Memorandum from the Office of the Inspector General

October 15, 2018

William G. Maiden, GFP 1A-GLT

REQUEST FOR FINAL ACTION – EVALUATION 2018-15535 – ORGANIZATIONAL EFFECTIVENESS – GALLATIN FOSSIL 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 or wish to discuss our findings, please contact Jamie M. Wykle, Senior Auditor, at (865) 633-7382 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

JMW:KDS
Attachment
cc (Attachment):
TVA Board of Directors
Janet J. Brewer, WT 7C-K
Susan E. Collins, LP 6A-C
Sean M. Connors, LP 2K-C
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OIG File No. 2018-15535

Office of the Inspector General

Evaluation Report

To the Plant Manager,
Gallatin Fossil Plant

ORGANIZATIONAL EFFECTIVENESS – GALLATIN FOSSIL PLANT

Evaluation Team
Jamie M. Wykle
Justin P. Franklin

Evaluation 2018-15535
October 15, 2018

ABBREVIATIONS

AUO	Assistant Unit Operator
CR	Condition Report
FY	Fiscal Year
GAF	Gallatin Fossil Plant
OIG	Office of Inspector General
PO	Power Operations
SCR	Selective Catalytic Reduction
SPP	Standard Programs and Processes
TVA	Tennessee Valley Authority
UO	Unit Operator

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APPENDIX

Evaluation 2018-15535 – Organizational Effectiveness – Gallatin Fossil 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, 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. The Tennessee Valley Authority's (TVA) 2017 3-year Enterprise Risk Profile recognized that ongoing workforce refinement[i] 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 the Tennessee Valley Authority (TVA). This evaluation focuses on TVA's Gallatin Fossil Plant (GAF), which is a coal plant under the Power Operations, Coal, business unit within TVA's 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". According to the FY2018 Budget Power Supply Plan, GAF is focused on base dispatchable[ii]/intermediate operation.[iii] The objective of this evaluation was to identify strengths and risks that could impact GAF'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 GAF's personnel and performance. These strengths included (1) organizational alignment, (2) teamwork within departments, and (3) support of first-line[iv] supervisors. However, we also identified issues that could pose risks to GAF's effectiveness and its continued ability to meet its responsibilities. These issues related to (1) ineffective leadership and (2) safety concerns. Specifically, employees expressed concerns about (1) lack of collaboration between departments, (2) perception of inadequate staffing levels, (3) GAF-specific training, (4) GAF's dual unit operator strategy,[v] and (5) equipment. During our

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i Refinement of the workforce includes activities such as reduction in force.

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

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

iv Management level directly above nonmanagerial workers.

v Operators are responsible for operating two units instead of just one unit.

evaluation, actions were taken by TVA management to address the identified safety risks.

Based on our findings and using TVA's Business Operating Model, we assessed GAF'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 Power Operations' and TVA's missions.
- Engagement risk is rated medium. While employees cited support from first-line supervisors as a strength, they also described concerns related to lack of collaboration between departments, which could negatively impact teamwork.
- Execution risk is rated high because of issues related to ineffective leadership, including concerns about collaboration between departments, adequacy of training, and perception of inadequate staffing. Similar issues were identified by TVA in 2017 as contributors to three clearance events.[vi]

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

What the OIG Recommends

We recommend the Plant Manager, GAF:

1. Focus on building relationships within the leadership team and across the plant to improve collaboration and teamwork.

2. Evaluate the impacts of staffing levels on the overtime of GAF Operations personnel.

3. Evaluate selective catalytic reduction and scrubber systems training to determine if Operations personnel have the adequate training necessary to safely and effectively perform their duties.

[vi] Clearance events are any violation of TVA's Safety Procedure 18.613, *Clearance Procedure to Safely Control Hazardous Energy Using Group Tagout*.

TVA Management's Comments

TVA management agreed with our recommendations and described actions planned and completed. 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[1] 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 (OIG) is conducting organizational effectiveness evaluations of business units across TVA. This evaluation focuses on TVA's Gallatin Fossil Plant (GAF), which is a coal plant under the Power Operations, Coal, business unit within TVA's Power Operations. According to TVA's fiscal year (FY) 2018 through FY2020 Business Plan Summary, 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." According to the FY2018 Budget Power Supply Plan, GAF is focused on base dispatchable[2]/intermediate operation.[3] GAF has four generating units with a combined summer net generating capacity of 976 megawatts.

As of January 2018, GAF was comprised of three departments—Operations, Maintenance, and Engineering:

- According to PO's Standard Programs and Processes (SPP) 10.003, *Power Operations Conduct of Operations*, the Operations department is responsible for the safe and efficient operation of generating units, including monitoring and inspecting plant equipment and reporting any abnormal operating condition as well as writing and issuing clearances. GAF Operations personnel consist of shift operations supervisors, unit operators (UO), assistant unit operators (AUO), and coal yard personnel.
- According to PO-SPP-06.000, *Power Operations Conduct of Maintenance*, the Maintenance department is responsible for safely, effectively, and

[1] Refinement of the workforce includes activities such as reduction in force.

[2] High-energy units that produce at full output unless needed to respond to decreased demand.

[3] An intermediate plant supplements the power produced by base load plants during high demand times.

efficiently maintaining assets. Maintenance ensures standards for material condition are met by the effective planning, scheduling, and execution of maintenance.

- According to Fossil Power Group's SPP-09.000, *Conduct of Engineering*, the Engineering department is tasked with providing technical input to personnel on complex work packages and configuration control[4] and is responsible for system performance monitoring to allow for proactive detection of system or component performance problems.

Power Operations has adopted the Operations Centric operating model with the goal of accomplishing Power Operations fleet- and plant-wide alignment of organizations supporting Operations. According to TVA's Operations Centric fleet-wide rollout package, Operations is ultimately responsible for the safe and efficient production of electricity. As such, Operations personnel hold themselves and other plant-supporting departments to high standards and expectations, including shared accountability for the condition of plant equipment.

In 2011, TVA entered into a Clean Air Act[5] compliance agreement with the Environmental Protection Agency and a similar consent decree with four states and three environmental advocacy groups. As such, the TVA Board of Directors approved the addition of scrubbers to reduce sulfur dioxide emissions at GAF in 2011. The scrubbers were placed into service at GAF Units 4, 3, and 1 in April, June, and November 2015, respectively, and the Unit 2 scrubber was placed into service in February 2016. GAF's dry scrubber design uses a limestone mix to reduce sulfur dioxide emissions. Selective catalytic reduction (SCR) systems were also placed into service in 2017 to reduce nitrogen oxide emissions on GAF units. GAF uses ammonia as the reducing agent in SCR to decrease the amount of nitrogen oxide emissions.

Power Operations FY2017 through FY2019 Business Plan sets forth goals that include GAF. Key metrics identified from Power Operations' Coal Site FY2017 scorecard are Equivalent Forced Outage Rate,[6] Seasonal Equivalent Forced Outage Rate,[7] clearance events,[8] coal Equivalent Availability Factor,[9] Human

[4] Configuration control ensures all changes to a complex system are performed with the knowledge and consent of management. Configuration control tasks include initiating, preparing, analyzing, evaluating, and authorizing proposals for change to a system.

[5] The Clean Air Act is the comprehensive federal law that regulates emissions of hazardous air pollutants.

[6] The Equivalent Forced Outage Rate measures the percentage of hours the asset was not available to operate due to an unplanned event.

[7] The Season Equivalent Forced Outage Rate measures performance for 8 months: January, February, March, June, July, August, September, and December.

[8] Clearance events are any violation of TVA's Safety Procedure-18.613, *Clearance Procedure to Safely Control Hazardous Energy Using Group Tagout*.

[9] The Equivalent Availability Factor reflects the percentage of available capacity within the period.

Performance Events,[10] Reportable Environmental Events,[11] and total spend.[12] During FY2017, GAF had three clearance events between November 2016 and February 2017. GAF's FY2018 through FY2020 Business Plan Gap Summary states, "GAF has not demonstrated sustainable excellence in behaviors and accountability to achieve an error free workplace in the areas of safety and operational performance."

As of December 2017, GAF had 127 employees. At the time we began our initial interviews in January 2018, the plant manager,[13] maintenance manager, and operations manager roles were being filled with interim positions.

OBJECTIVE, SCOPE, AND METHODOLOGY

The objective of this evaluation was to identify strengths and risks that could impact GAF's organizational effectiveness. We assessed operations from January 2014 through May 31, 2018, and culture at the time of our interviews and fieldwork, which occurred during January through April 2018. To achieve our objective, we:

- Reviewed TVA's FY2017 through FY2019 Business Plan and GAF's FY2018 through FY2020 Business Plan to gain an understanding of GAF's goals and how GAF's responsibilities align with Power Operations' mission.
- Reviewed TVA values and competencies (see Appendix A) for an understanding of cultural factors deemed important to TVA.
- Conducted individual interviews with 67 employees, including management; held focus groups with 43[14] GAF UOs and AUOs and 1 shift operations supervisor[15] and analyzed the results to identify themes related to strengths and risks that could affect organizational effectiveness.
- Obtained and reviewed select TVA SPPs, documents, and other guidelines to gain an understanding of processes.
- Obtained and reviewed GAF site-specific System Operating Instructions, General Operating Instructions, and Abnormal Operating Instructions to gain an understanding of dual unit operator strategy.[16]

[10] 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.

[11] A reportable environmental event occurs when a utility causes an incident that requires notification of an environmental regulatory agency and/or results in enforcement action by an environmental regulatory agency.

[12] Total Spend equals operations and maintenance costs plus capital costs plus change in nonfuel inventory.

[13] A new plant manager began at GAF effective April 16, 2018.

[14] Five additional employees, not in headcount, transferred to GAF from Johnsonville Fossil Plant. This was their first week at GAF, and they sat in on a focus group.

[15] Sixteen GAF employees either (1) declined an interview or (2) were on leave during our site visit.

[16] Dual unit operators are responsible for operating two units instead of just one unit.

- Reviewed industry standards, best practices, and regulatory requirements, as well as TVA safety information, applicable to dual unit operator strategy.
- Selected a nonstatistical sample of 50 of 128[17] management and employee performance management documents based on job title and supervisor to ensure coverage of all plant departments. Analyzed the selection for alignment with departmental and organizational goals.
- Analyzed performance metrics to determine whether (1) GAF metrics are in alignment with that of Power Operations and TVA and (2) if GAF met its FY2017 goals.
- Obtained GAF UO and AUO training records for January 2014 to March 2018 to determine what GAF site-specific training was received related to scrubbers and SCRs.
- Obtained and analyzed GAF employee headcount for FY2015 through May 31, 2018, and overtime data for FY2015 through FY2017.
- Reviewed GAF condition reports[18] (CR) for January 1, 2014, to April 5, 2018, based upon safety and equipment concerns raised during our focus groups.
- Obtained and reviewed August 2017 through December 2017 as well as January and March 2018 GAF Health and Safety Committee meeting minutes to determine what safety concerns related to dual unit operator strategy had been identified.
- Assessed the overall effectiveness of GAF 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 GAF's personnel and performance. These strengths included (1) organizational alignment, (2) teamwork within departments, and (3) support of first-line[19] supervisors. However, we also

[17] The total of 128 includes the previous plant manager who was not included in headcount.

[18] CRs document the evaluation and resolution of concerns identified.

[19] Management level directly above nonmanagerial workers.

identified issues that could pose risks to GAF's effectiveness and its continued ability to meet its responsibilities. These issues related to (1) ineffective leadership and (2) safety concerns. Specifically, employees expressed concerns about lack of collaboration between departments, perception of inadequate staffing levels and GAF-specific training. Additionally, GAF Operations personnel identified safety concerns related to GAF's dual unit operator strategy and equipment.

STRENGTHS

During the course of our interviews, focus groups, and data analyses, we identified strengths that positively affected the day-to-day activities of GAF personnel and performance. These strengths related to (1) organizational alignment, (2) teamwork within departments, and (3) support of first-line supervisors.

Organizational Alignment

Our assessment of performance management documentation for a nonstatistical sample of GAF personnel revealed that performance goals for employees support first-line management goals, and first-line management goals support senior management goals, which supports Power Operations' and TVA's missions. In addition, GAF's initiatives supported Power Operations' and TVA's missions.

Teamwork Within Departments

The majority of employees interviewed provided positive comments pertaining to teamwork within their departments, which is a component of TVA's collaboration value. Some examples of positive teamwork included willingness to help each other and open conversations.

Support of First-Line Supervisors

Many employees indicated they feel supported by and trust their first-line supervisors. In addition, many employees indicated they are comfortable raising a differing opinion. Further, many employees also indicated first-line supervisors are knowledgeable about their jobs and communicate well.

RISKS

We identified issues that could pose risks to GAF's effectiveness and its continued ability to meet its responsibilities. These issues related to (1) ineffective leadership and (2) safety concerns. Specifically, employees expressed concerns about (1) lack of collaboration between departments, (2) perception of inadequate staffing levels, (3) GAF-specific training, (4) GAF's dual unit operator strategy, and (5) equipment.

Ineffective Leadership

Effectively executing TVA's mission not only requires organizational alignment and employee engagement but also leaders that exhibit actions and behaviors consistent with TVA policies, procedures, and expectations. TVA's Leadership Competencies (included in Appendix A) define expected behaviors of leadership, such as communicating effectively and inspiring trust and engagement. While most employees stated they receive support from first-line supervisors, some employees indicated GAF management above first-line leadership does not display behaviors in alignment with TVA expectations. Specifically, many employees indicated concerns stemming from lack of collaboration between departments, and most employees expressed concerns regarding inadequate staffing. Further, four out of five focus groups with Operations personnel indicated concerns related to excessive overtime, and three out of five focus groups indicated lack of GAF-specific training on scrubbers and SCRs.

Lack of Collaboration Between Departments

TVA's value of collaboration states that TVA is "committed to fostering teamwork, developing effective partnerships, and valuing diversity as we work together to achieve results." As previously stated, TVA's Power Operations has adopted the Operations Centric operating model that is designed to promote alignment between operations, engineering, and maintenance personnel. To achieve success, all departments must support operations. However, many employees indicated concerns with the lack of collaboration between the departments, and some believe GAF has developed a "maintenance versus operations" mentality. Based upon our interviews and focus groups, it is our opinion that, because this model is Operations Centric, employees may believe the Operations department is superior to other departments. Additionally, a lack of collaboration between Maintenance and Operations personnel can affect teamwork as well as the safe operation of the plant.

Perception of Inadequate Staffing Levels

Most GAF Operations personnel indicated they did not have necessary staffing. Further, one out of five focus groups with Operations personnel indicated that this lack of staffing may create a safety risk because of the amount of overtime worked.

Based upon these concerns, we obtained and analyzed GAF overtime data for FY2015 through FY2017. According to data provided by TVA,[20] the Operations department overtime has increased by 31 percent from FY2015 to FY2017, as illustrated in Figure 1 on the following page. According to TVA, in February 2018, six employees transferred to the Operations department at GAF from other TVA fossil plants. This increase in headcount could reduce the amount of overtime needed.

[20] We did not validate the information provided by Financial Services.

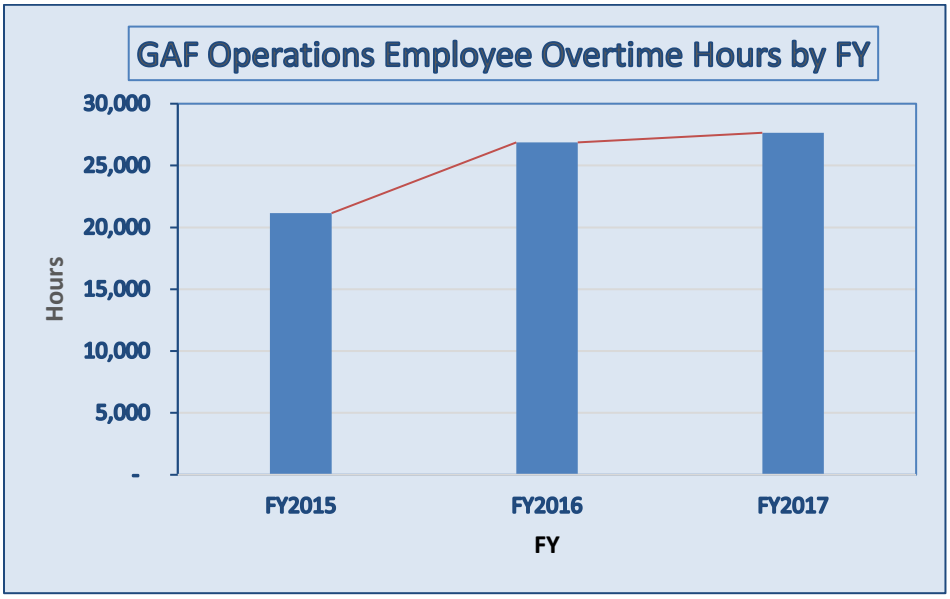

Figure 1

Training

Most focus groups with Operations personnel indicated concerns with training related to scrubbers and SCRs. Some employees indicated the subject matter expert provides scrubber training materials via e-mails, and the only on-site training was conducted by a peer operator. A review of UO and AUO Learning Management System's training records revealed ammonia training has been received, including ammonia awareness, ammonia system overview, and ammonia storage. Although these records indicated some training has been provided, most focus groups with Operations personnel indicated the training received for scrubbers and SCRs is not adequate to effectively perform their roles.

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During FY2017, GAF had three clearance events, which are violations of TVA's safety procedure for controlling hazardous energy. The root cause evaluation of the clearance events identified multiple causes that parallel the issues with ineffective leadership discussed above. Specifically, the root cause identified (1) lack of three-way communication, (2) lack of understanding of ownership, (3) lack of skill set, (4) failure to address inexperience, and (5) being overwhelmed with workload and available resources. The serious safety risk associated with three clearance events in a short time underscores the importance of improving collaboration between departments, addressing training needs, and evaluating available resources.

Safety Risks Identified and Actions Taken to Address

During our focus groups, GAF Operations personnel revealed safety concerns related to GAF's (1) dual unit operator strategy and (2) equipment concerns specifically related to limestone silos and pulverizer gates. During our review, GAF management informed us of actions taken, or in process, to address these issues.

Dual Unit Operating Strategy

Some focus groups with Operations personnel indicated concerns with the dual unit operator strategy. While TVA has addressed this issue in the past, there is increased workload with the addition of scrubbers and SCRs.

Since 1997, GAF has operated its units using a dual unit operator strategy. Under dual unit operator strategy, UOs are responsible for operating two units instead of just one unit. Concerns regarding the dual unit operator strategy date back to 1995, when the International Brotherhood of Electrical Workers sent a letter to the President of the United States expressing concern relative to the implementation of the dual unit operator strategy. In 1997, TVA OIG received a similar complaint, which was specific to GAF due to GAF's implementation of the strategy at that time. The OIG referred this complaint to TVA's Corporate Safety for investigation, which concluded that implementation of the dual unit operator strategy did not increase the likelihood of the occurrence of an undesirable event resulting in injury to the employees.

Some focus groups with Operations personnel discussed continued concerns that UOs are responsible for operating both units. Since implementing that strategy, GAF has added scrubbers and SCRs. These additional responsibilities may increase safety risks. Concerns with this strategy were brought before the GAF Health and Safety Committee in March 2018, after our interviews were concluded. Plant management subsequently acknowledged that with the addition of scrubbers and SCRs that GAF's UOs are monitoring more equipment remotely than in the past. As a result, plant management has made modifications to responsibilities of its UOs and AUOs to optimize UOs ability to (1) safely control and efficiently deliver clean, low cost power to customers and (2) identify equipment abnormalities in a predictive versus reactive fashion.

Equipment Concerns

Two out of five focus groups with Operations personnel revealed safety concerns with GAF's limestone silos. One focus group revealed a safety concern with pulverizer gates. However, as noted below, TVA and GAF management has, or is currently, addressing those risks. Specifically:

- Focus groups with Operations personnel identified safety concerns with GAF's limestone silos. According to Operations personnel, the limestone silo failed on two occasions, allowing limestone to fill the silo. When performing inspections, Operations personnel had to enter the silo while in operation, and they feared a failure would result in them being buried.

  In February 2018, we informed the Vice President of Power Operations, Coal, of the safety concerns regarding the silos. According to TVA management, actions were taken immediately to post appropriate signage and create a limestone silo entry policy. Additionally, on February 21, 2018, a CR was entered to address catastrophic failures of the silos.

- According to some Operations employees, AUO's have to close pulverizer gates with a sledgehammer because the gates have deteriorated and are very

hard to physically operate or inoperable. On April 19, 2018, we discussed these concerns with the GAF engineering manager, who provided documentation of request and approval to fabricate and install two new pulverizer gates. The GAF engineering manager further indicated these projects would reduce the likelihood of injury to employees.

CONCLUSION

Our evaluation identified strengths related to (1) organizational alignment, (2) teamwork within departments, and (3) first-line supervisor support. However, we also identified risks related to (1) ineffective leadership and (2) safety concerns that could pose risks to GAF's effectiveness and its continued ability to meet its responsibilities. Specifically, employees expressed concerns about lack of collaboration between departments, perception of inadequate staffing levels, GAF-specific training, GAF's dual unit operator strategy, and equipment.

During our evaluation, actions were taken by TVA management to address safety risks identified regarding (1) GAF's dual unit operator strategy, (2) limestone silo failures, and (3) inoperable pulverizer gates.

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

- Alignment risk is rated low based on alignment of management and employee goals, which supported Power Operations' and TVA's missions.
- Engagement risk is rated medium. While employees cited support from first-line supervisors as a strength, they also described concerns related to lack of collaboration between departments, which could negatively impact teamwork.
- Execution risk is rated high because of issues related to ineffective leadership, including concerns about collaboration between departments, adequacy of training, and perception of inadequate staffing. Similar issues were previously identified by TVA in 2017 as contributors to three clearance events.

RECOMMENDATIONS

We recommend the Plant Manager, GAF:

1. Focus on building relationships within the leadership team and across the plant to improve collaboration and teamwork.

   TVA Management's Comments – TVA management stated GAF has made efforts to build a stronger team and improve relationships between departments through (1) the addition of a new engineering manager in September 2018, whose leadership, communication, and people skills will

help improve collaboration and teamwork; and (2) holding an off-site team building activity with supervisors and managers from all GAF departments. Management has moved the Health and Safety Committee meetings from management driven to employee driven in order to give ownership and a voice to employees. TVA management also stated the vacant maintenance manager position would be filled by the end of November 2018, completing the GAF leadership team. Further, TVA management believes the addition of a three-person clearance team, established to improve the focus for the UOs and themselves when performing clearance duties, has also improved cooperation and relationships between Maintenance and Operations staff. See Appendix B for TVA management's complete response.

2. Evaluate the impacts of staffing levels on the overtime of Operations personnel.

   TVA Management's Comments – TVA management stated GAF overtime in Operations has had a significant drop in the last 6 months. Overtime can be further reduced as (1) progress is made moving operators that are on project assignments and restricted activity back on the crews and (2) filling the positions that are being held open due to the potential transferees from other TVA coal plants. See Appendix B for TVA management's complete response.

3. Evaluate SCRs and scrubber training to determine if Operations personnel have the adequate training necessary to safely and effectively perform their duties.

   TVA Management's Comments – TVA management stated GAF was aware of some knowledge gaps since the initial training was given. As a result, GAF provided a weeklong training class related to SCRs and scrubbers during annual refresher training. See Appendix B for TVA management's complete response.

In addition to providing responses to our recommendations, management also provided information related to addressing the dual unit operator concerns and clearance events. See Appendix B for TVA management's complete response.

Auditor's Response – We agree with TVA management's planned and completed 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

October 9, 2018

To: Mr. David P. Wheeler, Assistant Inspector General

RESPONSE TO LETTER DATED SEPTEMBER 10, 2018 TITLED: REQUEST FOR COMMENTS- DRAFT EVALUATION 2018 - 15535 - ORGANIZATIONAL EFFECTIVENESS - GALLATIN FOSSIL PLANT

The following recommendations are listed on (page ii) for the GAF Plant Manager:

1. Focus on building relationships within the leadership team and across the plant to improve collaboration and teamwork.
2. Evaluate the impacts of staffing levels on the overtime of GAF Operations Personnel.
3. Evaluate selective catalytic reduction and scrubber systems training to determine if Operations personnel have the adequate training necessary to safely and effectively perform their duties.

GAF Status Summary

In reference to the OIG Report dated September 10, 2018 and titled Organizational Effectiveness - Gallatin Fossil Plant. The following is a summary status update on relevant items:

1. **Focus on building relationships within the leadership team and across the plant to improve collaboration and teamwork.**
    a. A new Engineering Manager was added to the Gallatin Team in late September 2018. His leadership experience, good communication skills and good people skills will help improve collaboration and teamwork.
    b. The leadership team will be complete when the Maintenance Managers position is permanently filled. This job will be posted and filled by the end of November 2018.
    c. The Dual Unit Operating Strategy was brought up as a concern at GAF. In an effort to minimize the amount of time our Unit Operators (UO's) are outside of the control rooms for inspections/rounds, we have modified the roles and responsibilities of the UO's and the powerhouse AUO's. This is optimizing our UO's ability to safely control and efficiently deliver clean, low cost power to our customers. This also give them more time to be able to identify equipment abnormalities in a predictive versus reactive fashion. These adjustments place more burden on the Basement and BOP AUO responsibilities. Each Lead SOS has the authority to move personnel from one location to another to efficiently run their shift. If deficiencies are identified, we will work together as a team to

modify the roles and responsibilities should the need arise. This went into effect on May 28th, 2018.

d. In an effort to build a stronger team and improve relationships between departments, a Team Building day was held off-site with Supervisors and Managers from all GAF departments.
e. Safety, environmental, operations & maintenance activities and company updates are discussed each week during the "All Hands Meetings". New safety issues are brought to management's attention and progress is reported back to the employees during the future meetings.
f. The Health and Safety Committee meetings are moving from management driven to employee driven. The employees run the meeting, have a voice in what is prioritized, and see the difference they make improving safety and working conditions. I ask them to hold me accountable if their H&S projects are not getting done in a timely manner. This empowerment gives ownership and a voice to the employees.

2. Evaluate the impacts of staffing levels on the overtime of GAF Operations Personnel.

a. A three employee Clearance Team has been established. Their duties have been separated from the control room to improve focus for the UO's and themselves when performing clearance duties. There hasn't been a clearance violation since the 3 violations mentioned in the referenced report. Clearances are getting done in a timely manner and accurately. This best practice of having a clearance team has also had a side effect of improving cooperation and relationships between maintenance and operations. However, GAF only currently has one employee on the organizational chart for the clearance team. The other two employees came from operations, and OT in operations is being used to fill the open slots.
b. Although the FY2018 OT in operations remained at a high level, the last six months showed a significant drop in OT in operations. The staffing levels seem to be adequate based on my experience at other coal sites. OT can be further reduced as progress is made moving operators that are on project assignments and restricted activity back on the crews. OT can be reduced when we fill the positions (AUO's and UO's) that are being purposely held open due to the potential transferees from Paradise and Bull Run.

Proj No	{All}		
Earnings Code	{Multiple Items}		
		Values	
Exp Owning Org Name	Month Name	Sum of Burdened Cost Amt	Sum of Qty
⊟D116221000-GALLATIN FOSSIL OPERATIONS	OCTOBER	69,486.13	1,042.00
	NOVEMBER	80,123.05	1,237.50
	DECEMBER	123,091.29	1,864.00
	JANUARY	156,244.63	2,265.50
	FEBRUARY	157,807.57	2,329.25
	MARCH	152,928.65	2,208.50
	APRIL	104,236.79	1,540.00
	MAY	89,935.15	1,279.25
	JUNE	92,359.85	1,328.00
	JULY	95,812.52	1,370.50
	AUGUST	92,589.07	1,368.00
	SEPTEMBER	56,102.73	817.25
D116221000-GALLATIN FOSSIL OPERATIONS Total		**1,270,717.43**	**18,649.75**
Grand Total		**1,270,717.43**	**18,649.75**

3. **Evaluate selective catalytic reduction and scrubber systems training to determine if Operations personnel have the adequate training necessary to safely and effectively perform their duties.**
    a. There was initial training on the Scrubbers and SCRs that was given during ART. GAF had Scrubber Initial training provided by the Vendor during ART approx. 4 years ago, then SCR Hot Water Recirc, and Ammonia Farm training given by the Vendors two years ago in ART. This past year during ART, because we knew there were transfers and some knowledge gaps since the initial training, GAF provided a week long training class, covering Scrubber/SCR/NH3 Farm/HWR operations, Casualty/Excursion Training, and routine items. Copies of the materials, lesson plans, and time spent on each item are available.

William G. Maiden
GAF Plant Manager