



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION II  
245 PEACHTREE CENTER AVENUE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

May 26, 2010

EA-10-086  
NMED No. 090788  
NRC Event No. 45446

Mr. David B. Amerine  
President  
Nuclear Fuel Services, Inc.  
P. O. Box 337, MS 123  
Erwin, TN 37650

SUBJECT: NRC INSPECTION REPORT NO. 70-143/2010-007

Dear Mr. Amerine:

This letter refers to the eight unresolved items (URIs) that were identified by the Augmented Inspection Team during their inspection into the circumstances surrounding the process upset condition that occurred in the bowl cleaning station on October 13, 2009, and were documented in NRC Inspection Report No. 70-143/2009-011 (ML100780127). Based on further review of these URIs, the NRC identified five apparent violations which are being considered for possible escalated enforcement action in accordance with the NRC Enforcement Policy. The current Policy is included on the NRC's Web site at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>.

The first apparent violation, derived from URI 70-143/2009-011-06, involves the failure to meet Title 10 of the *Code of Federal Regulations* (10 CFR) 70.61(b). This regulation requires, in part, that the risk of each credible high consequence event be limited and that engineered or administrative controls shall be applied as necessary to reduce the likelihood of occurrence. Part I, Section 2.7 of SNM-124, NFS' materials license, states in part that "safety function activities are conducted in accordance with written procedures" and that "compliance with these procedures is mandatory." Section 1.0, of Procedure NFS-HS-A-79, "Identification and Control of Items Relied On for Safety (IROFS) Procedure," states that this procedure establishes methods for identifying and controlling Items Relied on for Safety (IROFS) that mitigate or prevent credible high and/or intermediate consequence accident scenarios/sequences to meet performance criteria specified in 10 CFR 70.61. Also, Section 3.1.5 states in part that each high consequence accident scenario/sequence should have at least two IROFS to mitigate or prevent the accident sequence. On October 13, 2009, Nuclear Fuel Services, Inc. (NFS) operated the bowl cleaning station without sufficient engineered or administrative controls to comply with 10 CFR 70.61(b) because only one item relied on for safety (IROFS), BPF-43 (NOx detection), had been designated to prevent or mitigate a high consequence accident scenario/sequence. This apparent violation is identified as 70-143/2010-007-01, "Failure to Meet Performance Requirements of 10 CFR 70.61(b)."

The second apparent violation, derived from URIs 70-143/2009-011-01, -02, -03, and -04, involves multiple failures to follow procedures for configuration management. Part I, Section 2.7 of SNM-124, NFS' materials license, states in part that "safety function activities are conducted in accordance with written procedures" and that "compliance with these procedures is mandatory." The NRC determined that, prior to October 13, 2009, NFS failed to comply with the following procedures.

- Section 2.0 of Procedure NFS-CM-004, Revision 3, "NFS Change Control Process," states in part that "changes addressing failures which are adversely impacting personnel safety or significantly impacting operations may be assigned a priority of Urgent." Contrary to this procedure, NFS processed Enterprise Change Request (ECRs) 20092008 and 20091919 as urgent when the changes dealt with the implementation of a method to process fines material.
- NFS-CM-005, "NFS Change Controls Board (CCB) Charter," requires the Change Controls Board to evaluate all ECRs according to various criteria including the impact the change would have on the facility systems, processes, activities, and facility configuration information. Contrary to this procedure, the Board's review of ECRs 20092008 and 20091919, which authorized the processing of fines directly in the bowl cleaning station, failed to identify that the design requirements and design basis were affected by the direct addition of fines into the bowl cleaning station without first processing the material in the uranium-aluminum dissolvers.
- Sections 5.3.1 and 5.3.2 of Procedure NFS-GH-901, "Configuration Management Program," require technical reviews of changes to verify that the design basis is preserved. Contrary to the procedure, the technical reviews as documented in ECRs 20092008 and 20091919 failed to identify that processing uranium-aluminum fines directly in the bowl cleaning station, without processing the material through the caustic dissolution and centrifuge steps, was not analyzed in the integrated safety analysis as a part of the uranium-aluminum design basis.

The above apparent violation is identified as 70-143/2010-007-02, "Multiple Failures to Follow Procedures Related to the Configuration Management System."

The third apparent violation, derived from URI 70-143/2009-011-05, involves the failure to meet the requirements of 10 CFR 70.72, which requires licensees to maintain records of written evaluations that provide the bases for the determination that a change to its facility does not require prior NRC approval. The inspectors determined that an inadequate 10 CFR 70.72 review was conducted based on reviews of the Safety and Regulatory Review Routing Forms used for the ECRs 20092008 and 20091919 that led to the upset event of October 13, 2009. The inspectors concluded that these records, required by 10 CFR 70.72(f), did not provide an adequate written evaluation of the bases for the determination that the changes did not require prior NRC approval. This apparent violation is identified as 70-143/2010-007-03, "Failure to Properly Implement 10 CFR 70.72."

The fourth apparent violation, derived from URI 70-143/2009-011-07, involves the failure to meet 10 CFR 70.62(b). This regulation requires, in part, that licensees maintain process safety information pertaining to the performance and technology of the process to enable the performance and maintenance of the integrated safety analysis. Prior to December 11, 2009, NFS failed to maintain process safety information that would have provided reasonable

assurance that IROFS BUA-43 (chemical addition) could perform its intended design function as described in the integrated safety analysis. This apparent violation is identified as 70-143/2010-007-04, "Failure to Maintain Process Safety Information Required by 10 CFR 70.62(b)."

The fifth apparent violation, derived from URI 70-143/2009-011-08, involves the failure to meet 10 CFR 70.61(e). This regulation requires, in part, that the licensee designate engineered or administrative controls as IROFS if they are required to meet the performance requirements of 10 CFR 70.61(b). Prior to December 11, 2009, NFS failed to identify engineered or administrative controls as IROFS for several accident scenarios involving excessive nitrogen compound gas generation in the fuel manufacturing, uranium metal/oxide, uranium aluminum, and commercial development lines in order to meet the performance requirements of 10 CFR 70.61(b). This apparent violation is identified as 70-143/2010-007-05, "Failure to Identify Engineered or Administrative Controls as IROFS, Required by 10 CFR 70.61(e)."

The NRC is requesting your attendance at a pre-decisional enforcement conference to discuss the apparent violations. Please contact Mr. Steven Vias at (404) 997-4560 within ten (10) days of the date of this letter to schedule a date and time for the pre-decisional enforcement conference to be held at the NRC Region II office located in Atlanta, Georgia. This conference will be open to public observation in accordance with Section V of the NRC Enforcement Policy.

The decision to hold a pre-decisional enforcement conference does not mean that the NRC has made a determination that a violation has occurred or that enforcement action will be taken. This conference is being held to obtain information to assist the NRC in making an enforcement decision. The conference will provide an opportunity for you to present your perspective on these matters and any other information that you believe the NRC should take into consideration in making an enforcement decision. When presenting your perspective, please include information related to whether the violations occurred, information to determine the significance of the violations, your assessment of the programmatic nature of these violations, information related to the identification of the violations, and information related to any corrective actions taken or planned. In presenting your corrective actions, you should be aware that the promptness and comprehensiveness of your actions will be considered in assessing any civil penalty for the apparent violations. The guidance described in NRC Information Notice 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," may be helpful.

In a letter dated May 15, 2008, you submitted your Safety Culture Improvement Initiative. In that letter and during the June 2008 Agency Action Review Meeting, you described your high priority performance areas as configuration management, human performance, management practices, communications, and infrastructure and equipment improvements, which were placed into your Corrective Action Program. It appears that a number of the causal factors for these apparent violations were related to these same performance areas. Therefore, at this conference, we request that you present your perspective on why your corrective actions from this Safety Culture Improvement Initiative did not effectively address these performance areas and what actions you are taking as a result.

Because the NRC has not made a final determination, no Notice of Violation is being issued for the inspection issues at this time. In addition, please be advised that the number and characterization of the apparent violations described above may change as a result of further NRC review. You will be advised by separate correspondence of the results of our deliberations. No response regarding the apparent violations is required at this time. However,

if important information regarding the apparent violations is identified that is not captured in Inspection Report No. 70-143/2009-011, please submit this information at your earliest convenience so that we are afforded the opportunity to review the information prior to the pre-decisional enforcement conference.

This letter documents closure of the following unresolved items:

- URI 70-143/2009-011-01, Failure to properly classify ECRs,
- URI 70-143/2009-011-02, Failure of the CCB reviews,
- URI 70-143/2009-011-03, Failure to perform adequate technical reviews,
- URI 70-143/2009-011-04, Failure to perform adequate safety reviews,
- URI 70-143/2009-011-05, Failure to properly implement 10 CFR 70.72,
- URI 70-143/2009-011-06, Failure to meet performance requirements of 10 CFR 70.61(b),
- URI 70-143/2009-011-07, Failure to maintain process safety information required by 10 CFR 70.62(b), and
- URI 70-143/2009-011-08, Failure to identify engineered or administrative controls as IROFS required by 10 CFR 70.61(e).

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the NRC document system (ADAMS). ADAMS is accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html>.

Should you have any questions concerning this letter, please contact me at (404) 997-4700.

Sincerely,

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Joseph W. Shea, Director  
Division of Fuel Facility Inspection

Docket No. 70-143  
License No. SNM-42

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PUBLICLY AVAILABLE       NON-PUBLICLY AVAILABLE       SENSITIVE       NON-SENSITIVE

ADAMS:  Yes      ACCESSION NUMBER: \_\_\_\_\_

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DATE	5/26/2010	5/26/2010	5/26/2010			
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