



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

March 7, 2011

Mr. Joseph G. Henry
President
Nuclear Fuel Services, Inc.
P. O. Box 337, MS 123
Erwin, TN 37650

SUBJECT: NRC INSPECTION REPORT NO. 70-143/2010-012

Dear Mr. Henry:

This letter refers to the inspections conducted from October 25-28, 2010, and January 24-28, 2011, at the Nuclear Fuel Services (NFS) facility in Erwin, TN. The purpose of the inspection was to determine whether NFS had completed the actions documented as "Actions Post-Restart of Operations" in the January 7, 2010 Confirmatory Action Letter (CAL). At the conclusion of the inspection, the findings were discussed on February 9, 2011, with you and members of your staff identified in the enclosed report.

The inspection determined that NFS had taken sufficient actions to address post-restart CAL items 3-8. However, the inspection also determined that NFS had not completed a sufficiently thorough evaluation of the deficiencies regarding the root cause investigation conducted for the bowl cleaning station incident in 2009 (post-restart CAL Item 1) or the decision making process that resulted in the restart decision that occurred on November 30, 2009, for the uranium aluminum system (post-restart CAL Item 2). Therefore, additional actions are required of NFS to adequately address these commitments. On February 9, 2011, you acknowledged this requirement and stated that you would inform the NRC once a new evaluation was complete so that NRC could perform an additional inspection to verify the adequacy of the new evaluation. Please note that deficiencies noted in the post-restart items from the CAL do not affect NRC's decision regarding NFS' capability to safely operate the four process lines that were restarted in 2010.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure 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>.

J. Henry

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

Sincerely,

/RA/

Anthony T. Gody, Director
Division of Fuel Facility Inspection

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

Enclosure:
NRC Inspection Report No. 70-143/2010-012

cc w/encl:
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J. Henry

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Letter to Mr. Joseph Henry from Anthony Gody dated March 7, 2011

SUBJECT: NRC INSPECTION REPORT NO. 70-143/2010-012

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U. S. NUCLEAR REGULATORY COMMISSION
REGION II

Docket No.: 70-143

License No.: SNM-124

Report No.: 70-143/2010-012

Licensee: Nuclear Fuel Services, Inc.

Facility: Erwin Facility

Location: Erwin, TN 37650

Dates: October 25 - 28, 2010
January 24 - 28, 2011

Inspectors: M. Crespo, Senior Fuel Facility Inspector (Team Lead)
M. Romano, Fuel Facility Inspector
N. Coovert, Fuel Facility Inspector In-training

Approved by: S. Vias, Chief
Fuel Facility Inspection Branch 1
Division of Fuel Facility Inspection

Enclosure

EXECUTIVE SUMMARY

Nuclear Fuel Services, Inc.
NRC Inspection Report 70-143/2010-012
October 25, 2010 – January 28, 2011

The objective of this team inspection was to verify the completion of the eight actions that Nuclear Fuel Services, Inc. (NFS) committed to accomplish following the restart of operations as documented in the January 7, 2010 Confirmatory Action Letter (CAL). The inspectors reviewed NFS documents including corrective action reports and investigations in the corrective action program, applicable procedures, performed interviews, and observed plant meetings.

The inspectors concluded that NFS had not completed a sufficiently thorough evaluation of the deficiencies regarding the root cause investigation conducted for the bowl cleaning station incident in 2009 (CAL Item 1) or the decision making process that resulted in the restart decision that occurred on November 30, 2009 for the uranium aluminum system (CAL Item 2). The inspectors concluded that the evaluation performed by NFS was narrowly focused on specific deficiencies of procedures and training and missed the opportunity to identify latent organizational weaknesses that enabled this condition to manifest itself. While significant corrective actions regarding investigations and restart decision-making processes were implemented by NFS, the corrective actions did not fulfill NFS' commitments to conduct an evaluation to identify all the potential causal factors that led to the decisions that eventually resulted in the bowl cleaning station incident. Without an adequate and thorough root cause evaluation that identifies and addresses the causes regarding the non-conservative organizational philosophies and decision making processes NFS used in late 2009, the inspectors could not conclude that the corrective actions created and completed to date addressed all of the potential causal factors. Therefore, an evaluation that adequately evaluates the latent organizational weaknesses still remains to be completed by NFS to adequately address CAL Items 1 and 2. The licensee management acknowledged the deficiencies and stated that it will inform the NRC once the new evaluation is complete so that NRC can perform an additional inspection to verify its adequacy.

The inspectors concluded that NFS' actions with regard to CAL Items 3 – 8 were sufficient to address the respective commitments from the CAL.

Attachment

Key Points of Contact

List of Items Opened, Closed, and Discussed

Documents Reviewed

Corrective Action Reports Reviewed

REPORT DETAILS

BACKGROUND:

On January 7, 2010, the NRC issued Confirmatory Action Letter (CAL) No. 2-2010-001 (ML100070118). As part of the CAL, Nuclear Fuel Services, Inc. (NFS) committed to eight actions designated as "Actions Post Restart of Operations." As documented in a letter dated September 3, 2010, NFS notified the NRC of the status of the post restart items. Subsequently, on October 25, 2010, NRC inspectors evaluated NFS' actions that were stated to be complete, specifically action numbers 1, 2, 4, 5, and 6. A second letter was sent dated January 7, 2011, in which NFS informed the NRC that the remaining post restart CAL items, numbers 3, 7, and 8, had been completed. On January 24, 2011, NRC inspectors continued the inspection and began assessing NFS' actions to complete the post restart CAL items.

Inspection Scope:

During the inspection, the inspectors reviewed corrective action reports and investigations from the Problem Identification Resolution and Correction System (PIRCS) and applicable procedures, performed interviews, and observed plant meetings.

The NRC commenced inspection of NFS' actions to address the eight "Actions Post Restart of Operations." The objectives of the inspection were to:

- assure that the "Actions Post Restart of Operations" were satisfactorily completed, and,
- verify that the licensee's assessment and corrective actions adequately addressed the concerns that resulted in the generation of the eight post restart CAL items.

A. ACTIONS POST RESTART OF OPERATIONS

- 1. Evaluate the cause(s) by June 15, 2010, and implement specific corrective actions for NFS' failure to complete the root cause analysis, extent of condition review and extent of cause review following the Bowl Cleaning Station Incident without significant prompting from the NRC. Corrective actions will be entered and tracked in the corrective action program.**

a. Inspection Scope and Observations

To assess NFS' actions to address this item, the inspectors reviewed the evaluations credited in corrective action report No. 11291. NFS created this PIRCS item to document and track the completion of CAL No. 2-2010-001 Post Restart Action No. 1, which included an external independent evaluator that conducted an Incident Analysis Report (IAR).

The IAR determined that the root cause for the deficiencies NRC noted in NFS' root cause evaluation for the bowl cleaning station incident was that NFS' administrative controls did not assure the transfer of the requirements from Section 2.12.6 of the license (SNM-124). License SNM-124 states that the licensee would use a structured approach to investigations to determine the "generic implications" of abnormal events. The IAR interpreted the generic implications terminology of the requirement to mean an extent of condition and extent of cause review should be performed. Therefore, the IAR

concluded that the generic implications terminology was not adequately incorporated into NFS' corrective action program investigation procedures or investigator training. As a result, the NFS organization did not expect completed root cause investigations to include generic implications.

The inspectors noted that the IAR did not identify deficiencies beyond those noted with the NFS event investigation procedure and the root cause investigator training. The evaluation did not specifically identify why NFS required "significant prompting from NRC" to complete a thorough root cause analysis following the bowl cleaning station incident. Also, the inspectors noted that the evaluation did not explore any potential organizational weaknesses or underlying cultural barriers that resulted in insufficient priority and importance being placed on having a thorough root cause evaluation conducted. The inspectors concluded that the evaluation performed by NFS was narrowly focused on specific deficiencies of procedures and training and missed the opportunity to identify latent organizational weaknesses that enabled this condition to manifest.

To address the concerns associated with corrective action report No. 11291, five corrective actions were identified. Corrective action 1 was to modify the corrective action program and investigation procedures to specifically include requirements for generic root causes and generic implications of abnormal events. Corrective action 2 was to implement specific training for investigators regarding these new requirements. Similarly, corrective action 3 was to provide training to managers regarding the new requirements for generic implications, effectively bridging the knowledge gap identified in management's understanding of the generic implications license requirement through training. Corrective actions 4 and 5 were essentially the extent of condition reviews, performed by licensing and then quality assurance departments, to determine if other license conditions may not have been adequately transferred into policies and procedures.

The inspectors performed a review of the corrective actions that were completed and referenced as a response to the recommendations from the IAR. Corrective actions 1 - 3 represented a series of procedural and program changes in the corrective action program. Most of these procedures had taken effect on November 1, 2010, including an updated procedure for directed investigations. To assess the effectiveness of these program upgrades, the team requested to review all investigation reports performed since November 1, 2010. No full or small team root cause analysis had been performed under the new process, so that aspect could not be assessed. The licensee also modified its apparent cause investigation process (the investigation level below that of a formal small team root cause analysis) by implementing new guidance procedures. The inspectors reviewed the five apparent cause analysis investigations that had been performed since the program improvements had been implemented. Of the five apparent cause evaluations reviewed, only one represented an effective application of the new apparent cause evaluation procedure. The other four investigations did not implement portions of the investigation guidelines. For example, two of these investigations did not identify corrective actions beyond the immediate actions to address the problem identified in PIRCS. Causal factors were identified; however no corrective actions were generated or cited to address the conditions that led to the problem.

After reviewing the list of personnel that had received the training regarding generic implications and the revised causal analysis training, the inspectors noted that several managers with approval authority for causal evaluations had not yet taken the training, nor had this training been institutionalized as a requirement for managers. Based on these observations, the inspectors concluded that the licensee's corrective actions to ensure that applicable management was knowledgeable of the changes were incomplete. Therefore, additional corrective actions with respect to the newly implemented causal analysis procedures warranted additional actions to ensure that the new guidance procedures would be properly used by the licensee's investigative and approval staff.

For corrective actions 4 and 5 of corrective action report No. 11291, the inspectors noted that the evaluations performed had failed to identify a license requirement that had not been incorporated into a procedure. The requirement was related to the review of configuration management related PIRCS entries, the determination of trends, and measurement of the configuration management effectiveness. However, two months later in December 2010, an NFS quality assurance audit identified the deficiency and documented the finding in PIRCS. The inspectors noted no other issues regarding the flow-down of requirements into procedures or policies.

The licensee acknowledged the deficiencies noted above and stated that additional actions would be taken to address this issue and that NRC would be notified when the additional actions would be ready for inspection.

b. Conclusions

The licensee's evaluation conducted prior to June 15, 2010, was inadequate to address the commitment from the CAL. Additional actions, including a more broad scope evaluation, were required from the licensee to satisfy item 1 of the Actions Post Restart of Operations. Unresolved item (URI) 70-143/2010-012-01, Additional actions to address post-restart item 1, will be opened to track this issue until NRC's review of additional licensee documents to determine completion of this item.

2. **Identify and evaluate the cause(s) of NFS' decision to propose restart of operations the week of November 30, 2009, prior to completion of the root cause investigation, extent of condition review by June 15, 2010, and implement appropriate corrective actions. Corrective actions will be entered and tracked in the corrective action program.**

a. Inspection Scope and Observations

NFS documented the closure and actions taken for this item in corrective action report No. 11292. To address this item, NFS credited the same evaluation and supporting documents for CAL item #1 above. As stated previously, the IAR stated that the root cause for both Items 1 and 2 of the Actions Post Restart of Operations was that NFS administrative controls did not assure the transfer of the license requirements as they applied to generic implications and event investigations. The evaluation was silent on any causal factors attributed to the organizational and management restart decision-making failures regarding the Uranium-Aluminum process prior to completing the root cause analysis, extent of condition, and corrective actions following the bowl cleaning station incident in October 2009. As presented, additional actions were required from

the licensee to adequately address the commitment to perform an evaluation that assesses the decision-making process used following the bowl-cleaning station incident. The inspectors did note that NFS had identified and implemented corrective actions that provided a specific structure and framework to include root causes and extent of condition results into the restart decision-making process. NFS made changes to five procedures to add these decision-making elements to plant shutdown and restart criteria, which includes procedures "Conduct of Operations" and "Standard Operating Guidelines (SOG) for Evaluation of Unusual Incidents." NFS also provided training for decision-makers regarding how to factor each of the following into restart decisions:

- the specific root cause(s),
- the generic root cause(s), and,
- the generic implications of an abnormal event.

However, most of the five procedures had only been implemented between December 2010, and January 2011, and the licensee had not had an opportunity to use them. Therefore, the inspectors were not able to evaluate if the new process was effective and properly institutionalized as part of the licensee's event response process. The effectiveness of these corrective actions will be evaluated by NRC as the opportunity for its use presents itself through the NRC's normal core inspection program.

While corrective actions regarding the decision-making processes were implemented by NFS, the corrective actions were found to not fulfill NFS' commitment in the CAL to have an evaluation that identifies all the potential causal factors that led to the decisions following the bowl cleaning station incident. Without an adequate and thorough root cause evaluation that identified and addressed the causes regarding the non-conservative organizational philosophies and decision making processes NFS used in late 2009, the inspectors could not conclude that the corrective actions created and completed to date addressed all of the potential causal factors that led to the event and subsequent CAL.

The licensee acknowledged the deficiencies noted above when these findings were presented. The licensee stated that additional actions would be taken to address this issue and that NRC would be notified when the additional actions would be ready to be inspected.

b. Conclusions

The licensee's evaluation conducted prior to June 15, 2010 was inadequate to address the commitment from the CAL. Additional actions, including a more broad scope evaluation, were required from the licensee to satisfy item 2 of the Actions Post Restart of Operations. Unresolved item (URI) 70-143/2010-012-02, Additional actions to address post-restart item 2, will be opened to track this issue until NRC's review of additional licensee documents to determine completion of this item.

3. **Identify and implement specific long-term corrective actions to address each of the causal factors that contributed to the Bowl Cleaning Station Incident by December 31, 2010.**

a. Inspection Scope and Observations

NFS' evaluation of the bowl cleaning station incident identified five specific causal factors. The inspectors evaluated NFS' long term corrective actions to address each of these causal factors.

Casual Factor 1 was the failure to properly institutionalize the requirements of NFS-TS-009, "Configuration Management of Process Change," which required a more thorough technical basis and material input reviews to be conducted. As part of NFS' long term corrective actions to address this issue, NFS revised the majority of the corrective action program, which became effective November 1, 2010. These modifications had the goal of streamlining the corrective action program, to ensure that corrective actions were implemented in a timely fashion commensurate with the risk priority. NRC planned an effectiveness review of the modified program for the first quarter of 2011, and will document the results in Inspection Report 70-143/2011-006. In addition, NFS institutionalized a new "Conduct of Operations" procedure, NFS-OPS-001, and the "Standard Operating Guidelines (SOG) for Evaluation of Unusual Incidents," EP-01, to clearly communicate plant expectations regarding operations and incident responses to management and staff. No significant issues were identified with these actions.

Casual Factor 2 was that the Integrated Safety Analysis (ISA) chemical analyst did not review the modification prior to its implementation. The inspectors noted that NFS had not implemented or identified specific long term corrective actions for this item because it had deemed the short term corrective actions sufficient to address this issue. Those actions consisted of the implementation of the new ISA screening criteria, which were adequately evaluated as part of NRC's restart readiness inspection conducted in 2010.

Casual Factor 3 was that the technical basis provided for review of the configuration management system lacked detail to fully understand the significance of the changes that led to the bowl cleaning station incident. The inspectors reviewed NFS' long term corrective actions which involved the training and specific qualification for writing a technical basis. As has been documented in the four 2010 NRC Restart Readiness Assessment Team reports (70-143/2010-005, 2010-006, 2010-008, and 2010-011), this corrective action has been effective in improving the quality and detail of the technical basis for modifications.

Casual Factor 4 (documented as Contributing Cause 1 by NFS) indicated that workloads and production pressures led to the implementation of changes without appropriate attention to detail. As part of NFS' long term corrective actions, NFS implemented human performance assessments that resulted in the redistribution of certain roles and responsibilities of engineers in various groups. The inspectors noted that this action did not include an evaluation mechanism for upper level management to reassess workload or priorities. While no significant issues were identified with regard to the current redistribution of roles, the lack of mechanisms for upper management to ensure that the workloads and priorities adequately control production pressure was noted as a potential vulnerability to the effectiveness of this corrective action.

Casual Factor 5 (documented as Contributing Cause 2 by NFS) was the issue regarding the failure of the project scoping to account for the potential of an excessive number of waste containers being generated from the process. This concern led the licensee to the option of processing fines in the bowl cleaning station to minimize the number of containers. The inspectors evaluated NFS' long term corrective actions which involved revising the engineering project procedure, ENG-EPS-A-001, to include the identification of waste or hazard removal as a line item in the scope of work.

b. Conclusions

The licensee's long term corrective actions to address the five causal factors identified for the bowl cleaning station incident were adequate to satisfy item 3 of the Actions Post Restart of Operations, no significant issues were identified.

4. **Establish a Program Management Department with responsibility for managing day-to-day production schedule and cost priorities for all NFS contracts. This action will be complete by April 15, 2010.**

a. Inspection Scope and Observations

The inspectors assessed this item by verifying the current organizational structure, interviewing members of both the senior management team and Program Management department, and reviewing and discussing the basis for the senior management organizational changes. The inspectors also attended Plan of the Day, Plan of the Week, and other meetings where both the Operations department and Program Management department were represented to assess the implementation of the new roles and responsibilities.

The inspectors reviewed the actions to establish, announce, and allocate the functions and resources to the Program Management department. The department was created before the CAL, on September 21, 2009, with the appointment of the new NFS Program Management director. However, at the time, the new department was a part of the Operations group. Over the January 2010 to March 2010 timeframe, the Program Management department added Program Managers and Project Administrators to the organization and moved to report directly to the President of NFS. Program planning and business development functions had been incorporated into this department as well.

In addition, the inspectors interviewed senior managers and attended meetings to assess the functionality of the department. The inspectors verified that the department manages day to day production schedules and cost priorities for NFS contracts, which is separate from the Operations group. The inspectors verified these actions were complete on March 24, 2010.

b. Conclusions

The licensee adequately established and implemented a Program Management department to satisfy item 4 of the Actions Post Restart of Operations.

5. **Restructure the Safety & Regulatory Department to reduce the number of technical managers reporting directly to the Department Director. In addition, the Safety & Regulatory Department Director will report directly to the President of NFS. This action will be complete by April 15, 2010.**

a. Inspection Scope and Observations

The inspectors assessed this item by verifying the current organizational structure of the Safety and Regulatory department, interviewing the department director, and reviewing and discussing the basis for the organizational change. The inspectors noted that, by March 4, 2010, NFS had adequately reduced the number of direct reports to the department director from twelve to six. The inspectors also verified that the new department director reported directly to the President of NFS. The inspectors interviewed the new department director and some of his direct reports.

b. Conclusions

No significant issues were identified with the licensee adequately restructuring of the Safety and Regulatory department to satisfy item 5 of the Actions Post Restart of Operations.

6. **Develop training materials and lesson plans to train applicable NFS staff on the Bowl Cleaning Station Incident in order to institutionalize the lessons learned from this event by May 30, 2010.**

a. Inspection Scope and Observations

The inspectors reviewed the training materials for existing and new employees, interviewed the training manager responsible for the lesson plans, and compared the lesson plan material to the root and contributing causes for the bowl cleaning station incident in 2009. The inspectors also reviewed the training and qualification records to evaluate whether the appropriate staff was required to take the training and whether all had completed it by May 30, 2010.

The inspectors assessed the lesson plans and training materials to verify that all the lessons learned from the bowl cleaning station incident were addressed. Based on a review of the materials and a discussion with the training manager, the inspectors noted that the lesson plans adequately addressed the bowl cleaning station incident. In addition, the training also included material regarding the inaccurate information provided to the NRC regarding fire damper inspections and the November 2009 fire event in the commercial development line. The three events were combined in the training material because the root causes were the same or similar in nature.

The inspectors reviewed which employees were required to attend this new training. Each new employee with unescorted access to the protected area was required to receive this training as initial General Employee Training. Each existing employee who had been designated as required to have the lessons learned training on their Training and Qualification record received a one to two hour in depth session training, including a test. Approximately ten sessions and two versions of tests, including scenario based questions, were given to these individuals.

The inspectors verified that the appropriate personnel were selected to receive the training. The NFS selection process targeted professional staff, including, but not limited to, building managers, operations department personnel, process engineers, project engineers, fuel facility managers, plant superintendents, senior engineering watch staff, and exempt safety salaried employees. The inspectors noted that all the personnel had completed the training and passed the test with a score greater than 80% except five individuals, all of whom had not yet been on site to attend the training. The inspectors verified that the appropriate staff received and understood the lessons learned in the training. The inspectors confirmed this action was completed by May 30, 2010.

b. Conclusions

The licensee had developed training materials and lesson plans appropriate to train NFS staff on the bowl cleaning station incident, and others as appropriate, in order to satisfy item 6 of the Actions Post Restart of Operations.

7. **Evaluate the technical oversight review process conducted by the Safety and Safeguards Review Council, including benchmarking against similar processes associated with other facilities by December 31, 2010, and implement any necessary enhancements. These actions will be entered and tracked in the corrective action program.**

a. Inspection Scope and Observations

To assess NFS' actions to address this item, the inspectors reviewed the benchmarking report documented in PIRCS No. 11297. Based on the report and interviews with members of the Safety and Safeguards Review Council (SSRC), the inspectors noted that NFS had evaluated the oversight review process conducted by the SSRC and benchmarked its performance against the closest applicable organizations of two other nuclear fuel facilities. The report concluded that no additional enhancements were required because the SSRC provided additional technical oversight of modifications beyond those of the benchmarked facility. The evaluation also noted that the procedural enhancements implemented to strengthen the review process for plant modifications and technical basis development sufficiently improved the information provided to the SSRC to ensure an adequate review was performed. In addition, to further streamline the licensee's review process, a license amendment request had been submitted to the NRC to limit the role of the SSRC to evaluate only major modifications.

b. Conclusions

No significant issues with the licensee's evaluation. The licensee adequately evaluated and benchmarked the oversight process of the SSRC in order to satisfy item 7 of the Actions Post Restart of Operations.

8. **Evaluate the Integrated Safety Analysis program, including benchmarking against similar programs associated with other facilities by December 31, 2010, and implement any necessary enhancements. These actions will be entered and tracked in the corrective action program.**

a. Inspection Scope and Observations

To assess NFS' actions to address this item, the inspectors reviewed the benchmarking report documented in PIRCS No. 11298 and interviewed ISA personnel. The inspectors noted that NFS had conducted a thorough comparison of its ISA program against two other nuclear fuel facilities. The benchmarking included comparisons of the methodology and techniques use to perform the safety assessments for chemical, health physics, and fire related accident sequences. The comparison highlighted basic assumption differences that could not be applied to the NFS facility due to the smaller nature of the process buildings at NFS. The report concluded that no necessary enhancements were required; however, nine potential enhancements were identified and entered into PIRCS for evaluation. The inspectors verified that the potential enhancements were properly documented and tracked in PIRCS.

b. Conclusions

The licensee adequately evaluated and benchmarked the ISA program in order to satisfy item 8 of the Actions Post Restart of Operations.

B. EXIT MEETING

The inspectors presented the inspection results to members of the plant staff and management at a meeting conducted on February 9, 2011, at the NFS training center. The plant staff acknowledged the findings presented.

ATTACHMENT

KEY POINTS OF CONTACT

Licensee

J. Henry, President, Nuclear Fuel Services
E. Athon, Principal Scientist
R. Dailey, Director, Engineering
M. Elliott, Director, Quality, Safety, and Safeguards Department
C. Reed, Director, Operations
J. Nagy, Director, Assurance
J. Wheeler, ISA Manager
R. Shackelford, Nuclear Safety and Licensing Manager
R. Crowe, PIRCS Manager

NRC

N. Covert, Fuel Facility Inspector
M. Crespo, Senior Fuel Facility Inspector
A. Gody, Director, Division of Fuel Facility Inspection
M. Romano, Fuel Facility Inspector
S. Vias, Chief, Fuel Facility Branch 1

LIST OF ITEMS OPEN CLOSED AND DISCUSSED

Opened

70-143/2010-012-01	URI	Additional actions to address post-restart item 1 (Paragraph A.1)
70-143/2010-012-02	URI	Additional actions to address post-restart item 2 (Paragraph A.2)

LIST OF DOCUMENTS REVIEWED

Documents Reviewed

- Memorandum FDH-10-013, "Configuration Management (Management Measure) – Quality Assurance Audit QA-10-15"
- ENG-EPS-A-001, "Engineering Practices and Standards," Revision 4, dated November 1, 2010
- Corrective Actions Review Board Meeting Notes for November 23, 2010, December 6, 2010, and December 20, 2010
- NFS-OPS-001, Revision 2, "Conduct of Operations"
- NFS-CAP-003, Revision 0, "Apparent Cause Analysis"
- NFS-CAP-006, Revision 0, "Generic Implications Determination by Performing Extent of Condition and Cause Reviews"
- NFS-CAP-005, Revision 0, "Safety Culture Implications Review"
- NFS-GH-922, Revision 11, "The NFS Problem Identification, Resolution, and Correction System (PIRCS)"
- EP-01, Revision 2, "Standard Operating Guidelines (SOG) for Evaluation of Unusual Incidents"

Documents Reviewed (Cont.)

- NFS-GH-65, Revision 5 and 6, “Problem Identification”
- NFS-GH-918, Revision 8 and 9, “Directed Investigation Program”
- Quality Assurance Review of Cause Investigations (Full Team, Small Team, and Apparent Cause)
- Human Performance Improvement Process Implementation Status Summary
- Implementation Roadmap Scorecard
- PIRCS Screening Meeting report ran October 25, 2010, 08:00:04 a.m.; NFS Recovery Plan, dated February 15, 2010
- NFS Response letter to 4K Incident Analysis Report, dated June 9, 2010
- “NFS Recovery Plan – Appendix II: Confirmatory Action Letter and Additional Management Directed Commitments” Binder Sections 1-30
- NFS’ “CAP Implementation Plan,” Rev 0, dated December 2009
- 4K Incident Analysis Report (IAR) 05-001, dated May 7, 2010
- 4Konsulting “Project Overview for CAP Improvement Plan,” dated November 4, 2009
- Assurance schedule (Assessments & Metrics, Program Initiation, Metrics Module), Plan of the Week (POW) documents, dated January 25, 2011
- Plan of the Day (POD) Meeting utilizing the POD Report 102510-102910.
- Plan of the Week meeting; 011911
- Training attendance sheets for 2009 Lessons Learned and 2010 Corrective Action Program training

Corrective Action Reports Reviewed

C6255, C2657, C6261, C6262, C10762, C11113 - C11115, C13283, C13930 - C13932, C13337,- C13340, C10622, C11957, C11067, C11172, C14580, C10680, C10681, C12840 - C12842, C11291 - C11298, C10618, C11217, C11260, C11078, C11079, C11089, C11090, C11094, C12597, C10951, C10959 - C10962, C10967, C11305, C11379, C11233, C11235, C11239, C11241, C11242, C11261, C11269, C11270, C11383, C11284, , I12229, I12233, I12282, I12319, I12140, I11156, I10059, I10252, P27429, P21448, P6253, P6256, P6257, P9333, P6395, P12840, P12841, P27236, P28053