



**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

21G-11-0165  
GOV-01-55-04  
ACF-11-0258

August 26, 2011

Director, Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555

References: 1) Docket No. 70-143; SNM License 124  
2) NRC Inspection Report No. 70-143/2011-003, and Notice of Violation, Dated July 28, 2011

**Subject: Reply to Notice of Violation (VIO 70-143/2011-003-01 and VIO 70-143/2011-003-02)**

Dear Sir:

Pursuant to the requirements of 10 CFR 2.201, Nuclear Fuel Services, Inc. (NFS) hereby submits the attached responses to the violations identified in the referenced NRC inspection report.

If you or your staff have any questions, require additional information, or wish to discuss this, please contact me, or Ms. Jennifer Wheeler, Licensing and ISA Manager, at (423) 735-5429. Please reference our unique document identification number (21G-11-0165) in any correspondence concerning this letter.

Sincerely,

**NUCLEAR FUEL SERVICES, INC.**

  
Joseph G. Henry  
President

DML/pdj

Attachment 1: Reply to Notice of Violation (VIO 70-143/2011-003-01)  
Attachment 2: Reply to Notice of Violation (VIO 70-143/2011-003-02)

**nuclear fuel services, inc.**, a subsidiary of The Babcock & Wilcox Company

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Copy:

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

Mr. John Pelchat  
Project Inspector  
U.S. Nuclear Regulatory Commission  
Region II  
245 Peachtree Center Ave., NE, Suite 1200  
Atlanta, GA 30303

Mr. Kevin Ramsey  
Project Manager  
Fuel Manufacturing Branch  
Fuel Facility Licensing Directorate  
Division of Fuel Cycle Safety and Safeguards  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

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

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**Attachment 1**

**NFS Reply to Notice of Violation  
VIO 70-143/2011-003-01**

**2 pages to follow**

## **Reply to Notice of Violation (70-143/2011-003-01)**

### **Restatement of Violation**

During an NRC inspection conducted from April 1 to June 30, 2011, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

Safety Condition S-1 of Special Nuclear Materials (SNM) License No., SNM-124, authorizes the use of licensed materials in accordance with the statements, representations, and conditions in the License Application and Supplements.

Section 2.11.1 of the License Application states, in part, that "The Configuration Management (CM) Program applies to items relied on for safety (IROFS) contained in the Integrated Safety Analysis (ISA) and other structures, systems, and components (SSCs) that are required to physically process, store, or transfer more than 350 grams of U-235 as Special Nuclear Material (SNM) contained within the SSC at any given time."

Section 2.11.2.1 of the License Application states, in part, that "The production or operations discipline is responsible for production related activities involving the handling and processing of SNM, including developing operating procedures and maintaining facilities and equipment in a safe operating condition and in accordance with the CM program."

Contrary to the above, on April 25, 2011, the production or operations discipline failed to develop operating procedures and maintain facilities and equipment in a safe operating condition in accordance with the CM program. Specifically, insufficient procedural guidance was provided to the maintenance technicians to ensure adequate control was maintained over configuration control equipment, namely a control valve that transfers large quantities of SNM. Subsequently, a spill of high enriched material occurred as a result of an improperly installed valve actuator in the uranium-oxide system.

This example of failing to develop an adequate procedure to maintain configuration control constitutes a Severity Level IV Violation (Section 6.2).

### **The Reason For The Violation, Or, If Contested, The Basis For Disputing The Violation Or Severity Level**

NFS concurs that the violation happened as stated. An internal investigative review of the formal work package (FWP) issued for repair of the control valve indicated that instructions to the maintenance mechanic lacked sufficient detail. It was determined that the FWP instructions were adequate to ensure a leak-free valve replacement, but the writer of the service request and the work control planner(s) failed to recognize or

address other important aspects of the replacement activity. Replacement of an air actuated valve may include disconnecting/reconnecting air supply lines and/or electrical leads and assembling springs, coupling and retention devices, etc. An error in any of these steps could lead to improper valve operation.

### **The Corrective Steps That Have Been Taken And The Results Achieved**

A training toolbox, OPR-TB-JUN11-01, was developed for NFS work control planners and service request writers to provide instructions on the appropriate informational level of detail needed when writing/planning formal work packages and emphasizing proper work acceptance and system restoration criteria. This toolbox training is documented in the NFS Training and Qualification System for the appropriate NFS employees.

A training toolbox, OPR-TB-AUG11-02, was also developed for NFS maintenance mechanics to provide instructions on the appropriate installation of actuated valves with particular emphasis on the importance of valve alignment upon installation. This toolbox training is documented in the NFS Training and Qualification System for the appropriate NFS employees.

As a result of the training toolboxes, awareness of both the level of detail that should be included in a formal work package and the importance of proper installation of actuated valves has been heightened among the appropriate employees.

### **The Corrective Steps That Will Be Taken To Avoid Further Violations**

To prevent recurrence of this event, NFS plans to enhance the post-maintenance inspection/testing requirements by including a specific test plan for the performed work. This additional corrective action will ensure that equipment is returned to the proper configuration prior to being released for operation.

### **The Date When Full Compliance Will Be Achieved**

Full compliance will be achieved upon completion and implementation of the enhancements to the post-maintenance inspection/testing requirements, effective February 3, 2012.

21G-11-0165  
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**Attachment 2**

**NFS Reply to Notice of Violation  
VIO 70-143/2011-003-02**

**2 pages to follow**

## **Reply to Notice of Violation (70-143/2011-003-02)**

### **Restatement of Violation**

During an NRC inspection conducted from April 1 to June 30, 2011, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

Safety Condition S-1 of Special Nuclear Materials (SNM) License No., SNM-124, authorizes the use of licensed materials in accordance with the statements, representations, and conditions in the License Application and Supplements.

Section 2.12.4.2 of the License Application states in part that, "procedures developed to support management measures shall be approved by the appropriate functional discipline manager and the safety discipline manager."

Contrary to the above, prior to January 21, 2011, "Column Dissolver Processing Instructions," Work Instruction WI-409-51A-301, Revision (Rev. 3), was developed to support management measures without being approved by the appropriate safety discipline manager. Specifically, the safety discipline manager did not approve the work instruction form even though it contained process input parameters that negatively affected the performance of the chemical safety items relied on for safety CDCD-24 through CDCD-31. Subsequently, a buildup of nitrogen oxide vapor in the column dissolver glove-box occurred.

This example of failing to properly approve and evaluate a procedure constitutes a Severity Level IV Violation (Section 6.2).

### **Background**

The Standard Operating Procedures (SOPs) for the Commercial Development Line (CDL) systems are organized differently than other NFS facility procedures. CDL Work Instructions and Runsheets are separately controlled documents from the SOP. As such, when a revision is required to a CDL Work Instruction, a Minor Configuration Management (CM) Engineering Change Request (ECR) and a Technical Basis are required. This change process does include Engineering and Safety reviews of the ECR and the technical basis. However, Operations Manager and Process Engineer were the only signatures required on the Work Instruction form referenced in the subject violation.

Minor CM ECR-20100762 included the addition of the process parameters for NO<sub>x</sub> controls and general processing to Work Instruction WI-409-51A-301. Although the ECR and technical basis were reviewed by both Safety and Engineering, the revised Work Instruction form may not have been.

**The Reason for the Violation, or, if Contested, the Basis for Disputing the Violation or Severity Level**

NFS concurs that the violation happened as stated. An internal investigative review of how process parameters are documented determined that the requirements for initiating a change to a Work Instruction described in NFS-RM-010, *Instructions for Operating Plans, Procedures, Standard Operating Procedures & General Policies*, were not followed. Contrary to the procedure requirements, the changes that were initiated to the Work Instructions referenced in the subject violation were only approved by the initiator; specifically, the Attachment Change Form was not used to document the review and approval of the changes.

**The Corrective Steps That Have Been Taken And The Results Achieved**

Work Instruction, WI-409-51A-301, has been revised and requires ISA review and approval whenever a revision is made. This change was implemented February 7, 2011.

The lessons learned from this event, along with the responsibilities of personnel under NFS-TS-009, *Configuration Management of Process Change*, were formally communicated to the Engineering Section Managers, and then to the Wastewater Treatment Facility, BLEU Preparation Facility, CDL Facility, and Fuel Manufacturing Facility Process Engineers.

In addition, an Extent of Condition review was conducted to determine if other process procedures failed to include the requirements from an NFS-TS-009, *Configuration Management of Process Change* technical review, and/or parametric studies without documenting, and approval of, the basis for the deviation. The review included work instructions for uranium processes in the Fuel Manufacturing Facility, BLEU Preparation Facility, and the CDL. No additional work instructions developed to support management measures were identified as needing a revision to ensure the appropriate safety discipline manager approved the document. The Extent of Condition review was completed on February 14, 2011.

**The Corrective Steps That Will Be Taken To Avoid Further Violations**

No additional corrective steps are planned to address this violation.

**The Date When Full Compliance Will Be Achieved**

Full compliance was achieved February 14, 2011, upon completion of the Extent of Condition review, with no additional work instructions needing to be revised and approved.