



Nuclear Fuel Services, Inc.

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October 23, 2024

U. S. Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, D.C. 20555

Reference: (1) Docket No. 70-143: SNM License 124
(2) NFS-GH-903, Emergency Plan Section 8.1(e)
(3) NFS-HS-E-03, Emergency Response Organization

Subject: **30-Day Emergency Close-out Report for ALERT - Flooding**

Dear Sir,

On September 27, 2024, at 1518 hours (ET), Nuclear Fuel Services, Inc. (NFS) made a telephone notification to the Nuclear Regulatory Commission (NRC) Operations Center of an event for which the plant was placed in the ALERT status because of local flooding. This letter provides the 30-day written event notification.

If you or your staff have any questions, require additional information, or wish to discuss this matter further, please contact me at (423) 735-5475, or Ms. Ashley Morris, Licensing Manager, at (423) 743-1758. Please reference our unique document identification number (21G-24-0198) in any correspondence concerning this letter.

Sincerely,

NUCLEAR FUEL SERVICES, INC.

Danielle Rogers, Director
Safety and Safeguards

Attachment: 30-Day Emergency Plan Report for ALERT - Flooding

JTB/las

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ATTACHMENT

30-Day Emergency Plan Report for ALERT – Flooding

(3 pages to follow)

30-Day Emergency Plan Report for ALERT – Flooding

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

The event in question occurred on September 27, 2024, at approximately 1030 hours (ET) and progressed until approximately 2020 hours (ET). Nuclear Fuel Services, Inc. (NFS) made the telephone report for this event on September 27, 2024, at 1518 hours (ET). The event location is the NFS facility, located at 1205 Banner Hill Road in the Town of Erwin, Unicoi County, Tennessee.

2. Description of events:

On the morning of September 27, 2024, NFS received notification of a flood warning for Unicoi County due to extreme rainfall associated with Hurricane Helene as it traveled across East Tennessee and Western North Carolina. Local weather reports indicated rising rivers with the threat of overflows in surrounding communities.

The Nolichucky River began overflowing and flooding the local community and associated flash flood warnings ensued. At approximately 1030 hours (ET) utility power was lost, operations were suspended, and areas were placed in a safe shutdown status with a plant-wide Special Nuclear Material (SNM) stop movement in effect. Non-essential personnel were released after confirmation with local law enforcement of the preferred route of travel from the plant site. Power was systematically isolated in buildings determined to be most at-risk of flooding.

The northwest end of the facility began to see water intrusion from flood water accumulation backflowing through the sluice gates of the plant drainage system at approximately 1310 hours (ET). The Emergency Control Director (ECD) activated the Emergency Response Organization (ERO) and declared the Emergency Control Center (ECC) active in order to properly classify the event and address the emerging plant conditions. Excessive amounts of water overflowing from the Nolichucky River caused Martin Creek to backflow resulting in significant volumes of water accumulating on the north side of the NFS Facility. At 1507 hours (ET), the ECD classified the event as an "Alert" due to Natural Phenomena – Flooding, per guidance in NFS-HS-E-03, Emergency Response Organization (ERO). Notifications were made to the Nuclear Regulatory Commission (NRC) Operations Center, Tennessee Emergency Management Association (TEMA), and the Unicoi County Sheriff's Office. Notifications were also made to Erwin Utilities and the State of Tennessee.

Analytical laboratories, R&D facilities, maintenance support buildings, and laundry facilities on the north end of the plant experienced exposure to flood waters during the peak of the event. An NFS-owned non-nuclear warehouse in the Industrial Park area to the west of the plant site received substantial damage during the flood event. The majority of the warehouse contents were damaged or lost, including clean and empty fissile material shipping containers and training equipment.

Upon floodwaters receding from the facility, the ECD issued an "all clear" for the emergency response to the ERO at 2020 hours (ET) and the process of recovery was initiated.

3. Cause of Incident:

Flooding due to excessive volumes of rain from Hurricane Helene.

4. Corrective Actions Taken to Terminate the Emergency:

Operations were suspended and placed in safe shutdown status. Power was systematically isolated in buildings on the north end of the facility. All flammable gas supply systems were isolated. A plantwide SNM stop movement was instituted. Sand bags and dikes were placed on the west side of the production facility and near the Uninterruptible Power Supply (UPS) building located in the adjacent area. The Southwest Ditch was cleaned successfully to mitigate the potential for flooding on the southern end of the plant site. Personnel outside the Protected Area were evacuated and accountability was performed. Buildings affected by flood waters were posted to restrict entry pending survey and establishment of proper controls for cleaning/recovery efforts. Diesel deliveries were scheduled to ensure UPS generators would remain functional for the duration of the power outage. After water levels receded, sluice gates were opened and Security began validating functionality of equipment.

5. Effects on Health, Safety, and the Environment:

Flood water sampling and radioactive contamination survey results confirmed no impacts to the health and safety of NFS personnel or the surrounding community, as well as no impacts to the environment due to a release from NFS as a result of the flooding. Processing areas were not directly impacted by the flood event. Bulk chemical systems were also unaffected by the event.

6. Plans for Recovery and Further Corrective and Preventive Actions

Necessary:

The extended power outage necessitated a methodical building by building and breaker by breaker recovery to ensure all systems functioned normally following the outage. Areas impacted by the flooding have been cleaned and evaluated for additional actions. Environmental monitoring equipment outside of the NFS Protected Area that was lost or damaged by the flood has been catalogued and repair/replacement is ongoing, with a primary focus on regulatory required equipment. Reviews of all license required reporting, testing and monitoring has been conducted and a temporary license condition has been established to address non-functioning equipment. A systematic restart of operational areas is occurring area by area once all safety systems and processes are verified functional and reliable, to include the ability to discharge liquid effluent and ship and receive material.