



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
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ATLANTA, GEORGIA 30303-8931

February 3, 2009

EA 08-342
NMED Nos. 080695, 080696, 080883, 090002
NRC Event Nos. 44579, 44584, 44700, 44740

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

SUBJECT: NRC INSPECTION REPORT NO. 70-143/2008-004 AND NOTICE OF VIOLATION

Dear Mr. Kudsin:

This letter refers to the inspections conducted from October 5, 2008 to December 31, 2008, at the Nuclear Fuel Services (NFS) facility in Erwin, TN. The purpose of these inspections was to determine whether activities authorized under the license were conducted safely and in accordance with NRC requirements. At the conclusion of the inspections, the findings were discussed on January 6, 2009, with those members of your staff identified in the enclosed report.

The inspections consisted of an examination of activities conducted under the license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of the license. Areas examined during the inspections are identified in the enclosed report. Within these areas, the inspections consisted of a selective examination of procedures and representative records, observations of activities in progress, and interviews with personnel.

Based on the results of these inspections, the NRC has determined that two Severity Level IV violations of NRC requirements occurred. These violations were evaluated in accordance with the NRC Enforcement Policy included on the NRC's Web site at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>.

The violations are cited in the enclosed Notice of Violation (Notice), and the circumstances surrounding each are described in the subject inspection report. The violations are being cited in the Notice because they were either identified by the NRC or self revealing due to an event.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The guidance from NRC Information Notice 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," is available on the NRC's Web Site and may be helpful. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In addition, two apparent violations were identified and are being considered for escalated enforcement action in accordance with the NRC Enforcement Policy. The nature of the violations was described in the letter dated January 12, 2009 from Mr. Joseph Shea to Mr. David Kudsin describing enforcement action (EA)-08-342. Because the NRC has not made a final determination in this matter, no Notice of Violation is being issued for these inspection findings at this time. In addition, please be advised that the number and characterization of apparent violations described in the enclosed inspection report may change as a result of further NRC review.

We received your reply to our Notice of Violation 70-143/2008-003-02, (letter, dated November 25, 2008). This reply met the requirements of 10 CFR 2.201 and your corrective actions will be reviewed during a future inspection.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response, if you choose to provide one, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

Should you have any questions concerning this inspection, please contact us.

Sincerely,

/RA/

D. Charles. Payne, Chief
Fuel Facility Inspection Branch 1
Division of Fuel Facility Inspection

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

Enclosures: 1. Notice of Violation
2. NRC Inspection Report No. 70-143/2008-004

cc w/encls:
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Vice President, Operations
Nuclear Fuel Services, Inc.
Electronic Mail Distribution

B. Marie Moore
Director
Safety and Regulatory Management
Nuclear Fuel Services, Inc.
Electronic Mail Distribution

(cc w/encls: Cont'd on page 3)

D. Kudsin

3

(cc w/encls: cont'd)
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PUBLICLY AVAILABLE NON-PUBLICLY AVAILABLE SENSITIVE NON-SENSITIVE

ADAMS: Yes ACCESSION NUMBER: _____ SUNSI REVIEW COMPLETE

OFFICE	RII:DFFI	RII:DFFI	RII:DFFI	RII:DFFI	RII:DFFI	RII:DFFI
SIGNATURE	SB via email	GS via email			/RA/	/RA/
NAME	SBurris	GSmith			O López	MCrespo
DATE	2/ /2009	2/ /2009	2/ /2009	2/ /2009	2/3/2009	2/3/2009
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES XNO	YES NO

NOTICE OF VIOLATION

Nuclear Fuel Services, Inc.
Erwin, Tennessee

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

During NRC inspections conducted from October 5, 2008 through December 31, 2008, violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the violations are listed below:

- A. 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 2.7 of the License Application, "Procedures," states in part that SNM operations and safety function activities shall be conducted in accordance with approved written procedures.

Standard Operating Procedure (SOP) 401, Section 37, "Tank XX-WF-03/WF-04," Revision 6, Section 6.3 requires the opening of valve WF50, "Tank XX-WF-04 suction" when transferring the contents of tank WF-04 to the waste treatment facility

SOP 409, Section 8, "U-Metal Oxidation and U-Oxide Dissolution," Revision 26 Attachment XV, step 21, requires the closure of valve 3C48 following a transfer of material from the 3-day column to the mix and measure column. Additionally, Attachment V requires the operator to verify closed valve 3C48 prior to transferring the contents of the 3-day column to the 7-day column.

Procedure NFS-GH-56, "Problem Identification," Revision 4 requires all employees who have knowledge of an event to report it in the Problem Identification, Resolution and Correction System (PIRCS) as soon as reasonably possible. An event is defined, among other things, to include equipment difficulties.

Contrary to the above, the following three examples were identified:

- On October 17, 2008, when transferring the contents of tank WF-04 to the waste treatment facility, valve WF-51, "Tank XX-WF03 suction" was mistakenly opened and a portion of tank WF-03 was transferred to the waste treatment facility.
- On December 4, 2008, operations failed to close valve 3C48 following a transfer of material from the 3-day column to the mix and measure column. Additionally, on December 5, operations failed to verify close valve 3C48 prior to transferring the contents of the 3-day column to the 7-day column. Both actions resulted in the overflow of the mix and measure column.

Enclosure 1

- A faulty level probe assembly associated with the BPF caustic makeup tank was known to exist by several plant operations personnel several weeks prior to a spill of the tank which occurred on December 22, 2008 during a filling evolution. This equipment difficulty was never entered into the PIRCS system and thus never adequately communicated to the entire operations staff.

This is a Severity Level IV violation (Supplement VI).

- B. Safety Condition S-1 of 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 2.7 of the License Application states in part that SNM operations and safety function activities shall be conducted in accordance with approved written procedures.

Section 5.3.5 of procedure NFS-GH-03, "Contamination Control" specifically states: "All personnel who enter a posted safety work permit (SWP) area must read, sign and comply with the requirements of the permit. This sign-off (Example-Attachment C) will be performed prior to the initial entry into the SWP area."

Contrary to the above, on December 26, 2008, while preparing to work on the 105 Laboratory Scrubber, licensee contractor personnel failed to read, sign and comply with the requirements of a permit prior to the initial entry into the SWP area

This is a Severity Level IV violation (Supplement VI).

Pursuant to the provisions of 10 CFR 2.201, Nuclear Fuel Services, Inc. is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, Region II, and a copy to the NRC Senior Resident Inspectors at the facility that is the subject of this Notice, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation or severity level, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previously docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, D.C. 20555-0001.

Because your response will be made publicly available, to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be made publicly available without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld, and provide in detail the basis for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

In accordance with 10 CFR 19.11, you may be requested to post this Notice within two working days.

Dated this 3rd day of February, 2009.

U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 70-143

License No.: SNM-124

Report No.: 70-143/2008-004

Licensee: Nuclear Fuel Services, Inc.

Facility: Erwin Facility

Location: Erwin, TN 37650

Dates: October 5, 2008 – December 31, 2008

Inspectors: S. Burris, Senior Resident Inspector
G. Smith, Resident Inspector
M. Crespo, Senior Fuel Facility Inspector
O. López, Fuel Facility Inspector

Approved by: D. Charles Payne, Chief
Fuel Facility Inspection Branch 1
Division of Fuel Facility Inspection

Enclosure 2

EXECUTIVE SUMMARY

Nuclear Fuel Services, Inc.
NRC Inspection Report 70-143/2008-004

This inspection included activities conducted by the resident and regional inspectors during normal and off normal shifts in the areas of safety operations, radiological controls, facility support, and safeguards.

Safety Operations

- Plant operations activities were generally performed safely and in accordance with approved procedures. However, the inspectors did note one violation with three specific examples associated with a failure to follow plant operation procedures. (Paragraph 2.a)
- Transient combustibles were controlled and minimized. Fire protection activities and equipment were verified to be in place and operable. (Paragraph 2.b)
- Criticality station limit cards were followed by licensee personnel. (Paragraph 2.c)

Radiological Controls

- Radiation work permits were adequately developed and implemented in order to ensure personnel exposure were kept as low as reasonably achievable. One violation regarding site safety work permits was identified as a violation for failure to follow radiological control procedures. (Paragraph 3)

Facility Support

- Maintenance activities observed were performed in accordance with proper work requirements and site procedures. (Paragraph 4.a)
- Configuration Control measures and controls were properly developed and implemented. (Paragraph 4.b)
- Permanent Plant Modifications were adequately reviewed, approved and implemented. One unresolved item was identified related to the verification and storage of safety-related records. (Paragraph 4.c)

Safeguards

- Physical Protection elements were carried out in accordance with the security plan. (Paragraph 5)

Attachment

Partial List of Persons Contacted

Inspection Procedures Used

List of Items Opened, Closed, and Discussed

REPORT DETAILS

1. Summary of Plant Status

Fuel manufacturing, training activities, and scrap recovery processes were operated throughout the reporting period. Blended low enriched uranium (BLEU) oxide conversion activities operated normally during the inspection period. BLEU Preparation Facility (BPF) operations were conducted in accordance with license requirements. Decommissioning, including processing, packaging, and shipping contaminated soil and debris from burial grounds continue under normal operations.

2. Safety Operations

a. Plant Operations (Inspection Procedure (IP 88135))

(1) Inspection Scope and Observations

Operating Area Observations

The inspectors performed daily tours of the plant operating areas and determined that equipment and systems were operated safely and in compliance with the license. Daily operational meetings were observed throughout the period where production status and issues were discussed. The inspectors reviewed selected licensee identified events and corrective actions for previously identified events and found no significant deficiencies in the items reviewed. The inspectors focused on plant operations, safety related equipment (valves, sensors, instrumentation, in-line monitors, scales, etc) and items relied on for safety (IROFS).

These daily tours included walkdowns of the BPF, Naval fuel process areas, storage areas, vaults, and the waste treatment facility. The inspectors verified that there was adequate staffing and that operators were attentive to their duties, including the status of various alarms and annunciators. The inspectors also verified that activities, normal and abnormal, were generally performed in compliance with procedures and station limits, and that safety controls were in place and were being controlled with supervision. The inspectors verified the adequacy of communications between supervisors and operators within the operating areas. The inspectors walked down sections of the standard operating procedures and verified that IROFS were identified and operable in each of the areas. The inspectors reviewed log books, lockout tag out records, and Letters of Authorization (i.e. temporary modifications) to obtain information concerning operating trends and activities. The inspectors verified the licensee was actively pursuing corrective action for conditions requiring temporary modifications as well as any prescribed compensatory measures.

During the inspection period, the inspectors evaluated the following three issues that dealt with procedural compliance:

- On October 17, fuel operations personnel were attempting to transfer the WF-04 tank contents to the waste treatment facility. The tank was appropriately sampled for uranium and the transfer was approved by supervision. Standard

Operating Procedure (SOP) 401, Section 37, "TankXX-WF-03/WF-04," Revision 6, Section 6.3 directed the operator to open valve WF-50. However, the operator mistakenly opened WF-51 and tank WF-03 was transferred instead. The operator subsequently noted the error and secured the transfer. Approximately 3 to 5 inches of the tank contents were transferred. The licensee entered the issue into the Problem Identification, Resolution, and Correction System (PIRCS) as PIRCS item 15829. The Criticality Safety Engineer was notified of the issue and the tanks contents were sampled. Sample results indicated the contents were within acceptable limits. This issue was reported to the Headquarters Operations Officer (HOO) on October 17 as Event Notification (EN) 44579 due to the licensee failing to meet the performance criteria of 70.61 (See Section 6).

- On December 4, 2008, BPF operations transferred special nuclear material (SNM) from the 3-day column to the mix and measure column. Following completion of this transfer, valve 3C48 was left in the "locked open" position which was contrary to SOP 409, Section 8, "U-Metal Oxidation and U-Oxide Dissolution," Revision 26, Attachment XV, step 21, which required the valve to be locked closed. On December 5, 2008, BPF operations began a transfer of SNM from the 3-day column to the 7-day column. Step 15 of Attachment V to SOP 409 Section 8 requires valve 3C48 to be verified closed. Similarly, this step was missed and SNM was transferred from the 3-day column to not only the 7-day column as desired but also to the mix and measure column. At the time, the mix and measure column was approximately full and the column subsequently overflowed to the knockout column. At this point, operations realized an error had occurred and the transfer was secured. Additionally, during the overflow, an elbow in the wet off gas (WOG) line leaked material and some material wetted the mix and measure columns as well as the adjacent wall. Operations was unable to complete decontamination of the area within 24 hours and reported the event to the NRC HOO as EN 44700 in accordance with 10 CFR 70.50(b)(1) (See Section 6). The area was subsequently decontaminated, the WOG line repaired, and the issue was entered into the corrective action system as PIRCS item 16452.
- On December 22, BPF operations began to fill the caustic tank 6H10 in accordance with procedure SOP 409, Section 24, "333 BPF Process Ventilation System," Revision 4. This procedure set up the tank for an auto-fill operation. Subsequent to the system alignment, operators noted caustic spilling into the chimney area of building 333 and secured the caustic transfer. Initial diagnosis indicated that the level probe had failed and the tank overfilled. The inspectors noted however, that it was somewhat common knowledge among numerous operators that the level probe was faulty. Other crews had recently performed the same procedure but manually filled the tank since the level probe operation was questionable. Procedure NFS-GH-56, "Problem Identification," Revision 4, requires all employees who have knowledge of an event to report it in the PIRCS as soon as reasonably possible. This procedure defines an event to include equipment difficulties. This equipment difficulty was not entered into the corrective action system and thus the information was never relayed to the

operating crew on the evening shift of December 22. In the above three self-revealing cases, the licensee failed to comply with plant operation procedures. Section 2.7 of the License Application states in part that SNM operations and safety function activities shall be conducted in accordance with approved written procedures. Failure to comply with plant procedures during SNM operations is a violation (VIO) of the facility license (VIO 70-143/2008-004-01).

Plant Tours

The inspectors performed periodic tours of the out-lying facility areas during the inspection period and determined that equipment and systems were operated safely and in compliance with the license. The focus of these tours centered around the evaluation of potential missile hazards and missile protection features, combustible material storage and fire loading, hazardous chemical storage, adequate storage of compressed gas containers, potential degradation of plant security features, and potential fire hazards.

Plan-of-the-Day-Meeting.

The inspectors attended various plan-of-the-day meetings throughout the inspection period in order to determine the overall status of the plant. The inspectors evaluated the adequacy of the licensee's response to significant plant issues as well as the licensee's approach to solving various plant problems.

Safety-Significant System Walkdown

During the inspection period, the inspectors performed a walkdown of the below listed safety significant systems involved with the processing of licensed nuclear material. As part of the system evaluations, the inspectors reviewed the integrated safety analysis (ISA) for the systems in order to identify assumptions and controls. The inspectors verified that these assumptions and controls were properly implemented in the field. During the walkdown, the inspectors verified that the as-built configuration matched the approved plant drawings. The inspectors also interviewed operators in order to ensure that plant personnel were familiar with the assumptions and controls associated with these systems as well as the IROFS and IROFS instrumentation for maintaining plant safety. Specifically, the inspectors verified correct valve and switch position alignments as required by procedure, the absence of conditions that may degrade plant performance as well as the operability of IROFS, safety-related devices, and support systems essential to safety system performance in the following areas:

- Building 303 Area 900
- BPF Solvent Extraction (SX) Area
- Building 302 Recovery Area A and B

(2) Conclusions

The licensee operated the facility safely and in accordance with the license requirements and the ISA. However one violation was noted for failure to adhere to plant operation

procedures.

b. Criticality Safety (IP 88135)

(1) Inspection Scope and Observations

During daily operating area tours, the inspectors verified various criticality controls to be in place. The station limit card requirements were observed by personnel. Containers were adequately controlled in order to minimize criticality hazards. The inspectors sampled a number of criticality-related IROFS to verify operability. Operators were knowledgeable of the IROFS' requirements. These IROFS were adequately identified in the field as well as on plant controlled drawings.

(2) Conclusions

Licensee criticality controls were adequately followed by licensee personnel.

c. Fire Protection (IP 88135 and IP 88055)

(1) Inspection Scope and Observations

During daily plant tours, the inspectors verified that transient combustibles were being adequately controlled and minimized and that fire barriers located between fire areas were being properly maintained.

(2) Conclusions

Maintenance of fire barriers was adequate and transient combustibles were controlled.

3. Radiological Controls

Radiation Protection (IP 88135)

a. Inspection Scope and Observations

During various tours of the operating areas, the inspectors verified that workers complied with health physics procedures. The inspectors noted that plant workers properly wore dosimetry, used protective clothing in accordance with applicable Radiological Work Permits (RWPs), and properly frisked upon exiting the controlled area. The inspectors verified radiation areas were properly posted and that radiation maps included up-to-date radiation levels. The inspectors also verified the operation of radiation protection instruments as well as their calibration frequencies.

The inspectors performed a detailed review of safety work permits (SWPs) 12763 and 12764. These SWPs included radiological requirements detailed under the RWP section to remove the old laboratory scrubber and associated piping which may potentially contain contamination. The inspectors observed licensee personnel during the pre-job brief to ensure that the SWP-specific requirements were discussed and properly

delineated to all of the personnel involved with the job task. After posting, the inspectors verified that craft personnel complied with the prescribed controls and precautions. The inspectors noted that the RWP contained adequate requirements concerning the radiation levels, respiratory equipment, dosimetry, contamination levels, special tools and equipment, airborne radioactivity, and containment devices. The area was, in general, effectively controlled by health physics personnel. The SWP was prominently posted for the employees review and observation. Workers entering the SWP area signed onto the SWP, signifying their understanding of the entry requirements.

Several minor administrative concerns were raised by the inspector during the initial establishment of the SWP which were immediately resolved by the licensee. In addition, the inspectors noted that after the Radiation Technician (RT) posted SWP 12763, creating a radiological controlled area, there were three contractor personnel already inside the controlled area in the process of dressing out to meet the specified SWP personal protective equipment (PPE) requirements. When the inspectors pointed this out to the RT, he acknowledged the issue but then turned around and walked off. The inspectors noted that by this time the personnel had donned the proper attire and therefore there was no reason for stopping the activity. It was noted that although the area was a clean area until the time that the first breach in the piping was made, it is unacceptable practice to not follow site procedures or posted instructions. Site procedure NFS-GH-03, "Contamination Control" Section 5.3.5 specifically states: "All personnel who enter a posted SWP area must read, sign and comply with the requirements of the permit. This sign-off (Example-Attachment C) will be performed prior to the initial entry into the SWP area." This failure to comply with the radiological access requirements was a violation of NRC requirements. Since this item was identified by the NRC it is being identified as a violation for Failure to Follow Posted Radiological Permit Requirements (VIO 70-143/2008-004-02).

b. Conclusions

Radiation protection practices were performed in accordance with plant procedures and ensured that dose was maintained as low as reasonably achievable (ALARA) with the exception of a radiological protection procedural violation.

4. Facility Support

a. Maintenance/Surveillance (IP 88135)

(1) Inspection Scope and Observations

During the holiday shutdown period, the licensee performed numerous maintenance activities. The inspectors observed many of these activities to ensure that the changes to the facilities were effective, performed and controlled in accordance with the licensee's maintenance program. The inspectors verified configuration control was maintained, personnel adhered to established procedural controls and the work was performed in a safe manner. The inspectors verified management reviews were properly performed and evaluated. The inspectors verified that activities performed on permanent plant modifications did not degrade the performance capabilities of IROFS or

other safety controls that are part of the safety design base. The licensee effectively identified and properly resolved any abnormal condition found.

The inspectors also verified the licensee conducted activities with an approved work request and that the proper administrative control procedures were utilized during the development and approval process. This inspection activity included a review of the approval sequence for the maintenance activity to ensure work on safety controls or IROFS, or in the proximity of critical or vital equipment, was performed under the work order system. The inspectors verified that work requests included the following elements: identification of work activity, work group(s) involved, foreman in charge, ignition source controls, fire watch requirements, special work controls, maintenance supervision approval signature, operating staff review signature, and Operations supervision approval signature. The following work requests were reviewed:

Work Request 132665, Replace 1802 Furnace Clam Shell
 Work Request 126949, Replace Cooling Chamber Door
 Work Request 132671, Replace Center Yolk on #2 Tube Furnace
 Work Request 132187, Trouble Shoot and Repair 1802 Hoist
 Work Request 132052 Replace Proximity Switch
 Work Request 132051, Modify and Replace Axle and Roller Bearings on Cooling Chamber Door
 Work Requests 126946 & 126847, Fabricate and Install Viewing Port for #1 and #2 Furnaces
 Work Request 125727, Replace 105 Lab Scrubber

(2) Conclusions

The licensee performed all of the maintenance activities observed in a safe manner and in accordance with the site procedures and work requirements

b. Configuration Control (IP 88071)

(1) Inspection Scope and Observations

The inspectors reviewed the licensee's compliance with the new configuration control amendment in BPF. The BPF was required to be incorporated into the new configuration control system by September 2008, as stated in the license amendment submitted in response to the February 21, 2007 Confirmatory Order. The focus of the inspection was implementation and management of the electronic configuration software which represents the key modification of the licensee's configuration control program.

The inspectors conducted interviews of several members of the team of employees that had been assigned to manage, gather and input the data into the electronic system. The interviews demonstrated to the inspectors that the team members were knowledgeable of the requirements of the system and qualified to perform the task adequately. The inspectors audited the data associated with the bowl cleaning station (one of the first areas put into the system) as well as the uranium aluminum systems. The inspectors found the process and instrumentation diagrams (P&IDs) and components for these

systems were properly entered into the software database. The system components were properly “cross-linked” to the various safety related equipment (SRE). This adequately communicated the pertinent safety functions of various components to the equipment list.

The inspectors noted that the change control process had also been sufficiently incorporated into the electronic configuration software. The inspector reviewed a recent modification that involved the deletion of an IROFS from the configuration and found no issues with the records in the configuration software.

The inspectors also reviewed the licensee’s quality assurance audits for the new system. The inspectors noted the audits were a critical review of the data input into the system. The inspectors found that the issues identified in the audit were properly entered into the corrective action system.

The only observation the inspectors noted regarding the new configuration software was that different safety disciplines had not integrated their data into the software. Therefore, this information was still “silo-ed” in various other electronic repositories. When this observation was discussed with the licensee, the licensee acknowledged that the software was capable of being a central repository of the safety information. However, the licensee stated that significant modifications would need to be performed on the software to ensure that data entered would be easily retrievable, properly controlled, and met their current needs. No other issues were noted.

(2) Conclusions

The licensee was adequately implementing the requirements of the new configuration control license amendment.

c. Permanent Plant Modifications (IP 88070)

(1) Inspection Scope and Observations

The inspectors performed a review of the ISA changes that were made over the last year in the BPF. The inspectors reviewed the internal authorized changes to determine if the modifications were performed and authorized according to procedure. In addition, the modifications were reviewed to ensure that any potential modifications to an accident sequence were properly accounted for and addressed. The inspectors identified one issue during the review. The issue involved the management measures of the pipes designated as IROFS. The ISA summary stated that the material of construction of these pipes represented a passive engineered control which was to be verified on a periodic basis. The inspectors reviewed the periodic surveillances to verify the material of construction and found that the verification procedure only verified that the pipe was designated as an SRE. The inspectors found this verification would prevent the material of construction from being modified; however, the verification did not confirm that material of construction for the pipes currently in place was adequate (which an initial purchase order or work request would have confirmed). When the issue was brought to the licensee’s attention, the licensee agreed that the confirmation of the material of

construction of the pipes currently installed should be verified and stored as part of the records for the IROFS. An unresolved item (URI) (URI 70-143/2008-004-05) has been opened to track the licensee's verification of the current material of construction of the pipes designated as IROFS.

(2) Conclusions

The licensee adequately implemented modifications to the ISA summary. One URI was opened to track the licensee's verification of the material of construction for pipe designated as IROFS.

d. Management Organization and Controls (IP 88135)

(1) Inspection Scope and Observations

The inspectors performed daily reviews of the licensee's PIRCS entries to ensure that items adverse to requirements and quality were being identified and tracked to closure. The inspectors verified that issues were being properly identified, reviewed and tracked to completion.

(2) Conclusions

The licensee sufficiently documented and corrected adverse conditions.

5. Safeguards

Physical Protection (IP 88135)

(1) Inspection Scope and Observations

The inspectors evaluated the licensee's performance during a tactical response exercise conducted on November 6, 2008. The inspectors verified and assessed the effectiveness of the licensee's implementation of site protective strategies in accordance with NRC-approved plans and security procedures. The inspectors verified that the licensee's critique process effectively identified and captured weaknesses noted during the exercise.

The inspectors observed a security exercise conducted on November 20. This particular exercise involved active participation by local law enforcement agencies (LLEAs). The inspectors verified proper response by direct observation of the drill from within the LLEAs vehicles. The inspectors verified coordination and communications between the LLEAs and the NFS security personnel. The LLEAs also demonstrated sufficient knowledge of NFS protocols and operations.

(2) Conclusions

Security drills well carried out in an effective and coordinated manner. All objectives of the security drills were met.

6. Follow-up on Events (88135)

a. Inspection Scope and Observations

The inspectors reviewed EN 44579 (See Paragraph 2a) concerning the transfer of a waste tank to the waste treatment facility. The incorrect tank was discharged and thus the tank's contents were not verified prior to the transfer. The licensee's initial evaluation of the event determined that the issue fell within the 24-hour reporting requirements for failing to meet the performance criteria of 70.61 (Ref. Part 70 App A (b) (2)) and notified the NRC Headquarters Operations Officer (HOO) on October 17, 2008, at 8:45 p.m. The event was also entered into the licensee's PIRCS program. The licensee's immediate corrective actions included securing the transfer upon discovery of the error and sampling the tank's contents. Sample results indicated that the SNM was well within limits. The inspectors also noted that prior to entering the subject waste tank, the material passes through an in-line monitor which would have alerted the operators of the presence of any SNM. This event is closed.

The inspectors reviewed EN 44584 which involved a failure of a component designated as SRE. The component is utilized as an interlock device in area 600 of building 302. The failure was noted during routine SRE testing where an excessive air gap (>1 inch) was noted between a door and its seal. The licensee determined that the issue fell within the 24-hour reporting requirements for failing to meet the performance criteria of 70.61 (Ref. Part 70 App A (b) (2)) and notified the NRC HOO on October 21, 2008, at 5:06 p.m. Based on a review of the ISA, the failure resulted in a high consequence event becoming unlikely. The failure mechanism was ultimately attributed to a failed speed controller. The system was shutdown at the time of the failure. Following replacement of the speed controller, the system was restarted. The event was also reported in the licensee's PIRCS program. Long term corrective actions include an evaluation of alternative components. This event is closed.

The inspectors reviewed EN 44700 (See Paragraph 2a) concerning a spill of SNM. Failure to follow a plant procedure resulted in an overflow of the mix and measure column in BPF on December 5, 2008. During this overflow an elbow failed and sprayed material into the surrounding area. The licensee was unable to clean up the material within 24 hours and thus, pursuant to 10CFR70.50 (b) (1), notified the NRC HOO on December 6, 2008, at 1:18 p.m. The overflow was attributed to a procedure violation and the area was decontaminated on December 7. This event is closed.

The inspectors reviewed EN 44740 which involved a failure of a component designated as SRE. The component is utilized as an interlock device in area 600 of building 303. The failure was noted during routine SRE testing where an excessive air gap (>1 inch) was noted between a door and its seal. The licensee's determined that the issue fell within the 24-hour reporting requirements for failing to meet the performance criteria of

70.61 (Ref. Part 70 App A (b) (2)) and notified the NRC HOO on December 23, 2008, at 10:36 a.m. Specifically, the interlock function was determined to be degraded. Based on a review of the ISA, the failure resulted in a high consequence event becoming unlikely. This event was similar to a previous event (EN 44584), but the failure mechanism was determined to in this case to be a failed solenoid. Similarly, the system was shutdown at the time of the test failure. The event was also reported in the licensee's PIRCS program. This event is closed.

b. Conclusions

The above issues were reported in the licensee's PIRCS program. The licensee properly identified and corrected the issues and subsequently determined that these items were reportable as required by 10 CFR Part 70.

7. Follow-up on Previously Identified Issues

(Closed) URI 70-143/2008-03-03: Combustible Material Control in Building 310. As stated in the NRC letter to NFS dated January 12, 2008, upon further review of the circumstances surrounding this issue, the NRC determined that two apparent violations (AVs) had occurred. The first apparent violation (AV 70-143/2008-004-03) involves the apparent failure to have sufficient engineered or administrative controls designated to demonstrate compliance with the performance requirements. The second apparent violation (AV 70-143/2008-004-04) involves the failure to implement safety program that ensures that administrative IROFS FIRE-2 will be available and reliable to perform its intended function when needed to comply with the performance requirements. Further actions regarding these issues will be tracked according to the AV numbers above. This URI is closed.

8. Exit Meeting

The inspection scope and results were presented to members of the licensee's staff at various meetings throughout the inspection period and were summarized on January 6, 2009, with Mr. David Kudsin and members of his staff. No dissenting comments were received from the licensee. Proprietary information was discussed but not included in the report.

ATTACHMENT

1. PERSONS CONTACTED

Partial List of Licensee's Persons Contacted

T. Lindstrom, Vice President, Operations
M. Moore, Director, Safety & Regulatory
R. Droke, Licensing Director
T. Coates, Engineering Section Manager
R. Shackelford, Nuclear Criticality Safety Manager
G. Athon, Director, Applied Technology
M. Tester, Sr. Manager, Radiation Control
J. Parker, Industrial Safety Manger
A. Vaughan, Director Fuel Production

2. INSPECTION PROCEDURES USED

IP 88135 Resident Inspectors Program for Category 1 Fuel Cycle Facilities
IP 88070 Permanent Plant Modifications
IP 88071 Configuration Management Programmatic Review

3. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

<u>Item Number</u>	<u>Status</u>	<u>Type/Description</u>
70-143/2008-004-01	Open	VIO - Failure to adhere to plant procedures (Paragraph 2.a)
70-143/2008-004-02	Open	VIO – Failure to follow radiological procedures (Paragraph 3.a)
70-143/2008-004-03	Open	AV – Failure to designate sufficient IROFS (Paragraph 7)
70-143/2008-004-04	Open	AV – Failure of the Safety Program to ensure reliability (Paragraph 7)
70-143/2008-004-05	Open	URI – Verification of IROFS Pipe Material (Paragraph 4.c)
70-143/2008-003-03	Closed	URI – Combustible Material Control in Building 310 (Paragraph 7)