



Memorandum from the Office of the Inspector General

August 23, 2019

Philip D. Davis, PP 1A-LCT

REQUEST FOR FINAL ACTION – EVALUATION 2019-15627-02 – ORGANIZATIONAL EFFECTIVENESS – HYDRO GENERATION, NORTH EASTERN REGION

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.

David P. Wheeler
Assistant Inspector General
(Audits and Evaluations)
WT 2C-K

NKK:KDS
Attachment

cc (Attachment):

TVA Board of Directors	Justin C. Maierhofer, WT 7B-K
Clifford L. Beach Jr., WT 7B-K	Jill M. Matthews, WT 2C-K
Erik W. Bodiscomassink, CRH 1A-RUT	Stacey L. Parrott, LP 3K-C
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Office of the Inspector General

Evaluation Report

To the Senior Manager,
Regional Hydro Generation,
North Eastern

ORGANIZATIONAL EFFECTIVENESS – HYDRO GENERATION, NORTH EASTERN REGION

Evaluation Team
Noel K. Kawado
Justin B. Franklin

Evaluation 2019-15627-02
August 23, 2019

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Evaluation 2019-15627-02 – Organizational Effectiveness – Hydro Generation, North Eastern Region

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. To achieve and sustain organizational effectiveness, there should be alignment between strategy, team engagement, and operational performance. Specifically, values and behaviors that drive good performance should be embedded throughout the organization's business processes and exemplified by the individuals that manage and work in the organization. The Tennessee Valley Authority's (TVA) 2018 Risk Assessment Summary recognized that (1) workforce strategy and management risksⁱ and (2) workplace environment risksⁱⁱ could negatively affect the performance environment.

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 TVA. As requested by Hydro Generation management, we assessed Hydro Generation, North Eastern Region (Hydro NE), which is an organization under Power Operations. The objective of this evaluation was to identify strengths and risks that could impact Hydro NE's organizational effectiveness.

What the OIG Found

During the course of our evaluation, we identified strengths that positively affected the day-to-day activities of Hydro NE personnel. These strengths included (1) organizational alignment, (2) positive interactions within and outside of Hydro NE, (3) first-line leadership, and (4) positive ethical culture. We also identified risks that could impact Hydro NE's ability to meet its responsibilities in support of Power Operations' mission. These included risks related to perceptions of (1) inadequate staffing and (2) lack of accountability.

ⁱ Workforce strategy and management risks include failure to maintain key leadership positions, ineffective talent management, and performance management shortfalls.

ⁱⁱ Workplace environment risks include lack of organizational adaptability, lack of inclusion and employee engagement, and inappropriate workplace incidents.



Evaluation 2019-15627-02 – Organizational Effectiveness – Hydro Generation, North Eastern Region

EXECUTIVE SUMMARY

Based on our observations and using TVA’s Business Operating Model, we assessed Hydro NE’s level of risk in the areas of alignment, execution, and engagement. We determined:

- Alignment risk is rated low based on alignment of employee goals with those of regional management as well as TVA’s Values and Competencies. Performance goals also aligned to Hydro Generation initiatives, which supported Power Operations’ and TVA’s missions.
- Engagement risk is rated medium based on concerns that employees were not being held accountable for their behaviors.
- Execution risk is rated medium based on concerns that staffing levels were inadequate.

	Low Risk	Medium Risk	High Risk
Alignment	X		
Engagement		X	
Execution		X	

What the OIG Recommends

We recommend the Hydro NE Regional Manager:

1. Assess and address concerns related to perceptions around staffing levels.
2. Address concerns related to perceptions of lack of accountability.

TVA Management’s Comments

TVA management described actions planned and/or 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. To achieve and sustain organizational effectiveness, there should be alignment between strategy, team engagement, and operational performance. Specifically, values and behaviors that drive good performance should be embedded throughout the organization's business processes and exemplified by the individuals that manage and work in the organization.

In recent years, the Tennessee Valley Authority (TVA) has faced internal and external economic pressures and implemented cost-cutting measures in an attempt to keep rates low and reliability high while continuing to fulfill its broader mission of environmental stewardship and economic development. TVA's 2018 Risk Assessment Summary recognized that (1) workforce strategy and management risks¹ and (2) workplace environment risks² could negatively affect the performance environment.

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 TVA. As requested by Hydro Generation management, we assessed Hydro Generation, North Eastern Region (Hydro NE), which is an organization under Power Operations. The mission of Power Operations is to provide low-cost, reliable coal, gas, and hydro generation while keeping employees safe and ensuring compliance with environmental regulations.

Hydro Generation currently operates 29 conventional hydroelectric dams and a pumped storage facility, which collectively includes 113 generating units, located throughout the Tennessee Valley. These units account for 5,182 megawatts of net dependable capacity.³ Of that total, Hydro NE generation accounts for approximately 27 percent of the capacity.

Hydro NE is comprised of four groups which includes 13 hydro plants. The Watts Bar group consists of Watts Bar Hydro and Great Falls Hydro. The Fort Loudon group includes Fort Loudon Hydro, Melton Hill Hydro and Fontana Hydro. Hydro NE's Cherokee group includes Cherokee Hydro, Norris Hydro, and Douglas Hydro, while the Boone group includes Boone Hydro, Watauga Hydro, Wilbur Hydro, Fort Patrick Henry Hydro and South Holston Hydro. Each plant group in the region is comprised of Hydro Technician levels III and IV and laborers who report to a plant manager responsible for operation and maintenance activities at

¹ Workforce strategy and management risks include failure to maintain key leadership positions, ineffective talent management, and performance management shortfalls.

² Workplace environment risks include lack of organizational adaptability, lack of inclusion and employee engagement, and inappropriate workplace incidents.

³ Net dependable capacity is the amount of power a dam can produce on an average day, minus the electricity used by the dam itself.

their respective hydro generating plants. Responsibilities of Hydro IV technicians include performing plant unit startups, monitoring and shutdowns, as well as preparing and implementing clearances⁴ while ensuring work is performed in accordance with environmental and safety requirements. Individuals serving in these roles may also supervise or direct the work of other technicians. Technician level III employees are responsible for corrective, preventive, and emergency maintenance activities as well as electrical and mechanical operation of hydro systems. Laborers are responsible for general labor work including maintaining cleanliness and order of the facility. Hydro NE personnel responsible for supporting the organization include engineers, business support representatives, and regional hydro general support supervisors who report to the Senior Regional Manager.

Hydro NE, along with other hydro regions, tracks metrics related to people, operations, finance, and stewardship. Specifically, people-related metrics include number of injuries, number of human performance events, and number of observations performed. Metrics related to operations include equivalent forced outage rate,⁵ equivalent availability factor,⁶ and the number of unit trips. Capital, nonfuel operations and maintenance, and total spending, as well as changes in nonfuel inventory, comprise finance metrics. Stewardship metrics include those related to environmental compliance and continuous improvement activities.

As of January 23, 2019, Hydro NE had 66 employees, including 1 regional manager, 4 hydro plant managers, 11 employees in the Watts Bar Plant group, 16 employees in the Fort Loudon Plant group, 16 employees in the Cherokee Plant group, 12 employees in the Boone Plant group, and 6 support personnel.

OBJECTIVE, SCOPE, AND METHODOLOGY

At the request of Hydro Generation management, we assessed Hydro NE's organizational effectiveness. The objective of this evaluation was to identify strengths and risks that could impact Hydro NE's organizational effectiveness. We assessed operations as of April 2019 and culture at the time of our interviews, which occurred January through February 2019. To complete the evaluation, we:

- Reviewed Power Operations' and Hydro Generation's fiscal year (FY) 2019 through FY2021 business plans and TVA's FY2019 through FY2021 Business Plan Summary to determine whether goals and initiatives aligned with those of Power Operations and TVA.

⁴ Clearances are established when energy sources including electrical, mechanical, and/or hydraulics have been isolated and tagged before servicing, maintenance, or modifications.

⁵ This is defined as the percentage of generation lost due to forced outages with respect to the total generation capability for a period that a unit is not planned to be offline. Forced outages are unplanned outages caused by equipment failures or problems.

⁶ Equivalent availability factor reflects the percentage of available capacity within a defined period.

- Reviewed TVA values and competencies (see Appendix A) for an understanding of cultural factors deemed important to TVA.
- Reviewed select (1) TVA and Power Operations Standard Programs and Processes and other documentation to gain an understanding of processes and (2) laws and regulations to gain an understanding of the requirements of the organization.
- Examined financial information for FY2018 and FY2019, through April, to gain understanding of the operations and maintenance expenditures that could affect the work environment.
- Examined safety meeting minutes for the Hydro NE region for FY2018 and FY2019, through March, to gain understanding of the work environment related to safety.
- Conducted individual interviews with 65 employees,⁷ including management, and analyzed the results to identify themes related to strengths and risks that could affect organizational effectiveness.
- Analyzed FY2018 performance documentation for personnel⁸ to identify alignment with respective management and organizational goals and/or initiatives.
- Interviewed Safety and Environmental personnel that support Hydro NE to identify strengths and risks that could affect organizational effectiveness.
- Assessed the overall effectiveness of Hydro NE in the following areas, as included in TVA's Business Operating Model:
 - Alignment – How well the organization coordinates the activities of its many components for the purpose of achieving its long-term objectives—this is grounded in an understanding of what the organization wants to achieve, and why.
 - Engagement – How the organization achieves the highest level of performance from its employees.
 - Execution – How well the organization achieves its objectives and mission.

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

⁷ One individual was not available for interview.

⁸ We excluded performance management documentation for trades and labor personnel. According to TVA documentation, effective calendar year 2018, performance management documentation for trades and labor employees was discontinued.

OBSERVATIONS

During the course of our evaluation, we identified strengths that positively affected the day-to-day activities of Hydro NE personnel. However, we also identified risks that hinder Hydro NE's effectiveness and its continued ability to meet its responsibilities in support of the Power Operations' mission.

STRENGTHS

During the course of our interviews and data analyses, we identified strengths that positively affected the day-to-day activities of Hydro NE personnel. These strengths included (1) organizational alignment, (2) positive interactions within and outside of Hydro NE, (3) first-line leadership, and (4) positive ethical culture.

Organizational Alignment

Our review of FY2018 performance management documentation for management and employees revealed that performance goals were consistent with goals of the individual's regional management as well as TVA's Values and Competencies. Performance goals also aligned to hydro initiatives, which supported Power Operations' and TVA's missions. Most individuals indicated they understood how their jobs aligned with either the plant, hydro, or TVA goals and/or the TVA mission.

Positive Interactions Within and Outside of Hydro NE

The majority of employees interviewed provided positive comments related to interactions with coworkers. In addition, most individuals indicated they trusted their coworkers to do their jobs well. Most individuals also indicated positive interactions with other departments within the organization. Several employees also indicated teamwork as a driver to positive morale within the organization.

Most individuals indicated that interactions with others outside of Hydro NE were positive. Several personnel indicated having good working relationships with individuals in other organizations, such as Safety Operations, Environmental Operations, and Dam Safety.

First-Line Leadership

For most individuals in Hydro NE, the plant manager is their first-line leadership. The senior regional manager serves as first-line leadership for other individuals. Most individuals in Hydro NE indicated having positive relationships with their first-line leaders. Specifically, most employees provided positive comments pertaining to first-line leadership in the areas of communication, trust, and recognition. In addition, most employees indicated they felt comfortable about reporting concerns or sharing a differing opinion with their first-line management.

Positive Ethical Culture

Employees and management are charged with conducting business according to the highest ethical standards and seeking to earn the trust of others through

words and actions that are open, honest, and respectful. The majority of employees interviewed indicated that the ethical culture⁹ in their department and/or organization was strong.

RISKS

During the course of our evaluation, we identified risks that could hinder Hydro NE's effective execution and its continued ability to meet its responsibilities in support of Power Operations' mission. These were comprised of risks related to perceptions of (1) inadequate staffing and (2) lack of accountability.

Perceptions of Inadequate Staffing

While most employees indicated having the necessary tools and training to complete their work, several individuals expressed concerns that staffing levels made it difficult to complete the work. For example, as a work around, a few individuals indicated that they sometimes call in staff from other sites to help them complete their work due to inadequate staffing at their site. This could negatively impact work being done at sites from which these borrowed staff originate because it may take away time from completing work at that site.

In addition, some individuals indicated that the low staffing levels made it difficult to comply with current procedures that require a certain number of staff to execute work. During 2015, Hydro Generation became part of Power Operations. A few employees indicated that Power Operations' procedures, which were designed for higher staffing levels, do not consider the lower staffing levels in Hydro, making it difficult for Hydro personnel to comply with those procedures. According to Hydro NE management, some progress has been made to revise procedures given the current staffing levels in Hydro.

Based on TVA staffing data, Hydro NE's staffing levels for Laborers and Hydro Technicians have decreased from 61 individuals, as of September 30, 2014, to 53 individuals as of June 26, 2019. In addition, we also noted that Hydro NE did not meet its equivalent forced outage rate and equivalent availability factor goals for FY2018 and FY2019 (through April 2019). While staffing was not a reason provided by Hydro NE management for not meeting these goals, inadequate staffing could negatively impact Hydro NE's ability to meet these goals in the future.

Perceptions of Lack of Holding Employees Accountable

While most employees commented positively on their first-line supervisor (Plant Manager) in the areas of communication, trust, recognition, and expression of a differing opinion, several employees at various plants expressed that Plant Managers may not be holding employees accountable. Some employees expressed their perception that Plant Managers did not hold employees

⁹ Ethical culture is the "shared concept of right and wrong behavior in the workplace that reflects the true values of the organization and shapes the ethical decision making of its members" as defined in S. P. Robbins & T. A. Judge, *Organizational Behavior*, 18th edition, 2019.

accountable because they wanted to avoid confrontation. Some other individuals indicated that Plant Managers are not at the site a lot which could make it difficult to hold employees accountable. Similarly, a couple of Plant Managers indicated that they have a lot of administrative tasks which takes away time from their plant duties. A few Plant Managers also stated that the Technician IVs are placed in charge when they are not at the site. However, several employees indicated that Technician IVs cannot hold employees accountable. Based on TVA documentation, we confirmed that Technician IVs do not have disciplinary authority.

CONCLUSION

Because Hydro NE is responsible for more than a quarter of Hydro Generation's capacity, it is a necessary component in assisting Power Operations with achievement of its mission of low-cost, reliable generation. While interviews with employees revealed the existence of organizational alignment, positive interactions within and outside of Hydro NE, first-line leadership strengths, and a positive ethical culture, execution- and engagement-related improvements could be made to aid in achievement of Power Operations' mission. Specifically, addressing staffing concerns could improve execution of job responsibilities. Furthermore, addressing employee perceptions related to lack of accountability by their first-line supervisors could increase employees' levels of engagement.

Based on our observations and using TVA's Business Operating Model, we assessed Hydro NE's level of risk in the areas of alignment, engagement, and execution. We determined:

- Alignment risk is rated low based on alignment of employee goals with those of regional management as well as TVA's Values and Competencies. Performance goals also aligned to Hydro Generation initiatives, which supported Power Operations' and TVA missions.
- Engagement risk is rated medium based on concerns that employees were not being held accountable for their behaviors.
- Execution risk is rated medium based on concerns that staffing levels were inadequate.

RECOMMENDATIONS

We recommend the Hydro NE Regional Manager:

1. Assess and address concerns related to perceptions around staffing levels.

TVA Management's Comments – The Hydro Generation senior leadership team is working with Power Operations leadership on a work management initiative that will include an evaluation of work load and associated resource

levels and result in the development of a resource management strategy that aligns with the organization's business needs, goals, and targets.

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

2. Address concerns related to perceptions of lack of accountability.

TVA Management's Comments – TVA management will continue to focus on Hydro NE's FY2019 Power to Win people initiative by (1) identifying leadership training needs and (2) clarifying roles and responsibilities. In addition, Hydro NE's management actions include (1) weekly review of the Powerhouse Round Planned Maintenance procedure, which includes a report out on quality and effectiveness; (2) monthly meetings with Code of Excellence (COE) Ambassadors that include discussions of performance as related to the COE Values of Safety, Professionalism, Accountability, Relationships, and Quality; (3) monthly Regional Manager one-on-one engagements with Plant Managers to discuss employee leave use, attendance, job performance, safety observation results, completion of required training, and any other personnel related issues, as well as a review of any accountability-related actions for effectiveness; and (4) semiannual plant walk downs with Tech IVs, Plant Managers, and the Regional Manager to review adherence to housekeeping, safety, and environmental compliance standards.

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

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

August 15, 2019

David P. Wheeler, WT 2C-K

REQUEST FOR COMMENTS – DRAFT EVALUATION 2019-15627-02 – ORGANIZATIONAL
EFFECTIVENESS – HYDRO GENERATION, NORTH EASTERN REGION

An Organizational Effectiveness review of the hydro operating regions and support organizations was conducted by the Inspector General's office. The Hydro Organization utilizes its Power to Win plan to measure performance in specific focus areas. Where performance does not meet targets or expectations, measurable action plans are developed to close gaps. These action plans are reviewed monthly, as well as at the fiscal year end, and actions are adjusted as needed to achieve desired results. These plans were also reviewed during the organizational effectiveness reviews. The following is in response to your memorandum dated July 18, 2019:

RECOMMENDATIONS

We recommend the Hydro NE Regional Manager:

1. Assess and address concerns related to perceptions around staffing levels.

Response Action

The Hydro senior leadership team is working with Power Operations leadership on a work management initiative that will include an evaluation of work load and associated resource levels. The goal is to consistently align work management practices across Power Operations following an assessment of our work management processes. Following that assessment a resource management strategy will be developed that meets the business needs of the organization while aligning with business goals and targets.

2. Address concerns related to perceptions of lack of accountability.

Response Action

Continue to focus on Hydro's FY19 "Power to Win" people initiative that includes the following:

- Identification of leadership training needs for Tech IVs and Plant Managers – and communicate during peer team meetings.
- Clarify roles and responsibilities for Tech IVs, Tech IIIs, Tech IIs, HSS and PMs.

Hydro North Eastern Region actions include the following:

- Weekly review of the Powerhouse Round Planned Maintenance procedure, to include a report out by Plant Managers to the Regional Manager on quality and effectiveness.
- Monthly meetings with Code of Excellence (COE) Ambassadors, to include discussions on performance as it relates to the COE Values of Safety, Professionalism, Accountability, Relationships and Quality.

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- Monthly Regional Manager one-on-one engagements with Plant Managers in the field to discuss employee leave use, attendance, job performance, safety observation results, completion of required training and any other personnel related issues. Accountability related actions will be reviewed for effectiveness. This is included as part of the Leader Standard Work initiative that is being implemented in Gas and Hydro Operations.
- Semi-Annual Plant Walk Downs with Tech IVs, Plant Manager and Regional Manager to review adherence to housekeeping, safety and environmental compliance standards. Results are recorded in SafetyNet and are separately scored with written feedback provided to the Plant Manager and Tech IVs on progress and trends since the last walk down.

Thank you for allowing us to provide these comments. If you need additional information, please let us know.



Philip D. Davis
Senior Manager
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