



Memorandum from the Office of the Inspector General

January 9, 2020

Michael R. Holt

REQUEST FOR FINAL ACTION – EVALUATION 2019-15627-05 – ORGANIZATIONAL EFFECTIVENESS – HYDRO DISPATCH CONTROL CENTER

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.

A handwritten signature in black ink that reads "David P. Wheeler".

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

NKK:KDS

Attachment

cc (Attachment):

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OIG File No. 2019-15627-05



TVA RESTRICTED INFORMATION

Office of the Inspector General

Evaluation Report

To the Manager, Hydro
Dispatch Control Center

ORGANIZATIONAL EFFECTIVENESS – HYDRO DISPATCH CONTROL CENTER

Evaluation Team
Noel K. Kawado
Justin B. Franklin

Evaluation 2019-15627-05
January 9, 2020

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TVA RESTRICTED INFORMATION

ABBREVIATIONS

24/7	24 hours a day, 7 days a week
FY	Fiscal Year
HDCC	Hydro Dispatch Control Center
PO	Power Operations
SOC	Systems Operation Center
TVA	Tennessee Valley Authority

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Evaluation 2019-15627-05 – Organizational Effectiveness – Hydro Dispatch Control Center

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, Hydro Dispatch Control Center (HDCC), which is an organization under Power Operations (PO). The objective of this evaluation was to identify strengths and risks that could impact HDCC'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 HDCC personnel. These strengths included (1) organizational alignment, (2) positive interactions within and outside of HDCC, (3) effective leadership, and (4) positive ethical culture. We also identified risks that could impact HDCC's ability to meet its responsibilities in support of PO's mission. These were comprised of risks including (1) perceptions of lack of effective accountability and (2) execution-related concerns related to inadequate night shift staffing and workspace issues in the System Operations Center (SOC).

ⁱ Workforce strategy and management risks include failure to manage key leadership transitions, 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 2019-15627-05 – Organizational Effectiveness – Hydro Dispatch Control Center

EXECUTIVE SUMMARY

Based on our observations and using TVA's Business Operating Model, we assessed HDCC'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 PO's and TVA's missions.
- Engagement risk is rated low. Although several employees expressed concerns about accountability by management, the majority of employees indicated they had positive relationships with their coworkers and first-line management.
- Execution risk is rated low. Although some employees raised concerns related to night shift staffing levels and workspace issues in the SOC, the majority of individuals provided positive comments related to interactions with individuals both within and outside of HDCC and the adequacy of tools and training.

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

What the OIG Recommends

We recommend the Manager, HDCC:

1. Address concerns related to perceptions of lack of effective accountability.
2. Assess and address resource concerns related to inadequate night shift staffing.
3. Work with the General Manager, Hydro, and other TVA organizations, as deemed appropriate, to assess and address concerns related to workspace issues in the SOC.



Evaluation 2019-15627-05 – Organizational Effectiveness – Hydro Dispatch Control Center

EXECUTIVE SUMMARY

TVA Management's Comments

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

Auditor's Response

We agree with management's planned actions.

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, Hydro Dispatch Control Center (HDCC), which is an organization under Power Operations (PO). The mission of PO is to provide low-cost, reliable coal, gas, and hydro generation while keeping employees safe and ensuring compliance with environmental regulations.

Hydro Generation, which includes four regions and the HDCC, currently operates 29 conventional hydroelectric dams and a pumped storage facility. Collectively, these dams and the pumped storage facility include 113 generating units, located throughout the Tennessee Valley. HDCC, which has its primary operations in the System Operations Center (SOC), in the Chattanooga Office Complex plays an integral role in Hydro Generation. Specifically, it is responsible for scheduling and coordinating the energy production of TVA Hydro Generation assets by working with certain business units (including the Balancing Authority, River Forecast Center, Participant Scheduling, and TVA's Hydro Generation plants) to meet system demands on a 24 hours a day, 7 days a week (24/7), real-time basis. Part of this responsibility includes the remote operation of Hydro Generation's conventional generating plants. In addition, in collaboration with other TVA organizations, HDCC assists with the implementation of certain TVA river management objectives, including navigation and flood control. To meet its responsibilities, HDCC is staffed 24/7. As of July 10, 2019, HDCC was comprised of one manager and nine coordinators.

¹ Workforce strategy and management risks include failure to manage key leadership transitions, 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.

According to TVA management, HDCC does not have any specific performance metrics; however, its performance is measured based on the roll up of Hydro Generation's overall metrics (which is tracked regionally and/or, for certain metrics, at the plant level).

OBJECTIVE, SCOPE, AND METHODOLOGY

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

- Reviewed PO's and Hydro Generation's fiscal year (FY) 2019 through FY 2021 business plans and TVA's FY 2019 through FY 2021 Business Plan Summary to determine whether goals and initiatives aligned with those of PO and TVA.
- Reviewed TVA values and competencies (see Appendix A) for an understanding of cultural factors deemed important to TVA.
- Reviewed select (1) TVA and PO 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 FY 2018 and FY 2019, through June, to gain understanding of the operations and maintenance expenditures that could affect the work environment.
- Conducted individual interviews with ten employees, including management, and analyzed the results to identify themes related to strengths and risks that could affect organizational effectiveness.
- Selected 101 individuals, based on information from HDCC personnel and auditor judgment, who were identified as working with HDCC or receiving HDCC's services to obtain customer service feedback. We received feedback through survey responses and/or interviews from 62 of the 101 individuals.
- Analyzed FY 2018 performance documentation for personnel to identify alignment with respective management and organizational goals and/or initiatives.
- Obtained feedback from Human Resources personnel that support HDCC to identify strengths and risks that could affect organizational effectiveness.
- Assessed the overall effectiveness of HDCC 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*.

OBSERVATIONS

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

STRENGTHS

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

Organizational Alignment

Our review of FY 2018 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 Generation initiatives, which supported PO's and TVA's missions. Most individuals indicated they understood how their goals aligned with Hydro Generation, Power Operations and/or the TVA mission.

Positive Interactions Within and Outside of HDCC

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. The majority of employees also indicated teamwork as a driver to positive morale within the organization.

Most individuals indicated that interactions with others outside of HDCC were positive. The majority of individuals expressed having good relationships with personnel at Hydro Generation's generating plants, and departments within Transmission, Power Supply, and Support, including the Balancing Authority.

This positive sentiment was largely echoed in the feedback we obtained from individuals that work with or receive services from HDCC. Specifically, most individuals in PO's Hydro Generation; Transmission, Power Supply, and Support's Balancing Authority and Participant Scheduling; and River and Resources Stewardship's River Forecast Center that provided feedback

commented positively on the timeliness and quality of services provided by HDCC. Several individuals indicated that HDCC was helpful and/or worked well with the individual's organization. In addition, some individuals expressed that HDCC personnel were professional, while some others indicated that HDCC staff was knowledgeable.

Effective Leadership

The Manager, HDCC, serves as first-line leadership for all employees. The majority of individuals in HDCC indicated having positive relationships with the Manager, HDCC. Specifically, most employees provided positive comments pertaining to the Manager, HDCC, in the areas of communication, and recognition. In addition, all 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. Ethical culture is defined in this evaluation as 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."³ The majority of employees interviewed indicated that the ethical culture in their department and/or organization was positive.

RISKS

During the course of our evaluation, we identified risks that could hinder HDCC's effective execution and its continued ability to meet its responsibilities in support of PO's mission. These were comprised of risks including (1) perceived lack of effective accountability and (2) execution-related concerns related to inadequate night shift staffing and workspace issues in the SOC.

Perceived Lack of Effective Accountability

Our interviews disclosed concerns related to a perceived lack of effective accountability with HDCC employees. While most employees commented positively on their first-line leadership in the areas of communication, trust, recognition, and expression of a differing opinion, several employees expressed the need for more appropriate methods of accountability by management. For example, some employees indicated that peer-to-peer accountability is encouraged rather than direct accountability from management.

Execution-Related Concerns

While most employees indicated having the necessary tools and training to complete their work, several employees conveyed concerns related to the execution of work. Specifically, these employees expressed perceptions of

³ S. P. Robbins and T. A. Judge, *Organizational Behavior*, 18th edition, 2019.

inadequate staffing on night shift and conditions in the SOC that were not conducive to efficient work-related communication.

Perceptions of Inadequate Night Shift Staffing

HDCC, as described above, is staffed 24/7. Based on interviews conducted, staffing during the day is manned by 2 individuals, a lead and a support coordinator, whereas night shift is staffed with only one individual. Several individuals voiced concerns that night shift can get busy and that it would be helpful to have another individual on night shift.

Having an additional person on night shift could alleviate potential stress levels of employees working at night, help them to more effectively perform their jobs, and meet the demands of the Hydro Generation system.

Workspace Issues in the SOC

The SOC serves as the work location for individuals from HDCC as well as other groups, including Transmission Operations, Reliability and SCADA⁴ and the Balancing Authority. Based on our interviews, although the HDCC lead and support coordinator work together during the day, they do not sit adjacent to each other. Several individuals indicated that the noise level in the SOC, coupled with the lead and support coordinator seating arrangement, hindered efficient work-related communication between these individuals. A few individuals indicated that the lead and support coordinators previously sat in a different location in the SOC that was more conducive to efficient communication.

Providing a physical work environment that is favorable to conducting effective communication can help to more effectively accomplish work and meet the missions of PO and TVA.

CONCLUSION

Having responsibility for scheduling and coordinating the energy production of TVA Hydro Generation assets, HDCC is a necessary component in assisting PO 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 HDCC, first-line leadership strengths, and a positive ethical culture, execution- and engagement-related improvements could be made to aid in achievement of PO's mission. Specifically, addressing execution-related concerns related to night shift staffing and workspace issues in the SOC could improve execution of job responsibilities. Furthermore, addressing employee perceptions related to lack of effective accountability could increase employees' levels of engagement.

⁴ The acronym, SCADA, is defined as Supervisory Control and Data Acquisition.

Based on our observations and using TVA's Business Operating Model, we assessed HDCC'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 PO and TVA missions.
- Engagement risk is rated low. Although several employees expressed concerns about accountability by management, the majority of employees indicated they had positive relationships with their coworkers and first-line management.
- Execution risk is rated low. Although some individuals raised concerns related to night shift staffing levels and workspace issues in the SOC, the majority of individuals provided positive comments related to interactions both within and outside of HDCC and the adequacy of tools and training.

RECOMMENDATIONS

We recommend the Manager, HDCC:

1. Address concerns related to perceptions of lack of effective accountability.

TVA Management's Comments – Management will hold meetings with each individual HDCC Production Coordinator to discuss the concept of peer-to-peer accountability, including the process for elevating issues that cannot be resolved.

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

2. Assess and address resource concerns related to inadequate night shift staffing.

TVA Management's Comments – Management stated the current work load does not warrant additional staffing; however, management will communicate to employees that additional staffing is available for night shift when needed.

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

3. Work with the General Manager, Hydro, and other TVA organizations, as deemed appropriate, to assess and address concerns related to workspace issues in the SOC.

TVA Management's Comments – The Hydro and Transmission teams will meet to discuss possibilities for relocating HDCC to a more optimal location.

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

January 6, 2020

David P. Wheeler, WT 2C-K

REQUEST FOR COMMENTS – DRAFT AUDIT 2019-15627-05 ORGANIZATIONAL
EFFECTIVENESS – HYDRO DISPATCH CONTROL CENTER

Mr. Wheeler:

This is in response to your memorandum dated December 10, 2019. After review of the draft audit, please see the following response to the Recommendations for the Hydro Dispatch Control Center:

Recommendations:

We recommend the Manager, HDCC:

1. Address concerns related to perceptions of lack of effective accountability.

Response

TVA management will continue to ensure accountability of the HDCC team and to accomplish this action, I will hold a meeting with each individual HDCC production coordinator to discuss the concept of peer-to-peer resolutions on issues, along with the process of how and when to elevate issues that cannot be resolved.

2. Assess and address resource concerns related to inadequate night shift staffing.

Response

TVA management recognizes the perception of inadequate night shift staffing due to previous staffing levels however, the current work load does not warrant additional staffing. Management will express to employees that when assistance is needed, the HDCC has full authority to perform call outs or the day shift support coordinator can stay over to ensure adequate staffing is available.

3. Work with the General Manager, Hydro, and other TVA organizations, as deemed appropriate, to assess and address concerns related to workspace issues in the SOC.

Response

TVA management recognizes that current workspace assignments are not optimal and may present communication challenges. The Hydro and Transmission Management teams will meet to determine possibilities of relocating the HDCC to a more optimal location.

David P. Wheeler
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Additionally, each of the above-listed actions will be tracked with a Condition Report (CR).

Thank you for the opportunity to respond to these recommendations. Feel free to contact me if you have any questions.



Michael R. Holt
Manager
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