



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

April 5, 2011

Nuclear Fuel Services, Inc.
ATTN: Mr. J. Henry
President
P.O. Box 337, MS 123
Erwin, TN 37650

**SUBJECT: NUCLEAR REGULATORY COMMISSION (NRC) INSPECTION REPORT
NO. 70-143/2011-006**

Dear Mr. Henry:

This letter refers to the information gathering visit from January 24-26, 2011 and the inspection conducted from February 14-25, 2011, at the Nuclear Fuel Services (NFS) facility in Erwin, TN and in the NRC office. On March 16, 2011, the findings were discussed with you and members of your staff.

This inspection was conducted to assess the effectiveness of the NFS corrective action program, to make an assessment of the current environment for raising safety concerns, and to gather information regarding activities to address the findings identified in the 2009/2010 Independent Safety Culture Assessment (SCuBA2) that NFS provided to the NRC on June 29, 2010. The inspection consisted of a review of the implementation of the corrective action program, interviews of facility staff to assess willingness and avenues available to raise issues, and review of documents associated with the findings of the SCuBA2 report.

Based on the results of this inspection, no violations were identified and items affecting risk were given high priority to assure safe operations. The inspection results indicated that NFS continues to maintain a corrective action program and actions to improve the program's effectiveness are in progress. Our interviews revealed that while a majority of NFS employees and contractors considered that the safety environment at the facility has improved, work remains to establish a consistent open environment to raise and resolve problems, including the willingness of employees to identify problems as they arise and the ability to process issues. Our interviews revealed that a small number of individuals continue to doubt the effectiveness of initiatives such as the corrective action program, work control, and senior engineering watch oversight. The inspection also indicated that there is a growing backlog of lower priority corrective actions.

The inspection also provided data for the NRC's evaluation of the progress made and effectiveness of NFS's safety culture improvement plan. While many findings were being directly addressed, our inspectors did not find a clear nexus between the findings of the SCuBA2 and the actions underway or planned to address all of these findings as required by the Confirmatory Order issued November 16, 2010. At the conclusion of the inspection, NFS management informed the inspectors of an initiative that would develop clear ties between each SCuBA2 finding and the NFS actions to address them to assure compliance with the Confirmatory Order.

J. Henry

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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/readingrm/adams.html>.

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

Sincerely,

/RA/

Steven J. Vias, Chief
Fuel Facility Inspection Branch 1
Division of Fuel Facility Inspection

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

Enclosure:
NRC Inspection Report No. 70-143/2011-006
w/Attachments

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

J. Henry

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(cc w/encl: cont'd)
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J. Henry

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/readingrm/adams.html>.

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J. Henry

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Letter to Mr. Joseph Henry from Steven Vias dated April 5, 2011

SUBJECT: NRC INSPECTION REPORT NO. 70-143/2011-006

Distribution w/encl:

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 70-143

License No.: SNM-124

Report No.: 70-143/2011-006

Licensee: Nuclear Fuel Services, Inc.

Facility: Erwin Facility

Location: Erwin, TN 37650

Dates: January 24 through January 26, 2011 (Information gathering visit)
February 14 through February 18, 2011 (Onsite Inspection)
February 21 through February 25, 2011 (In office review)

Inspectors: J. Stewart, Senior Resident Inspector, Team Leader
O. López, Senior Fuel Facility Inspector
H. Gepford, Technical Assistant
M. Chitty, Resident Inspector
R. Prince, Fuel Facility Inspector
M. Romano, Fuel Facility Inspector
J. Foster, Fuel Facility Inspector
N. Covert, Fuel Facility Inspector (In-training)
S. Mendez, Fuel Facility Inspector (Basic Qualified)

Accompanying Personnel: A. Allen, Special Assistant
E. Fries, Safety Culture Program Manager

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 70-143/2011-006

The inspection consisted of reviews of Problem Identification Resolution and Correction System (PIRCS) entries, reviews of audits, walkdowns of process areas, and interviews with plant personnel, both individually and in groups. The inspectors also reviewed licensee activities to address the findings of the 2009/2010 Independent Safety Culture Assessment Report, issued June 21, 2010, and the Safety Culture Improvement Plan (Revision 2). The inspection results are outlined below.

- No findings of regulatory significance were identified.
- The licensee was adequately identifying and entering issues into the corrective action program. Facility walkdowns found the process areas adequately maintained and no deficiencies were identified by the team.
- The corrective action program was found to be integrated into NFS activities. However, some departments maintained selected issues outside of PIRCS oversight. These “consent agenda” items that were not tracked by corrective action program metrics and thus were not included in trending information. Due to departmental programs operating outside of PIRCS, the inspectors believed the categorization and processing of consent agenda issues constituted missed opportunities for more consistent, thorough, and cross-cutting impact reviews to be performed.
- NFS continues to have challenges in completing formal investigations and determining extent of condition or generic implications.
- The licensee was adequately evaluating industry operating experience.
- Items affecting risk received high priority and were corrected. A backlog of corrective actions for low risk significant issues had developed and could indicate a resource limitation.
- A facility performance metrics system had recently been developed and was used to identify trends and evaluate performance.
- Trending codes had been developed for PIRCS entries and coding of PIRCS entries had only recently begun. The effectiveness of the PIRCS trending system could not be evaluated due to the early stage of implementation.
- A work controls process that included formalizing work procedures and scheduling work had been started; however, some employees expressed doubt as to the efficiency of the process. Work control process implementation problems were being identified and reviewed by the licensee. A Plan of the Day and Plan of the Week had been implemented to sequence site activities with a focus on safety.

- While most staff told the inspectors that they would use PIRCS for issue resolution, some individuals expressed a reluctance to use this process. However, licensee personnel stated that they were aware of other methods for raising issues, such as informing supervisors or using the employee concerns program.
- Training had been provided to management and staff on establishing a safety conscious work environment. Several individuals told the inspectors that the safety conscious work environment had improved in the last year.
- An Ombudsman program had been established to provide a confidential avenue for individuals to seek conflict resolution. The inspectors found that understanding of this program by facility staff was inconsistent.
- A People Team had been established to assure management attention to work place challenges and conflicts.
- The expectation that all employees are responsible for reporting safety concerns was being communicated by plant management. The majority of the individuals interviewed felt comfortable reporting safety concerns to management. Individuals were told to “stop work” if an unsafe condition was observed and, on multiple occasions, work had been stopped when situations warranted. Despite this, some individuals expressed to the inspectors that stop work authority may not be supported by management if exercised.

REPORT DETAILS

1. Summary of Plant Status

Fuel manufacturing, training activities, and scrap recovery processes were operated throughout the inspection period. Blended low enriched uranium (BLEU) Preparation Facility (BPF) activities operated normally during the inspection period. Uranium hexafluoride (UF₆) operations in Building 301 remained shutdown per the January 7, 2010 Confirmatory Action Letter.

2. Problem Identification and Resolution

a. Assessment of the Corrective Action Program

(1) Inspection Scope

The inspectors reviewed the licensee's corrective action program (CAP) procedures which described the administrative process for initiating and resolving problems primarily through the use of Problem Identification, Resolution, and Correction System (PIRCS) reports. To verify that problems were being properly identified, appropriately characterized, and entered into the corrective action program, the inspectors reviewed a sample of PIRCS entries for 2010 through the beginning of 2011, and observed PIRCS screening meetings for 'Events' and 'Employee Identified Safety Items' type PIRCS identified during the onsite inspection week. The inspectors independently verified that selected corrective actions were implemented as intended. To help ensure that samples were reviewed across all plant areas, the inspectors selected a representative number of PIRCS entries that were identified and assigned to the major plant departments, including operations, maintenance, health physics, material control and accountability, quality assurance, and security. The PIRCS entries were reviewed to assess each department's threshold for identifying and documenting plant problems, thoroughness of evaluations, and adequacy of corrective actions.

The inspectors reviewed selected PIRCS entries then verified that the risk assessment and prioritization were consistent with the licensee's procedures. The inspectors reviewed licensee investigations, which included a small team root cause, an apparent cause investigation, and a general investigation. No issues requiring a full team root cause investigation, as required by the licensee's procedures, were identified for this inspection. The inspectors reviewed the investigations against the descriptions of the problems described in the PIRCS and the guidance in licensee's procedures. The inspectors assessed if the licensee had adequately determined the cause(s) of identified problems, and had adequately addressed reportability, common cause, generic concerns, and extent-of-condition/cause. The review also assessed if the licensee had appropriately identified and prioritized corrective actions and conducted process restart evaluations in accordance with the conduct of operations procedure.

The inspectors reviewed and assessed the departmental programs that utilize the PIRCS database. The team interviewed department managers and the CAP manager to evaluate the inputs into the PIRCS system and those departments that use unique departmental program documents. The inspectors conducted plant walkdowns of plant areas to assess the material condition and to observe any deficiencies that may not

have been previously entered into PIRCS. The inspectors walked down a number of items relied on for safety (IROFS) to assure that problems affecting these features were being promptly addressed.

The inspectors attended various plant meetings to observe management oversight functions associated with CAP. These included the PIRCS Screening and the Plan of the Day meetings.

The inspectors interviewed the CAP manager and department analysts to evaluate the trending capabilities of PIRCS. The inspectors also reviewed the recent training for the analysts and Department Performance Improvement Coordinators (DPICS) on the introduction and implementation of formal trending codes.

The inspectors examined the licensee's program for reviewing industry operating experience (OE) and interviewed the OE Coordinator to assess the effectiveness of how external and internal operating experience data was handled at the plant. The inspectors also attended an OE screening meeting to evaluate how the internal and external OE is screened and how applicable OE is implemented at the site.

The oversight activities of the Corrective Action Review Board (CARB) and the newly established and independent Nuclear Safety Review Board were assessed. The team verified that the CARB was using PIRCS performance metrics to identify emerging problems or negative trends. The performance metrics utilized by the CARB included the status of PIRCS, investigations, commitments, and corrective actions.

Documents reviewed are listed in Attachment 2.

(2) Assessment

Identification of Issues

The inspectors determined that the licensee was effective in identifying problems and entering issues into PIRCS. The inspectors noted a management expectation that employees were to initiate PIRCS for any reason. The inspectors observed that there was a low threshold for documenting issues, and no deficiencies were identified during plant walkdowns that had not been previously documented in PIRCS.

The inspectors noted that the DPICS attended the daily PIRCS screening meeting and were observed to be engaged in the discussion of issues and assignment of priorities. The DPICS' duties included providing feedback from the PIRCS screening process to their respective departments.

The inspectors reviewed the last five CARB meeting minutes and found that the CARB was providing oversight of the corrective actions process as specified in NFS procedures. After reviewing CARB meeting minutes and discussions with licensee personnel, the inspectors determined that the CARB reviews of PIRCS entries were thorough. The level of consideration given to corrective actions was adequate based on the safety significance of a given PIRCS entry.

The inspectors noted that the CARB had not met since December 2010. The inspectors were informed by site management that the January CARB meeting was not held due to senior-level management changes that affected CARB membership and that no safety significant PIRCS requiring a review by CARB had been issued in the interim period.

Based on discussions with licensee personnel, the inspectors observed that the licensee had only recently established a formal trending program for early identification of adverse trends utilizing the PIRCS database. Previously, an informal trending capability was in effect, utilizing the input of those representatives attending the PIRCS screening meeting. Various cause codes, including human performance codes such as "rule not followed," had been established and were charted on the licensee's internal CAP metrics. "Near misses" and "precursor" events were also tracked and trended. Licensee personnel stated that additional PIRCS categories were in the initial stages of being coded to assist in the development of a more comprehensive trending system. However, these internal CAP trends and metrics only capture and monitor those items that are "Events" or "Employee Identified Safety Items," they do not capture and track other departmental CAP issues.

At the time of the inspection, the DPICS and CAP analysts were in the process of learning the new trend codes and had recently been trained on the applicability and transition to a new formal PIRCS trending method. The inspectors reviewed and discussed the trending program with the CAP manager and noted there was a large database of over 100 potential trend codes allowing for specific trending of causes and event precursors. These codes included, but are not limited to, incident codes, equipment failure codes, activity codes, cause codes, corrective action codes, and safety culture codes. However, the team noted this new capability would only be applicable to 'Events' and 'Employee Identified Safety Items' type PIRCS. Due to its early stage of implementation, the effectiveness of the new PIRCS trending system could not be evaluated.

The inspectors found that the licensee had established a formal operating experience program at NFS. The program was formally implemented through a procedure dated November 1, 2010, and had screened, discussed, and disseminated both internal and external operating experience appropriate for NFS personnel. The inspectors interviewed the program coordinator and noted that NFS had subscribed to external operating experience information databases from the Institute of Nuclear Power Operations, the Department of Energy, NRC, and others.

The inspectors attended a weekly OE meeting where both internal and external operating experience were screened for applicability to the NFS site. The inspectors determined that the appropriate personnel were in attendance at the screening and that the threshold for the screening and dissemination was appropriate. The inspectors noted a positive example of internal operating experience when an NFS staff member at a PIRCS screening meeting suggested a "lessons learned" transfer to the operating experience coordinator.

Prioritization and Evaluation of Issues

Based upon the evaluation of specific PIRCS reviewed by the inspectors during the onsite period, the inspectors concluded that 'Events' and 'Employee Identified Safety Items' type PIRCS were prioritized in accordance with the licensee's CAP guidance as

described in approved procedures. Prioritization levels for PIRCS were reviewed at the PIRCS screening meeting, and investigation levels were assigned based on safety significance. One small team root cause was evaluated by the inspectors as there were no recent full team root cause investigations to be reviewed for this inspection.

The inspectors noted that departments such as Security, Quality Assurance, Material Control and Accountability, and other areas (such as audits, inspections, and regulatory commitments) maintained program documents outside of PIRCS, that specified issue priority and evaluation requirements. These processes were outside of the 'Events' and the 'Employee Identified Safety Items' addressed by PIRCS. The individual departmental CAP procedures and processes provided direction that was outside of the NFS main facility corrective action process. Examples of some of these were:

- NFS-Q-176, "Corrective Action Procedure"
- NFS-ACC-113, "Action, Notifications and Investigations Guidance for Individuals Conducting MC&A Activities"
- NFS-Q-214, "Nonconformance and Corrective Action Trend Analysis Reporting for the Fuel Program"

These other items, referred to as consent agenda issues, were identified and screened through a portal to the PIRCS system, with different screen snapshots and prioritizations. The inspectors noted the consent agenda items did not get the collegial discussion at the PIRCS screening meetings like the "Events" and "Employee Identified Safety Items" and therefore did not benefit from the multi-disciplined discussion and oversight. In addition, the inspectors were informed that the formal trending codes would not be applicable to these consent agenda items. Similarly, some metrics would not include these particular items in its assessment. In essence, due to these departmental programs operating outside of PIRCS, the inspectors believed the categorization and processing of consent agenda issues were missed opportunities for more consistent, thorough, and cross-cutting impact reviews to be performed. In addition, trending metrics may not accurately measure or assess systemic performance gaps or effectiveness of corrective actions due to the failure to include these types of issues.

The inspectors determined that the licensee had generally conducted root cause analyses in compliance with its CAP procedures. The licensee consistently applied a formal causal-analysis methodology to all root cause investigations. However, the inspectors noted that NFS continued to have challenges in expanding the scope of investigations to include potential organizational weaknesses and the analysis of generic implications. Through independent analysis of the investigations below, the inspectors determined the scope of each investigation was deficient and narrowly focused.

- General Investigation I-11419 was initiated to investigate why the loss of ventilation alarm could not be heard in the Fuel Manufacturing Facility during a preventative maintenance functional test. The investigation determined that the alarm breaker was inadvertently opened during preparations for another maintenance activity. The licensee determined that the breakers were small and extremely close together making it very easy to inadvertently flip an adjacent

breaker to the off position. NFS' investigation identified one corrective action, which was to review the incident with maintenance personnel involved with testing the loss of ventilation alarm to inform them of the potential for errors.

Further investigation by the inspectors revealed that the licensee missed an opportunity to identify that the Buildings 301 and 333 loss of ventilation alarms were not part of the NFS preventive maintenance program. The licensee also missed an opportunity to identify that, for Building 301, Building 333, and the Fuel Manufacturing Facility, the loss of ventilation alarm components were not calibrated. In addition, the licensee did not perform a generic implications review to ensure that similar equipment in other plant locations prone to the same problem were adequately protected. This issue will be discussed in inspection report 70-143/2011-003.

- PIRCS 28429 was initiated to address a problem on January 21, 2011, involving uranium tetrafluoride (UF₄) dissolution in the Commercial Development Line (CDL) column dissolvers. A priority level of "low" was assigned for the occurrence. The problem description stated that the process was stopped due to the generation of nitrogen oxide compound (NO_x) vapor in the glovebox. Also, there was a problem with the clarity check due to the observation of solids. This was the first time the licensee had started this process with UF₄ and the material was not dissolving as quickly as calculated by the lab analysts. An apparent cause investigation (I-12470) was assigned to evaluate the situation but was narrowly scoped to the technical UF₄ dissolution problem.

PIRCS 28533 was initiated for the problem above on January 31, 2011, after a subsequent licensee management review. The event evaluation scope was broader than that of the January 21 occurrence. A priority level of "moderate" was assigned and the event was classified as a near miss by the licensee. The PIRCS screening notes stated that processing was allowed to proceed without the work instructions matching the parameters provided by the lab because the process engineer considered the parameters in the work instruction to be more conservative. In addition, the configuration management process was not effectively implemented to prevent the issue. For these reasons, NFS upgraded the evaluation to a small team root case investigation (I-12498).

The inspectors reviewed the small team investigation and noted that the scope was again narrow, focusing on the technical discrepancy between laboratory and operating conditions. While the inspectors acknowledged that the laboratory study and process parameters were an issue, the investigation did not address the broader issue of the work instructions being changed for CDL without following the formal process utilized for procedural changes applicable to the entire facility (e.g., Fuels and BPF). In addition, the inspectors noted that most of the corrective actions assigned were procedure revisions and no corrective action was identified to address the differences in the procedure revision process that existed for the CDL process and other plant areas. At the time of the inspection, the extent of condition and additional corrective action items had not been completed.

The inspectors noted that processing of UF₄ was safely resumed on February 7, 2011, in accordance with newly established procedures for line restart. This issue will be discussed in inspection report 70-143/2011-003.

- PIRCS 28626 was initiated to address an event on February 8, 2011, for the failure to add hydrogen peroxide before the addition of UF₄ in the CDL column dissolvers. The requirement to add hydrogen peroxide before addition of material is credited as IROFS CDC-26. The licensee conducted a general investigation to document the determination that the event was not reportable to NRC. The inspectors verified that reportability determination had been completed consistent with the guidance contained in NFS-HS-A-50, "Guidelines for Government Agency Notification."

The licensee also conducted an apparent cause investigation to identify the casual factors that contributed to the event. The licensee identified that the operating procedure and process runsheet were improperly used. As a corrective action, the licensee developed and shared with all manufacturing operations personnel a lessons-learned addressing the importance of procedure compliance.

The inspectors noted that the investigation identified concerns with procedure steps critical to safety not adequately highlighted in the procedure. However, the investigation scope was not expanded to further evaluate other potential contributing causes. The licensee's narrow scope did not identify the need to clarify procedural expectations pertaining to the sequence in which procedure steps are to be followed. The licensee's procedures require that procedural steps critical to safety be performed in sequence. The inspectors found that the requirements that allow deviations to the sequence of procedure steps were not fully understood by all operators. The licensee's evaluation also did not address the failure to implement peer checks or independent verifications of procedure steps credited as IROFS in accordance with the licensee's expectations. This issue will be discussed in inspection report 70-143/2011-002.

The inspectors' assessment of the licensee's evaluation process was that NFS continued to have challenges in expanding the scope of investigations to include potential organizational weaknesses and the analysis of generic implications or prior similar events. The inspectors determined that although investigations were conducted in accordance with the applicable procedure, the scope of several investigations were narrowly focused resulting in missed opportunities to identify additional contributing causes.

Backlog of Open Items

A backlog of open corrective actions and overdue investigations and corrective actions was reviewed by the inspectors. The inspectors reviewed a sample of items in the backlog and did not identify any safety-related or IROFS issues that needed immediate correction.

The inspectors determined that the reduction in the backlog of open and overdue corrective actions since January 2010 was primarily the result of the backlog re-baseline effort that was conducted as part of the streamlining of the corrective action program

process and not due to the completion of activities. The inspectors noted that the sample of re-baselined corrective actions were appropriately characterized as low and very low priorities. Based on discussions with licensee personnel and a review of documentation, the inspectors found that a large fraction of the growing number of overdue investigations and corrective actions suggested a resource limitation on processing lower priority issues.

Effectiveness of Corrective Actions

Based on a review of corrective action documents, interviews with licensee staff, and verification of completed corrective actions, the inspectors determined that, in general, corrective actions were timely and commensurate with the safety significance of the issues. The inspectors found that corrective actions were generally effective in correcting the immediate problem, but not always effective at preventing recurrence or addressing latent organizational weaknesses. The inspectors determined that the licensee appeared focused on the identification of root or apparent causes but at times did not demonstrate the same level of rigor regarding the identification of corrective actions to prevent recurrence. The inspectors noted repetitive low risk PIRCS entries associated with leaking valves in the CDL column dissolvers process area (e.g., PIRCS 28734, 28731, 26674, 26399 and 26913). Additionally, the inspectors noted a similar situation related to flange issues in the same area (e.g., 27808, 27820, 27900, and 27912).

(3) Conclusions

No findings of regulatory significance were identified. The licensee was adequately identifying and entering issues into the PIRCS. The inspectors determined the licensee was adequately evaluating both internal and external operating experience. The inspectors did note areas that needed improvement which included: a growing backlog of investigations and corrective actions indicating a potential resource limitation on processing of lower priority issues; departmental programs with respect to consent agenda issues that were operating outside of PIRCS; and continued challenges in expanding the scope of investigations to include potential organizational weaknesses and the analysis of generic implications.

b. Assessment of Self-Assessments and Audits

(1) Inspection Scope

The inspectors reviewed licensee quality assurance audits to verify that findings identified through the licensee self-assessment program were entered into PIRCS. The inspectors discussed audit results with licensee personnel to verify self-assessment activities were being performed consistent with the licensee's program.

(2) Assessment

The inspectors determined that quality assurance audits were thorough, critical, and effective in identifying issues and directing attention to areas that needed improvement. The inspectors reviewed the licensee's process associated with the assignment, tracking and closure of audit findings. The inspectors noted that audit findings are discussed with responsible management prior to audit close-out meetings to obtain concurrence, to

determine a preliminary risk level, and to assign ownership for findings. Line organizations are required to report closure of quality assurance audit findings to the quality assurance organization upon completion of corrective actions. The inspectors noted that the quality assurance organization, upon notification that corrective actions were completed, scheduled an effectiveness review for those corrective actions requiring a follow-up review.

The inspectors noted that audit findings were typically located under the consent agenda for PIRCS screening meetings. As discussed above with other departmental programs (not "Events" or "Employee Identified Safety Items"), the inspectors noted that these audit findings may not receive the same level of review or discussion during the screening meetings. The inspectors verified that corrective actions associated with the licensee's findings were appropriate and were implemented in accordance with the licensee's corrective action procedures.

(3) Conclusions

The threshold for identifying and entering Quality Assurance audit findings was adequate. Audit findings were assigned, tracked, and corrective actions reviewed for effectiveness in accordance with approved procedures. No findings of regulatory significance were identified.

c. Safety Conscious Work Environment

(1) Inspection Scope

The inspectors systematically evaluated the environment for raising concerns through a combination of interviews and focus groups. Individual interviews were conducted with senior-level managers, middle-level managers, and technical staff members from various departments, site groups and shifts. A set of preplanned questions were asked to each of the managers to assess management's understanding of the Safety Conscious Work Environment and its implementation at NFS. Five focus groups, each consisting of five to eight individuals were conducted; the make-up of the five focus groups included two groups of operators and technicians (1st and 2nd shift), one group of first line supervisors, one group of contractors (construction and security), and one group of engineering and salaried staff. In the focus groups, preplanned questions were used, but interaction within each group further enhanced the ability to assess the environment for raising concerns as understood and perceived by the staff. In addition, the inspectors randomly interviewed on-site workers regarding their willingness to raise safety concerns, write PIRCS, and use the Ombudsman and Employee Concerns Programs. The question sets are referenced in Attachment 3. Also, the inspectors obtained the status of the employee concerns program through discussions with the program's manager. During the discussions with all levels of plant staff, the inspectors were able to develop a general perspective of the Safety Conscious Work Environment at the site.

(2) Assessment

Based on the interviews conducted and the PIRCS reviewed, the inspectors determined that licensee management emphasized the need for all employees to identify and report problems using the various methods established within the administrative programs,

including PIRCS and the Employee Concerns Program (ECP). The interviews determined that these methods were readily accessible to all employees. The managers and employees interviewed had been trained on Safety Conscious Work Environment and raising nuclear safety concerns.

Based on discussions conducted with plant employees from various departments, the inspectors determined that the majority of employees interviewed felt comfortable raising nuclear safety concerns in their workgroup through at least one of the available methods. During these discussions, the inspectors also noted that the majority of employees interviewed believed that they had stop-work authority; however, some of those employees believed they might not receive management support if work was stopped. In the cases noted above, the individuals hesitant to raise concerns or stop work represented a minority in the sample of employees interviewed. Their feedback provided useful insight as to the current climate of the Safety Conscious Work Environment at the facility.

From the focus groups, the inspectors found that the majority of the employees interviewed were familiar with many of the methods available for raising nuclear safety concerns and would use at least one of the available methods to raise a nuclear safety concerns. The majority of employees interviewed felt that management generally encouraged employees to place issues into the PIRCS system for resolution; however, the majority of employees interviewed preferred to raise safety concerns directly to their supervisor and/or management chain, who subsequently would enter the issue into PIRCS. The inspectors noted that many employees interviewed did not enter PIRCS because they were satisfied by the results they received when they brought concerns directly to their management chain or because their supervisors entered the issue into PIRCS for them. The discussions revealed that some workgroups associated negative perceptions with initiating PIRCS entries. These perceptions included negative peer pressure, a belief that PIRCS resolutions were not effective, timeliness issues, and the lack of feedback. The inspectors determined through interviews that some employees were unaware of the Ombudsmen Program, its role, or which personnel were designated as Ombudsmen. Some employees interviewed stated that they would use the program. With respect to the ECP, some employees interviewed questioned its effectiveness due to the perceptions of limited feedback and possible objectivity problems in dealing with cases. The inspectors noted that some employees interviewed did not feel comfortable visiting the ECP office because it was located amongst other management offices.

During staff interviews and focus groups, the inspectors noted that some employees held the perception that communication issues existed within the organization. Hourly employees interviewed stated that although they did not hesitate to raise safety concerns to management, some held the perception that concerns raised to management were often not received with the level of credibility granted to the same concern as raised by the salaried staff, despite the knowledge and experience the employee possessed. Employees also stated that communication difficulties between plant management and the staff hindered the relationship.

During the focus group discussion, the inspectors noted that some employees believed that the work control process, in the current state, was a hindrance to the quick resolution of problems. However, many of the employees interviewed were aware of the positive potential that the program held and understood the objectives of the program. In almost all cases, employees believed that the work control process needed to be

streamlined or altered to relieve some of the administrative burden, particularly since resources had not been increased to support the additional work control processes. The inspectors noted during management and staff interviews that efforts were being taken to improve the work control processes.

During management interviews, the inspectors determined that management was aware of the tension between different groups within the organization, including union, non-union, salaried staff, and within specific organizations. Managers discussed with the inspectors the functioning of the People Team, a panel comprised of multi-discipline senior management and the four Ombudsmen, which seeks to identify areas in the organization that may be under stress. Overall, the inspectors determined that the People Team and other mechanisms had been developed to resolve tensions and provide focused attention in problem areas. The inspectors concluded that the People Team had been used to identify areas for management attention; however, the inspectors determined that the People Team and NFS management were not aware of all existing pockets of negative perception in certain workgroups.

During the course of conducting interviews and focus groups, management and staff were asked to describe the environment for raising concerns at NFS. Although most of the responses were positive, some individuals mentioned situations that demonstrated a reluctance within some organizations to enter PIRCS entries due to the potential for negative peer pressure, including but not limited to friction between hourly and salaried workers. The reluctance to document issues in PIRCS resulted in use of other methods of reporting issues, such as informing the supervisor. The licensee stated that they were taking measures to mitigate the issue and identify generic implications.

As demonstrated through the discussions in the interviews and focus groups, the inspectors noted efforts by licensee management to encourage employee willingness to raise concerns and to enforce the stop work authority of all levels. Although the licensee had experienced significant management turnover in the past few years, the majority of the employees interviewed did not feel that the changes in senior management had negatively impacted the Safety Conscious Work Environment. The majority of the employees interviewed stated that they felt that the Safety Conscious Work Environment was positive overall and had improved in the past year.

(3) Conclusions

No findings of regulatory significance were identified. The expectation that all employees were free to raise safety concerns without fear of reprisal or assignment of motive was communicated by licensee management. The majority of employees interviewed were comfortable raising safety concerns in at least one way and held the perception that the Safety Conscious Work Environment at NFS had improved in the past year. However, some individuals were reluctant to report issues using PIRCS or other available methods, indicative that some problems persisted.

3. Exit Meeting

The inspection results were summarized to Mr. J. Henry and members of the NFS staff on March 16, 2011. Proprietary information was discussed but not included in the report.

SAFETY CULTURE IMPROVEMENT PLAN ASSESSMENT

1. Background

On November 16, 2010, the NRC issued a Confirmatory Order to Nuclear Fuel Services, Inc. that required, in part, the development and implementation of a safety culture improvement plan to address the findings identified in the 2009/2010 Independent Safety Culture Assessment (SCuBA2) Report that was provided to the NRC on June 29, 2010. In response, on February 11, 2010, NFS management issued the Nuclear Fuel Services' Safety Culture Improvement Plan (SCIP) (15T-11-0016, GOV-0155, Revision 2).

Inspection Scope

Inspectors assessed the adequacy of NFS' SCIP to determine if it had addressed the findings identified in the SCuBA2 report as required by the Confirmatory Order. Inspectors also reviewed the status of selected elements of the SCIP that were identified as being complete. A full review or assessment at this time was not intended and was not completed.

Observations

The inspectors reviewed NFS' SCIP, Revision 2, along with documents that supported the plan and completed actions. The inspectors reviewed the SCuBA2 report, the Confirmatory Order from November 2010, and the implementation schedules. The inspectors also interviewed selected staff responsible for implementing the SCIP and its associated actions.

From the review, the SCIP and its supporting plans document that NFS senior executives chose to address the SCuBA2 report in a "more encompassing way than the first [SCuBA report] was addressed." The SCIP grouped and provided bulleted action items for the higher priority findings by using the same seven overarching "Topical Areas" as found in the SCuBA2 report. In addition, one of the attachments of the SCIP contained a matrix that listed the SCuBA2 findings as they applied to the seven topical areas and the thirteen safety culture attributes. However, the SCIP did not directly address corrective actions for all the "findings" as listed in the SCuBA2 report or how NFS would assess or measure the effectiveness of their progress.

Inspectors noted areas that the SCuBA2 report identified as needing improvement that were not addressed in the SCIP. For example, the SCuBA2 report documented that procedure quality and non-compliance were repeat issues from the 2007/2008 report. These issues were identified as Areas for Improvement (AFIs) and as observations in the areas of resources, work practices, and work control. However, the SCIP did not address actions to improve procedure quality issues or non-compliance behaviors. Inspectors observed that under the section "Actions in Progress," there was a description of "Introduction of a Procedures Group and Development of a Procedure Writer's Guide." Interviews with an NFS SCIP subject matter expert and a SCIP Champion indicated that this initiative was canceled and would be removed from the next SCIP revision. Since the SCIP was silent on actions required to address these

SCuBA2 findings and did not specifically state how or when findings other than high priority findings would be addressed, it appeared that the SCIP, as written, did not address all the findings listed in the SCuBA2 report.

Conclusions

For the Safety Culture Improvement Plan inspection, no findings of regulatory significance were identified. To date, actions required for the November 16, 2010 Confirmatory Order are not due but are being used as an inspection reference with respect to assessing NFS' status for completing these actions.

The November 16, 2010 Confirmatory Order stated in part that "NFS will develop and implement an appropriate safety culture improvement plan to address the findings identified in the second Safety Culture Assessment report that was provided to the NRC on June 29, 2010." The NFS SCIP used the same seven overarching "Topical Areas" the SCuBA2 report used to group higher priority findings, but direct correlations between SCuBA2 Report findings and the SCIP were not clear. The SCIP, as written, did not provide adequate detail of how specific findings would be addressed or if they would be used to benchmark the effectiveness of their improvement actions at a later date.

Although the inspectors understood NFS's approach to addressing themes in the SCuBA2 report and did not dispute this approach, the inspectors were not able to verify that the NFS Safety Culture Improvement Plan, as written, would adequately address the SCuBA2 findings as directed in the Confirmatory Order letter dated November 16, 2010.

The licensee acknowledged the deficiencies noted above when they were presented. Prior to the exit meeting, NFS' management committed to revise the SCIP so that it would address each of the SCuBA2 findings.

2. SCuBA2 Actions Identified As Having Been Implemented or Completed

- a) Communications and Organizational Focus
 - i. *Strengthened Communications*
 - ii. *Defined Eight Culture Safety Traits*
 - iii. *Established a New NFS Vision*
 - iv. *Established a New Safety Culture Definition*
 - v. *Recommitted Core Values*
 - vi. *Established Work Place Priorities*
 - vii. *Addressed Conduct of Business Attributes*
 - viii. *Established Employee Expectations*
 - ix. *Issued a Safety Culture Improvement Plan (SCIP)*
 - x. *Issued a Strategic Plan*

The inspectors reviewed the applicable documents for the above ten items and verified actions taken by the licensee. The overall effectiveness of these items in improving the safety conscious work environment could not be assessed although interviews suggested that improvements had been noted by licensee staff.

The inspectors reviewed facility weekly newsletters, presentation materials, and attendance sheets for the Leadership and Expectations, All Employee, and Roundtable meetings. They also verified that the Employee of the Month program, implemented in July 2010, recognized employees who exercised NFS' conduct of business attributes.

Inspectors noted that the NFS homepage website displays documents and flowcharts describing NFS' vision, safety culture message, goals, values, priorities, conduct of business, employee expectations, and performance indicators. Many of the features allow the user to click on the topic and retrieve information including purpose, key messages, the seven high priority focus areas from the 2009/2010 SCuBA report, the NFS Safety Culture Improvement Plan, and other reports and indicators.

The inspectors verified that NFS had created a strategic plan. The inspectors performed a review of the applicable safety culture section of the plan.

b) Oversight Programs

1. Established a Nuclear Safety Review Board (NSRB) – An NSRB was established to address an on-going need for high-level expert oversight. The NSRB reports directly to the Board of Directors (BOD) and is charged with advising NFS Senior Management and the BOD on opportunities and methods to improve the strength of NFS' safety culture and programs that have a material effect on safe operations and advocate for issues requiring attention or action of the BOD. Inspectors determined that an executive level NSRB had been established and staffed with independent consultants. The board was meeting quarterly and was becoming familiar with the facility processes and improvement plans.
2. Implemented a Senior Engineering Watch (SEW) – An SEW was established to provide additional coverage on the process floor by NFS personnel with technical knowledge of the operations and to provide technical oversight to operations. Inspectors determined that this program had been implemented. However, some individuals informed the inspectors that the benefits of engineering oversight in operations were not fully understood or accepted.
3. Implemented a Safety, Engineering, and Senior Management Oversight Program and Schedule – This schedule was established to increase senior manager presence in the operating areas. The inspectors reviewed the provided documents for the Senior Training Advisory Committee, which included a brief description of the logistics of the program and the qualification requirements for members. The inspectors also reviewed the schedule for Senior Management Oversight from the November 2010 to February 2011 timeframe and the Senior Engineering Watch/Senior Management Oversight Log, which is an input from the observations that allow for tracking and trending. Based on the information reviewed, inspectors determined that this program was in place.
4. Established an Executive Review Board (ERB) – The ERB was designed to provide a centralized forum for management personnel to be aware of and review employee and contractor issues with the intent of detecting organizational

challenges and to take prompt, consistent, and appropriate actions. The inspectors reviewed procedure NFS-MGT-10-023, "Executive Review Board (ERB)." This document detailed the logistics of the ERB. The establishment of the program was verified by reviewing meeting dates and the list of attendees from the December 2010 to January 2011 timeframe.

5. Established a Management Advisory Council - The Management Advisory Committee was responsible for establishing the criteria, evaluation of nominations, and selection for the Employee of the Month program. The documents provided to and reviewed by the inspectors included a list of council members and supporting documentation for the Employee of the Month program. Nomination forms, criteria guidelines, and a record of previous employee of the month awardees were also reviewed. The establishment of the program was verified by reviewing meeting schedules.

c) Learning Program

1. Established an Operating Experience (OE) Program – The OE Program was established as a process for incorporating lessons learned from operating experience into procedures and into a knowledge base. Inspectors verified that NFS implemented an OE program utilizing the governing procedure, "Operating Experience (OE) Program," NFS-OE-001. The program was in place and operational.
2. Introduced Metrics System – "Performance Metrics Manual," (NFS-PMM) was developed and implemented in 2010. The manual describes the purpose and process for creating and measuring metrics. At the time of the inspection, the responsible coordinator was working with each of the departments to develop applicable metrics. Monthly senior management meetings had been held in which initial metrics were being reviewed to determine which metrics would be tracked along with their corresponding thresholds. The program was in place, but it was in an early stage. No global or organizational metrics had yet been measured or assessed to identify performance gaps or corrective action effectiveness.

d) Reporting and Resolving Concerns

1. Established a People Team - This program was closely tied to the Ombudsman program to respond to issues or concerns related to the work place or work environment. The inspectors verified that the program had been implemented. Its effectiveness was not assessed.
2. Established an Ombudsman Program - This program had been implemented to provide a confidential method for conflict resolution within the work environment. Although the process appeared effective, some individuals told the inspectors that they were not aware of the function of the program.
3. Established a Differing Professional Opinion program – A procedure, NFS-CAP-001 Rev1, dated April 28, 2010, was implemented to allow employees a process

for technical issue resolution when differing opinions arise. As of February 28, 2011, no employees had used this program.

e) Instituted a Work Control Program and Resource Loaded Schedule

A work control department had been established. Standardized work instructions were being implemented but had not been fully integrated into facility operations. A work schedule was being implemented to incorporate facility priorities of safety, quality, schedule and cost. Accountability meetings like the Plan of the Day and Plan of the Week had been implemented. The inspectors reviewed applicable procedures. The inspectors also reviewed organization charts to verify that appropriate work groups existed and that personnel were assigned to each of the groups.

f) Increased Accountability

1. Corrective Actions Review Board (CARB) - This organization was chaired by the NFS President. Inspectors reviewed procedure NFS-GH-922, "The NFS Problem Identification, Resolution, and Correction System (PIRCS)." Sections 6.5 and 8.1 of that document explained logistics for the CARB. The data reviewed adequately supported the creation of the program.
2. Re-establishment of an Employee Evaluation System - NFS plans to adopt the Babcock & Wilcox Performance Reviews program. The inspectors reviewed records documenting training given to managers, Effective Performance Reviews Training and the Effectiveness Performance Reviews Manager Training – Participant Manual. The material that was reviewed supported the creation of the program. Implementation is ongoing.

g) *Strengthened the Corrective Action Program*

A functional CAP had been implemented. A formal process for disposition of risk-significant occurrences had been established. Some process improvements were implemented, such as trending. The licensee was completing an evaluation of the CAP to determine if further improvements were needed.

h) *Implemented a Fatigue Management Policy*

NFS had a fatigue management policy (NFS-MGT-10-025) in place to address maximum hours allowed to work, approval process for exemption, and actions required for responding to potential fatigue issues. However, NFS managers stated they were not tracking compliance with their policy.

i) Implemented Administrative Streamlining and Improvements

1. Conducted a review of procedures, policies, etc. for instances of institutionalized production priorities over safety (or production pressure) - NFS generated PIRCS 11172 on January 2, 2010, to track the completion of this action. The inspectors reviewed the PIRCS, along with Safety and Safeguards Review Council (SSRC) meeting minutes from two meetings held in January 2010. From the data

provided, the actions were incomplete since all the concerns related to PIRCS 11172 were not addressed during the SSRC reviews. The PIRCS stated that two actions should be addressed to incorporate reviews for “production priorities over safety” during SSRC and Process Engineering walk-downs.

2. Added a requirement to the Training and Qualification (T&Q) form originator to route the form with associated document as part of the formal review and approval process to assure accurate assignment of training – The inspectors determined that this initiative was in the process of being implemented. NFS addressed this action by revising procedure NFS-RM-010 Rev. 8, “Instructions for Operating Plans, Procedures, Standing Operating Procedures & General Policies,” dated March 19, 2010. The inspectors verified that applicable steps were added to NFS-RM-010 that required the completion of a T&Q form, TRN-010, to be submitted as part of the document change request. However, TRN-010 was completed by referencing procedure NFS-PD-001. This procedure was not provided to the inspectors for review. As a result, the inspectors could not conclude if the originating document cross-referenced this new requirement.
3. Developed a comprehensive Conduct of Operations document based on guidance from INPO and industry best practices which includes rules for proper communication of information with safety implications - The inspectors identified procedure “Conduct of Operations,” NFS-OPS-001, Rev. 2, dated December 23, 2010, along with documentation supporting the development and communications of the procedure change.
4. Included a requirement for the Safety and Safeguards Review Council (SSRC) members to be on guard for the issue of having production priorities over safety during their routine reviews of change documents to prevent that from happening - This inspection did not include a review of this initiative.
5. Added restrictions on changes to procedures via Letter of Authorization (LOA) to require approvals by Director of Safety and Security, VP Operations or Principal Scientist - The inspectors reviewed the procedure “Preparation and Issuance of Work Instructions and Letters of Authorization,” NFS-TS-001, Rev. 7 dated September 30, 2010. Section 5.2.1.1. states “LOA should be prepared in lieu of an Standard Operating Procedure (SOP) revision or a revision to an SOP only if one of more of the following condition(s) is met:”. The first of six bullets stated “Use of an LOA to modify an SOP or procedure must be specifically agreed upon by the Chief Engineer or his delegate.” Although this direction was stated in the procedure, this restriction would not necessarily apply to all changes made to LOAs, as implied by the completed action statement in the Safety Culture Improvement Plan.
6. Improved the Quality Assurance Oversight of Technical Documents and Programs that included a technical basis review of Configuration Management, Corrective Action, and NRC Response documents - The inspectors determined that this initiative was in the process of being implemented.
7. Reviewed T&Q to eliminate "orphan" procedures where the procedure is approved and in T&Q but has not been assigned to any individual or job to

execute - NFS created PIRCS 21793 on November 3, 2009, to track the completion of this action. The inspector reviewed the PIRCS submitted which documented 20 actions to different groups, requiring each group to evaluate the procedure for applicability, identify if there are T&Q jobs that require this task, and submit the training form if applicable. The inspectors determined that this initiative was in the process of being implemented.

8. Implemented an Engineering Work Request Record of Review to ensure appropriate engineering disciplines are engaged and work package quality is maintained, and Established Independent Design Reviews to ensure technical accuracy and comprehensiveness - The inspectors did not verify the status of these actions during this inspection.
9. The processes for preparation, revision, review, approval, training, and execution for Letters of Authorization (LOA), Standard Operating Procedures (SOP), and Procedures were and continue to be refined to eliminate duplication, improve quality, and to adjust the extent of administrative requirements to match the level of risk to Safety and Quality - The inspectors reviewed procedures NFS-TS-001 Rev. 7, "Preparation and Issuance of Work Instructions and Letters of Authorization," dated September 30, 2010 and NFS-RM-010, Rev. 8, "Instructions for Operating Plans, Procedures, Standing Operating Procedures & General Policies," dated March 19, 2010. The two procedures were verified to be in place and appeared to address the process.

1. **PARTIAL LIST OF PERSONS CONTACTED**

<u>Name</u>	<u>Title</u>
G. Athon, Jr.	Principal Scientist
W. Cooper	Industrial Safety Manager
R. Crowe	Engineering Section Manager, Facilities Support
R. Dailey	Engineering Director
M. Elliott	Quality, Safety, & Safeguards Director
D. Hatcher	Quality Assurance Assessments
J. Henry	President
N. Kenner	Human Performance & Learning
M. Lee	Safety Analysis Specialist
N. Marchioni	Employee Concerns Program Manager
M. McKinnon	Manufacturing Operations Section Manager
M. Moore	Environmental Protection & Industrial Safety Manager
J. Nagy	Assurance Director
J. Parker	Human Performance Manager
V. Peterson	Corrective Action Program Manager
B. Perkins	Operating Experience & S/RIDS Administrator
S. Sanders	Training Manager
R. Shackelford	Nuclear Safety & Licensing Section Manager
R. Stoots	Assurance Department Admin.
J. Wheeler	Licensing & ISA Manager
C. Willis	Corrective Action Program Analyst

2. **INSPECTION PROCEDURE USED**

IP 71152 Identification and Resolution of Problems

3. **LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**

None

4. **LIST OF DOCUMENTS REVIEWED**

Procedures

- NFS-GH-22, Fire Door, Barrier and Damper Inspection and Maintenance, Rev. 11
- NFS-GH-65, Problem Identification, Rev. 6
- NFS-GH-918, Directed Investigation program, Rev. 9
- NFS-GH-922, The NFS Problem Identification, Resolution, and Correction System (PIRCS), Rev. 11
- NFS-OPS-001, Conduct of Operations, Rev. 2
- NFS-RM-010, Instructions for Operating Plans, Procedures, Standard Operating Procedures, and General Policies, Rev. 8

- NFS-TS-001, Preparation and Issuance of Work Instructions and LOA's, Rev. 7
- NFS-CAP-001, Differing Professional Opinions, Rev. 0
- NFS-CAP-006, Generic Implications Determination by Performing Extent of Condition and Cause Reviews, Rev. 0
- NFS-CM-004, Change Control Procedure, Rev. 7
- NFS-ENG-009, Engineering Work Management, Rev. 0
- NFS-GH-922, The NFS Problem Identification, Resolution, and Correction System (PIRCS), Rev. 11
- NFS-GH-946, Operational decision Making, Rev.7
- WMG-HTG-001, Formal Work Package Development, Rev. 0
- NFS-MGT-10-023, Executive Review Board (ERB), Rev. 2
- NFS-MGT-10-025, NFS Fatigue Management Policy
- NFS-OE-001, Operating Experience (OE) Program
- NFS-OPS-001, Conduct of Operations, Rev. 2
- NFS-PMM, Performance Metrics Manual, Rev. 0
- NFS-RM-010, Instructions for Operating Plans, Procedures, Standing Operating Procedures & General Policies, Rev. 8
- NFS-TS-001, Preparation and Issuance of Work Instructions and Letters of Authorization, Rev. 7
- NFS-WM-001, Work Management, Rev. 1 of sections 1-4
- SOP 392, Work Request Procedure, Rev. 23 and 26
- SOP 401, Section 1, General Requirements for BLEU Preparation and Associated Facilities, Rev. 30
- SOP 409, Section 51-301, Column Dissolver and Filtration Operation, Rev. 6
- SOP 409, Section 51-301, Column Dissolver Process Runsheet 51A, 1/31/11
- SOP 409, Section 62-301, Building 301 Off-Gas System, Rev.6
- SOP 409, Section 64-301, Building 301 HVAC System, Rev. 1
- TRN-017 (27T-11-007), Effective Performance Reviews, Manager Training – Participant Manual

Work Requests

Formal Work Package #152227, WO 0000117589, WR 144512

Self-Assessments

QA-10-01, Procedures, Training and Qualification
 QA-10-08, Lockout/Tagout
 QA-10-12, LEU-HEU MC&A
 QA-10-15, Configuration Management/Measurement Measure

Other Documents

- 2009/2010 Independent Safety Culture Assessment Results Report, June 21, 2010
- Building 301 Enclosure and Off-gas Log, Runsheet 62A, Rev. 5
- Calculation of Potential NOx Created During Incorrect Addition Order Upset, February 11, 2011

- CDCD-24-31, CDL Column Dissolver System NOx Controls Set Point Analysis, June 1, 2010
- Employee and Roundtable meetings
- Employee of the month program
- Employee of the month nomination form
- Facility weekly newsletters
- NFS homepage website
- NFS Safety Culture Improvement Plan
- OE-RPT-2011-001, Importance of Procedural Compliance, February 8, 2010
- Presentation materials and attendance sheets for the Leadership and Expectations, All
- Review of UF₄ Initial Dissolution Challenges, January 26, 2011
- Strategy plan, applicable safety culture section of the plan
- Safety and Safeguards Review Council (SSRC) meeting minutes, January 2010
- Senior Engineering Watch and the Senior Management Oversight Log (SEW/SMO Log)
- Senior Training Advisory Committee Charter, Rev. 1
- Training records for Effective Performance Reviews Training to managers
- The Effectiveness Performance Reviews Manager Training – Participant Manual

PIRCS

11172, 21793, 26598, 26605, 26614, 26662, 26696, 26719, 26911, 27185, 26765, 26824, 26837, 26926, 26985, 27017, 27192, 27227, 27309, 27321, 27480, 27947, 27837, 27863, 27925, 28014, 28040, 28103, 28140, 28145, 28176, 28258, 27761, 27518, 27696, 25904, 26985, 27947, 25883, 26464, 26484, 25558, 25909, 26824, 26985, 26837, 25782, 25868, 25883, 25887, 25892, 25912, 25957, 26052, 26515, 26164, 26504, 26414, 28727, 28730, 28733, 28753, 28429, 28533, 28713, 28626, 27355, 28701, 28684, 26418, 26913, 27168, 271187, 27425, 27493, 27531, 27554, 27597, 27635, 27636, 27664, 27716, 27738, 27808, 27820, 27860, 27900, 27912, 27944, 27991, 27989, 27004, 28241, 28446, 28551, 28583, 28582, 28582, 28614, 28620, 28621, 28623, 28626, 28659, 28660, 28664, 28666, 28688, 25479, 28773

Investigations

9937, 12470, 12498, 12559, 12563, 12133, 11419, 11930

Corrective Actions

10497, 14163, 14171, 13614, 14735, 14752, 14753, 14749, 11596, 12169, 11386, 11708, 11097, 8670, 13634, 13523, 10507, 11941, 13095, 13943, 12373, 13370, 13793, 13151, 14226, 13753, 13113, 13968, 12721, 7666, 12570, 10753, 8046, 4841, 5573, 13596, 13597, 11937, 12118, 13708, 13220, 8171, 11713, 12301, 9545, 13493, 14235, 13700, 11819, 6858, 12103, 1990, 13325, 6787, 13513, 13326, 12486, 12037, 14264, 13027, 12897, 13363, 12552, 13036, 12552, 11844, 13502, 14216, 14217, 14341, 14462, 13371, 12650, 10077, 11499, 13730, 1245, 7474, 13468, 13481

LIST OF QUESTIONS USED IN INTERVIEWS AND FOCUS GROUPS

Senior Management Questions

1. Interviewee background info.
 - a) What is your current title?
 - b) What is your reporting chain?
 - c) How long have you been in this position?
 - d) At NFS?
 - e) Describe your area of responsibility at NFS.
2. Does NFS have a policy regarding the environment for raising safety concerns (Safety Conscious Work Environment policy)? If so, what is that policy?
 - a) Have you received training concerning the policy and Safety Conscious Work Environment? If yes, describe what it covered.
 - b) Do you believe your management is supportive of the policy? Yes or no: How is this demonstrated?
 - c) Describe how you support this policy in your area of responsibility. How do you monitor the work environment for raising concerns?
3. How would you describe your immediate work environment?
4. How would you describe the overall work environment at NFS?
5. Do you feel able to raise nuclear safety concerns without fear of retaliation?
 - a) How willing are you to raise nuclear safety concerns?
 - b) Where would you go to raise a safety concern? What other avenues are available? Which of these would you feel comfortable using?
 - c) Are you aware of individuals or groups that may be hesitant to raise safety concerns? If yes, please explain.
 - d) Have you sensed any hesitancy on the part of your direct reports to raise safety questions/concerns?
 - e) Are you aware of any actions that are being taken or have been taken to prevent/detect retaliation and/or chilling?
6. How able do you feel to challenge or “push back” on decisions made by your management that you may not agree with or that you have questions about?
 - a) Can you give me an example of when you did that? What reaction did you received?
 - b) Has that ever been an instance where you felt hesitant to do this? If so, please explain.
 - c) Are you aware of any instance where someone received a negative reaction for pushing back or challenging a management decision? If yes, please explain.
 - d) Do you feel there are senior managers who may feel hesitant to push back? If yes, what makes you say that?

7. What can you tell me about the recent senior personnel changes at NFS? (Are there any aspects of these actions that trouble you?)
 - a) What effect have these changes had on you? (Are you less willing or less comfortable pushing back? Raising safety concerns?)
 - b) What effect have these changes had on other senior managers? On the organization as a whole? (Are they less willing or less comfortable pushing back? Raising safety concerns?)
8. What changes, if any, good or bad, have you seen in the overall work environment over the past 12 months? What has driven these changes?

Midlevel Management and Individual Employee Interviews

Position-specific question sets were used for the midlevel management and individual interviews. The inspectors utilized questions from both the Senior Management question set and the Focus Group question set. The questions and discussions were tailored to the individual's position and work activities.

Focus Group Questions

1. What does the term, Safety Conscious Work Environment, mean to you?
2. How many of you have participated in Safety Conscious Work Environment training?
3. How would you characterize the Safety Conscious Work Environment in your work groups?
4. What are the positive things or strengths?
5. What are the negatives or weaknesses?
6. Has the environment changed in the last 12 months?
7. How have changes in management affected the environment for raising concerns?
8. Would you feel comfortable raising a concern through one of the following avenues?
 - a) Raising concern to management
 1. Your supervisor
 2. Another supervisor or manager
 - b) PIRCS (corrective action program)
 - c) Employee Concern Program (ECP)
 - d) Ombudsman
9. Do you receive feedback or follow-up after you've reported a concern and are the corrective actions adequate?
10. How comfortable are people in your work group with raising a safety concern?
11. Have negative reactions occurred from raising safety concerns in the past?
12. If you could be the new president, what is the first change you would make to improve the work environment?

13. Is there anything else you want to talk about?