

Memorandum from the Office of the Inspector General

September 3, 2020

Michael P. Sokolowich

REQUEST FOR FINAL ACTION – EVALUATION 2020-15719 – ORGANIZATIONAL EFFECTIVENESS – WATTS BAR NUCLEAR CHEMISTRY/ENVIRONMENTAL

Attached is the subject final report for your review and final action. Your written comments, which addressed your management decision and actions planned or taken, have been included in the report. Please notify us when final action is complete. 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 wish to discuss our findings, please contact Noel K. Kawado, Senior Auditor, at (865) 633-7348 or Lisa H. Hammer, Director, Evaluations – Organizational Effectiveness, at (865) 633-7342. We appreciate the courtesy and cooperation received from your staff during the evaluation.

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David P. Wheeler Assistant Inspector General (Audits and Evaluations)

NKK:KDS Attachment cc (Attachment): TVA Board of Directors Susan E. Collins Megan T. Flynn Lucia W. Harvey Beth A. Jenkins Amanda D. Johns Jeffrey J. Lyash

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Office of the Inspector General

Evaluation Report

To the Senior Manager, Watts Bar Nuclear Plant – Chemistry/Environmental

ORGANIZATIONAL EFFECTIVENESS – WATTS BAR NUCLEAR PLANT CHEMISTRY/ENVIRONMENTAL

<u>Auditor</u> Noel K. Kawado Evaluation 2020-15719 September 3, 2020

ABBREVIATIONS

Chemistry	Chemistry/Environmental
CR	Condition Report
FY	Fiscal Year
NC	Nuclear Chemistry
SHRM	Society for Human Resource Management
TSP	Technical Support and Programs
TVA	Tennessee Valley Authority
WBN	Watts Bar Nuclear Plant

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- A. TVA VALUES AND LEADERSHIP COMPETENCIES
- B. MEMORANDUM SENT ON AUGUST 27, 2020, FROM BRIAN W. WATSON TO DAVID P. WHEELER



Evaluation 2020-15719 – Organizational Effectiveness – Watts Bar Nuclear Plant Chemistry/ Environmental

EXECUTIVE SUMMARY

Why the OIG Did This Evaluation

Organizational effectiveness, as defined in this evaluation, is the ability of an organization to achieve its mission and goals. Due to the importance of alignment between strategy, team engagement, and operational performance, the Office of the Inspector General is conducting organizational effectiveness evaluations of business units across the Tennessee Valley Authority (TVA). This evaluation focuses on Watts Bar Nuclear Plant (WBN) Chemistry/Environmental (Chemistry), which is an organization in TVA Nuclear.

As part of TVA Nuclear, WBN Chemistry is tasked with (1) maintaining the chemical operating environment for all plant systems (including fuel assemblies) in such a manner that systems and equipment will meet or exceed their designed lifetimes, (2) meeting all regulatory requirements, (3) avoiding adverse effects to nuclear fuel, and (4) minimizing plant dose rates. The objective of this evaluation was to identify factors that could impact WBN Chemistry's organizational effectiveness. Specifically, we identified behavioral and operational factors that affect organizational effectiveness.

What the OIG Found

During the course of our evaluation, we identified behavioral risks that could have a negative impact on WBN Chemistry's effectiveness. Although employees generally indicated having positive working relationships with personnel outside WBN Chemistry, behavioral concerns were expressed related to (1) interactions with certain management and (2) relationships between employees. We also identified operational risks that could hinder WBN Chemistry's ability to execute its responsibilities and support Nuclear's vision and core principles. These risks were comprised of (1) perceptions of inadequate qualified and/or experienced technicians and turnover in a department and (2) concerns with the technician training program. In addition, based on feedback received from other WBN organizations, we corroborated concerns about WBN Chemistry's staffing and personnel knowledge.



Evaluation 2020-15719 – Organizational Effectiveness – Watts Bar Nuclear Plant Chemistry/ Environmental

EXECUTIVE SUMMARY

Based on our observations, we assessed WBN Chemistry's level of risk related to behaviors and operations and determined risk in both areas was "high." Ratings are reflected in the table below:

	Low Risk	Medium Risk	High Risk
Behaviors			X
Operations			X

What the OIG Recommends

We recommend the Senior Manager, WBN Chemistry, address concerns related to (1) interactions with certain management, (2) employee working relationships, (3) perceptions of inadequate staffing, and (4) technician training.

TVA Management's Comments

TVA management described actions planned and taken to address our recommendations. See Appendix B for TVA management's complete response.

Auditor's Response

We agree with management's planned actions and actions taken.

BACKGROUND

Organizational effectiveness, as defined in this evaluation, is the ability of an organization to achieve its mission and goals. Due to the importance of alignment between strategy, team engagement, and operational performance, the Office of the Inspector General is conducting organizational effectiveness evaluations of business units across the Tennessee Valley Authority (TVA). This evaluation focuses on Watts Bar Nuclear Plant (WBN) Chemistry/Environmental (Chemistry), which is an organization in TVA Nuclear.

As part of TVA Nuclear, WBN Chemistry is tasked with (1) maintaining the chemical operating environment for all plant systems (including fuel assemblies) in such a manner that systems and equipment will meet or exceed their designed lifetimes, (2) meeting all regulatory requirements, (3) avoiding adverse effects to nuclear fuel, and (4) minimizing plant dose rates. These responsibilities align with TVA Nuclear's vision of achieving and sustaining top industry performance, which is supported by its core principles related to nuclear safety, operational focus, process adherence, standards of excellence, and being a learning organization.

WBN Chemistry is comprised of two departments:

- Technical Support and Programs (TSP) primarily includes chemists that are typically responsible for one or more assigned chemistry program areas such as analytical methods, quality assurance/quality control, radio-analytical methods,¹ online monitoring, effluents,² primary system chemistry, secondary system chemistry, auxiliary system chemistry (e.g., closed cooling water, raw cooling water, auxiliary boiler water), chemistry/counting instrumentation, post-accident sampling, chemistry data management and chemical hygiene.³ These personnel are responsible for the trending of data, oversight of the program area, program optimization and recommendations, and corrective action plan development, coordination, and implementation.
- Nuclear Chemistry (NC), which is primarily comprised of technicians, is generally responsible for sampling and analysis of plant systems, first-line chemistry data review and assessment, documentation of laboratory and sampling activities, participation in laboratory quality assurance/quality control activities, interfacing with Chemistry management staff and Operations shift personnel, promptly responding to chemistry problems and notifying the

¹ According to WBN Chemistry personnel, radio-analytical methods are used in radiochemistry, which is defined as "the chemical study of radioactive elements, both natural and artificial, and their use in the study of chemical processes."

² Effluents are defined by the Nuclear Regulatory Commission as liquid or gaseous waste containing plant-related, licensed radioactive material, emitted at the boundary of the facility (e.g., buildings, end-of-pipe, stack, or container) as described in the facility's final safety analysis report.

³ Chemical hygiene relates to the maintenance of laboratory procedures, equipment and personal protective equipment, and to safe work practices that are capable of protecting employees who work in nuclear chemistry laboratories.

chemistry duty manager,⁴ and, if necessary, notifying operations shift/unit management.

As of April 1, 2020, WBN Chemistry consisted of 22 individuals, including 12 employees and 2 supervisors in NC, 6 employees and 1 supervisor in TSP, and the senior manager. A senior secretary, who officially reports to WBN Radiation Protection, also performs administrative tasks for WBN Chemistry.

OBJECTIVE, SCOPE, AND METHODOLOGY

The objective of this evaluation was to identify factors that could impact WBN Chemistry's organizational effectiveness. We assessed operations from fiscal year (FY) 2018 through May 27, 2020, and culture at the time of our interviews and fieldwork, which occurred from April 6 through April 16, 2020. To complete the evaluation, we:

- Reviewed TVA Nuclear's FY 2020 through 2022 Business Plan to obtain an understanding of the fleet's initiatives, business planning goals, and risks. We also reviewed TVA Nuclear financial information included in this business plan to gain an understanding of historical and budgeted cost information for major expense categories.
- Reviewed TVA values and competencies (see Appendix A) for an understanding of cultural factors deemed important to TVA.
- Reviewed select TVA Standard Programs and Processes and other documentation to gain an understanding of processes.
- Conducted individual interviews with all 22 individuals within WBN Chemistry and the senior secretary who reports to WBN Radiation Protection but performs some administrative tasks for WBN Chemistry. We analyzed the interview results to identify themes related to factors that could affect organizational effectiveness.
- Surveyed and/or interviewed a nonstatistical sample of 70 individuals from other WBN organizations who have interactions with WBN Chemistry personnel and interviewed 6 individuals responsible for supporting WBN Chemistry. We analyzed results to identify factors affecting organizational effectiveness from a business partner perspective.
- Accessed Maximo⁵ to obtain WBN Chemistry condition reports (CR) having a date reported of September 1, 2019, through May 27, 2020, related to operational issues.

⁴ According to WBN Operations Directive Manual 31, "Station Duty Team Roles and Responsibilities," the chemistry duty manager represents the chemistry manager in decision-making when the chemistry manager is not directly available to notify and engage the chemistry manager on plant issues.

⁵ Maximo is TVA's Enterprise Asset Management system.

- Reviewed and analyzed tenure (as of May 27, 2020) and turnover information (from October 1, 2017, through May 26, 2020) for the NC department.
- Assessed the overall effectiveness of WBN Chemistry in behavioral and operational aspects based on TVA's Business Operating Model.

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

OBSERVATIONS

During the course of our evaluation, we identified behavioral risks that could have a negative impact on WBN Chemistry's effectiveness. Although employees generally indicated having positive working relationships with personnel outside WBN Chemistry, behavioral concerns were expressed related to (1) interactions with certain management and (2) relationships between employees. We also identified operational risks that could hinder WBN Chemistry's ability to execute its responsibilities and support Nuclear's vision and core principles. These risks were comprised of (1) perceptions of inadequate qualified and/or experienced technicians and turnover in NC and (2) concerns with the technician training program. In addition, based on feedback received from other WBN organizations, we corroborated concerns about WBN Chemistry's staffing and personnel knowledge.

BEHAVIORAL FACTORS

According to the Society for Human Resource Management (SHRM),⁶ employee engagement relates to the level of an employee's connection and commitment to the organization. In addition, SHRM specifies drivers of employee engagement, including commitment of leaders, trust in leadership, and positive relationships with supervisors. TVA, in its Business Operating Model, states that engagement is one component of effective execution. TVA has also developed competencies intended to define common characteristics that set the tone for how work is to be performed in the organization. Defined behaviors are associated with the competencies to provide guidance as to how employees can demonstrate their commitment to TVA values. Based on our interviews, although employees generally expressed having positive relationships with personnel in other organizations, we determined behavior-related risk was "high" due to certain negatively perceived interactions between employees and certain management and relationships between employees.

Concerns with Certain WBN Chemistry Management

TVA expects leaders to inspire trust and engagement by building a positive environment that motivates others to achieve and exceed organizational goals

⁶ SHRM is a membership organization for Human Resource professionals.

and aspirations. Based our interviews, several employees expressed concerns with their first-line supervisor in the areas of communication, trust, and accountability. In addition, some employees indicated issues with a certain manager.

First-Line Management

For most employees in WBN Chemistry, their first-line management is their department supervisor. While most employees expressed feeling comfortable disagreeing with or bringing up issues to their first-line supervisor without fear of retaliation, many individuals expressed concerns with their first-line supervision in the areas of communication, trust, and accountability.

For example, several individuals indicated it can be challenging to get in touch with or get a response from their first-line supervisors. Some of those individuals cited difficulties in contacting supervisors when they are assigned as the chemistry duty manager. A couple of individuals indicated they may contact a different WBN Chemistry supervisor than their own when they need assistance. In addition, some employees expressed concerns with supervisors' failure to communicate work schedules in a timely manner.

A few individuals indicated certain supervisors do not adequately distribute the work to employees, but instead allow the employees to determine among themselves as to how the work will be distributed. These individuals indicated the lack of supervisory involvement in assigning the work has caused discord among employees, and could, in our opinion, lead to unfair distribution of work. As discussed below, several individuals indicated their perception that certain first-line supervisors lacked adequate knowledge about the work, negatively impacting trust of those supervisors. Finally, several employees indicated first-line supervision do not ask for, and/or are not receptive to, feedback from their employees.

Several employees also expressed concerns related to lack of accountability by certain first-line supervisors. Specific examples were provided where individuals were not held accountable when they did not perform their responsibilities or where the supervisor made no attempts to identify individuals responsible for work-related deficiencies. Several employees indicated certain supervisors lacked adequate knowledge or experience about the work. A couple of employees indicated this could be a reason for the lack of accountability as they may not know how the work should be done and may not be able to identify situations where employees should be held accountable. Finally, some individuals indicated certain supervisors are not engaged with the employees they manage, which, in our opinion, could make holding employees accountable more difficult.

A November 5, 2019, CR concluded a lack of ownership at the individual contributor level and inadequate supervisory oversight of responsible personnel by NC supervision had caused a recurring gap of missed samples. This CR, as

of May 26, 2020, provided planned and/or completed actions related to improvements with supervisory functions. In the April 2020 "Chemistry Department Monthly Performance Assessment" report, WBN Chemistry management indicated actions included in the CR were in place and due to be completed by August 30, 2020. Specifically, according to the CR, completed actions included (1) alignment of supervision to certain Institute of Nuclear Power Operations requirements, (2) holding mid-shift and end-of-shift meetings with technicians to discuss the status of work to ensure assignments are being completed, (3) updating and communicating sampling schedules to technicians, and (4) creation of a NC lab supervisor checklist. As noted previously, our interviews were conducted during the time frame WBN Chemistry management had actions in place to address these supervision and accountability concerns. However, according to the CR, several actions were marked as completed during January 2020, and, given the recentness of these efforts, recognize additional time may be needed for any progress to become fully ingrained in the organization.

Other Management

Regarding one manager, most individuals who responded provided positive comments related to communication, raising concerns without fear of retaliation, accountability, recognition, and rewards. However, several individuals expressed concerns related to trust of this individual. Specifically, some individuals indicated their belief this particular individual may not be fully vested in the organization's best interests because it's their perception this individual considers his current position to be a "stepping stone" to advance to other areas.

Concerns with Relationships Between Employees

Several employees in NC expressed concerns with their working relationships within the department. Specifically, some employees indicated certain NC technicians do not work well with each other in specific situations. In addition, some employees also expressed they may not trust other NC employees to do their jobs well. For example, a few employees expressed their belief that other NC employees have inadequate knowledge/experience to complete work.

Regarding interactions between personnel in NC and TSP, most employees expressed positive comments related to their interactions with either NC or TSP personnel. However, some individuals indicated concerns related to those interactions. For example, a couple of employees in NC indicated issues with TSP personnel directing their work, even though they are not their supervisor, which could, in our view, be attributable to the concerns previously discussed about lack of supervisory involvement in assigning work. In addition, a couple of individuals in TSP expressed concerns about their interactions with NC personnel who were attributed to perceived communication deficiencies of first-line supervisors.

Interactions with Groups Outside WBN Chemistry

Establishing and maintaining positive relationships with other groups, including those external to an organization is important to the fulfillment of that organization's responsibilities. Most WBN Chemistry employees indicated having positive interactions with personnel from organizations outside WBN Chemistry. In particular, the majority of individuals indicated having good relationships with WBN Operations and WBN Radiation Protection (with some employees specifically citing Plant Services, which is a department within WBN Radiation Protection). In addition, some employees indicated having positive interactions with personnel in WBN Maintenance.

OPERATIONAL FACTORS

Based on feedback from individuals in WBN Chemistry and/or personnel in other organizations that interact with WBN Chemistry, we identified operational risks that could hinder WBN Chemistry's ability to execute its responsibilities and support Nuclear's vision and core principles. These risks were comprised of (1) perceptions of inadequate qualified and/or experienced technicians and turnover in NC and (2) concerns with the technician training program. In addition, while most respondents from other organizations provided positive ratings about WBN's timeliness and quality of products and services (where applicable), other feedback received echoed the concerns expressed by employees related to inadequate staffing and personnel knowledge.

Perceptions of Inadequate, Qualified, and/or Experienced Technicians and Turnover in NC

Many individuals expressed concerns there is an inadequate amount of qualified and/or experienced technicians that several individuals indicated was caused by turnover in NC. Some of these employees indicated some of the turnover is due to transfer of NC technicians to TSP after becoming gualified while in NC. A couple of employees indicated their perception that management may be biased in favor of TSP regarding staffing, which results in staffing concerns in NC. Further, several individuals indicated the inadequate amount of gualified/experienced technicians causes a strain on the overall accomplishment of work because technicians not fully gualified are limited in their capabilities to contribute to the workload. A few individuals indicated that, as a result, gualified technicians in NC are spread thin because of their added work responsibilities. Finally, a couple of individuals expressed deficiencies related to the work of some technicians because of their lack of adequate knowledge or experience, while a couple of other employees indicated certain technicians may work on or be assigned tasks for which they may not be adequately prepared. Many employees indicated these staffing and/or turnover issues are having a negative impact on morale.

Based on these concerns, we obtained and reviewed technician turnover from FY 2018 through May 26, 2020, and tenure information as of May 27, 2020. Our review of turnover data identified 10 individuals moved out of NC during the referenced time period, with 5 of those individuals transferring from NC to TSP

and the remaining 5 terminating employment from TVA. Data related to the tenure of technicians as of May 27, 2020, indicated approximately 64 percent of the technicians had less than 2 years of experience as technicians in WBN Chemistry. The senior manager, WBN Chemistry, indicated employees are encouraged to move to other positions to promote employee development but recognized the potential loss of qualified personnel as a cost associated with this strategy.

Another area of concern cited by several individuals in NC related to the number of staff on certain shifts. For example, some individuals expressed certain shifts are staffed with only one individual, which they indicated makes it difficult to complete the work.

As noted previously, we requested feedback from personnel in other WBN organizations that have regular interactions with WBN Chemistry personnel. The majority of respondents provided positive ratings related to WBN Chemistry's timeliness and quality of products and services (where applicable). However, respondents also echoed employee concerns related to staffing and personnel knowledge or experience. Specifically, several respondents indicated concerns with inadequate staffing and turnover, primarily among NC technicians. Similarly, a few of these respondents indicated NC technician staffing could be improved on night and weekend shifts. Further, some individuals indicated there could be improvements in the knowledge/experience of personnel in WBN Chemistry, primarily among technicians.

We also obtained and reviewed September 1, 2019, through May 27, 2020, CRs from Maximo related to WBN Chemistry. Based on our review, we identified several CRs that assigned ownership for resolution to NC that identified performance-related incidents, primarily concerning work that should have been, but was not, completed. While we did not determine the cause of these performance-related issues, the staffing and knowledge/experience concerns expressed by WBN Chemistry employees could be driving these issues. In addition, a few CRs described issues related to inadequate staffing, with some of them citing concerns about needing more staffing on shift work.

Concerns with the NC Technician Training Program

Several individuals expressed concerns the technician qualification process is not timely. Some individuals indicated it is difficult to arrange training with the WBN Training department, with a couple of individuals indicating the WBN Chemistry senior manager cannot compel WBN Training to conduct training for technicians. In addition, several individuals indicated the technician qualification process includes training conducted by qualified technicians and the shortage of qualified technicians, as described above, has negatively impacted the timeliness of the process.

In its April 2020 "Chemistry Department Monthly Performance Assessment" report, WBN Chemistry identified a risk that the qualifications for its new class of

technicians may not be completed in a timely manner. The assessment referenced a CR and indicated actions were currently in place and due for completion by August 28, 2020.

CONCLUSION

WBN Chemistry's effectiveness has a direct impact on the success of TVA Nuclear because its responsibilities to help plant systems meet or exceed their designed lifetimes and comply with applicable regulatory requirements. These responsibilities directly support TVA Nuclear's vision and core principles. Interviews with employees disclosed behavioral risks related to certain management and team interactions that could challenge WBN Chemistry's ability to meet its responsibilities in support of Nuclear's vision and core principles. We also identified operational concerns related to the amount of qualified and/or experienced technicians and turnover in NC, which could also hinder WBN Chemistry's effectiveness. We noted many employees indicated the staffing and turnover issues are having a negative impact on morale.

Regarding interactions with external organizations, most employees provided positive comments about their interactions with organizations outside WBN Chemistry. Similarly, survey feedback from personnel from other TVA organizations about their interactions with WBN Chemistry personnel were generally positive. However, survey respondents expressed concerns about WBN Chemistry related to inadequate staffing and personnel knowledge. Based on these factors, we rated the level of risk of both components of effectiveness behaviors and operations as high.

Addressing the concerns identified in this report could help WBN Chemistry better meet its responsibilities in support of Nuclear's vision and TVA's mission and place WBN Chemistry in a better position to overcome unexpected challenges while continuing to meet its responsibilities.

RECOMMENDATIONS

We recommend the Senior Manager, WBN Chemistry:

1. Address concerns associated with WBN Chemistry management, including those related to communication, trust, and accountability.

TVA Management's Comments – Management stated it has: (a) reinforced the expectation that the Chemistry Duty Manager and First Line Supervisors attend daily turnovers, (b) increased the expected number of observations and employee engagements, and (c) implemented quarterly 2C's (Cares and Concerns) meetings (in addition to conducting biweekly meetings) with shift personnel. In addition, management stated it has implemented the use of specific daily work assignments turnover. See Appendix B for management's complete response.

Auditor's Response – We agree with management's actions taken.

2. Address concerns related to working relationships between personnel (a) within the NC department and (b) in NC and TSP.

TVA Management Comments – Management stated the actions associated with the first recommendation are expected to improve working relationships at all levels of the NC department. Regarding working relationships between NC and TSP, management stated it has created information sharing sessions to demonstrate open lines of communication and willingness to make changes in programs where possible. In addition, management stated it has reinforced the expectation that all work assignments must go through NC supervisors, instead of from TSP employees to NC employees. See Appendix B for management's complete response.

Auditor's Response – We agree with management's planned actions and actions taken.

 Address concerns related to perceptions of inadequate staffing and turnover in NC, including concerns related to qualified/experienced technicians and shift-work staffing.

TVA Management Comments – Regarding staffing and turnover in NC, management stated that it is working with Human Resources to fill one open vacancy that exists. In addition, management stated that it has implemented the use of two technicians per shift, pairing an experienced technician with a newly-qualified technician. See Appendix B for management's complete response.

Auditor's Response – We agree with management's planned actions and actions taken.

4. Address concerns related to the technician training program.

TVA Management Comments – Management stated it has worked with the training department to complete the classroom training for the latest group of new trainees within 18 weeks of arrival on-site (completed August 2020) and continues to work with training to further streamline the qualification process for future classes of new trainees. See Appendix B for management's complete response.

Auditor's Response – We agree with management's planned actions and actions taken.

TVA Values		
Safety	We share a professional and personal commitment to protect the safety of our employees, our contractors, our customers, and those in the communities that we serve.	
Service	We are privileged to be able to make life better for the people of the Valley by creating value for our customers, employees, and other stakeholders. We do this by being a good steward of the resources that have been entrusted to us and a good neighbor in the communities in which we operate.	
Integrity	We conduct our business according to the highest ethical standards and seek to earn the trust of others through words and actions that are open, honest, and respectful.	
Accountability	We take personal responsibility for our actions, our decisions, and the effectiveness of our results, which must be achieved in alignment with our company values.	
Collaboration	We are committed to fostering teamwork, developing effective partnerships, and valuing diversity as we work together to achieve results.	

TVA Leadership Competencies

Accountability and Driving for Results Continuous Improvement Leveraging Diversity Adaptability Effective Communication Leadership Courage Vision, Innovation, and Strategic Execution Business Acumen Building Organizational Talent Inspiring Trust and Engagement

TO: David Wheeler, Assistant Inspector General

FROM: Brian Watson, Sr. Manager, Chemistry/Environmental WBN

RESPONSE TO: Organizational Effectiveness Audit of WBN Chemistry/Environmental

This is the response to the recommendations made by the OIG Audit group for Evaluation number 2020-15719

 Address concerns associated with WBN Chemistry management, including those related to communication, trust, and accountability.

Response:

To improve communications and trust, Chemistry management has reinforced the expectation that the Chemistry Duty Manager and First Line Supervisors attend daily turnovers. Further, Chemistry management has increased the expected number of observations and employee engagements in an effort to increase time in the field and improve working relationships with the technicians. Finally, Chemistry management is conducting department meetings biweekly and has implemented quarterly 2C's (Cares and Concerns) meetings with shift personnel to provide an open forum for raising concerns.

To improve accountability, Chemistry management has implemented the use of specific daily work assignments turnover and created schedules for weekly and monthly sampling in each functional area in the chemistry database. Both of these actions have improved the ability to establish accountability for work assigned.

 Address concerns related to working relationships between personnel (a) within the Nuclear Chemistry (NC) department and (b) in NC and Technical Support Personnel (TSP).

Response:

To address concerns with working relationships within NC department, the actions associated with communication, trust, and accountability discussed above have been implemented. These actions are expected to improve working relationships at all levels of the department, and will be used to develop further actions as needed.

To address concerns with working relationships between NC and TSP, Chemistry management has created information sharing sessions to show open lines of communication and willingness to make changes in programs where possible. Further, Chemistry management has reinforced the expectation that all work assignments must go through the lab supervisors, instead of directly from TSP to the Chemistry Lab.

Address concerns related to perceptions of inadequate staffing and turnover in NC, including concerns related to qualified/experienced technicians and shift-working staffing.

Response:

To address concerns regarding the relative lack of experienced Chemistry Technicians, Chemistry management has implemented the use of two technicians per shift, pairing an experienced technician with a newly-qualified technician. This staffing plan maximizes knowledge transfer and rapid development of proficiency.

To address staffing concerns, Chemistry management is working with Human Resources to fill the one open vacancy that still exists. It is noted that even after the hiring process is completed, the relatively long qualification process make the effort to provide a group of fully qualified technicians an issue for another 12 - 18 months.

4. Address concerns related to technician training program.

Response:

To address concerns related to the technician training program, Chemistry management worked with the training department to complete the classroom training for the latest group of new trainees within 18 weeks of arrival on site (completed August 2020). The Chemistry management team continues to work with training to further streamline the qualification process, without reducing the quality, for future classes of new trainees. One example of this effort is to evaluate the performance level of field tasks, allowing more tasks to be simulated instead of waiting on plant conditions to allow for required activities to be performed.