



**Memorandum from the Office of the Inspector General**

September 26, 2018

Drew T. Reid, PAC 1A-DRK

**REQUEST FOR FINAL ACTION – EVALUATION 2018-15558 – ORGANIZATIONAL  
EFFECTIVENESS – PARADISE COMBINED CYCLE PLANT**

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, please contact Amy R. Rush, Evaluations Manager, at (865) 633-7361 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

ARR:KDS

Attachment

cc (Attachment):

TVA Board of Directors  
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OIG File No. 2018-15558



Office of the Inspector General

# *Evaluation Report*

To the Manager, Paradise  
Combined Cycle Plant

# **ORGANIZATIONAL EFFECTIVENESS – PARADISE COMBINED CYCLE PLANT**

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Evaluation Team

Alina Karpich  
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Evaluation 2018-15558

September 26, 2018

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# Evaluation 2018-15558 – Organizational Effectiveness – Paradise Combined Cycle 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. 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) 2017 3-year Enterprise Risk Profile recognized that ongoing workforce refinement<sup>i</sup> might negatively affect the performance environment. Therefore, employee engagement is critical.

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. This evaluation focuses on Paradise Combined Cycle Plant (PCC), which is in TVA's eastern region gas division under the Gas and Hydro Operations business unit within Power Operations. TVA's Power Operations mission is to "serve the people of the valley by working more efficiently and effectively to produce sustainable results by safely providing cleaner, low cost, reliable power," with PCC focusing on base dispatchable<sup>ii</sup>/intermediate operation<sup>iii</sup> in fiscal year 2018 and base dispatchable in fiscal year 2019. The objective of this evaluation was to identify strengths and risks that could impact PCC'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 PCC's personnel and performance. These strengths included (1) organizational alignment, (2) teamwork, and (3) management support. However, we also identified issues that could pose risks to PCC's effectiveness and its continued ability to meet its responsibilities, including achievement of Gas Operations' initiatives. These issues related to gaps in training and management communication.

<sup>i</sup> Refinement of the workforce includes activities such as reduction in force.

<sup>ii</sup> High-energy units that produce at full output unless needed to respond to decreased demand.

<sup>iii</sup> An intermediate plant supplements the power produced by base load plants during high demand times.



# Evaluation 2018-15558 – Organizational Effectiveness – Paradise Combined Cycle Plant

## EXECUTIVE SUMMARY

Based on our findings and using TVA’s Business Operating Model, we assessed PCC’s level of risk in the areas of alignment, engagement, and execution. As shown in the table below, we determined:

- Alignment risk is rated low based on alignment of management and employee goals, which supported Gas Operations’ initiatives as well as Power Operations’ and TVA’s missions.
- Engagement risk is rated low because of teamwork and management support.
- Execution risk is rated medium because of gaps in training and communication.

	Low Risk	Medium Risk	High Risk
<b>Alignment</b>	X		
<b>Engagement</b>	X		
<b>Execution</b>		X	

### What the OIG Recommends

We recommend the Manager, PCC:

1. Determine where current gaps in employee training exist and ensure employees receive training as needed and required.
2. Assist direct managers on a strategy for improving communication with employees, including receptivity of feedback, as needed.

### TVA Management’s Comments

PCC management agreed with the findings and recommendations in this report and described planned actions related to training and management communication. 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. 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 2017 3-year Enterprise Risk Profile recognized that ongoing workforce refinement<sup>1</sup> might negatively affect the performance environment. Therefore, employee engagement is critical.

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. This evaluation focuses on TVA's Paradise Combined Cycle Plant (PCC), which is in TVA's eastern region gas division under the Gas and Hydro Operations business unit within Power Operations. TVA's Power Operations mission, according to TVA's fiscal year (FY) 2018 through FY2020 Business Plan Summary, is to "serve the people of the valley by working more efficiently and effectively to produce sustainable results by safely providing cleaner, low cost, reliable power," with PCC focusing on base dispatchable<sup>2</sup>/intermediate<sup>3</sup> operation in FY2018 and base dispatchable in FY2019.

PCC, one of TVA's eight combined cycle facilities, began commercial operation on April 7, 2017. PCC is located in Drakesboro, Kentucky, directly adjacent to the Paradise Fossil Plant. Plant design allows for simple cycle operation with a summer capacity of approximately 600 megawatts (MW) or combined cycle operation with a baseload capacity of 1,025 MW and with additional supplemental duct firing<sup>4</sup> operation of 1,130 MW. PCC generation replaced Paradise Fossil Plant's Units 1 and 2, which were retired in April 2017.

As of March 29, 2018, PCC had 25 employees, including the maintenance manager, the operations manager, and the plant manager. Of these 25 employees, 22 transferred to PCC from TVA coal plants.

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<sup>1</sup> Refinement of the workforce includes activities such as reduction in force.

<sup>2</sup> High-energy units that produce at full output unless needed to respond to decreased demand.

<sup>3</sup> An intermediate plant supplements the power produced by base load plants during high demand times.

<sup>4</sup> Supplementary duct firing uses heated gas as an oxygen source to generate more steam for increased peak power production.

## **OBJECTIVE, SCOPE, AND METHODOLOGY**

The objective of this evaluation was to identify strengths and risks that could impact PCC's organizational effectiveness. We assessed operations as of April 2018 and culture at the time of our interviews, which occurred during April and May 2018. To achieve our objective, we:

- Reviewed TVA's FY2018 through FY2020 Business Plan Summary, FY2019 through FY2021 Gas Fleet Alignment Plan, and FY2018 through FY2020 Eastern Region Gas Challenge Package that contains business planning information to gain an understanding of PCC's goals and how PCC's responsibilities align with Gas Operations' initiatives and the Power Operations' mission.
- Reviewed TVA values and competencies (see Appendix A) for an understanding of cultural factors deemed important to TVA.
- Conducted interviews with 25 employees, including the maintenance manager, the operations manager, and the plant manager, and analyzed the results to identify themes related to strengths and risks that could affect organizational effectiveness.
- Reviewed select TVA Standard Programs and Processes and guidelines to gain an understanding of processes.
- Reviewed FY2017 performance management documentation for PCC management and employees and analyzed the documentation for alignment with departmental and organizational goals.
- Assessed the overall effectiveness of PCC 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 PCC's personnel and performance. These strengths included (1) organizational alignment, (2) teamwork, and (3) management support. However, we also identified issues that could pose

risks to PCC's effectiveness and its continued ability to meet its responsibilities, including achievement of Gas Operations' initiatives. These issues related to gaps in training and management communication.

## **STRENGTHS**

During the course of our interviews and data analyses, we identified strengths that positively affected the day-to-day activities of PCC personnel and performance. These strengths included (1) organizational alignment, (2) teamwork, and (3) management support.

### **Organizational Alignment**

Our review of performance management documentation for PCC managers and employees indicated that performance goals were consistent and aligned with Gas Operations' initiatives. We also confirmed that Gas Operations' initiatives supported Power Operations' and TVA's missions. Also, most employees felt their goals align with the overall mission of the plant and TVA.

### **Teamwork**

TVA's collaboration value of "fostering teamwork, developing effective partnerships, and valuing diversity as we work together to achieve results" was evident through interviews with employees of PCC. Most employees provided positive comments indicating their teams work well together and as a plant, and they feel valued in their roles.

Many employees expressed positive morale in their groups and at PCC as a whole. Some individuals pointed out their satisfaction in working at this facility, and a few indicated that PCC has some of the best employees at TVA. In addition, most employees noted no concerns about ethics at PCC.

### **Management Support**

Most employees noted they have the support and resources they need from their direct manager and what they need in regard to tools. Also, many employees commented positively in regard to trust with their direct managers and the plant manager, including feeling comfortable to raise a differing opinion.

## **RISKS**

We identified issues that could pose risks to PCC's effectiveness and its continued ability to meet its responsibilities, including achievement of Gas Operations' initiatives. These issues related to gaps in training and management communication.

### **Training**

According to the FY2018 through FY2020 Gas Challenge Package that contains business planning information for TVA's eastern gas facilities, TVA expects PCC to be "fully operational," which indicates that staff should be capable of

adequately operating the plant. One of the three risks listed for PCC according to the risk summary within that document, includes “inexperienced operating staff on Gas technology.” As stated previously, 22 of 25 employees transferred to PCC from TVA coal plants. In the course of interviews, many employees expressed that gas plant training is lacking. Further, some employees indicated that, in general, the current training necessary to do their jobs (such as maintenance related to specific equipment or TVA systems) is lacking. A couple of employees also mentioned that PCC has a million-dollar simulator it is not utilizing. Some employees believe the limited opportunity to get training is related to the plant’s lean staffing levels.

### **Management Communication**

According to TVA’s defined leadership competencies, management is expected to communicate honestly and effectively and to foster an environment where communication is valued, concerns are addressed, and input is sought. In the course of our interviews, many employees indicated they feel supported by their direct managers and plant management; however, some employees indicated that communication, including receptivity of feedback from direct managers, is limited.

## **CONCLUSION**

Within PCC, we found that (1) goals align from employees up through TVA, (2) teamwork is a strength, and (3) employees feel their direct managers provide the support/resources they need. However, gaps in training and communication could pose a threat to PCC’s effectiveness and its continued ability to meet its responsibilities, including achievement of Gas Operations’ initiatives. Based on our findings and using TVA’s Business Operating Model, we assessed PCC’s level of risk in the areas of alignment, execution, and engagement. We determined:

- Alignment risk is rated low based on alignment of management and employee goals, which supported Gas Operations’ initiatives as well as Power Operations’ and TVA’s missions.
- Engagement risk is rated low because of teamwork and management support.
- Execution risk is rated medium because of gaps in training and communication.

## **RECOMMENDATIONS**

We recommend the Manager, PCC:

1. Determine where current gaps in employee training exist and ensure employees get training as needed and required.
2. Assist direct managers on a strategy for improving communication with employees, including receptivity of feedback, as needed.

**TVA Management's Comments** – TVA management agreed with our recommendations. To address the recommendation related to training gaps, Gas Operations has taken an initiative to make necessary changes to the training program to remedy the shortfalls experienced at PCC. In addition, PCC management has continued to focus heavily on providing improved site-specific and skill-specific training that will support personnel needs. To address the recommendation related to management communication, the leadership team at PCC has made efforts to improve on the core competency of effective communication through internal awareness along with workshops and development opportunities, which they plan to continue. See Appendix B for TVA management's complete response.

**Auditor's Response** – We concur with TVA management's planned and completed actions.

<b>TVA Values</b>	
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



Tennessee Valley Authority, Paradise Combined Cycle, 5562 Rockport Paradise Road, Drakesboro, KY 42337

Organizational Effectiveness Evaluation 2018-15558 - Organizational Effectiveness  
Paradise Combined Cycle

Paradise Combined Cycle Management Comments:

Overall, PCC Management agrees with the findings and recommendations from the evaluation.

With regards to the Strengths identified, we also concur that organizational alignment, teamwork, and management support have been areas we would consider the site to perform well. We have garnered a culture of openness and provide an open floor for each person to have a voice to praise or criticize or make recommendations openly. Inspiring Trust and Engagement remains a core competency for all TVA Employees and we strive to exemplify this behavior within our daily activities.

With regards to the Risks identified, we also concur that Training and Management Communication are areas that deserve increased attention and a set action plan. The Gas Training program is very different from the system-based Coal Operations training program and the training that most shop-focused, craft/skill Maintenance personnel receive. With most PCC personnel transferring from Coal to Gas, this was their expectation with the Gas Training program. A large portion of the training program performed at PCC took place when much of the equipment was yet to be in place as the site was under construction limiting the early training opportunities on an established site. Gas Operations has identified the need to improve the CCOT training program and has taken an initiative to make the necessary changes to the program to remedy the shortfalls experienced at PCC.

Since this evaluation, PCC Management has continued to focus heavily on providing improved site-specific and skill-specific training that will support the personnel needs. In regards to the lack of simulator utilization, we agree that scenario based Operations training has been lacking. In FY19 we will have returned the site to a full Operations headcount allowing more flexibility to utilize the simulator as staffing levels are adequate to cover shifts and support training functions. PCC's Management Team will ensure Simulator Based Training is performed on at least a semi-annual basis with each employee. The Simulator continues to be an invaluable resource for PCC as we have installed new logic and verified the adequacy of existing logic prior to placing the modifications into a "live" system. This has occurred numerous times over the course of the first year of commercial operation and allows the site to find potential flaws and test each design in a simulated environment rather than on a live unit.

Management Communication gaps identified seem to primary revolve around the receptivity of feedback. The important caveat to fostering an environment that drives for open communication is the ability to receive that feedback and follow-up accordingly. The leadership team at PCC has already made efforts to improve on the Core Competency of Effective Communication through our own internal awareness along with workshops and development opportunities. These leadership development sessions will continue as we continue to improve, meet our goals, and ultimately meet the strategic imperatives to achieve our Mission of Service to PCC and TVA.

The employees at Paradise CC understand the importance of alignment between strategy, team engagement, and operational performance and strive for excellence each day. We appreciate the opportunity to highlight the team's strengths and continue on our improvement areas as we provide our Mission of Service to the TVA Valley.

Drew Reid  
Plant Manager - TVA Paradise Combined Cycle

Session	Focus	Date	Status	Owner
<b>Leadership Dev Session w/ VP of Civil Projects</b>	Active Listening / Asking Questions	8/2/2018	X	Reid
<b>Mgmt 3.0 Leadership Sessions</b>	Different Value / Core Compt	Bi-Weekly	IP	Reid
<b>PO Leadership Conf - Ivan Phipps</b>	Amplify your Communication Skills	9/13/2018	X	Reid
<b>Personal Listening (thru TVA LMS)</b>	Develop effective personal comm strategy	Winter 2018	IP	Reid
<b>5 Behaviors of a Cohesive Team</b>	Learn as a team the key components of the Cohesive Team Model	Winter 2018	IP	Reid
Training	Focus	Date	Status	Owner
<b>Various Training sessions</b>	Arc Flash, Confined Space, Scaffold Competent, Emergency Response	Spring/ Summer 2018	X	Scallions
	HU Crew Leaders, Siemens Breakers, HRSG Overview,	Spring/ Summer 2018	X	Scallions
	CC Users Groups, 7FA Users Groups, Toshiba Users Groups	Spring/ Summer 2018	X	Reid
	Apparent Cause Evaluation	Spring/ Summer 2018	X	Reid
	Ovation Users Training Course (Controls Spec + Lead CCOT)	Spring/ Summer 2018	X	Scallions / Lear
	Resume and Interview Classes	Spring/ Summer 2018	X	Russell
<b>Simulator (ATI Setup for Operations)</b>	Quarterly Simulator Scenario (FY19 Q1)	FY19 Q1	By 12/31/ 2018	Scallions
	Quarterly Simulator Scenario (FY19 Q2)	FY19 Q2	By 03/30/ 2019	Scallions
	Quarterly Simulator Scenario (FY19 Q3)	FY19 Q3	By 06/30/ 2019	Scallions
	Quarterly Simulator Scenario (FY19 Q4)	FY19 Q4	By 09/30/ 2019	Scallions