



Memorandum from the Office of the Inspector General

September 24, 2018

Gregory A. Boerschig, LP 3R-C

**REQUEST FOR MANAGEMENT DECISION – EVALUATION 2018-15541 – NUCLEAR
OVERSIGHT WORK ENVIRONMENT FOLLOW-UP**

Attached is the subject final report for your review and management decision. You are responsible for determining the necessary actions to take in response to our findings. Please advise us of your management decision within 60 days from the date of this report. In accordance with the Inspector General Act of 1978, as amended, the Office of the Inspector General is required to report to Congress semiannually regarding evaluations that remain unresolved after 6 months from the date of report issuance.

If you have any questions or need additional information, please contact John Anthony Jacosalem, Auditor, Evaluations, at (423) 785-4821 or E. David Willis, Director, Evaluations, at (865) 633-7376. We appreciate the courtesy and cooperation received from your staff during the evaluation.

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OIG File No. 2018-15541



Office of the Inspector General

Evaluation Report

To the Vice President, Nuclear Oversight

**NUCLEAR OVERSIGHT
WORK ENVIRONMENT
FOLLOW-UP**

Evaluation Auditor
John A. Jacosalem

Evaluation 2018-15541
September 24, 2018

ABBREVIATIONS

CR	Condition Report
EAG	Employee Advisory Group
ECP	Employee Concerns Program
GM	General Manager
NRC	Nuclear Regulatory Commission
QA	Quality Assurance
QC	Quality Control
SCWE	Safety Conscious Work Environment
TVA	Tennessee Valley Authority
VP	Vice President

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Evaluation 2018-15541 – Nuclear Oversight Work Environment Follow-Up

EXECUTIVE SUMMARY

Why the OIG Did This Evaluation

The Nuclear Regulatory Commission (NRC) expects licensees to establish a safety conscious environment where employees are encouraged to raise concerns and where such concerns are promptly reviewed, given the proper priority based on their potential safety significance, and appropriately resolved with timely feedback to employees. In March 2016, the NRC issued a Chilled Work Environment Letter for Watts Bar Nuclear Plant. The NRC concluded a “chilled work environment”ⁱ existed in the Operations Department because of a perception that operators were not free to raise safety concerns using all available avenues without fear of retaliation. As a result of the Chilled Work Environment Letter issued to the Tennessee Valley Authority (TVA), we initiated evaluations of the work environments for operators at Sequoyahⁱⁱ and Browns Ferry Nuclear Plantsⁱⁱⁱ and the Nuclear Oversight^{iv} group in 2016. This evaluation was initiated as a follow-up to the 2016 Work Environment review of the Nuclear Oversight group, which consists of both Quality Assurance and the Employee Concerns Program.

What the OIG Found

We found the work environment for Nuclear Oversight is not always conducive to raising concerns without fear of retaliation. Specifically, while all Nuclear Oversight employees indicated that they would report nuclear safety or quality problems and concerns, some expressed fear of retaliation for raising issues. We also found some aspects of the work environment within Nuclear Oversight have improved or stayed about the same, while others have declined since our previous evaluation. Additionally, we noted TVA addressed work environment issues within one of three nuclear site Quality Assurance groups. TVA has also taken steps to address employee concerns regarding how the use of rotational positions might negatively affect the independent performance of nuclear oversight roles. However, some employees continued to express concerns regarding rotational positions.

ⁱ According to the NRC Inspection Procedure 93100, “A ‘chilled work environment’ is one in which employees perceive that raising safety concerns to their employer or to the NRC is being suppressed or is discouraged and can occur because of an event, interaction, decision, or policy change.”

ⁱⁱ 2016-15396 Work Environment for Operators at Sequoyah Nuclear Plant, September 21, 2016.

ⁱⁱⁱ 2016-15397 Work Environment for Operators at Browns Ferry Nuclear Plant, September 21, 2016.

^{iv} 2016-15398 Work Environment for Nuclear Oversight, September 15, 2016.



Evaluation 2018-15541 – Nuclear Oversight Work Environment Follow-Up

EXECUTIVE SUMMARY

What the OIG Recommends

We recommend the Vice President, Nuclear Oversight reevaluate the approach for decreasing employees' fear of retaliation; continue efforts to improve the work environment in the Nuclear Oversight groups; and communicate the steps taken to address perceived independence issues. Our detailed recommendations are listed in the body of this report.

TVA Management's Comments

In response to our draft report, TVA management provided informal comments that we incorporated as appropriate. In addition, TVA management stated this report will be very helpful to develop corrective actions to address the recommendations in the report as well as the underlying concerns and conditions represented by the data.

BACKGROUND

The Nuclear Regulatory Commission (NRC) expects licensees to establish a safety conscious environment where employees are encouraged to raise concerns and where such concerns are promptly reviewed, given the proper priority based on their potential safety significance, and appropriately resolved with timely feedback to employees. According to the NRC, a safety conscious work environment (SCWE) is an environment in which “employees feel free to raise safety concerns, both to their management and to the NRC, without fear of retaliation.” According to the NRC, retaliation for raising concerns is unacceptable and unlawful. Even a perception that raising concerns has resulted in retaliation can generate a chilling effect among workers that may discourage them from raising concerns.

The Tennessee Valley Authority’s (TVA) Standard Programs and Processes (SPP) 11.8.4, *Expressing Concerns and Differing Views*, states that TVA is committed to ensuring a SCWE that encourages employees to feel free to raise concerns and/or offer opinions without fear of retaliation. The procedure sets forth the expectation that all employees have a duty to be aware of circumstances that may pose a threat to the safety and health of the public and TVA employees, to operations, or of circumstances that are unethical, illegal, or in violation of compliance standards. Employees have the right to have their concerns or points of view heard by management when they consider the issue significant and their view differs from a management decision. Differing views may be voiced to any management level at any time. It is TVA policy that every responsible view is valuable and should be heard and appropriately considered in the decision-making processes.

TVA’s Nuclear Oversight group consists of both Quality Assurance (QA) and the Employee Concerns Program (ECP). Each nuclear site has a QA group and 1 ECP employee. QA also includes internal audit, vendor audit, and quality control (QC)¹ groups.

- **Overview of QA Activities** – QA provides assessment, audit, and QC functions, independent of the organization directly responsible for performing the activity, to ensure compliance with Nuclear QA Plan² requirements. QA personnel have the authority to stop work (if required), to restrict further processing, delivery, or installation of a nonconforming item or unsatisfactory condition until completion of corrective action or satisfactory dispositioning. According to TVA, the QA organization has direct access to appropriate levels

¹ Since our last evaluation, Nuclear Oversight was reorganized and now includes TVA’s nuclear QC function. QC inspectors perform examination, observation, and/or measurements to determine the conformance of materials, supplies, components, parts, appurtenances, systems, processes, or structures to predetermined quality requirements.

² The principal objective of the Nuclear Quality Assurance Plan is to provide confidence that activities affecting quality during design, construction, operation, and maintenance are accomplished in a manner to achieve compliance with preestablished quality objectives and acceptance criteria.

of management and also has independence and organizational freedom to be able to effectively assure conformance to QA program requirements.

- **Overview of ECP Activities** – ECP helps ensure the SCWE by providing an alternate reporting avenue, independent of the line organization, so that all employees supporting nuclear (including contractors) are free to express safety issues, concerns, or differing views to nuclear management without fear of reprisal. ECP is also responsible for ensuring that management is informed of trends that could impact the SCWE.

In March 2016, the NRC issued a Chilled Work Environment Letter for Watts Bar Nuclear Plant and requested TVA develop a plan of action to address the NRC's findings. The NRC concluded a "chilled work environment"³ existed in the Operations department because of a perception that operators were not free to raise safety concerns using all available avenues without fear of retaliation. According to the NRC's Policy Statement for Nuclear Employees Raising Safety Concerns Without Fear of Retaliation, "A reluctance on the part of employees to raise concerns is detrimental to nuclear safety."

TVA's QA group should provide reasonable assurance that plant safety functions are performed in a satisfactory manner. Additionally, TVA's ECP should provide an independent avenue for employees to raise concerns. With these key roles, it is crucial that employees in Nuclear Oversight feel free to raise concerns without fear of retaliation.

As a result of the Chilled Work Environment Letter issued to TVA, we initiated evaluations of the work environments for operators at Sequoyah⁴ and Browns Ferry Nuclear Plants⁵ and the Nuclear Oversight⁶ group in 2016. The review of Nuclear Oversight found that the work environment was not always conducive to raising concerns without fear of retaliation. Additionally, interviews revealed other issues that could impact employees' willingness to report concerns including: (1) distrust of management, (2) past concerns being overridden or ignored, (3) work being influenced, and (4) the independence of personnel filling QA rotational positions.

To address our recommendations from the evaluation, TVA Nuclear committed to several actions, which included: (1) the vice president (VP) of Nuclear Oversight, the general manager (GM) of QA, and ECP senior manager conducting monthly site visits with managers and employees; (2) providing training to all Nuclear Oversight personnel on SCWE, and Harassment, Intimidation, Retaliation, and Discrimination; (3) performing independent assessments to understand the SCWE within Nuclear Oversight; and (4) refocusing the Nuclear Oversight

³ According to the NRC Inspection Procedure 93100, "A 'chilled work environment' is one in which employees perceive that raising safety concerns to their employer or to the NRC is being suppressed or is discouraged and can occur because of an event, interaction, decision, or policy change."

⁴ 2016-15396, Work Environment for Operators at Sequoyah Nuclear Plant, September 21, 2016.

⁵ 2016-15397, Work Environment for Operators at Browns Ferry Nuclear Plant, September 21, 2016.

⁶ 2016-15398, Work Environment for Nuclear Oversight, September 15, 2016.

Employee Advisory Group⁷ (EAG) to focus on and provide recommendations on improving the work environment.

This evaluation was initiated as a follow-up to the 2016 Work Environment review of the Nuclear Oversight group.

OBJECTIVE, SCOPE, AND METHODOLOGY

The objective of this evaluation was to determine if the work environment in Nuclear Oversight is conducive to raising concerns without fear of retaliation. The scope of the evaluation was limited to the perceptions of Nuclear Oversight personnel (management and nonmanagement) obtained during interviews we conducted January through March 2018.

To achieve our objective, we:

- Conducted interviews with Nuclear Oversight personnel to determine if employees feel free to raise nuclear safety and quality problems without fear of retaliation, and compiled responses to determine if there are common themes. We interviewed all 48 Nuclear Oversight personnel that included:
 - Thirty-five employees within the QA department:
 - Twenty-four QA employees.
 - Eight QC employees.
 - Three administrative employees.⁸
 - Four employees within the ECP department.
 - Nine management personnel:
 - VP of Nuclear Oversight.
 - GM of QA.
 - Five QA senior managers.
 - QC manager.
 - ECP senior manager.
- Reviewed the following documents to assist our assessment of the work environment within Nuclear Oversight:
 - EAG survey results (throughout 2017).
 - Independent Assessment of the SCWE of TVA Nuclear Fleet QA and ECP Organizations (October 2016).
 - QA/QC pulsing⁹ results (January 2018).

⁷ The Nuclear Oversight EAG functions in an advisory role to department management. EAG is made up of employees from the QA and ECP organizations and works to improve the effectiveness of the Nuclear Oversight organization by integrating workforce views into the management process and providing management views to employees on issues that affect the organization.

⁸ We did not interview QC and administrative staff in the previous review. For better comparability between the current and previous evaluation for QA employees, we isolated and combined data gathered for QC and administrative employees from QA.

⁹ Pulsings are survey/interview activities of employees performed by ECP to aid in understanding and monitoring SCWE.

- Informal benchmark report for QA rotational positions at Watts Bar (2016).

This evaluation was performed in accordance with the Council of the Inspectors General on Integrity and Efficiency's *Quality Standards for Inspection and Evaluation*.

FINDINGS

We found the work environment for Nuclear Oversight is not always conducive to raising concerns without fear of retaliation. Specifically, while all QA and ECP employees said they would report nuclear safety or quality problems and concerns, some expressed fear of retaliation for raising issues. We also found some aspects of the work environment within Nuclear Oversight have improved or stayed about the same, while others have declined since our last evaluation. Additionally, we noted TVA has addressed SCWE issues within one of the three nuclear site QA groups and taken steps to address concerns regarding rotational positions. The following provides a detailed discussion of our findings.

SOME EMPLOYEES DO NOT FEEL FREE TO RAISE CONCERNS WITHOUT FEAR OF RETALIATION

All QC, QA, and ECP employees said they would report nuclear safety or quality problems and concerns. However, we found that the work environment for Nuclear Oversight is not always conducive to raising concerns without fear of retaliation.

Our interviews with Nuclear Oversight employees in nonmanagement roles revealed 1 out of 11 QC/administrative employees, 1 out of 24 QA employees, and 1 out of 4 ECP employees did not feel free to raise all nuclear safety, technical, or quality concerns without fear of retaliation. A higher number of employees indicated they did not feel free to raise all concerns without fear of retaliation. Specifically, 4 QC/administrative employees, 5 QA employees, and 3 ECP employees did not feel free to raise all concerns without fear of retaliation.

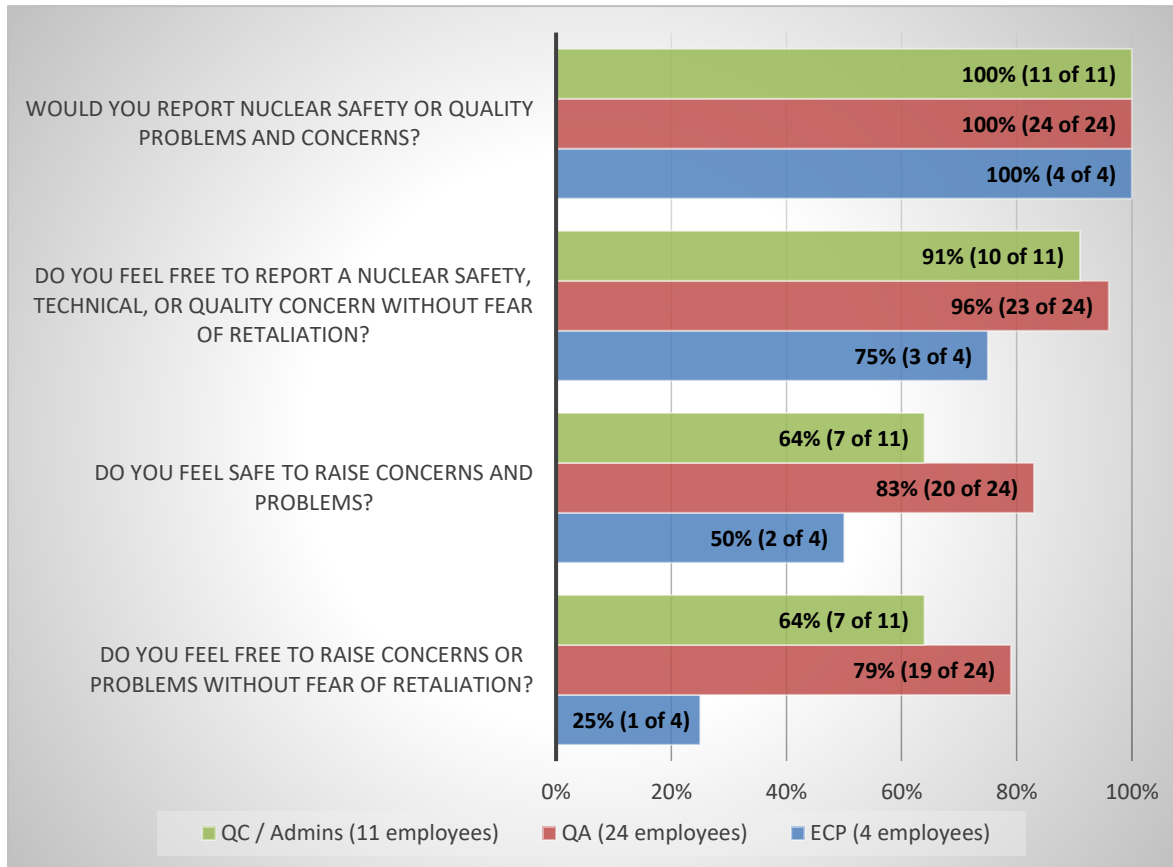
For those who indicated they did not feel free to raise concerns or problems without fear of retaliation, most indicated they (1) were referring to business processes or personal issues or (2) felt this way based on previous experiences regarding concerns they had raised in the past. In addition, one employee indicated they had been discouraged from writing condition reports (CR)¹⁰ by Nuclear Oversight management. The employee indicated that because the conditions identified were nuclear safety/quality related, the CRs would have been classified within the Corrective Action Program.¹¹

¹⁰ A CR is used to document evaluation and resolution of issues in the CR application within Maximo (TVA's work management system).

¹¹ The CR is considered within the scope of the Corrective Action Program if it is associated with a safety-related or quality-related system, structure, component, program, or other regulatory significant programs. All other issues are considered non-CAP.

Figure 1 below shows the percentage of employees that responded “yes” to questions about reporting concerns.

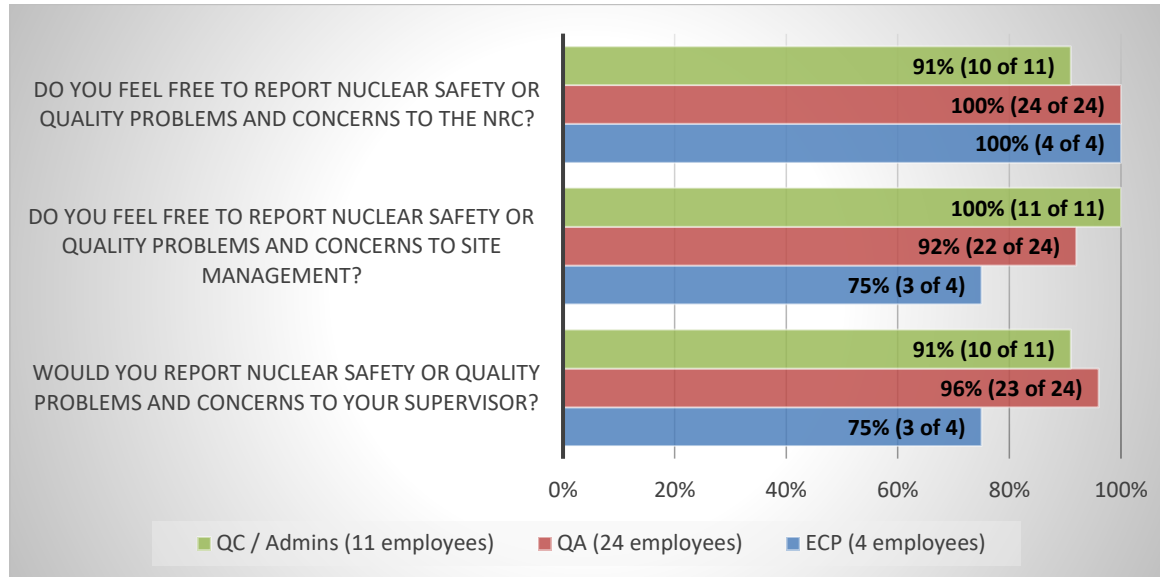
Figure 1: “Yes” Responses Related to Reporting Concerns¹²



¹² During our previous evaluation, the QC department was not in Nuclear Oversight and, thus, was not included in the data gathered. We also included administrative employees in this category because they were not interviewed in the first evaluation.

We also asked employees about their willingness to report concerns using different avenues. Most employees indicated they were comfortable reporting nuclear safety or quality concerns through multiple avenues as shown in Figure 2 below.

Figure 2: “Yes” Responses Related to Reporting Avenues



SOME ASPECTS OF THE WORK ENVIRONMENT HAVE IMPROVED OR STAYED THE SAME, WHILE OTHERS DECLINED

We found some aspects of the work environment within Nuclear Oversight have improved or stayed about the same, however, others have declined since our last evaluation. Specifically:

- Employee Trust in Management - Trust in QA management (supervisors through the VP level) has improved or remained about the same. However, trust in the ECP manager has declined and interviews indicate strained relationships between ECP personnel continue to exist and may have further declined.
- Employee Concerns - The work environment with respect to employee concerns being overridden or ignored improved for QA; however, it declined for ECP.
- Work Being Influenced – The work environment with respect to work being influenced stayed about the same for both QA and ECP.

Employee Trust in Management

Based on our interviews with Nuclear Oversight employees, we determined trust in differing levels of management¹³ has improved or remained about the same in all areas, with the exception of ECP, which has declined. Specifically, we found trust in (1) the GM of QA has improved, (2) QA supervisors and VP-level management and above has remained about the same, and (3) the ECP manager has declined. When asked about trust:

- Four of 24 QA employees and 1 of 4 ECP employees stated they did not trust their supervisors. In our previous evaluation, 5 of 33 QA and 1 of 4 ECP employees stated they did not trust their supervisors. Although only 1 ECP employee stated they did not trust their supervisor, most indicated their trust in the ECP senior manager had declined in general.
- Four of 24 QA employees stated they did not trust management below the VP level (GM of QA). In our previous evaluation, 10 of 33 QA employees stated they did not trust management below the VP level.
- Four of 24 QA employees and 1 of 4 ECP employees stated they did not trust the VP and above. In our previous evaluation, 4 of 33 QA and 2 of 4 ECP employees, indicated they did not trust the VP and above.

In addition to the QA and ECP employees, 1 of 11 QC/administrative employees stated they did not trust (1) their supervisor, (2) management below the VP level, and (3) the VP and above.

Our interviews with ECP personnel found that relationships within ECP may have further declined since our previous evaluation. Interviews with ECP personnel indicated that efforts to improve the work environment within ECP implemented since our previous evaluation have not been effective. Some ECP staff also stated that there was an increase in strained relationships among the ECP staff due in part to failed team-building efforts and that some relationships were beyond repair.

Interviews with Nuclear Oversight managers indicated management actions have increased employee trust overall; however, there was still a decline in trust and strained relationships among the ECP staff. The managers also indicated the trust issues generally stemmed from past historical issues. According to the ECP senior manager, they have taken actions to improve team dynamics and continue to try to identify ways to address the issues.

Employee Concerns Being Overridden or Ignored

Our interviews with Nuclear Oversight employees indicated the number of employees who believed their concerns had been overridden or ignored by management decreased in QA, but increased in ECP. When asked about concerns being overridden or ignored by management, 2 of 24 QA employees, 3 of 4 ECP employees, and 3 of 11 QC/administrative employees indicated they

¹³ QA employees report to their respective supervisors (QA managers). QC employees report to a QC supervisor who reports to one QA manager. All QA managers report to the GM of QA, who reports to the VP of Nuclear Oversight. The ECP senior manager reports directly to the VP of Nuclear Oversight.

felt this had happened. In our previous evaluation, 4 of 33 QA employees and 2 of 4 ECP employees felt their concerns had been ignored.

Work Being Influenced

Our interviews with Nuclear Oversight employees indicated the number of employees who believed their work had been influenced has stayed about the same. When asked if their work had been influenced:

- Two of 24 QA employees, 1 of 4 ECP employees, and 1 of 11 QC/administrative employees stated they have felt pressured to change a report. In our previous evaluation, 4 of 33 QA and 1 of 4 ECP employees indicated as such.
- Five of 24 QA employees, 2 of 4 ECP employees, and 1 of 11 QC/administrative employees stated they felt someone had tried to influence their work. In our previous evaluation, 8 of 33 QA and 2 of 4 ECP employees indicated as such.

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In summary, employees could be less willing to report concerns if they (1) do not trust management, (2) feel their concerns are being overridden or ignored, or (3) feel their work is being influenced. According to the NRC's Policy Statement for Nuclear Employees Raising Safety Concerns Without Fear of Retaliation, "A reluctance on the part of employees to raise concerns is detrimental to nuclear safety." TVA's QA group should be able to independently assess and provide reasonable assurance that plant safety functions are performed in a satisfactory manner. Additionally, TVA's ECP should provide an independent avenue for employees to raise concerns. With these key roles, it is crucial that employees in Nuclear Oversight feel free to raise concerns without fear of retaliation.

NUCLEAR OVERSIGHT HAS ADDRESSED TWO AREAS OF CONCERN

We noted TVA has taken steps to address two areas of concern raised in our previous evaluation. TVA has addressed SCWE issues within one site QA group and has taken steps to address employee concerns regarding independence while using rotational positions.

Improvement of SCWE in One QA Group

In June 2016, a declining SCWE in one of the site QA groups was identified during an investigation into an allegation received by the NRC. The investigation noted some individuals were reluctant to raise some non-nuclear types of concerns and indicated they self-select or screen concerns that they raised. During our previous evaluation, it came to our attention that the manager under investigation had issues with his ability to create and maintain a SCWE in his previous position. Subsequently, Nuclear Oversight removed the manager from the position, and interviews with employees indicated the work environment within the group has improved.

QA Rotational Positions

We found that TVA has taken steps to preserve independence while using rotational positions.¹⁴ TVA conducted an industry benchmarking study and revised its processes and procedures to compensate for potential independence and SCWE challenges and vulnerabilities related to rotational positions in QA. However, some employees continued to express concerns regarding rotational positions.

During our previous evaluation, multiple people expressed concerns that rotational positions could impact independence, including that a fear of future plant retaliation could cause concerns to be minimized or ignored by individuals in rotational positions. Based on concerns raised, we recommended that Nuclear Oversight determine if changes could be implemented to eliminate independence concerns related to the rotational position process. To address our recommendation, Nuclear Oversight performed a benchmark of eight other nuclear fleets regarding the use of rotational employees for QA and how independence and SCWE are preserved.

The benchmarking study reviewed various approaches for preserving and maintaining QA independence, including restricting individuals from reviewing previous area of responsibility and establishing guidance in written policies. Among other things, the study found all utilities had previously used rotational employees in various positions, including management roles. Subsequent to the benchmark study, TVA revised NPG-SPP-03.20,¹⁵ *Quality Assurance Training and Qualification Program Description*, which now requires training instructions for discussing nuclear oversight independence, including challenges, vulnerabilities, and compensating actions as well as SCWE issues.

Based on the benchmark study, Nuclear Oversight's use of rotational positions appears to be in line with industry practice and the revised nuclear procedure, NPG-SPP-03.20 should strengthen independence. However, several QA personnel continued to express the same concerns regarding rotational positions, specifically around QA management positions.

¹⁴ Plant managers, supervisors, and individual contributors are sometimes loaned to QA as rotational employees.

¹⁵ NPG-SPP-03.20 establishes the requirements for initial training and continuing training. Initial training is provided to ensure that personnel attain the required knowledge and skills to perform the duties of QA auditors, assessors, and managers. Continuing training is provided to ensure that incumbents maintain and improve job performance, and develop a broader scope and depth of job-related knowledge and skills.

RECOMMENDATIONS

We recommend the VP, Nuclear Oversight:

- Reevaluate the approach for decreasing employees' fear of retaliation.
- Continue taking actions to improve the work environment for QA and take appropriate actions to address the decline of relationships and overall trust within ECP.
- Communicate the steps taken to address perceived independence issues associated with the use of rotational positions to perform QA organizational functions.

TVA MANAGEMENT'S COMMENTS

In response to our draft report, TVA management provided informal comments that we incorporated as appropriate. In addition, TVA management stated this report will be very helpful to develop corrective actions to address the recommendations in the report as well as the underlying concerns and conditions represented by the data.