



Memorandum from the Inspector General, ET 4C-K

March 30, 2016

David W. Sorrick, LP 3K-C

**REQUEST FOR MANAGEMENT DECISION – EVALUATION 2016-15357 – BULL RUN  
FOSSIL PLANT ORGANIZATIONAL EFFECTIVENESS**

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.

Information contained in this report may be subject to public disclosure. Please advise us of any sensitive information in this report that you recommend be withheld.

If you have any questions or wish to discuss our findings, please contact me at (865) 633-7300 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.

Richard W. Moore

JLP:BSC

Attachment

cc (Attachment):

TVA Board of Directors  
Susan E. Collins, LP 3A-C  
James R. Dalrymple, LP 3K-C  
Michael C. Easley, BRF 1A-CTT  
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OIG File No. 2016-15357



Office of the Inspector General

# *Evaluation Report*

To the Vice President,  
East Region Coal and Gas

# **BULL RUN FOSSIL PLANT ORGANIZATIONAL EFFECTIVENESS**

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Evaluation 2016-15357

March 30, 2016

## **ABBREVIATIONS**

BRF	Bull Run Fossil Plant
EFOR	Equivalent Forced Outage Rate
FY	Fiscal Year
OIG	Office of the Inspector General
SCR	Selective Catalytic Reduction
TVA	Tennessee Valley Authority

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- A. TVA VALUES AND LEADERSHIP COMPETENCIES
- B. MEMORANDUM DATED MARCH 29, 2016, FROM MEGAN T. FLYNN AND DAVID W. SORRICK TO RICHARD W. MOORE



# Evaluation 2016-15357 – Bull Run Fossil Plant Organizational Effectiveness

## EXECUTIVE SUMMARY

### Why the OIG Did This Evaluation

This is one in a series of organizational effectiveness reviews the Office of the Inspector General (OIG) will be conducting across the Tennessee Valley Authority's (TVA) business units. Organizational effectiveness, as defined in this review, is the ability of an organization to achieve its mission and goals. To achieve and sustain organizational effectiveness, there should be alignment between strategy, operational performance, and team engagement. 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, 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. In 2015, TVA recognized in its 3-year Strategic Risk Profile that ongoing organizational refinement and optimization might negatively affect the performance environment.

Therefore, employee engagement is critical. An inherent component of employee engagement is the degree to which employees feel comfortable voicing problems or identifying risks to his or her supervisor(s). Strong employee engagement not only boosts productivity for a company but also creates an "early warning system" when employees point out risks lurking beyond the radar of management.

Bull Run Fossil Plant (BRF) is one of nine fossil plants relied upon to assist TVA in meeting its mission. BRF is located on the north bank of Bull Run Creek in Anderson County, Tennessee, and is the only single-generator coal-fired plant in TVA's system, with a net generating capacity of 881 megawatts. As of October 21, 2015, BRF had 89 employees. This review assesses operational and cultural strengths and areas for improvement that could impact BRF's organizational effectiveness.

### What the OIG Found

Overall, BRF has significant opportunity to improve its effectiveness. While we identified strengths associated with trust of first-line supervisors and teamwork, BRF's performance in fiscal year 2015 was mixed, and the morale of the workforce was low primarily due to the impacts of corporate decisions and limited trust between plant management and employees.



## Evaluation 2016-15357 – Bull Run Fossil Plant Organizational Effectiveness

### EXECUTIVE SUMMARY

The specific operational opportunities for improvement we identified included (1) plant performance, (2) equipment condition, (3) work management, (4) safety, and (5) staffing. In addition, we found a number of factors that impacted trust and employee morale, including (1) corporate decisions, (2) behaviors displayed by a manager, (3) an increase in contractor usage, and (4) ineffective communication between plant management and employees. These operational and work environment issues, if left unresolved, could increase the risk that BRF employee engagement levels and performance levels will not be sufficient for the plant to meet its mission.

According to TVA management, they have developed and are implementing (1) plans to staff additional positions, (2) consistent reinforcement of safety standards to the workforce, (3) a pilot work management system for lightly staffed coal plants, (4) a plan for funding prioritizations across Power Operations, and (5) a detailed leadership developmental plan.

#### What the OIG Recommends

We recommend the Vice President, East Region Coal and Gas, working with the BRF Plant Manager:

1. Verify safety related concerns are coded properly in the system for prioritization and tracking purposes. Ensure personnel responsible for coding work orders do not have potential conflicts with their Performance Review and Development goals.
2. Review overtime hours to determine the safety impacts and if there should be limits to reduce fatigue.
3. Consider providing job-specific training for coordinators.
4. Continue with actions implemented since our review started. Modify these plans as necessary to include (a) ongoing methods for obtaining feedback, (b) an ongoing effective resolution process, and (c) key indicators to gauge the effectiveness of the actions.

We recommend the Senior Vice President, Power Operations:

1. Work with Information Technology to determine if modifications can be made to Maximo's automated emails for condition reports to include status updates and/or related work orders for tracking purposes.



## Evaluation 2016-15357 – Bull Run Fossil Plant Organizational Effectiveness

### EXECUTIVE SUMMARY

2. Review the nine-group scheduling costs versus benefits to determine if it is the right course of action for Fossil Operations.
3. Hold discussions with employees regarding coal industry changes and consider instituting a transition program to help prepare employees for the future and potential plant closures.
4. Review the injury reporting process and solicit feedback from employees to ensure employees feel safe to report all injuries.
5. Implement steps to track the costs associated with rework at all fossil plants.

The OIG will conduct a follow-up review of BRF approximately 6 months after the final report date to assess progress in addressing the report's findings and recommendations.

#### **TVA Management's Comments**

TVA management reviewed and generally agreed with our draft report, and TVA and BRF management are currently working on a plan to address the recommendations. See Appendix B for TVA management's complete response.

## **BACKGROUND**

This is one in a series of organizational effectiveness reviews the Office of the Inspector General (OIG) will be conducting across the Tennessee Valley Authority's (TVA) business units. Organizational effectiveness, as defined in this review, is the ability of an organization to achieve its mission and goals. To achieve and sustain organizational effectiveness, there should be alignment between strategy, operational performance, and team engagement. 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, 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. In 2015, TVA recognized in its 3-year Strategic Risk Profile that ongoing organizational refinement and optimization might negatively affect the performance environment.

Therefore, employee engagement is critical. An inherent component of employee engagement is the degree to which employees feel comfortable voicing problems or identifying risks to his or her supervisor(s). Strong employee engagement not only boosts productivity for a company but also creates an "early warning system" when employees point out risks lurking beyond the radar of management.

## **BULL RUN FOSSIL PLANT**

Bull Run Fossil Plant (BRF) is one of nine fossil plants relied upon to assist TVA in meeting its mission. BRF's mission, in support of the overarching TVA mission, is "to provide low cost, reliable generation and ancillary services while keeping our people safe and ensuring compliance with environmental regulations." BRF is located on the north bank of Bull Run Creek in Anderson County, Tennessee, and is the only single-generator coal-fired plant in TVA's system, with a net generating capacity of 881 megawatts.

TVA continues to shift to a newer, cleaner, more diverse generation portfolio. As a result of changes to the generation mix and fluctuations in fuel prices, BRF shifted from a seasonal generating facility<sup>1</sup> to a normal economic dispatch facility<sup>2</sup> in May 2014. Therefore, BRF is called upon to start up and shut down as the power needs increase or decrease. In fiscal year (FY) 2015, BRF had 17 unit startups and generated 2.77 million megawatt hours for the TVA system.

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<sup>1</sup> The seasonal period is defined as January to February for the winter season and June to August for the summer season.

<sup>2</sup> The unit will be available all months of the year.

TVA contracted with Alstom Power in 2014 to identify procedural, process, or equipment changes necessary to enable BRF to achieve the desired reliability and start-up performance. Alstom Power made several recommendations centered on increasing financial support and preserving the infrastructure. Some of the recommendations, which related to equipment condition, work management, staffing, and corporate decisions, included:

- Thoroughly investigating equipment failures and replacing the upper deflection arch.
- Developing a work management process that encompasses planning, scheduling, implementing, and closing work orders. Other work management recommendations included (1) giving top priority for scheduling preventive maintenance, (2) implementing three week scheduling, (3) strengthening the maintenance group by hiring a full-time experienced planner, and (4) fully utilizing Maximo capabilities.
- Implementing a four-group rotation instead of nine-group rotations in operations for team concept and for collective skill enhancement.
- Keeping the top management in place for at least five years.

As of October 21, 2015, BRF had 89 employees. These employees work primarily within four separate departments: (1) Maintenance, (2) Operations, (3) Outage, and (4) Engineering. The current BRF plant management team consists of the Plant Manager and his direct reports. In addition to the plant management team, work crews have first-line supervisors that provide the day-to-day immediate supervision to the workforce. The workforce at BRF primarily consists of union represented craft personnel.

BRF's FY2016 through FY2018 business plan sets forth key operational metrics for the plant. Key metrics include:

- Equivalent Forced Outage Rate (EFOR) – The percentage of generation lost due to forced outages and forced deratings.
- Seasonal EFOR (sEFOR) – Measures the generation lost due to forced events as a percentage of time the unit would have been scheduled to run from December through March and June through September.
- Reportable Environmental Events – An environmental event at a TVA facility or elsewhere caused by TVA or TVA contractors that violates permit conditions or other regulatory requirements and triggers oral or written notification to or enforcement action by a regulatory agency.
- Recordable Injuries – An injury that results in death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, loss of consciousness, or significant injury or illness diagnosed by a physician or other licensed healthcare professional.
- Significant Human Performance Events – An event that occurs because of latent error or active error related to industrial safety, clearance, regulatory

event, radiation exposure, or coal, gas, hydro, or transmission facility operation. Human performance is defined as why people do what they do the way they do it. This determines the set of behaviors executed to accomplish specific results.

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

The objective of this evaluation was to identify operational and cultural strengths and areas for improvement that could impact BRF's organizational effectiveness. We assessed operations and culture from October 2012 to December 2015. To complete the evaluation, we:

- Reviewed BRF's FY2016 through FY2018 business plan to gain an understanding of BRF's goals.
- Reviewed TVA values, behaviors, and competencies (see Appendix A) for understanding of cultural factors deemed as important to TVA.
- Administered a questionnaire to BRF personnel and assessed results in order to identify themes related to strengths and areas for improvement. We also held informational sessions where OIG personnel were available for questions and/or discussions.
- Interviewed the Plant Manager and direct reports<sup>3</sup> from BRF Operations, Maintenance, and Outage groups as well as other designated supervisory/management-level employees to obtain their perceptions related to strengths and areas for improvement for operational and cultural factors.
- Conducted interviews with 61 BRF employees, 10 employees from other TVA organizations,<sup>4</sup> and 6 staff augmentation contractors at BRF and analyzed the results to identify themes related to strengths and areas for improvement.
- Reviewed Fossil Power Group and BRF operational and cultural data to utilize in our assessment of themes related to strengths and areas for improvement.
- Reviewed select TVA Standard Programs and Processes and guidelines to gain an understanding of processes and controls.
- Reviewed results of TVA's 2015 employee engagement survey to gain additional understanding of the BRF work environment.

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

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<sup>3</sup> Direct reports also included an Engineering Manager, but due to transition in that position, we did not interview the individual.

<sup>4</sup> Other organizations included Facilities, Safety, Materials Management, Human Resources, Financial, Generation Construction Projects and Services, and Environmental Operations.

## **OBSERVATIONS**

Overall, BRF has significant opportunity to improve its effectiveness. We observed similar conditions to those raised in the 2014 Alstom Power review. While we identified strengths associated with trust of first-line supervisors and teamwork, BRF's performance in FY2015 was mixed, and the morale of the workforce was low primarily due to the impact of corporate decisions and trust between plant management and employees. Specific operational opportunities for improvement relate to (1) plant performance, (2) equipment condition, (3) work management, (4) safety, and (5) staffing. In addition, we found a number of factors that impacted trust and employee morale, including (1) corporate decisions, (2) behaviors displayed by a manager, (3) an increase in contractor usage, and (4) ineffective communication between plant management and employees. These operational and work environment issues, if left unresolved, could increase the risk that BRF employee engagement levels and performance levels will not be sufficient for the plant to meet its mission. During the course of our evaluation, TVA management began taking action to address certain observations in this report.

The observations, as presented below, are related to the strengths and opportunities for improvement that could increase the effectiveness of BRF. These observations are based on the analyses of information gathered as described above.

## **STRENGTHS**

During the course of our interviews and data analyses, we identified strengths that positively affect the day-to-day activities of employees at the plant and, ultimately, performance at BRF. The strengths included (1) first-line supervisors and (2) teamwork.

### **Most First-Line Supervisors are Trusted and Well Respected**

As part of TVA's leadership competency, "Effective Communication," leaders are encouraged to foster an environment where communication is valued and concerns raised receive frank responses, empathy, and follow up. Employees stated they have good communication with their first-line supervisors. Employees also indicated they respect and feel heard by their immediate supervisors and are comfortable raising a differing opinion. They believe first-line supervisors are knowledgeable about their job. Participants in TVA's 2015 employee engagement survey favorably rated their immediate manager/supervisor in a number of areas such as listening to problems, ideas, and concerns; encouraging employees to work together as a team; dealing fairly with employees; and acting with integrity.

### **Teamwork**

TVA's "Collaboration" value was evident in the employees at BRF. Teamwork was identified as a strength by employees who expressed a sense of camaraderie and a desire to help each other. In TVA's 2015 employee

engagement survey, participants responded favorably when asked about cooperation among employees in their department.

## **OPERATIONAL OPPORTUNITIES FOR IMPROVEMENT**

During the course of our interviews and data analyses, a number of potential improvement areas were identified that impact the day-to-day activities of employees at the plant and, ultimately, operational performance at BRF. The operational areas for improvement included (1) plant performance, (2) equipment condition, (3) work management, (4) safety, and (5) staffing.

### **Plant Performance**

BRF's performance was mixed in FY2015. Although BRF met its targets for Reportable Environmental Events and human performance events, targets were not met for recordable injuries and EFOR. BRF's safety performance improved in FY2015 from previous years. Recordable injuries declined from four in FY2014 to one in FY2015. In addition, the safety work order backlog has declined. Employees and management attributed the improving safety performance to the dedicated corporate safety consultant.

BRF's EFOR exceeded target in both FY2014 and FY2015, more than doubling in FY2015, making it the worst EFOR in the fleet. BRF's sEFOR also increased steadily from FY2012 to FY2015. BRF struggled to perform and meet expected online times. Equipment failures often resulted in forced outages during startups. According to BRF's recovery plan, the biggest risk for BRF is for performance to continue to decline because of the condition of the equipment.

### **Equipment Condition**

Equipment has been neglected due to a history of deferred capital projects at BRF. Employees, first-line supervisors, and plant management expressed concerns regarding BRF's equipment condition such as the state of the auxiliary boiler, a perception that TVA is running equipment to failure, use of operational work arounds, and installation of temporary fixes/patches as opposed to permanent solutions. The average outage and capital spend for BRF was the lowest out of the six remaining long-term coal assets in FY2010 through FY2015. As a result, aging equipment has not been well maintained. System health reports indicated the majority of equipment (87 percent) is rated less than acceptable. In addition, there is a large backlog of both preventive and corrective maintenance work orders.

Management and employees recognized BRF has started to receive more funding, which is seen as positive. The upcoming outages in FY2017 through FY2025 are considered major outages with significant equipment condition improvement projects planned. The FY2017 outage has an estimated spend of \$58 million with plans to address auxiliary boiler repairs, upper deflection arch tubes, and Selective Catalytic Reduction (SCR) system casing. The FY2019 outage scope includes replacement of the auxiliary boiler and permanent

remediation of SCR issues. Completion of the planned outages to improve BRF's equipment condition is critical to the future of the plant and the morale of its employees.

### **Work Management**

Along with increased funding, an effective and efficient work management process is critical to meeting BRF's mission. BRF's current work management processes have significant opportunities for improvement in the following areas:

- *Planning and Prioritization* – Employees report that work is often not properly planned, and materials are often unavailable when work is scheduled to start. Coordinator training and experience are believed to be contributing factors. In addition, BRF only has two coordinators to plan the work, which is considered insufficient to meet the plant's needs. Some employees also reported they are given limited opportunities to provide input on prioritization of work. According to plant management and coordinators, communication and collaboration when planning and prioritizing work could improve.
- *Scheduling* – Plant management stated BRF struggles to schedule work beyond one or two weeks. In addition, they indicated emergent work, which often results from equipment condition, takes precedence over scheduled work, often resulting in delays to scheduled work and an increase of the backlog. According to some employees, work delays and changes to the schedule are not effectively communicated.
- *Condition Reports* – The condition report<sup>5</sup> process causes frustration due to reports being closed without associated work being completed. Employees report feedback is not provided for the condition reports they submit and, therefore, the same issues are submitted repeatedly.

### **Safety**

During our conversations with employees, first-line supervisors, and plant management, concerns were identified related to safety and injury reporting. We heard repeated concerns of long-standing safety hazards at BRF. Specifically, there were concerns of falling ductwork and lagging from the SCR system (depicted in Photo 1 on the following page) and concerns of poor air quality and combustible dust risk due to coal and gas leaks (depicted in Photos 2 and 3 on the following page). Employees stated their safety concerns are not addressed; as a result, they may no longer be engaging in the safety process.

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<sup>5</sup> Employees enter condition reports into TVA's Maximo system to describe issues with equipment, recommend a work order, provide actions taken to resolve the issue, and suggest solutions. Submissions are reviewed the next morning in the Work Screen review.



Photo 1



Photo 2



Photo 3

In addition, some employees expressed the injury reporting process discourages them from reporting due to the feeling of being questioned or blamed for the injury. Employees also indicated the paperwork to report injuries is cumbersome.

As previously mentioned, the safety work order backlog has declined; however, some concerns were raised that the backlog may be understated due to items not being coded properly as safety. Plant management is responsible for coding work orders. For FY2015, the age of safety work orders was a part of plant management's individual Performance Review and Development safety goals. This could create a conflict for plant management and a perception that work orders are not being coded correctly in order to meet safety goals.

### Staffing

According to BRF employees, first-line supervisors, and plant management, staffing levels are inadequate. BRF's headcount was cut drastically in FY2014. Employees expressed frustration that additional systems/assets, such as the dewatering<sup>6</sup> facility, have been installed but no additional staff has been added. Employees indicated, as a result, they are spread too thin and are not able to adequately maintain the equipment. Also, employees reported they have been working excessive overtime hours since staffing levels were reduced and believe it could cause safety issues. In FY2015, BRF employees worked an average of 555 overtime hours per employee. Seventeen percent of BRF's employees worked two to three times the average.

Another staffing concern was raised regarding the switch in Operations to a nine-group rotation. Supervisors stated performance reviews are more difficult with a nine-group rotation because they do not work with their employees consistently.

<sup>6</sup> The dewatering facility allows TVA to manage bottom ash and gypsum in dry form.

## CULTURAL OPPORTUNITIES FOR IMPROVEMENT

During the course of our interviews and data analyses, we identified potential improvement areas that have affected the morale and engagement of employees at the plant and, ultimately, operational performance at BRF. The cultural areas for improvement included (1) concerns about corporate decisions and (2) trust between employees and plant management.

### Concerns Raised About Corporate Decisions

We identified concerns attributed to the impact of corporate decisions that directly affected employees' trust and morale. These concerns included (1) plant dispatch status changes, (2) staffing level cuts, (3) insufficient funding that resulted in deteriorated equipment condition, (4) increased contractor usage, and (5) plant closures.<sup>7</sup> In our conversations with employees, first-line supervisors, and plant management, morale was reported to be low. Some employees indicated there has been limited feedback on the rationale of decisions. In addition, employees indicated TVA's cultural initiatives are ineffective and have no impact on the morale of BRF employees. Additional communication involving these issues could help alleviate employees' concerns.

### Opportunity to Improve Trust

There is an opportunity to improve trust between employees and plant management. Employees expressed difficulties building relationships with plant management because of the high level of management turnover at BRF. Some factors contributing to low trust levels include (1) behaviors displayed by a manager, (2) an increase in contractor usage, and (3) ineffective communication between plant management and employees.

- *Behavior Issues* – While most employees indicated first-line supervisors at BRF are trusted and respected, our interviews identified a manager who displayed behaviors which were not in alignment with TVA's expectations. We discussed the specifics of these behaviors with the appropriate TVA executive managers.
- *Increase in Contractor Usage* – Employees do not support the heavy use of contractors. Employees feel hiring additional annual employees would be cheaper than using contractors. In addition, employees expressed concerns of contractor rework and limited oversight.
- *Ineffective Communication* – The TVA competency "Effective Communication" encourages managers to communicate honestly and effectively with individuals and groups in a manner that helps them understand the rationale behind decisions. During our conversations with employees, they reported limited interaction with current plant management. In addition, while employees are comfortable raising a differing opinion from their immediate supervisor, some fear retaliation for raising issues to plant management. Employees stated even

<sup>7</sup> Several of BRF's employees were moved to BRF as a result of other TVA coal plant closures.

if they do voice concerns, limited action is taken by plant management to address the issues.

## **CONCLUSION**

BRF is in a state of flux. BRF's performance and reliability continues to decline as a result of existing equipment conditions. TVA needs BRF to be reliable and meet its mission of providing low cost power.

Although monies have been approved for future outage work to improve equipment conditions, employee anxiety is high, and morale and engagement are low. With plant dispatch status changes, staffing level cuts, deferred funding, and deteriorating equipment conditions, it is easy to see why employees are worried.

Due to increasing environmental regulations and the shift to a newer, cleaner, more diverse generation portfolio, the future of coal is uncertain. Several of BRF's employees have already been moved to BRF as a result of other TVA coal plant closures. Employees speculate BRF could be next, which negatively impacts employees' morale.

Overall, TVA's risk is high, not only related to plant performance, but employee engagement. Employees who are not engaged are less likely to warn someone of potential risk. In addition, safety incidents are more likely to occur. All of these factors raise the likelihood that TVA's expenses will ultimately increase, create the possibility of reputation damage for TVA, and reduce the chances that TVA will be aware of risks that more trusting employees would report to TVA management.

Creating the right process going forward to timely identify and resolve issues on an ongoing basis and avoid the accumulation of such will help minimize frustrations and improve trust and engagement in the long run. A continuous process where plant management and employees collaborate to determine optimal solutions to issues can improve trust and teamwork that are essential in enhancing and sustaining organizational effectiveness.

## **MANAGEMENT ACTIONS DURING OUR REVIEW**

According to TVA management, they have developed and are implementing (1) plans to staff additional positions, (2) consistent reinforcement of safety standards to the workforce, (3) a pilot work management system for lightly staffed coal plants, (4) a plan for funding prioritizations across Power Operations, and (5) a detailed leadership developmental plan.

## **RECOMMENDATIONS**

We recommend the Vice President, East Region Coal and Gas, working with the BRF Plant Manager:

1. Verify safety related concerns are coded properly in the system for prioritization and tracking purposes. Ensure personnel responsible for coding work orders do not have potential conflicts with their Performance Review and Development goals.
2. Review overtime hours to determine the safety impacts and if there should be limits to reduce fatigue.
3. Consider providing job-specific training for coordinators.
4. Continue with actions implemented since our review started. Modify these plans as necessary to include (a) ongoing methods for obtaining feedback, (b) an ongoing effective resolution process, and (c) key indicators to gauge the effectiveness of the actions.

We recommend the Senior Vice President, Power Operations:

1. Work with Information Technology to determine if modifications can be made to Maximo's automated emails for condition reports to include status updates and/or related work orders for tracking purposes.
2. Review the nine-group scheduling costs versus benefits to determine if it is the right course of action for Fossil Operations.
3. Hold discussions with employees regarding coal industry changes and consider instituting a transition program to help prepare employees for the future and potential plant closures.
4. Review the injury reporting process and solicit feedback from employees to ensure employees feel safe to report all injuries.
5. Implement steps to track the costs associated with rework at all fossil plants.

The OIG will conduct a follow-up review of BRF approximately 6 months after the final report date to assess progress in addressing the report's findings and recommendations.

## **MANAGEMENT'S COMMENTS**

In response to our draft report, TVA management stated that TVA and BRF leadership agreed with the recommendations in our report and will give consideration to the opportunities for improvement identified.

To address the recommendations posed to the Vice President, East Region Coal and Gas, TVA management stated they:

1. Agreed safety is of paramount importance and will ensure all safety-related concerns are taken seriously and addressed appropriately, including the proper coding, prioritization, tracking, and implementation of safety-related work orders.
2. Will review the overtime hours to determine the safety impacts and make adjustments accordingly.
3. Agreed work management effectiveness is key to the success of BRF. TVA stated they will continue to work on improvements to the work management process including the identification, prioritization, planning, and execution of work at the plant.
4. Agreed communication effectiveness improvement opportunities exist at BRF and are implementing a plan to engage directly with the plant employees in different forums and settings to increase the effectiveness of its communications.

To address the recommendations posed to the Senior Vice President, Power Operations, TVA management stated they:

1. Will continue to work with Information Technology and other stakeholders to increase the effectiveness and efficiencies of Maximo.
2. Will evaluate the current nine-group shift rotation at all of the plants to determine the most effective path forward.
3. Agreed changes to the coal industry have created angst within TVA's workforce due to an uncertain future. Power Operations' leadership will continue to engage employees across Power Operations to communicate the driving forces behind these changes and to help prepare them for potential plant closures in the future.
4. Agreed that near miss, first aid and injury reporting are all critical aspects of its safety improvement plan. Power Operations' leadership will continue to emphasize the importance of transparent reporting to ensure critical lessons are learned and appropriate safety behaviors are reinforced.
5. Understand and agree that all rework should be eliminated and will continue to track rework and work to improve the execution of work at all of its sites with the goal to eliminate rework.

See Appendix B for TVA management's complete response.

<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 & Engagement

March 29, 2016

Richard W. Moore, ET 4C-K

RESPONSE TO REQUEST FOR COMMENTS – DRAFT EVALUATION 2016-15357 – Bull Run  
FOSSIL PLANT ORGANIZATIONAL EFFECTIVENESS

Reference: OIG Memorandum to David W. Sorrick, Vice President Eastern Coal and Gas

This is in response to the recommendations provided in your February 29, 2016, draft evaluation of organizational effectiveness at TVA's Bull Run Fossil Plant. TVA and Bull Run Fossil Plant leadership agrees with the recommendations. Management will give consideration to the opportunities for improvement identified and will inform you of our decisions.

It is important that this evaluation be viewed in context. First, in order to better serve the people of the Tennessee Valley, TVA is shifting to a more balanced energy portfolio that is cleaner and more efficient to operate. This transition involves the closure of several coal-fired plants. TVA strives to ensure consistent, timely and transparent communication about future changes. However, some uncertainties remain, creating anxiety for employees.

Second, leaders at Bull Run Fossil Plant have been working to improve standards to address inconsistent performance. This initiative, combined with the added anxiety around the larger fleet changes, has created some challenges at Bull Run. Management has been intentional in communicating with employees about the performance improvement – and we continue to make progress, as the evaluations suggest.

From a broader TVA perspective, management recognizes the importance of organizational effectiveness as we work together to fulfill our mission of service for the people of the Tennessee Valley. We agree that strong, healthy employee engagement is critical to our organization's overall effectiveness. During the 2015 Business Plan rollout meetings and other forums, we consistently reinforce TVA's Business Operating Model (see attachment) which emphasizes the importance of business alignment, engagement and execution. Our TVA values are a key component of creating alignment in that model, with competencies and behaviors as a foundation. Over the past year, we have given considerable focus to educating employees on those values and competencies, and incorporating them into our HR and Leadership programs.

We are currently pursuing a comprehensive approach to bolster engagement at all levels of the organization. In June of 2015, recognizing the opportunity for additional data to better inform decision-making, we conducted an Employee Engagement Survey. Seventy-six percent of TVA employees provided feedback on the survey and the resulting engagement index exceeded the national norm. TVA leaders have shared survey results with their employees, discussing contributing factors to the results, and providing feedback. The open sharing of results, contributing factors, and general discussion helps address the opportunities for improvement identified in your report. Bull Run Fossil Plant will also use the IG organizational effectiveness report as feedback to inform planned actions that will focus on continuous improvement.

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We recognize the flavor-of-the-month effect and sustainability challenges of broad TVA organizational effectiveness efforts. It is unsustainable to implement an initiative for every finding—whether from a TVA survey, an audit, an evaluation, or a consultant. Therefore, our general approach to improvement actions is incorporation into day to day management and the regular business planning process. This improves long-term sustainability and accountability for results.

Regarding the recommendations posed to the VP, East Region Coal & Gas:

Regarding recommendation 1, we agree that safety is of paramount importance at all of our sites and for all of our employees. Therefore, we will ensure that all safety-related concerns are taken seriously and addressed appropriately. This includes the proper coding, prioritization, tracking and implementation of safety-related work orders.

Regarding recommendation 2, we will review the overtime hours to determine the safety impacts. Adjustments will be made accordingly.

Regarding recommendation 3, we agree that work management effectiveness is a key to the success of the Bull Run plant. To that end, we will continue to work on improvements to the work management process including the identification, prioritization, planning and execution of work at the plant. This will include appropriate training for the maintenance coordinators.

Regarding recommendation 4, we agree that communication effectiveness improvement opportunities exist at Bull Run. To that end, we have developed, and are implementing, a plan to engage directly with the plant employees in different forums and settings to increase the effectiveness of our communications. We believe that the most effective way to resolve conflicts is at the local level between the employees and their leadership teams, therefore, we will continue to communicate and build trust through both formal and informal meetings with employees to discuss the current business landscape for TVA and the Bull Run plant along with the future outlook for Power Operations and the Bull Run Plant.

Regarding the recommendations posed to the SVP, Power Operations:

Regarding recommendation 1, we will continue to work with Information Technology and other stakeholders to increase the effectiveness and efficiencies of Maximo.

Regarding recommendation 2, Power Operations will evaluate the current nine-group shift rotation at all of our plants to determine the most effective path forward.

Regarding recommendation 3, we agree that the changes to the coal industry have created angst within TVA's workforce due to an uncertain future. Power Operations' leadership will continue to engage with employees across Power Operations to communicate the driving forces behind these changes. We will also continue to work with all Power Operations employees to help them prepare for potential plant closures in the future.

Regarding recommendation 4, we agree that near miss, first aid and injury reporting are all critical aspects of our safety improvement plan. To that end, Power Operations' leadership will continue to emphasize the importance of transparent reporting to ensure critical lessons are learned and appropriate safety behaviors are reinforced.

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Regarding recommendation 5, Power Operations understands and agrees that all re-work should be eliminated. Re-work can occur for a number of reasons and from a number of different parties – TVA employees and contractors. We will continue to track re-work and work to improve the execution of work at all of our sites with the goal to eliminate re-work.

If you have further questions related to organizational effectiveness, please contact Megan Flynn at 423-751-2281.



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Vice President  
Human Resources  
LP 3A-C



David W. Sorrick  
Vice President  
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LP 3K-C

cc (Attachment):  
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R. W. Morgan, WT 4D-K  
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ATTACHMENT  
Attachment:

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### TVA Business Operating Model

