



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

January 23, 2020

Suzanne H. Biddle

**REQUEST FOR FINAL ACTION – EVALUATION 2019-15627-03 – ORGANIZATIONAL EFFECTIVENESS - HYDRO GENERATION, CENTRAL REGION**

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 Jessica L. Monroe, Senior Auditor, at (865) 633-7338 or Lisa H. Hammer, Director, 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)

JLM:KDS

Attachment

cc (Attachment):

TVA Board of Directors  
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Susan E. Collins  
Robertson D. Dickens  
James D. Evans  
Thomas D. Falls  
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OIG File No. 2019-15627-03



Office of the Inspector General

# *Evaluation Report*

To the Senior Manager,  
Regional Hydro Generation,  
Central Region

## **ORGANIZATIONAL EFFECTIVENESS – HYDRO GENERATION, CENTRAL REGION**

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Auditor  
Jessica L. Monroe

Evaluation 2019-15627-03  
January 23, 2020

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## **APPENDICES**

A. TVA VALUES AND LEADERSHIP COMPETENCIES

B. MEMORANDUM DATED JANUARY 10, 2020, FROM SUZANNE H. BIDDLE TO DAVID P. WHEELER



# Evaluation 2019-15627-03 – Organizational Effectiveness – Hydro Generation, Central Region

## EXECUTIVE SUMMARY

### Why the OIG Did This Evaluation

Organizational effectiveness, as defined in this evaluation, is the ability of an organization to achieve its mission and goals. To achieve and sustain organizational effectiveness, there should be alignment between strategy, team engagement, and operational performance. Specifically, values and behaviors that drive good performance should be embedded throughout the organization's business processes and exemplified by the individuals that manage and work in the organization. The Tennessee Valley Authority's (TVA) 2018 Risk Assessment Summary recognized that (1) workforce strategy and management risks<sup>i</sup> and (2) workplace environment risks<sup>ii</sup> could negatively affect the performance environment.

Due to the importance of alignment between strategy, team engagement, and operational performance, the Office of the Inspector General is conducting organizational effectiveness evaluations of business units across TVA. We assessed Hydro Generation, Central Region (Hydro Central), which is an organization under Power Operations (PO). The objective of this evaluation was to identify strengths and risks that could impact Hydro Central'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 Hydro Central personnel. These strengths included (1) organizational alignment, (2) positive interactions within and outside of Hydro Central, (3) effective leadership, and (4) positive ethical culture. We also identified risks that could impact Hydro Central's ability to meet its responsibilities in support of the PO mission. These included risks related to (1) employee behaviors inconsistent with TVA values in two plant groups, (2) safety concerns due to asset and equipment conditions, and (3) workforce training and staffing.

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<sup>i</sup> Workforce strategy and management risks include failure to manage key leadership transitions, ineffective talent management, and performance management shortfalls.

<sup>ii</sup> Workplace environment risks include lack of organizational adaptability, lack of inclusion and employee engagement, and inappropriate workplace incidents.



## Evaluation 2019-15627-03 – Organizational Effectiveness – Hydro Generation, Central Region

### EXECUTIVE SUMMARY

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

- Alignment risk is rated low based on alignment of employee goals with those of regional management as well as TVA's Values and Competencies. Performance goals also aligned to Hydro Generation initiatives, which supported the PO and TVA missions.
- Engagement risk is medium based on concerns with employee behaviors in two plant groups that are impacting morale.
- Execution risk is rated medium because of safety concerns due to asset and equipment conditions. In addition, employees expressed concerns related to workforce training and staffing.

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

#### What the OIG Recommends

We recommend the Senior Manager, Regional Hydro Central, take actions to address concerns related to employee behaviors, safety, training, and staffing. Our detailed recommendations are listed in the body of this report.

#### TVA Management's Comments

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

#### Auditor's Response

We agree with management actions taken and planned.

## **BACKGROUND**

Organizational effectiveness, as defined in this evaluation, is the ability of an organization to achieve its mission and goals. To achieve and sustain organizational effectiveness, there should be alignment between strategy, team engagement, and operational performance. Specifically, values and behaviors that drive good performance should be embedded throughout the organization's business processes and exemplified by the individuals that manage and work in the organization.

In recent years, the Tennessee Valley Authority (TVA) has faced internal and external economic pressures and implemented cost-cutting measures in an attempt to keep rates low and reliability high while continuing to fulfill its broader mission of environmental stewardship and economic development. TVA's 2018 Risk Assessment Summary recognized that (1) workforce strategy and management risks<sup>1</sup> and (2) workplace environment risks<sup>2</sup> could negatively affect the performance environment.

Due to the importance of alignment between strategy, team engagement, and operational performance, the Office of the Inspector General is conducting organizational effectiveness evaluations of business units across TVA. We assessed Hydro Generation, Central Region (Hydro Central), which is an organization under Power Operations (PO). The mission of PO is to provide low-cost, reliable coal, gas, and hydro generation while keeping employees safe and ensuring compliance with environmental regulations.

Hydro Generation currently operates 29 conventional hydroelectric dams and a pumped storage facility, which collectively includes 113 generating units, located throughout the Tennessee Valley. These units account for 5,182 megawatts of net dependable capacity.<sup>3</sup> Of that, Hydro Central generation accounts for approximately 11 percent of the capacity.

Hydro Central is comprised of three plant groups which includes 11 hydro plants. The Chickamauga plant group includes the Chickamauga, Nickajack, and Tims Ford plants. Hydro Central's Hiwassee plant group is comprised of the Apalachia, Blue Ridge, Chatuge, Hiwassee, and Nottely plants. The Ocoee plant group includes the Ocoee No. 1, Ocoee No. 2 and Ocoee No. 3 plants. Each plant in the region is comprised of hydro technicians and laborers who report to a plant manager responsible for operation and maintenance activities at their respective hydro generating plants. Hydro IV technicians' responsibilities include performing plant unit startups, monitoring and shutdowns, as well as preparing and

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<sup>1</sup> Workforce strategy and management risks include failure to manage key leadership transitions, ineffective talent management, and performance management shortfalls.

<sup>2</sup> Workplace environment risks include lack of organizational adaptability, lack of inclusion and employee engagement, and inappropriate workplace incidents.

<sup>3</sup> Net dependable capacity is the amount of power a dam can produce on an average day, minus the power used by the dam itself.

implementing clearances<sup>4</sup> while ensuring work is performed in accordance with environmental and safety requirements. Individuals serving in these roles may also supervise or direct the work of other technicians. Technician III employees are responsible for corrective, preventive, and emergency maintenance activities as well as electrical and mechanical operation of hydro systems. Laborers are responsible for general labor work including maintaining cleanliness and order of the facility. Hydro Central personnel responsible for supporting the organization include engineers, business support representatives, and a Regional Hydro Generation Support Supervisor who all report to the Senior Manager.

Hydro Central, along with other hydro regions, tracks metrics related to people, operations, finance, and stewardship. Specifically, people-related metrics include number of injuries, number of human performance events, and number of observations performed. Metrics related to operations include equivalent forced outage rate,<sup>5</sup> equivalent availability factor,<sup>6</sup> and the number of unit trips. Finance metrics include capital, nonfuel operations and maintenance, and total spending, as well as changes in nonfuel inventory. Stewardship metrics include those related to environmental compliance and continuous improvement activities.

As of June 27, 2019, Hydro Central had 43 employees, including 1 senior manager, 3 hydro plant managers, 12 employees in the Chickamauga plant group, 9 employees in the Hiwassee plant group, 11 employees in the Ocoee plant group, and 7 support personnel.

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

The objective of this evaluation was to identify strengths and risks that could impact Hydro Central's organizational effectiveness. We assessed operations as of October 2019 and culture at the time of our interviews, which occurred in July 2019. To complete the evaluation, we:

- Reviewed PO's and Hydro Generations' fiscal year (FY) 2019 through FY 2021 business plans and TVA's FY 2019 through FY 2021 Business Plan Summary to gain an understanding of Hydro Generations' goals and initiatives to determine whether goals and initiatives aligned with those of PO and TVA.
- Reviewed TVA values and competencies (see Appendix A) for an understanding of cultural factors deemed important to TVA.

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<sup>4</sup> Clearances are established when energy sources including electrical, mechanical, and/or hydraulics have been isolated and tagged before servicing, maintenance, or modifications.

<sup>5</sup> This is defined as the percentage of generation lost due to forced outages with respect to the total generation capability for a period that a unit is not planned to be offline. Forced outages are unplanned outages caused by equipment failures or problems.

<sup>6</sup> Equivalent availability factor reflects the percentage of available capacity within a defined period.

- Reviewed select (1) TVA and PO Standard Programs and Processes and other documentation to gain an understanding of processes and (2) laws and regulations to gain an understanding of the requirements of the organization.
- Examined financial information for FY 2018 and FY 2019, through June, to gain an understanding of the operations and maintenance expenditures that could affect the work environment.
- Examined safety meeting minutes for the Hydro Central region for FY 2018 and FY 2019, through May, to gain an understanding of the work environment related to safety.
- Conducted individual interviews with 40 employees, including management,<sup>7</sup> and analyzed the results to identify themes related to strengths and risks that could affect organizational effectiveness.
- Analyzed FY 2018 performance documentation for personnel<sup>8</sup> to identify alignment with respective management and organizational goals and/or initiatives.
- Interviewed Performance Excellence and Environmental Operations personnel who support Hydro Central to identify strengths and risks that could affect organizational effectiveness.
- Obtained operational information, including staffing information from TVA's People Lifecycle Unified System,<sup>9</sup> relevant crane inspection reports, and project documentation to gain additional understanding of strengths and/or risks related to Hydro Central.
- Obtained personnel information related to personnel actions and training documentation to gain additional understanding of strengths and/or risks related to Hydro Central.
- Assessed the overall effectiveness of Hydro Central 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.

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<sup>7</sup> Two individuals were not available for interview. We also did not interview one employee who, according to the Senior Manager, was an intern for the summer.

<sup>8</sup> We excluded performance management documentation for trades and labor personnel. According to TVA documentation, effective calendar year 2018, performance management documentation for trades and labor employees was discontinued.

<sup>9</sup> People Lifecycle Unified System is TVA's Human Capital Management system.



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 Hydro Central personnel. However, we also identified risks that could impact Hydro Central's effectiveness and its continued ability to meet its responsibilities in support of PO's mission.

## **STRENGTHS**

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

### **Organizational Alignment**

Our review of FY 2018 performance management documentation for management and employees revealed that performance goals were consistent with goals of the individual's regional management as well as TVA's Values and Competencies. Performance goals also aligned to Hydro Generation initiatives, which supported the PO and TVA missions. All employees indicated they understood how their job or goals aligned with the plant, Hydro Generation, PO, and/or TVA goals and mission.

### **Positive Interactions Within and Outside of Hydro Central**

The majority of employees interviewed provided positive comments related to interactions with coworkers. In addition, most individuals indicated they trusted their coworkers to do their jobs well. Many individuals indicated positive interactions with others outside of their organization such as Performance Excellence (which includes Safety Consultants), Environmental Operations, and/or Dam Safety.

### **Effective Leadership**

For most individuals in Hydro Central, the Plant Manager is their first-line leadership. The Senior Manager serves as first-line leadership for other individuals. Most individuals indicated having positive relationships with their first-line leaders. Specifically, most employees provided positive comments pertaining to first-line leadership in the areas of communication, trust, accountability, and recognition. In addition, most employees indicated they felt positive about reporting concerns or sharing a differing opinion with their first-line management.

## Positive Ethical Culture

Employees and management are charged with conducting business according to the highest ethical standards and seeking to earn the trust of others through words and actions that are open, honest, and respectful. Ethical culture is defined in this evaluation as the “shared concept of right and wrong behavior in the workplace that reflects the true values of the organization and shapes the ethical decision making of its members.”<sup>10</sup> When asked about the ethical culture within Hydro Central, the majority of employees answered positively.

## RISKS

During the course of our evaluation, we identified risks that could hinder Hydro Central’s effective execution and its continued ability to meet its responsibilities in support of the PO mission. These were comprised of risks related to (1) employee behaviors inconsistent with TVA values in two plant groups, (2) safety concerns due to asset and equipment conditions, and (3) workforce training and staffing.

### Employee Behaviors Inconsistent with TVA Values in Two Plant Groups

Several individuals in two plant groups described behaviors of some employees which are inconsistent with the TVA values of safety, integrity, and accountability (included in Appendix A). The managers in both plant groups have taken actions to address some of these employee behaviors. However, some employees in one plant group still had concerns. Further, some employees in both plant groups described negative impacts to morale because of these employee behaviors. We discussed these concerns with the Senior Manager for Hydro Central and the Hydro Generation General Manager.

### Safety Concerns Due to Asset and Equipment Conditions

TVA’s value of safety is defined as a professional and personal commitment to protect the safety of our employees, our contractors, our customers, and those in the communities that we serve. A few employees described safety concerns associated with unrepaired equipment or assets. Specifically, a concern was expressed about a crane at Nickajack Hydro (see Picture 1 on the following page) that used a bungee cord to hold the attachment or “dog” of the crane in alignment (see Picture 2 on the following page). According to Nickajack Hydro plant personnel, the bungee cord has been used for quite a while and personnel believe that if it broke, injuries could occur.

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<sup>10</sup> As defined in S. P. Robbins & T. A. Judge, *Organizational Behavior*, 18<sup>th</sup> edition, 2019.



Picture 1



Picture 2

We reviewed crane inspections for 2018 and 2019, which indicated the crane passed and was operable. While the inspections did not mention the bungee cord, the inspection did note other safety concerns such as rusting on the cab floor and the potential presence of asbestos. We discussed these concerns with the Senior Manager for Hydro Central and the Hydro Generation General Manager. According to the Hydro Generation General Manager, she was unaware of the issue. In response, the crane will be removed from service pending corrective actions to ensure safe operation.

In addition, a few employees indicated a safety concern at Ocoee No. 2 Hydro related to the stairs and access road to the flume. The Senior Manager provided documentation showing a flume road project had been approved in July 2018 with an estimated in service date of July 2020.

### **Workforce Training and Staffing**

While most employees indicated having the necessary tools to complete their work, we identified potential impediments to effective execution of the PO mission. These included concerns with training and staffing.

#### Training

Hydro Generation utilizes a multi-skilled workforce where employees have multiple skillsets to perform job responsibilities. As stated previously, responsibilities of hydro technicians include performing plant unit startups, monitoring, and shutdowns, as well as preparing and implementing clearances, and electrical and mechanical operation of hydro systems. When asked whether they had the training necessary to perform their jobs, some employees indicated having concerns related to training or expressed an interest in receiving additional training.

Specifically, several employees indicated a need for continuing education or refresher training in technical areas. In addition, a few employees indicated a need for training related to programs or processes, such as Maximo.<sup>11</sup> A review of training documentation and discussion with TVA personnel indicated there had been some recent technical training related to instrumentation and governors<sup>12</sup> for some employees.

In addition to these concerns, several employees mentioned concerns that the Technician II training program did not adequately equip trainees to perform work in hydro. Specifically, some employees indicated the need for further training for Technician II employees. For example, a few employees expressed concerns with their coworkers' abilities to perform work and troubleshoot problems. Hydro management indicated feedback from plant management and Tech IVs was obtained in 2018 and changes were made to the 2019 program curriculum.

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<sup>11</sup> Maximo is an asset management lifecycle and workflow process management system.

<sup>12</sup> Devices automatically regulating the supply of fuel, steam, or water to a machine, ensuring uniform motion or limiting speed.

### Staffing

Some employees in all three plant groups expressed concerns that staffing levels were inadequate. A few employees indicated their belief that the lack of staffing impacts the completion of work. We reviewed staffing information for Hydro Central and noted that staffing levels have increased since September 30, 2017; however, Hydro Central had three vacant technician positions as of September 2019.

Additionally, a few employees described frustrations with implementing the PO outage process due to staffing limitations. Several years ago, Hydro Generation became part of PO. A few employees indicated the outage process requirements have been difficult for Hydro Generation to implement due to differences in their structure and staffing in Hydro Generation compared to other PO groups such as Coal or Gas.

## **CONCLUSION**

Hydro Central contributes to the PO mission of achieving low-cost reliable generation and assists TVA in its environmental mission of managing the river, which includes flood damage reduction, navigation, water quality, water supply, and recreation. While interviews with employees revealed the existence of organizational alignment, positive interactions within and outside of Hydro Central, effective leadership, and ethical culture, execution- and engagement-related improvements could be made to aid in achievement of the PO mission. Specifically, addressing concerns related to training and staffing, and continuing to address safety concerns due to asset and equipment condition could improve operations and safety at the dams. Furthermore, addressing employee behaviors could increase trust within the organization.

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

- Alignment risk is rated low based on alignment of employee goals with those of regional management as well as TVA's Values and Competencies. Performance goals also aligned to Hydro Generation initiatives, which supported the PO and TVA missions.
- Engagement risk is medium based on concerns with employee behaviors in two plant groups that are impacting morale.
- Execution risk is rated medium because of safety concerns due to asset and equipment condition. In addition, employees expressed concerns related to workforce training and staffing.

## **RECOMMENDATIONS**

We recommend the Senior Manager, Regional Hydro Central:

1. Address concerns related to employee behaviors.

**TVA Management's Comments** – TVA Central Hydro management increased the number of Code of Excellence ambassadors in the region. Management and Code of Excellence ambassadors meet quarterly to discuss engagement in the region and as needed to address performance issues. In addition, Respectful Workplace training was held with employees in the Chickamauga plant group in September 2019 to help improve interaction among team members.

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

2. Assess training needs within the organization and develop training plans to address any gaps identified.

**TVA Management's Comments** – TVA Hydro senior leadership will continue to work with Technical Training and Human Resources to address training needs for employees. This will include continuing leadership training for Technician IVs and plant managers during quarterly peer team meetings and identifying and offering training in technical areas as identified.

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

3. Determine if changes made to the Technician II program were effective and address any concerns as appropriate.

**TVA Management's Comments** – TVA Hydro senior leadership will work with trainees currently participating in the Technician II program to assess effectiveness of recent changes made to the program.

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

4. Assess and address concerns related to staffing.

**TVA Management's Comments** – TVA Hydro senior leadership and PO leadership are working together on a work management initiative that will include an evaluation of work load and associated resource levels. Following that assessment, a resource management strategy will be developed that meets the needs of the organization.

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

5. Complete actions to address safety concerns with the crane at Nickajack Hydro and access to the flume at Ocoee.

**TVA Management's Comments** – TVA management completed repairs to the “dog” on the Nickajack crane in October 2019. A plan to address the cab condition will be developed by spring 2020. Additionally, a large capital project investment request has been submitted for a complete crane overhaul to be funded in FY 2021 through FY 2022. TVA engineers and external crane inspectors have determined the crane is safe to operate in its current condition until additional repairs and refurbishments can be completed. A large capital project to upgrade the access road to the flume at Ocoee No. 2 is in progress and is expected to be complete in FY 2021.

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

<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



January 10, 2020

David P. Wheeler, WT 2C-K

REQUEST FOR COMMENTS – DRAFT EVALUATION 2019-15627-03 ORGANIZATIONAL  
EFFECTIVENESS, HYDRO GENERATION CENTRAL REGION

Mr. Wheeler:

This is in response to your memorandum dated December 18, 2019. After review of the draft evaluation, please see the following response to the Recommendations for the Hydro Generation, Central Region.

Recommendations:

We recommend the Senior Manager, Regional Hydro Central:

1. Address concerns related to employee behaviors.

Response

TVA Central Hydro management utilizes TVA's performance management processes to address employee behaviors and performance issues. Central Hydro management also has increased engagement with Code of Excellence (COE) by expanding the number of ambassadors within the region from 1 to 3. Central Hydro management and COE ambassadors meet quarterly to discuss engagement within the region and as needed to address performance issues. Additionally, Respectful Workplace training was held with employees at the Chickamauga plant group in September 2019 to help improve interaction among team members. Central Hydro management has worked to address behaviors within the team to proactively resolve issues and improve working relationships among team members.

2. Assess training needs within the organization and develop training plans to address any gaps identified.

Response

TVA Hydro senior leadership will continue to work with Technical Training and HR (Leadership & Organizational Development) to address training needs for Plant Employees, including:

- Continue leadership training for Tech IV's and Plant Managers during quarterly peer team meetings
- Continue to identify and offer training including: instrumentation, vibration monitoring, governor maintenance, troubleshooting, and other classes as identified.

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3. Determine if changes made to the Technician II program were effective and address any concerns as appropriate.

Response

TVA Hydro senior leadership will work with current trainees upon completion of the ongoing training class (scheduled to complete in August 2020) to assess effectiveness of recent changes made to the curriculum of the Technician II training program. These recent changes, which include an additional 6 weeks of classroom time, updating qualification card and CBT requirements, and adding a weekly assignment structure to plant on-the-job training periods, were based on feedback from previous training classes. TVA Hydro senior leadership will also work with Technical Training, plant managers, and Tech IV's to incorporate their input into the effectiveness of the current curriculum. A survey has been developed and will be deployed to solicit feedback from recent trainees, Tech IV's, and plant managers on effectiveness of the training program. Any changes will be integrated into the next training class.

4. Assess and address concerns related to staffing.

Response

The TVA Hydro senior leadership team is working with Power Operations leadership on a work management initiative that will include an evaluation of work load and associated resource levels. The goal is to consistently align work management practices across Power Operations following an assessment of our work management processes. Following that assessment a resource management strategy will be developed that meets the business needs of the organization while aligning with business goals and targets.

5. Complete actions to address safety concerns with the crane at Nickajack Hydro and access to the flume at Ocoee.

Response

Repairs to the "dog" on the Nickajack intake crane were completed in October 2019. Repair options to mitigate rusting on the cab of the crane are currently being evaluated. A plan to address the cab condition will be developed by spring 2020. Additionally, a large capital project investment request has been submitted for a complete crane overhaul. This project is currently in the plan to be funded in FY21-FY22. TVA engineers and external crane inspectors have determined that the crane is safe to operate in its current condition until additional repairs and refurbishments can be completed.

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A large capital project is currently in progress to upgrade the access road to Ocoee 2 flume. This project includes a new bridge and retaining walls to improve slope stability and drainage. The project is expected to be complete in FY21.

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



Suzanne H. Biddle  
Senior Manager  
Regional Hydro Generation, Central Region

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OIG File No. 2019-15627