



**NUCLEAR FUEL SERVICES, INC.**

a subsidiary of The Babcock & Wilcox Company

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**CERTIFIED MAIL  
RETURN RECEIPT REQUESTED**

21G-15-0063  
GOV-01-55-04  
ACF-15-0146

May 15, 2015

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

References: 1) Docket No. 70-143; SNM License 124  
2) NRC Inspection Report No. 70-143/2015-002 and Notice of Violation dated April 17, 2015

**Subject: Reply to a Notice of Violation (VIO 70-143/2015-002-02)**

Gentlemen:

Pursuant to the requirements of 10 CFR 2.201, Nuclear Fuel Services, Inc. (NFS) hereby submits the attached response to the subject violation identified in the referenced NRC inspection report (Reference 2).

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-15-0063) in any correspondence concerning this letter.

Sincerely,

**NUCLEAR FUEL SERVICES, INC.**

Richard J. Freudenberger, Director  
Safety and Safeguards

NWB/RJF/smd

Attachment: NFS Reply to a Notice of Violation (VIO 70-143/2015-002-02)

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IE07

cc: Regional Administrator  
U.S. Nuclear Regulatory Commission, Region II  
245 Peachtree Center Avenue NE, Suite 1200  
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R.J. Freudenberger to U.S. NRC  
May 15, 2015

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**Attachment**

***NFS Reply to a Notice of Violation  
(VIO 70-143/2015-002-02)***

(2 pages to follow)

### **Restatement of Violation**

During Nuclear Regulatory Commission (NRC) inspections conducted from July 10-17, 2014, and February 9-12, 2015, violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

Title 10 of the *Code of Federal Regulations* 10 CFR 70.61(a) states, in part, that each licensee shall evaluate, in the integrated safety analysis (ISA) performed in accordance with 10 CFR 70.62, its compliance with the performance requirements in paragraphs (b), (c), and (d) of this section.

10 CFR 70.61 (d) requires, in part, that the risk of nuclear criticality accidents must be limited by assuring that under credible abnormal conditions all nuclear processes are subcritical.

Contrary to the above, prior to October 29, 2014, the licensee failed to evaluate the risk of a nuclear criticality accident in the ISA to assure that under credible abnormal conditions all nuclear processes remained subcritical. Specifically, the licensee failed to evaluate and limit the risk of a nuclear criticality accident involving the accumulation of fissile material in unfavorable geometry electrical boxes.

This is a Severity Level IV Violation.

### **The reason for the violation**

The reason for the violation was that this specific accident sequence had previously been considered not credible due to the material of construction of the equipment; therefore, no accident analysis had been performed for this specific accident sequence.

### **The corrective steps that have been taken and the results achieved**

The following corrective actions have been implemented to address the cause of the violation:

1. When the issue was identified by an NFS employee, appropriate internal notifications were made and the issue was entered into and tracked in NFS' Corrective Action Program (CAP) as problem P46037.
2. Immediate corrective actions included shutdown of affected equipment and similar equipment pending inspection and repair.
3. All unfavorable geometry electrical panels in the facility connected by conduit to sensors on uranium-bearing systems were modified by installing drain holes to prevent the possible accumulation of fissile solution.

Once the affected electrical panels had been modified, the accident sequence of a leak through conduit was bounded by the existing accident sequences in the Integrated Safety Analysis (ISA).

**The corrective steps that will be taken to avoid further violations**

Root Cause Investigation (I18607) was completed to understand the root causes and determine the corrective actions to prevent reoccurrence. The following corrective actions have been assigned.

CA24063 - Revise NFS-GH-55, Integrated Safety Analysis, or other applicable procedures, to include a requirement for review of the Process Hazard Analysis (PHA) as an iterative process from design phase through turnover to operations. This shall include at a minimum a walk down by the PHA team after the build is complete to ensure the final design does not invalidate assumptions made during the PHA development. For design changes that require modification to the safety basis documents (i.e., Process Hazard Analysis table, Fire Hazard Analysis, Nuclear Criticality Safety Evaluation, Radiological Accident Consequence Evaluation or Chemical Accident Consequence Evaluation), walkdowns are required. The appropriate safety reviewer(s) shall perform walkdowns of design changes that impact their safety basis document(s).

CA24132 - Revise nuclear criticality safety procedures for Buildings 301, 302, 303, and 333 and Area 800 (NFS-HS-CL-10, NFS-HS-CL-26, and NFS-HS-CL-28) to require holes/drains meeting NCS requirements and compliant with electrical codes to be installed in all unfavorable geometry electrical panels within these locations and add a restriction not to store tools or parts within these electrical panels.

CA23734 - Ensure applicable Operating Experience (OE) Lessons Learned are captured in the OE Program.

**Date when full compliance will be achieved**

Full compliance was achieved on November 2, 2014 when the final unfavorable geometry electrical panel in the facility connected by conduit to sensors on uranium-bearing systems was modified by installing drain holes. Once the holes were drilled, the accident sequence of a leak through conduit was bounded by the existing accident sequences in the ISA; therefore, bringing NFS back into compliance with 10 CFR 70.61 (d).