*

- 1205 banner hill road ■ erwin, tn 37650 ■ phone 423.743.9141
- [www.nuclearfuelservices.com](http://www.nuclearfuelservices.com)

**CERTIFIED MAIL  
RETURN RECEIPT REQUESTED**

21G-10-0153  
GOV-01-55-04  
ACF-10-0218

August 10, 2010

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

**Subject: 30-Day Written Notification of Event (NRC Event No. 46086)**

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

Gentlemen:

On July 12, 2010, at approximately 1734 hours (EST), Nuclear Fuel Services, Inc. (NFS) made a telephone notification to the NRC Operations Center of an event for which 10CFR70.50(b)(2) requires a 24-hour 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 or Mr. Randy Shackelford, Nuclear Safety and Licensing Manager, at (423) 743-2504. Please reference our unique document identification number (21G-10-0153) in any correspondence concerning this letter.

Sincerely,

**NUCLEAR FUEL SERVICES, INC.**

Mark P. Elliott, Director  
Quality, Safety, and Safeguards

WRS/smd

Attachment

cc: Regional Administrator  
U.S. Nuclear Regulatory Commission, Region II  
245 Peachtree Center Avenue NE, Suite 1200  
Atlanta, GA 30303-1257

Mr. Manuel Crespo  
Project Inspector  
U.S. Nuclear Regulatory Commission, Region II  
245 Peachtree Center Avenue NE, Suite 1200  
Atlanta, GA 30303-1257

Kevin M. Ramsey  
Project Manager  
U.S. Nuclear Regulatory Commission  
Mailstop: EBB-2C40M  
11555 Rockville Pike  
Rockville, MD 20852-2738

Mr. Galen Smith  
Senior Resident Inspector  
U. S. Nuclear Regulatory Commission

M.P. Elliott to U.S. NRC  
August 10, 2010

21G-10-0153  
GOV-01-55-04  
ACF-10-0218

**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 issue was discovered on July 12, 2010 at approximately 1200 hours (EST). The report of the event was made on July 12, 2010 at approximately 1734 hours (EST). The location of the event is the Nuclear Fuel Services, Inc. (NFS) site, 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**

There are no radiological and chemical hazards associated with the event. There were no materials released.

**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 health and safety consequences to the workers, the public, or the environment associated with the event. There were also no personnel exposures to radiation, radioactive materials, or hazardous chemicals produced from licensed materials associated with the event. The potential safety consequences to the workers were those associated with the disabling of the public address system. These potential consequences were mitigated by compensatory measures.

**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 1200 hours (EST) on 7/12/2010, an electrical fault was identified in the fire alarm system. This fault disabled the public address portion of the system which supports annunciation of plant alarms including the following: fire alarm, take cover alarm, and CO<sub>2</sub> discharge alarms. There was no impact to actual fire/criticality detection and fire suppression systems. Compensatory measures included the following: stop SNM handling and movement, conduct fire patrols, restrict hot work, notify facility personnel, evacuate nonessential personnel from production areas, implement standby of fire brigade, and provide radios to fire brigade officers and some fire brigade members. It was initially unknown, at the time of the event, if the criticality alarm was impacted; therefore, compensatory measures were put in place. It was later determined that the criticality alarm was not impacted by the electrical fault.

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 probable cause of the event was heavy rainfall and water intrusion into an annunciation system cable causing an electrical fault.

The diagnostics of the fire alarm system responded appropriately by notifying plant personnel of the problem. The electrical fault did cause the fire alarm system software to remain in a diagnostic state that would inhibit proper fire alarm system functionality. It should be noted that the Criticality alarm does not utilize the portion of the system affected by this issue.

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**

Refer also to section 4 above. The issue was entered into NFS' Problem Identification, Resolution, and Correction System (PIRCS) as Problem Identification No. 25564. An unusual incident evaluation was performed. A root cause evaluation and extent of condition reviews were also performed. Immediate actions taken to restore system functionality included the following:

- Performed a walk-down of external cables connected to the fire alarm system.
- Identification of a cable that was improperly terminated. This cable was removed from the circuit.
- Identification of a cable that was deteriorated due to environmental exposure. This cable was replaced.
- The auto-mapping function associated with the fire alarm panel was disabled to prevent software lockup as a result of an electrical fault.

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 associated with an area having an approved Integrated Safety Analysis (ISA). This event was not specifically identified and evaluated in the ISA as the event was not relevant to the ISA.

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

No individuals were exposed to radiation or radioactive materials as a result of this event.