



Memorandum from the Office of the Inspector General

October 6, 2021

Jason B. Garrison

**REQUEST FOR MANAGEMENT DECISION – EVALUATION 2021-17257 –
ORGANIZATIONAL EFFECTIVENESS – LAGOON CREEK COMBUSTION TURBINE
PLANT**

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 wish to discuss our findings, please contact A. Rebecca McCarter, Senior Auditor, at (423) 785-4831 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)

ARM:KDS

Attachment

cc (Attachment):

TVA Board of Directors
David L. Bowling Jr.
Susan E. Collins
Randle K. DeHart
Megan T. Flynn
David B. Fountain
Amanda D. Johns
T. Daniel Lunsford
Jeffrey J. Lyash

Jill M. Matthews
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Michael D. Skaggs
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Wilson Taylor III
Kay W. Whittenburg
Jacinda B. Woodward
OIG File No. 2021-17257



Office of the Inspector General

Evaluation Report

To the Manager-Integrated Combined
Cycle and Combustion Turbine Site,
Lagoon Creek Combined Cycle Plant

ORGANIZATIONAL EFFECTIVENESS – LAGOON CREEK COMBUSTION TURBINE PLANT

Auditor
A. Rebecca McCarter

Evaluation 2021-17257
October 6, 2021

ABBREVIATIONS

CC	Combined Cycle
CT	Combustion Turbine
FY	Fiscal Year
I&C	Instrumentation and Controls
LCCC	Lagoon Creek Combined Cycle Plant
LCCT	Lagoon Creek Combustion Turbine Plant
SHRM	Society for Human Resource Management
TVA	Tennessee Valley Authority

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Evaluation 2021-17257 – Organizational Effectiveness – Lagoon Creek Combustion Turbine Plant

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 Lagoon Creek Combustion Turbine Plant (LCCT), a combustion turbine plant in TVA’s western region under the Gas Operations business unit within TVA’s Power Operations organization.

LCCT, one of TVA’s nine combustion turbine gas sites, is located near Brownsville, Tennessee, adjacent to the Lagoon Creek Combined Cycle Plant (LCCC). The site consists of fuel oil and natural gas fired simple cycle units and has a peaking generation capacity of 904 megawatts in the summer and 1,140 megawatts in the winter. The objective of this evaluation was to identify factors that could impact LCCT’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 behaviors that had a positive impact on LCCT; however, we also identified some behavioral risks associated with team conflicts. In addition, we identified risks to operations that, if unaddressed, could hinder LCCT’s effectiveness. These were related to (1) perceptions of not having parts needed to perform job responsibilities and a lack of money for projects or equipment repairs and (2) training. Based on our observations, we assessed LCCT’s level of risk related to behaviors and operations and determined both risks were low. Ratings are reflected in the table below:

	Low Risk	Medium Risk	High Risk
Behaviors	X		
Operations	X		



Evaluation 2021-17257 – Organizational Effectiveness – Lagoon Creek Combustion Turbine Plant

EXECUTIVE SUMMARY

What the OIG Recommends

We recommend the Manager-Integrated Combined Cycle and Combustion Turbine Site, LCCC, address (1) concerns related to employees' relationships with team members and (2) perceptions pertaining to parts needed to perform jobs and a lack of money for equipment repairs.

TVA Management's Comments

Gas Operations' management agreed with the recommendations. See Appendix B for TVA management's complete response.

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 the Lagoon Creek Combustion Turbine Plant (LCCT), a combustion turbine (CT) plant in TVA's western region under the Gas Operations business unit within TVA's Power Operations organization.

We previously conducted an organizational effectiveness evaluation of LCCT¹ in which we identified strengths related to teamwork and organizational alignment, but also identified issues related to low morale caused by a lack of accountability and perceptions of unethical behavior. Gas Operations' management addressed our recommendations related to these concerns.

Natural gas generation has taken on a larger role in the TVA generation mix in an effort to move toward a more diverse and adaptable generation portfolio. Natural gas CT plants are used for their quick-start capabilities to meet peak demands. LCCT, one of TVA's nine CT gas sites, is located near Brownsville, Tennessee, adjacent to the Lagoon Creek Combined Cycle Plant (LCCC). The site consists of fuel oil and natural gas fired simple cycle units and has a peaking generation capacity of 904 megawatts in the summer and 1,140 megawatts in the winter.

Gas Operations' vision is "blending our strengths every day to deliver event free, reliable, and flexible power for the people of the Tennessee Valley." LCCT's fiscal year (FY) 2021 initiatives included, but were not limited to, replacing obsolete equipment, minimizing contractor support, rotating key positions, maintaining zero events for vital behaviors, and finding continuous improvement saving opportunities. Metrics for FY 2021 included, but were not limited to, total spend, good catches, trip events, CT economic starting reliability, and total continuous improvement savings.

As of May 2021, LCCT was under budget in their spending. Staffing has remained relatively steady since FY 2018, at around nine employees. As of June 3, 2021, LCCT had nine employees, including six plant technicians, one site foreman, one maintenance mechanic/machinist, and one business support representative, all reporting directly to the LCCC manager-integrated combined cycle (CC) and CT site.²

¹ Evaluation 2018-15524, *Lagoon Creek Combustion Turbine Plant's Organizational Effectiveness*, April 12, 2018.

² As of June 3, 2021, when our evaluation began, the operations and maintenance manager position at LCCT was vacant. This position was filled effective June 21, 2021; however, prior to that date, employees reported directly to the LCCC manager-integrated CC and CT site. The LCCC manager-integrated CC and CT serves as manager for both sites.

OBJECTIVE, SCOPE, AND METHODOLOGY

The objective of this evaluation was to identify factors that could impact LCCT's organizational effectiveness. We assessed operations as of May 2021 and culture at the time of our interviews, which occurred during June 2021. To complete the evaluation, we:

- Reviewed (1) Power Operations' FY 2021 through FY 2023 business plan, (2) Gas Operations' FY 2021 through FY 2023 business plan, and (3) documentation provided by LCCT to gain an understanding of initiatives, metrics, and/or risks within LCCT.
- Reviewed TVA values and competencies (see Appendix A), for an understanding of cultural factors deemed important to TVA.
- Reviewed select TVA and Power Operations' Standard Programs and Processes to gain an understanding of processes.
- Examined FY 2019 through May 2021 financial information to gain an understanding of expenditures used in support of the work environment.
- Conducted individual interviews with nine employees plus the LCCC manager-integrated CC and CT site and analyzed the results to identify themes that could affect organizational effectiveness.
- Conducted interviews with individuals from other TVA organizations that work with or support LCCT.

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 behaviors that had a positive impact on LCCT; however, we also identified behavioral risks associated with team conflicts. In addition, we identified risks to operations that, if unaddressed, could hinder LCCT's effectiveness. These were related to (1) perceptions of not having the parts needed to perform job responsibilities and a lack of money for projects or equipment repairs and (2) training.

BEHAVIORAL FACTORS

According to the Society for Human Resource Management (SHRM),³ employee engagement relates to the level of an employee's connection and commitment to the organization. SHRM also specifies drivers of employee engagement, including commitment of leaders, trust in leadership, and positive relationships with supervisors. TVA has developed competencies intended to define common

³ SHRM is a membership organization for Human Resource professionals.

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 interviews with individuals within LCCT, we determined behavior-related risk was low.

Relationships with Team Members Could Be Improved

TVA expects employees to earn the trust of others through open, honest, and respectful words and actions. Many LCCT employees commented positively on interactions with others in their group and most employees indicated they trusted their coworkers to perform their jobs well. However, when asked about morale, one-third of individuals interviewed expressed concerns related to personality conflicts among team members as a driver of lower morale. Examples included not trusting or wanting to work with a certain technician or controversial topics being brought up that can cause tension.

Positive Interactions with Management

TVA expects leaders to inspire trust and engagement by building a positive environment that motivates others to achieve and exceed organizational goals and team aspirations. We asked individuals at LCCT about relationships with their first-line management, middle management, and upper management. All employees commented positively when asked about relationships with first-line management. Examples of positive interactions included having a good relationship with management, being supported by management and/or the belief that management is knowledgeable or does a good job. All employees commented positively on communication with first-line management and indicated they trusted their first-line management. Most individuals also felt comfortable reporting concerns or offering a differing opinion and most commented positively on accountability. In addition, all individuals commented positively about recognition from first-line management, with provided examples, including verbal praise or praise through emails, gifts, outage lunches, or meals.

Of employees who commented, many commented positively when asked about relationships and communication with middle management. Many employees who commented also indicated they trusted middle management and felt comfortable reporting concerns or offering a differing opinion. While many employees were unable to provide feedback on middle management accountability due to limited interaction with this level of management or lack of knowledge, all employees commented positively about recognition from middle management, with provided examples, including verbal praise or praise through emails, gifts, or meals. However, a few individuals did express concerns with middle management in the areas of relationships, trust, and comfort reporting concerns or differing opinions.

Upper management for all individuals was outside of LCCT; therefore, not all individuals interacted with upper management. Of those who commented, comments were mostly positive related to relationships, communication, trust, comfort reporting concerns and/or offering a differing opinion, accountability, and recognition.

In addition, a few individuals expressed plant management turnover as a driver of lower morale. Based on a review of LCCT organizational charts, we determined there have been six plant managers since 2011.

RISKS TO OPERATIONS

Based on our interviews, we identified risks to operations that, if unaddressed, could hinder LCCT's effectiveness. Several individuals expressed concerns related to parts needed to perform their job responsibilities and a perceived lack of money for projects or plant repairs. A couple of individuals indicated some plant equipment is old or obsolete, making it difficult to get parts needed.

In addition, several individuals indicated the need for additional training related to their job duties. According to a recent discussion with the LCCC manager-integrated CC and CT site, gas technician training is a 26-month program that provides classroom and on-the-job training; however, the training provided is general and not site-specific. In addition, the manager stated the training does not prepare gas plant technician trainees to fully meet the job requirements of a gas technician, requiring the site to provide them additional coaching and training.

According to the LCCC manager-integrated CC and CT site, actions are being taken to address these training concerns and to supplement the existing gas technician training. Specific actions include (1) hiring an external company to build a site-specific training plan and curriculum; (2) constructing a site-specific instrumentation and controls (I&C) simulator that will allow technicians to practice on site-specific equipment; and (3) pairing non-core-skilled I&C technicians with core-skilled I&C technicians for further on-the-job training.

Concerns related to training are similar to those expressed during other OIG evaluations at TVA's gas plants. We recently completed evaluations at Johnsonville CT⁴ and John Sevier Combined Cycle⁵ and determined training was a risk at both sites. During discussions with Gas Operations management, we determined training is a fleet wide concern.

RECOMMENDATIONS

We recommend the Manager-Integrated CC and CT site, LCCC, address:

1. Concerns related to employees' relationships with other team members.

TVA Management's Comments – Gas Operations' management agreed with the recommendation. See Appendix B for TVA management's complete response.

⁴ Evaluation 2021-15790, *Organizational Effectiveness - Johnsonville Combustion Turbine*, April 20, 2021.

⁵ Evaluation 2021-15802, *Organizational Effectiveness - John Sevier Combined Cycle Plant*, July 7, 2021.

2. Perceptions pertaining to parts needed to perform jobs and a lack of money for equipment repairs.

TVA Management's Comments – Gas Operations' management agreed with the recommendation. See Appendix B for TVA management's complete response.

TVA Values	
Safety	We are uncompromising in our commitment to the safety and well-being of our teammates and the communities we serve.
Service	We are proud to be of service in the communities in which we live, work, and play.
Integrity	We are honest and straightforward, always doing the right thing with integrity.
Inclusion	We treat everyone with dignity and respect – emphasizing inclusion by welcoming each person's individuality so we can reach our full potential.

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

September 30, 2021

David P. Wheeler, WT 2C-K

REQUEST FOR COMMENTS – DRAFT EVALUATION 2021-17257 – ORGANIZATIONAL
EFFECTIVENESS – LAGOON CREEK COMBUSTION TURBINE PLANT

This is in response to your memorandum dated August 31, 2021. After review of the draft evaluation, please see the following response for organizational effectiveness.

We would like to thank Andi R. McCarter for her diligence and support to optimize the Gas Operations workforce by identifying opportunities for organizational effectiveness.

Recommendations

We recommend the Integrated CC/CT Site Manager address:

Concerns related to employees' relationships with other team members.

Response

Gas Operations agrees with this recommendation.

Perceptions pertaining to parts needed to perform jobs and a lack of money for equipment repairs.

Response

Gas Operations agrees with this recommendation.

Thank you for allowing us to provide these comments. Please contact us if you have any questions.



Jason B. Garrison
Integrated CC/CT Site Manager
Lagoon Creek Combustion Turbine Plant

JBG

cc:

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