

July 31, 2006

Mr. William Levis
Senior Vice President and Chief Nuclear Officer
PSEG Nuclear LLC - N09
P. O. Box 236
Hancocks Bridge, NJ 08038

SUBJECT: SALEM AND HOPE CREEK NUCLEAR GENERATING STATIONS - NRC
SPECIAL INSPECTION - SAFETY CONSCIOUS WORK ENVIRONMENT -
REPORT 05000272/2006012; 05000311/2006012; 05000354/2006011

Dear Mr. Levis:

On June 28, 2006, the US Nuclear Regulatory Commission (NRC) completed a Special Inspection of the safety conscious work environment (SCWE) at the Salem and Hope Creek Nuclear Generating Stations. The enclosed inspection report documents the inspection results, which were discussed on June 29, 2006, with you and members of your staff.

On August 23, 2004, the NRC established enhanced oversight of the stations in accordance with a Deviation Memorandum from the NRC's Reactor Oversight Process Action Matrix. This enhanced oversight provided for additional inspections and NRC management review of PSEG's actions to resolve work environment issues. The Deviation Memorandum, which was renewed on July 29, 2005, indicated that the NRC would perform a review of the work environment after PSEG had performed an assessment and concluded that substantial, sustainable progress had been made in the work environment at the site.

In April 2006, PSEG commissioned a team of industry peers to assess their improvement actions for the work environment at Salem and Hope Creek. The assessment team concluded that the work environment changes were substantial and sustainable. PSEG provided this conclusion and the peer assessment report to the NRC in a letter dated May 4, 2006.

The purpose of this inspection was to evaluate your completed and planned actions to address the identified work environment issues and independently assess whether substantial, sustainable progress has been made in the SCWE at the site. We interviewed a broad range of individuals and work groups, involving approximately 150 site personnel. The NRC inspection approach included focus group forums, individual interviews, and informal observations and discussions to gather input and comments directly from site workers. This input was used to evaluate the status of, and the extent of change in, the work environment. We also reviewed the corrective action and work management processes and observed work activities and meetings.

Overall, the inspection results indicate that you have made substantial, sustainable progress in addressing work environment problems at the site. No findings of safety significance were identified during this inspection. The environment for raising safety concerns has continued to

improve. The corrective action and work management processes have been more effective in resolving issues and correcting longstanding equipment problems. All interviewed workers indicated that they were willing to raise nuclear safety concerns. The Employee Concern Program is an effective alternate avenue for raising concerns; and the processes for detecting and mitigating the perceptions of retaliation are sound and have been used effectively. We noted that PSEG missed some opportunities to address negative perceptions in Hope Creek Shift Operations. The team observed that the initial Hope Creek Operations Excellence Plan did not include detailed analysis and validation of recent survey and assessment results necessary to ensure organizational alignment in resolving the lingering negative perceptions. The adjustments made to the Operations Excellence Plan following the inspection debrief enhanced the plan with actions and linkages that specifically address the survey and assessment results, and this provides additional confidence that the improvements in this group are sustainable.

This inspection is a significant input, but not the sole input, into our upcoming mid-cycle reviews for Salem and Hope Creek, which will be conducted in August in accordance with our normal assessment process. That mid-cycle review will collectively assess these inspection results in conjunction with the last 12 months of NRC inspection oversight activity to reach an overall NRC conclusion regarding the status of the cross-cutting issue in the SCWE area, and the appropriate level of future NRC oversight of Salem and Hope Creek. The results of our assessment will be provided in a separate letter to you in late August 2006.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Brian E. Holian, Director
Division of Reactor Projects

Docket Nos: 50-272, 50-311, 50-354
License Nos: DPR-70; DPR-75; NPF-57

Enclosure: Inspection Report 05000272/2006012; 05000311/2006012; 05000354/2006011
w/Attachment: Supplemental Information

cc w/encl:

T. Joyce, Site Vice President - Salem
G. Barnes, Site Vice President - Hope Creek
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C. J. Fricker, Salem Plant Manager
D. Winchester, Vice President Nuclear Assessments
W. F. Sperry, Director Business Support
D. Benyak, Director - Regulatory Assurance
J. J. Keenan, Esquire
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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos: 05000272; 05000311; 05000354

License Nos: DPR-70; DPR-75; NPF-57

Report No: 05000272/2006012; 05000311/2006012; 05000354/2006011

Licensee: Public Service Enterprise Group (PSEG) Nuclear, LLC

Facility: Salem and Hope Creek Nuclear Generating Stations

Location: P.O. Box 236
Hancocks Bridge, NJ 08038

Dates: June 12 through 28, 2006

Inspectors: A. Burritt, Senior Project Engineer, Team Leader, Region I
B. Welling, Senior Project Engineer, Assistant Team Leader, Region I
T. Wingfield, Resident Inspector, Region I
L. Jarriel, Agency Allegations Advisor, OE
J. Persensky, Senior Technical Advisor - Human Factors, RES
M. Keefe, Human Factors Analyst, RES
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M. Brown, Operations Inspector, Region I

Approved By: Mel Gray, Chief
Projects Branch 3
Division of Reactor Projects

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SUMMARY OF FINDINGS

IR 05000272/2006012; 05000311/2006012; 05000354/2006011; 06/12/2006 - 06/28/2006; Salem and Hope Creek Nuclear Generating Stations; Special Inspection.

The report covered a Special Inspection of the safety conscious work environment (SCWE) by regional inspectors and by NRC headquarters specialists in safety conscious work environment review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

The team concluded that substantial, sustainable progress has been made in the SCWE at the site. The environment for raising safety concerns has continued to improve; all interviewed workers indicated that they were willing to raise nuclear safety concerns. Almost all workers interviewed also indicated that they are willing to raise other concerns, write notifications, and challenge management decisions that they believe are non-conservative. There has been continued improvement in PSEG's corrective action and work management programs and these processes have shown improvement in resolving issues and correcting longstanding equipment problems. The Employee Concern Program is an effective alternate avenue for raising concerns and continues to identify and implement enhancements. The processes for detecting and mitigating the perceptions of retaliation are sound and have been used effectively to prevent retaliation at the site. Additionally, PSEG's completed and planned corrective actions to address remaining negative perceptions of the work environment provide sufficient confidence that the progress will be sustainable.

In one organizational area, Hope Creek Shift Operations, we noted that PSEG missed some opportunities to address negative perceptions. The team observed that the initial Hope Creek Operations Excellence Plan did not include a detailed analysis of recent survey and assessment results. The team determined that the validation and use of detailed survey and assessment inputs would increase organizational alignment necessary to ensure the Plan's effectiveness. The adjustments made to the Operations Excellence Plan following the inspection debrief enhanced the plan with actions and linkages that specifically address the survey and assessment results.

A. NRC-Identified and Self-Revealing Findings

No findings of significance were identified.

B. Licensee Identified Violations

None

REPORT DETAILS

4. OTHER ACTIVITIES

4OA5 Other - Safety Conscious Work Environment Review

a. Inspection Scope

Background

In early 2004, the NRC identified issues associated with the safety conscious work environment (SCWE) at the Salem and Hope Creek stations, particularly as it related to the handling of emergent equipment issues and associated operational decision-making. The NRC determined that there were several indications of weaknesses in corrective actions and PSEG management's efforts to establish an environment where employees are consistently willing to raise safety concerns.

The NRC established enhanced oversight of the stations to allow for additional inspections and NRC management review of PSEG's assessments of the work environment and associated corrective actions. As part of this enhanced oversight, the NRC planned to perform an inspection of the SCWE after PSEG concluded that substantial, sustainable progress had been made in the work environment. PSEG documented such a conclusion in a letter to the NRC dated May 4, 2006. Additional details on the background leading to this inspection are included in the Supplemental Information attached to this report.

Inspection Objective

The purposes of this inspection were to:

- Evaluate PSEG's completed and planned actions to address work environment issues; and
- Independently assess whether substantial, sustainable progress had been made in the SCWE at the stations.

Inspection Methodology

The inspection methodology included the following:

- Document reviews;
- Observations of plant activities, meetings and general discussions;
- Focus group meetings, interviews, and informal discussions with site personnel; and
- NRC analysis to develop observations and conclusions.

The team conducted focus group meetings and interviews of personnel from a cross-section of work groups across the stations as a means to gather and understand workers' perceptions of the work environment. The team held 15 focus group meetings

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and 32 individual interviews, which allowed the team to interface with about 150 site personnel. The team evaluated the perceptions and beliefs expressed by these individuals, with the understanding that these perceptions and belief may not always directly translate to actual performance.

The team also observed Operations shift turnovers and shift briefings, pre-job briefings, and plant work activities. The team conducted informal discussions with plant staff regarding the work environment following the briefings and during the observed work activities. The observed work activities included the following:

- 12A circulator waterbox plugging, Salem Unit 1;
- 12B closed cooling heat exchanger controller calibration, Salem Unit 1;
- IPTe 06-006, Setting of reactor recirculation motor generator high speed stops Hope Creek; and
- Reactor power increase from 95 to 100% using control rods and recirculation flow adjustments, Hope Creek.

The team placed additional inspection emphasis on the review of Operations work groups, based on the important role these groups play in identifying equipment and human performance issues and the responses of these groups during the 2005 NRC SCWE inspection. In particular, the team conducted additional group meetings, interviews, and document reviews of the Hope Creek shift operations group, because it was identified in PSEG's assessments as needing additional management evaluation.

The team performed a detailed review of the PSEG-commissioned peer assessment of the safety conscious work environment, which was completed in April 2006. The team also examined the results of the safety culture survey by Synergy Consulting Services Corporation, which was administered in January 2006. Additionally, the team reviewed departmental excellence plans that were developed to address the results of the safety culture survey.

b. Findings and Observations

No findings of significance were identified.

The team assessed PSEG's progress in addressing work environment problems in what is often termed "the four pillars" of a SCWE: Environment for Raising Concerns, Effectiveness of Normal Problem Resolution Process, Effectiveness of Alternate Avenues for Raising Concerns, and Preventing and Detecting Retaliation. The team analyzed the results of these assessments to develop key observations and conclusions.

Observations

.1 Pillar 1: Willingness to Raise Concerns

During the team's focus group and individual interviews, all workers indicated that they are willing to raise nuclear safety concerns. Almost all workers stated that they would have no reservations about raising issues or writing notifications on other concerns. Many cited improvements, such as the resolution of long-standing equipment problems, as positive factors influencing their willingness to raise concerns. Likewise, improvements in the implementation of the corrective action program have addressed employee-perceived barriers against raising concerns.

The team determined through interviews and discussions that the environment for raising safety concerns has improved. Individuals, with a few limited exceptions, stated they were encouraged to raise issues and that they were confident that their issues would be addressed. All believed that management is more receptive to opposing viewpoints and encourages the raising of concerns. Many workers have perceived that there have been improvements in conservative decision-making on the part of management, which also has had a positive influence on workers' willingness to raise issues.

While there were many examples of support for raising concerns and issues, there were a few negative comments made during some interviews, especially in specific work groups. For example, a few individuals in Hope Creek Chemistry stated they may not write notifications; however, they did indicate that they would use other avenues to raise safety concerns. There was a perception among a few individuals in Fire Protection and Hope Creek Chemistry that they have been discouraged by supervision and management from bringing up concerns or writing notifications. Some individuals in the Engineering focus group and in Hope Creek Operations indicated that excessive workload may have an impact on some personnel bringing up concerns, but would not influence the identification of nuclear safety concerns.

The team noted some factors that affected a few workers' willingness to raise concerns. For example, a few individuals in Hope Creek Operations indicated that there were examples of "production schedule pressure" actions and comments by management exhibited during a recent refueling outage. The team noted that senior management was aware of one instance of an inappropriate action by a manager, regarding operation of a disconnect, and PSEG has taken actions to address the concern. The team also observed several pre-job briefs and work activities and noted that while there were discussions related to schedules, work completion and the amount of time the plant would be at reduced power levels, the technicians involved did not feel that this was inappropriate production pressure. Additionally, the technicians felt that they could challenge any perceived production pressure related to work completion schedules. Some individual contributors at Hope Creek indicated that they believed that some supervisors may not bring up concerns for various reasons; however, this was not corroborated by the supervisor focus group or supervisor individual interviews. While all individuals indicated that improvements have been made in correcting equipment

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problems, a few organizations indicated perceptions of a lack of timely or comprehensive resolution for routine issues does exist and may contribute to some apathy toward raising concerns. Though not a direct nuclear safety issue, workers in some groups expressed reluctance about reporting industrial safety accidents.

The team reviewed the new supervisory training and refresher training available and determined that it provided adequate information and incentive to understand and implement SCWE related behaviors consistently across the site.

Conclusion

All workers interviewed indicated that they were willing to raise nuclear safety concerns. Almost all workers interviewed across a majority of work groups also indicated that they are willing to raise concerns, write notifications, and challenge management decisions that they believe are non-conservative. The team determined through interviews and discussions that the environment for raising safety concerns has improved. Overall, the team noted improvement in this area from 2005 assessments and that plans are in place to sustain the improvements.

Nonetheless, in a few work groups, such as Hope Creek Chemistry and Operations, Fire Protection and Engineering, there are still a limited number of workers that stated that they would be hesitant to write notifications or bring up some concerns. The team also noted that factors such as workload, timeliness of response, and comprehensiveness of corrective action may have affected the willingness of some staff to raise concerns. The team determined that the company was aware of the perceptions and has actions in progress to address the specific issues.

.2 Pillar 2: Normal Problem Resolution Process

Overall, the team concluded there has been continued improvement in PSEG's corrective action and work management programs. The team reviewed the corrective action program (CAP) improvements including CAP feedback, trending of feedback, and capability to write anonymous notifications. The team determined these features were notable enhancements to the program. During group discussions and interviews, most felt that there was significant improvement in corrective action feedback both formally through emails and by informal communications. The team also reviewed the process used for screening of CAP notifications for work environment issues. The team reviewed a sample of notifications that contained words indicative of potential work environment problems and found that the work environment aspects were addressed. The team also reviewed the SCWE metric trends to verify any adverse trends had action plans to improve performance. The team determined that the number of repeat adverse trends have been reduced and action plans were in place to address the adverse trends that remain, including unplanned entry into technical specification limiting conditions for operation at Salem and Hope Creek and Salem control volume cleanup system unavailability.

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The team determined that continued progress has been made in improving the effectiveness of processes used to resolve issues. During the focus groups and individual interviews, the great majority of individuals and groups perceived that more equipment problems were being addressed than in the past. Many individuals cited a noticeable reduction in the corrective and elective maintenance backlogs. Most individuals and groups indicated that they were more confident in the corrective action and work management programs. Many individuals and groups indicated that work group and individual accountability has continued to improve.

The team determined that some room for improvement exists in addressing the remaining negative perceptions of the corrective action and work management programs among a few groups. For example, some groups noted that some lower-level equipment problems were not being fixed, and a Hope Creek maintenance group did not believe that there was notable improvement in the work management process. However, the team observed that the negative perceptions were much less prevalent than previously observed at the site during a previous SCWE inspection. Additionally, the team concluded that the licensee's plans are adequate to address the remaining negative perceptions.

Conclusion

The team concluded that there has been continued improvement in PSEG's corrective action and work management programs including CAP feedback, trending of CAP feedback, and the capability to write anonymous notifications. The team determined through interviews and discussions that these processes are more effective in resolving issues and correcting longstanding equipment problems. The CAP is generally perceived as more effective than a year ago, and more people, among more groups, are using the process. Although some negative perceptions of these programs still remain among a few groups, PSEG's plans are adequate to address these perceptions.

.3 Pillar 3: Effectiveness of Alternate Avenue for Raising Concerns

The Employee Concerns Program (ECP) is an alternate avenue for PSEG and supplemental employees to raise concerns should they choose not to pursue them with PSEG line management or through the corrective action program. The NRC inspection team reviewed a sample of ECP case files and management reports, observed outreach activities, and interviewed plant personnel to assess the effectiveness of the licensee's ECP.

The team reviewed ten ECP case files, that varied in category, investigator, and complexity, each opened in calendar year 2006, to assess how effectively concerns were addressed by the program. Specifically, the team reviewed whether concerns were properly categorized, assessments were comprehensive, confidentiality was appropriately maintained, responses were timely based on their significance, and conclusions were supported by the documentation in the files. Program reports prepared by the ECP staff were also reviewed and were found to provide recipients with

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an appropriate analysis of the data collected by the program, while maintaining the confidentiality of concerned individuals.

The team also observed an ECP outreach activity. Following the issuance of the NRC's June 2005 ECP Inspection Report (IR 05000272; 311; 354/2005009) which documented that a number of individuals interviewed would not use the program due to confidentiality concerns, the ECP staff initiated outreach activities designed to engage the workforce more in the plant and provide training on the measures the ECP takes to protect the confidentiality of individuals. The team found the training was communicated effectively and, judging by the participation during the class observed by the team, it was well received. The lesson included a discussion of the identity protections provided by the program, as well as important messages pertaining to the maintenance of the SCWE. Organizations identified by the most recent cultural assessment as having lower ratings of the ECP were appropriately targeted for near-term outreach.

Actions taken to address observations and recommendations from the various recent assessments of the ECP, including the 2005 NRC inspection, peer assessment, and the cultural assessment, were also reviewed. The team found that each observation or recommendation has been or is being addressed and tracked in the corrective action program, and the actions are appropriate.

The team's interviews of plant personnel suggested that most people are familiar with the function of the ECP, recognize the program personnel and, although they do not feel the need to, would use the program if needed. A few individuals indicated they still perceive that the ECP is "owned by management," and therefore could not be trusted to protect the identity of individuals going to the program for help, or that they might prefer to use other alternate avenues, such as bringing a concern to the NRC, instead of the ECP. These concerns about confidentiality, however, were voiced by far fewer persons than during the NRC's previous inspection in 2005, indicating the actions taken by PSEG to address this perception have been effective.

Conclusion

The team concluded that the Employee Concern Program is an effective alternate avenue for raising concerns, and PSEG is identifying and implementing enhancements to ensure continued effectiveness of the process.

.4 Pillar 4: Preventing and Detecting Retaliation

The team determined that PSEG has taken effective actions to address work environment issues in the area of Preventing and Detecting Retaliation. These actions include the continued use of three processes for screening disciplinary actions and personnel changes for adverse perceptions of retaliation. These processes consist of:

- The Executive Protocol Group (EPG) which provides a mechanism for timely and comprehensive responses to actions and events that could involve harassment, intimidation, retaliation or discrimination;

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- The Executive Review Board (ERB) which was chartered to 1) assess whether personnel or disciplinary actions planned were or could be perceived by the workforce to be retaliatory and 2) propose mitigation plans or actions to address those perceptions if they exist; and
- The Manager's Protocol Group (MPG) which is a management tool used to gain consistency in handling employee concerns and improving employee performance through coaching and counseling.

The team observed meetings for all three processes. During the EPG meeting, the team found that the EPG members demonstrated the appropriate focus on questioning the perceptions that personnel or disciplinary actions may convey. The meeting was comprehensive in assessing carefully whether each action would adversely affect the working environment at the site. The team also observed an ERB meeting and had follow-up discussions with ERB members after the meeting to assess the effectiveness of the process. The members demonstrated a healthy questioning attitude and working comprehension of important SCWE principles. Finally, the team observed an MPG meeting and concluded that it was an effective tool for reviewing the impact that disciplinary actions and personnel changes could have on employee perceptions of retaliation. The team determined that PSEG was effectively using these three processes as tools for mitigating perceptions of retaliation at the site.

While PSEG continues to utilize the EPG, ERB, and MPG processes, some of the functions are being transferred to different groups including the Human Resources department, the Employee Concerns Program (ECP) and the Training department. The team reviewed the charters and procedures for the SCWE processes as well as the transition plan that coordinates the movement of functions from one organization to another. The team determined that the SCWE process charters and procedures were appropriately updated, the SCWE transition plan appeared to be an effective tool to manage the change, and implementation of the SCWE transition plan was on schedule.

During the team's focus group and individual interviews, most of the workforce interviewed were not aware of incidents of retaliation for raising concerns. One focus group perceived that the EPG and ERB processes have significantly helped ensure consistency of personnel actions taken. Nonetheless, during three of the focus groups, there were perceptions that subtle actions occur within a few groups. The team heard from two work groups that they perceive that adverse action would be taken against them, such as notations in performance reviews for calling in sick or reporting Fitness-For-Duty (FFD) concerns of fatigue, especially during plant outages. Some individuals in a few organizations also expressed a reluctance to report an injury based on a recent industrial safety incident that led to perceptions of retaliation since most believed that the level of discipline was excessive. The team observed that PSEG management was aware of the perceptions related to reporting of injuries and addressed it through a site wide communications from the Chief Nuclear Officer, along with other communications.

Conclusion

The team determined that PSEG has made continued progress in detecting and preventing retaliation by effective use of the EPG, MPG and ERB processes to mitigate potential perceptions of retaliation. The team concluded that these processes are sound and screened personnel or disciplinary actions carefully and thoroughly. Most of those interviewed do not believe that retaliation is an issue at the site. However, there are still perceptions that subtle actions occur within some groups. The team concluded these actions do not directly impact the willingness to raise safety concerns, and are being addressed.

.5 Review of Recent Surveys and Assessments; and Overall Conclusions

2006 Comprehensive Cultural Assessment

The team reviewed the results of the 2006 Comprehensive Cultural Assessment (CCA) survey. An overview of the executive summary for the 2006 CCA survey is included in the Supplemental Information attached to this report. The CCA determined that essentially all cultural metrics have shown improvement since the January 2005 CCA. Many have shown notable improvement and several have shown significant or very significant improvement. The improved 2005-2006 ratings in key metrics suggest that sound bases are in place for continued future improvements in all cultural ratings. Nonetheless, a few individual functional organizations had lower ratings of key cultural metrics and/or showed declined rating trends. The team targeted a significant number of the focus group and individual interviews on the larger outlier groups most likely to identify nuclear safety issues. The information obtained during NRC group and individual interviews generally supported the results of the CCA survey.

In response to the survey, company management directed most site organizations to develop excellence plans to foster improvements in the work environment. The company took a broad approach to work environment improvements rather than only focusing on the outlier groups, to further enhance the work environment for all work groups and to minimize any labeling or potential for non-constructive attention to outlier work groups. The work groups were directed to review the 2006 CCA survey and address the identified work environment issues applicable to their organizations.

The team observed that the Hope Creek Operations Excellence Plan did not include a detailed analysis of recent survey and assessment results. The team concluded that the validation and use of detailed survey and assessment inputs would increase organizational alignment and provide additional confidence in the plan's effectiveness. The team reviewed the adjustments made to the Operations Excellence Plan following the inspection debrief and noted that PSEG has enhanced the plan with actions and linkages that specifically address the survey and assessment results. The team concluded that these adjustments to the plan provide additional confidence that the improvements in this group are sustainable.

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Safety Conscious Work Environment Peer Assessment

The team reviewed the report of the Peer Assessment of the SCWE that was completed in April 2006, and concluded that the assessment was thorough. The team reviewed the 22 recommendations identified in the report and observed that all were placed in the corrective action program for follow-up actions. Additionally, the NRC team noted that the Peer Assessment report documented a number of specific observations. While these items were not placed in the corrective action program, the team determined that the underlying issues for these observations were being addressed through PSEG's ongoing SCWE improvement and communications activities, including departmental excellence plans.

2005 NRC Special Inspection - Safety Conscious Work Environment

The team reviewed PSEG's corrective actions for the observations and conclusions documented in the NRC's September 2005 SCWE team inspection report and concluded the actions were effective. Most of the observations and conclusions were placed in PSEG's corrective action program and were resolved. However, the team noted that actions for negative perceptions of the work environment in the Hope Creek Operations group were not consistently performed in a timely manner, nor were they thoroughly tracked and documented. The NRC team focused on Hope Creek Operations during this inspection, and as discussed in this report, ensured that company management was aware of weaknesses in following through on previously identified perceptions and survey results.

Conclusions

The team concluded that substantial, sustainable progress has been made in the SCWE at the site. PSEG's completed and planned corrective actions to address negative perceptions of the work environment provide confidence that the progress is sustainable. Nonetheless, we noted that PSEG missed some opportunities to address negative perceptions in Hope Creek Shift Operations. The team observed that the initial Hope Creek Operations Excellence Plan did not include detailed analysis of recent survey and assessment results. The team determined that the validation and use of detailed survey and assessment inputs would increase organizational alignment necessary to ensure the Plan's effectiveness.

4OA6 Meetings, Including Exit

The inspection team analyzed the information collected in document reviews, meeting and plant work observations, personnel interviews, and focus group meetings to develop assessments in the four safety conscious work environment pillars and overall conclusions. Following the period of the onsite inspection, the team conducted a debrief meeting with PSEG management on June 23, 2006. The team considered PSEG's feedback during this meeting as well as subsequent adjustments made to the Hope Creek Operations Excellence plan while developing final observations and conclusions.

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On June 29, 2006, the team presented the inspection results to Mr. Levis and other members of PSEG management and staff. PSEG acknowledged the inspection results and stated that they initiated actions to address the inspection team's observations.

ATTACHMENT: SUPPLEMENTAL INFORMATION

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SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

G. Barnes, Site Vice President - Hope Creek
J. Barstow, Regulatory Assurance
D. Benyak, Regulatory Assurance Director
B. Booth, Hope Creek Assistant Operations Manager
C. Fricker, Salem Plant Manager
G. Gellrich, Plant Support Manager
H. Hanson, Hope Creek Operations Manager
M. Headrick, Employee Concerns Manager
J. Keenan, PSEG Counsel
T. Lake, SCWE Leader
W. Levis, Chief Nuclear Officer
M. Massaro, Hope Creek Plant Manager
D. Winchester, Vice President Nuclear Assessments

Also, approximately 150 site staff through individual or focus group interviews

Other

J. Guibert, Synergy Consulting Services Corporation
W. Cottle, Peer Assessment Team Leader

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

In addition to the documents identified in the body of this report, the inspectors reviewed the following documents and records:

PSEG letter to NRC, Safety Conscious Environment Peer Assessment Report, Salem and Hope Creek Generating Stations, dated May 4, 2006
2006 "Comprehensive Cultural Assessment" performed by Synergy, March 2006
Salem and Hope Creek Department Excellence Plans, based on results of 2006 Synergy Survey Results
Hope Creek Operations Position Paper on SCWE, 06/07/2006
Hope Creek Operations Excellence Plan, 06/08/2006
Hope Creek Operations Excellence Plan, Revised June 28, 2006
2005 "Comprehensive Cultural Assessment" performed by Synergy, April 2005

PSEG Self Assessment: Safety Conscious Work Environment (SCWE), Rev. 1, dated September 21, 2005
Executive Protocol Group Meeting Agenda and Material, 06/13/2006
Synergy Survey Presentation to PSEG Management, 04/05/2006
Synergy Survey Action Plan, 04/06/2006
PSEG Nuclear and Chief Nuclear Officer Communications to Staff: 12/01/2005, 12/07/2005, 03/29/2006, 04/21/2006
Salem/Hope Creek SCWE Peer Assessment Preliminary Results Presentation, 04/14/2006
Hope Creek Operations Night Order 2005-0143
Hope Creek Operations Management Email Communications: 05/08/2006, 05/09/2006, 05/17/2006, 05/22/2006, 05/24/2006, 05/31/2006, 06/05/2006, and 06/21/2006
Hope Creek Operations Leadership Project Plan, 06/21/2006
Hope Creek Work Management Performance Indicators 03/19/2006 through 06/04/2006
Salem Work Management Performance Indicators 03/05/2006 through 05/21/2006
Hope Creek Nuclear Review Board Presentation, 05/26/2006
Hope Creek Business Plan Performance Reports: February 2006, March 2006, April 2006, and May 2006
Hope Creek Weekly Leadership Meeting Presentation, 11/30/2005
Hope Creek Compliments and Concerns Meeting Record, 01/23/2006
Salem Compliments and Concerns Meeting Record, 04/07/2006
PSEG 2006 SCWE Inspection Entrance Meeting Presentation, 06/12/2006
Independent Review Responding to the January 28, 2004, NRC Letter Regarding SCWE at Salem and Hope Creek Generating Stations (IAT Report), dated May 4, 2004
Salem/Hope Creek Safety Culture Assessment, Utilities Service Alliance, March 1 - 5, 2004
2003 "Comprehensive Cultural Assessment" performed by Synergy, February 2004
NRC letter to PSEG, Work Environment for Raising and Addressing Safety Concerns at the Salem and Hope Creek Generating Stations, dated January 28, 2004
PSEG letter to NRC, Plan for Improving the Work Environment to Encourage Identification and Resolution of Issues, dated May 21, 2004
PSEG letter to NRC, PSEG Plan for Improving the Work Environment, dated June 25, 2004
NRC letter to PSEG, Work Environment at the Salem and Hope Creek Generating Stations, dated July 30, 2004
PSEG Metrics for Improving the Work Environment, Salem and Hope Creek Generating Stations, Quarterly Reports - various
Salem/Hope Creek Work Environment Improvement Strategy
Source Report to Business Plan Matrix
Safety Conscious Work Environment Training Material
Compliments and Concerns Meeting Minutes (various)
Executive Protocol Group Charter
Executive Review Board Charter
Nuclear Review Board Meeting Minutes, No. H06-01
NRC Reactor Oversight Process Deviation Memorandums: 08/20/2004 and 07/29/2005
NRC Inspection Report: 05000272/311/354-05-013
Employee Concerns Program files

Corrective Action Notifications, Work Orders, and Evaluations

20137124	20260726	20267658	20274462	20287124	70052598
20219602	20260786	20268165	20274634	20287418	70052602
20227785	20261079	20268319	20274635	70048831	70052607
20238099	20261281	20268412	20274662	70049990	70052781
20242765	20261575	20268488	20274663	70050318	70052836
20246626	20261652	20268635	20275132	70050362	70052848
20247840	20261704	20268880	20276415	70050575	70052966
20252457	20261705	20269048	20276424	70050650	70053091
20252962	20261840	20269471	20276445	70050719	70053122
20253170	20262745	20269543	20276600	70050795	70053127
20253191	20263203	20269839	20276653	70050810	70053238
20253648	20263479	20269882	20277328	70050975	70053296
20254043	20263560	20269980	20277355	70051111	70053330
20254084	20263897	20270016	20278632	70051287	70053345
20254378	20264055	20270267	20279079	70051416	70053405
20254489	20264319	20270279	20279229	70051505	70053467
20254950	20264354	20270348	20279306	70051629	70053533
20254969	20264759	20270392	20279407	70051630	70053595
20258457	20265380	20270526	20279714	70051714	70053699
20258595	20265823	20270757	20279837	70051835	70053884
20258650	20265898	20271010	20280678	70051869	70054209
20258849	20266022	20271059	20280748	70051884	70054318
20258879	20266414	20271074	20281272	70051898	70055762
20258929	20266590	20271078	20281433	70052060	70056432
20259558	20266917	20271192	20283641	70052080	70056548
20260240	20266978	20271287	20284199	70052211	20283426
20260305	20267024	20271330	20285755	70052276	20283537
20260706	20267366	20272196	20286214	70052498	70057641
20260706	20267534	20272216	20286775	70052574	
20260715	20267542	20272326			

Procedures

Personnel Working Hours and Overtime Practices (NC.OP-AP.ZZ-0005, Rev. 0)

Corrective Action Process, (NC.WM-AP.ZZ-0002, Rev. 11)

Corrective Action Program (CAP) Procedure (LS-AA-125, Rev. 10)

Executive Protocol Group (EI-SH-100-1003, Rev. 2)

LIST OF ACRONYMS

ECP	Employee Concerns Program
EPG	Executive Protocol Group
ERB	Executive Review Board
IAT	Independent Assessment Team
MPG	Manager's Protocol Group

NOS	Nuclear Oversight
NRC	Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulation
PARS	Publicly Available Records
PSEG	Public Service Enterprise Group
ROP	Reactor Oversight Process
SCWE	Safety Conscious Work Environment
USA	Utility Service Alliance

BACKGROUND INFORMATION FOR SCWE INSPECTION

In late 2003, the NRC initiated a special review of the environment for raising and addressing safety issues at the Salem and Hope Creek stations. The NRC undertook the review in light of information received in various allegations and inspections as well as NRC management insights related to the safety conscious work environment (SCWE). Information gathered had led to concerns about the work environment, particularly as it related to the handling of emergent equipment issues and associated operational decision-making.

On January 28, 2004, NRC Region I issued a letter to PSEG that provided interim results of the special review. This review had included numerous interviews of current and former Salem and Hope Creek employees, at various levels of the organization up to and including nuclear executives. The review had accumulated information about a number of events which, to varying degrees, called into question PSEG management's openness to concerns and alternative views, strength of communications, and effectiveness of the stations' corrective action and feedback processes. Several events had involved disagreements or differing perspectives of operators and senior PSEG managers regarding plant operating decisions, particularly as they might impact on continued plant operation and outage schedules. At a minimum, these interviews raised questions about whether management had fully assessed and addressed the negative impact such disagreements have had on station personnel.

In response to the NRC's January 28, 2004, letter, PSEG committed to provide significant financial resources to improve station performance and initiated plans to assess the work environment. In a March 18, 2004, management meeting, PSEG provided the preliminary results of three major assessments of the work environment at the stations. These assessments included: (1) a safety culture survey conducted by Synergy Corporation in December 2003; (2) a safety culture assessment conducted by the Utility Service Alliance (USA) in March 2004 to evaluate the Salem and Hope Creek safety culture against standards of excellence; and (3) an evaluation of the work environment for raising and addressing safety issues conducted by an Independent Assessment Team (IAT) between February and April 2004. The assessments identified the need for improvement of the work environment and equipment reliability. These assessments also identified that better implementation of station processes, such as corrective actions and work management, were important to achieving equipment improvements. Subsequently, PSEG discussed their plans to address SCWE issues in

a June 16, 2004, management meeting with the NRC staff. In a letter dated June 25, 2004, PSEG indicated the general methods they intended to use to improve the work environment at the station.

On July 30, 2004, NRC Region I issued a letter to PSEG that provided the results of the NRC's special review. This in-depth review generally agreed with the results of PSEG's self-assessments. Specifically, the NRC did not identify any serious safety violations; however, the agency concluded that there were numerous indications of weaknesses in corrective actions and management efforts to establish an environment where employees are consistently willing to raise safety concerns. Some PSEG staff and managers felt that the company had emphasized production to a point which negatively impacted the handling of emergent equipment issues and associated operational decision-making. Additionally, management had not been consistent in its support of station staff identifying concerns and providing alternate views. The NRC found examples of unresolved conflict and poor communication between management and staff, as well as underlying staff and management frustration with poor equipment reliability. The equipment issues stemmed, in part, from weaknesses in implementation of station processes such as work management and corrective action.

On August 23, 2004, the NRC's Executive Director for Operations approved a Deviation from the NRC's Action Matrix to provide a greater level of oversight for the Salem and Hope Creek Generating Stations than would typically be called for by the Reactor Oversight Process Action Matrix. This deviation was subsequently renewed on July 29, 2005. One provision of the renewed Deviation Memorandum was to perform a team inspection of the SCWE at the stations.

In December 2004, PSEG announced that it had entered into a Nuclear Operating Services Contract (NOSC) with Exelon to provide management services for plant operations at Salem and Hope Creek. Prior to the implementation of the NOSC, PSEG, in cooperation with Exelon, identified a number of personnel changes that would be necessary to implement the Exelon management model at the stations.

In January 2005, the NRC learned that the initial set of management changes associated with the NOSC had not been reviewed by the Executive Review Board (ERB), which had been established to review personnel actions to preclude perceptions of retaliation or chilling effect, and propose mitigating actions to address perceptions if they exist. In April 2005, the NRC inspected this issue and identified a Green finding with a SCWE cross-cutting aspect for lapses in the use of the ERB process. The NRC observed that the failure to use the ERB process contributed to a range of worker perceptions regarding the advisability of raising issues or challenging decisions.

In September 2005, the NRC completed a special team inspection of the SCWE. The team concluded that PSEG had made progress in addressing work environment issues. No findings of safety significance were identified. The team noted issues that required additional action and focused attention, including efforts to evaluate and resolve negative perceptions in certain work groups. In addition, the inspection team identified two observations. First, the team determined that the security work group, which was

not evaluated in PSEG's SCWE self assessment, also had negative perceptions of the work environment. Second, due to the importance of the role of the Salem and Hope Creek operations' groups, the team challenged the priority of PSEG's actions to address the existing negative perceptions within these groups.

In January 2006, PSEG administered a safety culture survey by Synergy Consulting Services Corporation. The survey results indicated improvement in nearly all cultural metrics compared to the results of the last Synergy survey performed in 2005. The survey also revealed that the rate of improvement was strong; and, PSEG determined this provided a sound foundation for sustainable improvement.

In March 2006, PSEG concluded that efforts to improve the work environment were both substantial and sustainable, and subsequently commissioned an independent peer assessment of the SCWE. The peer assessment team, which included several members with considerable management, regulatory, and SCWE-related experience, also concluded that substantial and sustainable progress had been in the work environment at both stations.

On May 4, 2006, PSEG notified the NRC by letter that PSEG was prepared for an NRC review to confirm these conclusions. Consistent with Reactor Oversight Process Action Matrix Deviation Memo, dated July 29, 2005, the NRC then began detailed preparations for this team inspection.

2006 COMPREHENSIVE CULTURAL ASSESSMENT SURVEY

EXECUTIVE SUMMARY OVERVIEW

The 2006 Comprehensive Cultural Assessment (CCA) Survey was administered in February 2006 as part of an ongoing series of activities designed to assess and monitor the PSEG Nuclear organizational culture and to support PSEG Nuclear's continuous performance improvement agenda. It includes industry-benchmarking information, and serves as a baseline against which the effectiveness of ongoing and future performance enhancement initiatives can be measured. The February 2006 CCA builds upon the information obtained from the December 2003 CCA and the January 2005 CCA.

The PSEG Nuclear Composite 2006 CCA survey participation rate was 71%, and the overall results are summarized below. All percentiles are with respect to the commercial nuclear power plant sites in SYNERGY's current industry database. In order to ensure that this database is reflective of the current state of the industry in the United States, only USA Sites that have had a CCA performed within the last 30 months are included. At the present time, 21 Sites meet this criterion. SYNERGY believes that these Sites reflect a representative spectrum of culture and performance within the industry.

For key cultural metrics:

- The PSEG Nuclear Composite Organization/Artificial Island Composite Site generally ranks near the 60th percentile of the industry. A notable exception is the rating of Leadership, Management and Supervisory Behaviors & Practices, which ranks in the 77th percentile.
- The Salem Site generally ranks near the 75th percentile of the industry. A notable exception is the rating of Leadership, Management and Supervisory Behaviors & Practices, which ranks in the 87th percentile.
- The Hope Creek Site generally ranks near the 25th percentile of the industry. A notable exception is the rating of the General Culture & Work Environment, which ranks in the 15th percentile.

Essentially all cultural metrics have shown improvement since the January 2005 CCA. Many have shown notable improvement and several have shown significant or very significant improvement.

Based on the write-in comments, these improvements are attributable to:

- The new leadership and management team.
- Adoption of the Exelon Model, particularly with respect to process improvements.
- The acceptance of the Exelon Model by most PSEG Nuclear personnel.
- Improved operational performance and successful plant outages.
- Increased focus and actions on improving plant equipment.
- Improvements to facilities.
- Improved communications.

The Salem and Hope Creek Sites have shown generally higher rates of improvement in cultural metrics than the PSEG Nuclear Composite Organization since the January 2005 CCA. The current rates of improvement are generally similar for the two Sites.

Improved 2005-2006 ratings in workforce perception of Nuclear Safety Values, Behaviors & Practices, CAP Effectiveness, the General Culture & Work Environment and Leadership, Management and Supervisory Behaviors & Practices suggest that sound bases are in place for continued future improvements in all cultural ratings.

Key challenges and opportunities for improvement were identified and include:

Based on the survey ratings and the write-in comments including:

- High levels of workload are perceived to exist within a number of organizations, particularly within several of the Engineering Organizations and within the Hope Creek Operations Organization.
- Many feel that the management of change has not received sufficient attention.
- Users of the Maintenance Work Management Process perceive that it has improved very significantly. Nonetheless, ratings continue to be low.
- Continued management attention in the areas of Performance Recognition, Performance Appraisal and Personnel Training & Development is warranted.

Based on the write-in comments:

- Many believe that Industrial/Personnel Safety is currently a significant problem at the Artificial Island Site.
- Many feel that personal accountability for individual performance and behaviors has improved, but needs to be strengthened, including applying accountability equally for MAST (managers, supervisors and some technical personnel) and Union personnel.
- Some indicated that, while senior management is aligned, this is not yet the case for all managers and supervisors. There were also a few comments that suggest that some Union stewards are not properly aligned.

Based on the analyses performed to identify Organizational Outliers:

- A few individual Functional Organizations provided significantly lower ratings of Key Cultural Metrics and/or showed significantly declined rating trends. Based on the use of Industry Norms Criteria, the following organizational outliers were identified:
 - < YARD Electrical Facilities (low survey participation) (Priority Level 1)
 - < Hope Creek Shift Operations (Priority Level 1)
 - < Fire Department (Priority Level 2)
 - < Salem Maintenance & Technical Training (Priority Level 2)
 - < Hope Creek Maintenance & Technical Training (Priority Level 2)
- In addition, a detailed analysis of Key SCWE Metrics and associated attributes was conducted to identify organizational outliers with respect to the SCWE. Based upon an

integration of the results of this analysis, the most significant organizational outliers identified were:

- < Salem Maintenance & Technical Training
- < YARD Electrical Facilities
- < Fire Department

The next most significant outliers were:

- < Hope Creek Maintenance Planning (low survey participation)
 - < Hope Creek Programs Engineering
- The Hope Creek Shift Operations Organization provided low ratings for most cultural metrics.
 - The Emergency Services/Security (low survey participation) and Fire Department organizations showed significantly declined ratings for several key cultural metrics.