



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

September 28, 2016

Wilbourne C. Markham, Jr., LP 2R-C  
John J. McCormick, Jr., BR 4D-C

**REQUEST FOR FINAL ACTION – EVALUATION 2016-15366 – ENVIRONMENTAL PERMITTING AND COMPLIANCE'S ORGANIZATIONAL EFFECTIVENESS**

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.

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 Lindsay J. Denny, Senior Auditor, at (865) 633-7349 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)  
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Attachment  
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OIG File No. 2016-15366



Office of the Inspector General

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## *Evaluation Report*

To the Director, Environmental  
Permitting and Compliance, and to  
the Vice President, Safety, River  
Management, and Environment

# **ENVIRONMENTAL PERMITTING AND COMPLIANCE'S ORGANIZATIONAL EFFECTIVENESS**

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Evaluation Team  
Lindsay J. Denny  
J. Lauren Pionke

Evaluation 2016-15366  
September 28, 2016

## **ABBREVIATIONS**

BCC	Biological and Cultural Compliance
BU	Business Unit
CWA	Clean Water Act
EP&C	Environmental Permitting and Compliance
FY	Fiscal Year
NEPA	National Environmental Policy Act
PEP	Project Environmental Planning
REE	Reportable Environmental Event
SRME	Safety, River Management, and Environment
TVA	Tennessee Valley Authority

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- A. TVA VALUES AND LEADERSHIP COMPETENCIES
- B. MEMORANDUM DATED SEPTEMBER 23, 2016, FROM JOHN J. MCCORMICK, JR. AND WILBOURNE C. MARKHAM, JR. TO DAVID P. WHEELER



# Evaluation 2016-15366 – Environmental Permitting and Compliance’s Organizational Effectiveness

## EXECUTIVE SUMMARY

### Why the OIG Did This Evaluation

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. 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 2015 3-year Strategic Risk Profile recognized that ongoing organizational refinement and optimization might negatively affect the performance environment. Therefore, employee engagement is critical.

Due to the importance of alignment between strategy, operational performance, and team engagement, the Office of the Inspector General is conducting organizational effectiveness reviews of business units across TVA. Environmental Permitting and Compliance (EP&C), a business unit falling under TVA’s Safety, River Management, and Environment<sup>i</sup> (SRME), is responsible for providing oversight, consistency, and standardization in TVA’s permitting and compliance activities, interactions with regulators, and alignment of environmental policy with line organization execution. As of February 2016, EP&C had 88 employees,<sup>ii</sup> including management. This evaluation assesses strengths and risks that could impact EP&C’s organizational effectiveness.

### What the OIG Found

EP&C’s long-term vision<sup>iii</sup> is to “continue to improve TVA’s environmental performance and reputation through integrated project planning and execution, compliance guidance and oversight, and strong regulatory strategy and engagement.” We identified strengths within EP&C related to (1) compliance with regulations, (2) providing support to Operations, (3) relationships with regulators, (4) teamwork, (5) safety, and (6) direct

<sup>i</sup> SRME includes EP&C, Environmental Operations, Safety and Performance Improvement, Dam Safety, Technical Training, and River Management.

<sup>ii</sup> EP&C also relies on staff augmentation contractors. The fiscal year 2016 Staff Augmentation headcount is about 9 full-time equivalents.

<sup>iii</sup> For purposes of our review, we considered EP&C’s long-term vision to be the organization’s mission.



# Evaluation 2016-15366 – Environmental Permitting and Compliance’s Organizational Effectiveness

## EXECUTIVE SUMMARY

management’s support of employees. However, we also identified factors that, if left unresolved, could increase the risk that EP&C will not be able to effectively meet its long-term vision. These factors are related to organizational alignment and role clarity within TVA’s environmental functions, resource availability to cover the current and emerging TVA risk landscape, and employee engagement risks. The ability of EP&C to meet its long-term vision could impact TVA’s ability to meet the environmental portion of its mission.<sup>iv</sup>

Based on our findings and using TVA’s Business Operating Model, we assessed EP&C’s level of risk in the areas of alignment, execution, and engagement. As shown in Table 1, we determined alignment risk to be high because of the structure of the environmental function within TVA. We assessed execution to be a medium risk, in part, because EP&C met its milestones, including all regulatory due dates for fiscal years 2014, 2015, and 2016 (through June 2016); has received no fines or penalties since 2013; and has the lowest level of Reportable Environmental Events in 20 years. However, the risk related to the lack of resources could adversely impact execution if not addressed or considered. Our interviews and review of documentation disclosed potential impacts in the process flow between two departments, the responsiveness of some departments, and the use of contractors. Finally, we rated engagement as medium risk. While our interviews disclosed employees, in general, were passionate about their work and committed to the success of TVA, workload and lack of resources could negatively impact this risk category.

	Low Risk	Medium Risk	High Risk
Alignment			x
Execution		x	
Engagement		x	

Table 1

### What the OIG Recommends

We made recommendations to the Vice President, SRME, and to the Director, EP&C, related to (1) roles and responsibilities, (2) limited environmental resources, and (3) employee engagement issues. Our detailed recommendations are listed in the body of this report.

<sup>iv</sup> TVA’s threefold mission includes energy, environment, and economic development.



# Evaluation 2016-15366 – Environmental Permitting and Compliance’s Organizational Effectiveness

## EXECUTIVE SUMMARY

### TVA Management’s Comments

Prior to issuing their formal response, TVA management reviewed the draft report and provided informal comments that have been incorporated into the final report as appropriate. In their formal response, TVA management generally agreed with our draft report and described actions planned or already completed. TVA management also provided more details of EP&C’s various roles with their response. See Appendix B for TVA management’s complete response.

## **BACKGROUND**

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, 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 2015 3-year Strategic Risk Profile recognized that ongoing organizational refinement and optimization might negatively affect the performance environment. Therefore, employee engagement is critical.

Due to the importance of alignment between strategy, operational performance, and team engagement, the Office of the Inspector General is conducting organizational effectiveness reviews of business units (BU) across TVA. This review focuses on Environmental Permitting and Compliance (EP&C), which is a BU under the Safety, River Management, and Environment<sup>1</sup> (SRME) organization.

TVA's threefold mission includes energy, environment, and economic development. TVA's overarching Environmental Policy objective is to provide clean, reliable, and affordable energy; support sustainable economic growth in the Tennessee Valley region; and engage in proactive environmental stewardship in a balanced and ecologically sound manner. TVA has made notable efforts to enhance its environmental performance in the decisions that have been made to reduce emissions from coal-fired power plants and rely more on cleaner energy sources, including natural gas and nuclear generation.

New and future environmental regulations<sup>2</sup> could result in increased costs due to additional projects and/or accelerated spending to meet compliance deadlines. One of the Enterprise Risk Management risks is "evolving asset requirements and changing regulatory landscape," which recognized that compliance with an evolving generation asset portfolio, new regulatory programs, and increasing regulatory agency/third-party interest in TVA actions is raising costs and risks to operational flexibility. Additionally, TVA has been faced with the challenge of lawsuits involving coal ash. TVA was sued in 2015 by the Tennessee Department of Environment and Conservation, the Southern Environmental Law Center, and

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<sup>1</sup> SRME includes EP&C, Environmental Operations, Safety and Performance Improvement, Dam Safety, Technical Training, and River Management.

<sup>2</sup> New and future regulations include the Environmental Protection Agency's Coal Combustion Residuals rule, the Tennessee Department of Environment and Conservation's comprehensive order, Mercury and Air Toxics Standards, Section 316(b) of the CWA, Effluent Limitations Guidelines, and Clean Power Plan.

other environmental groups for violations of the Clean Water Act (CWA) at the Gallatin Steam Plant. The Southern Environmental Law Center has also filed notice that it intends to sue TVA over violations of the CWA at Cumberland Fossil Plant.

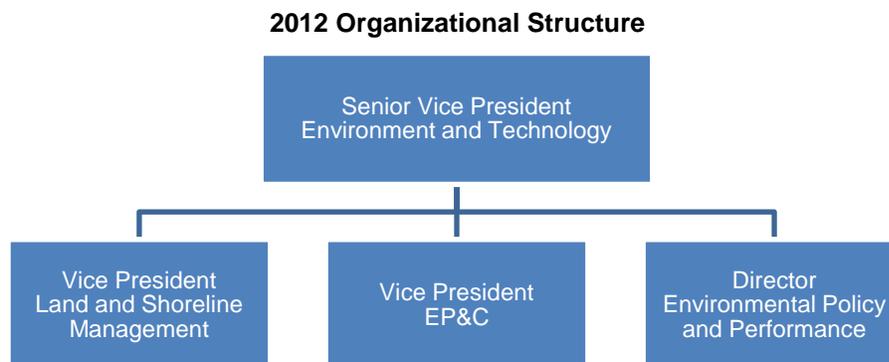
### EP&C

TVA's Environment group was established to provide oversight, consistency, and standardization in TVA's permitting and compliance activities, interactions with regulators, and alignment of environmental policy with line organization execution. EP&C's long-term vision<sup>3</sup> is to "continue to improve TVA's environmental performance and reputation through integrated project planning and execution, compliance guidance and oversight, and strong regulatory strategy and engagement."

The specific organizational objectives include:

- Facilitating the development of standardized permitting and compliance programs and processes.
- Establishing common oversight and execution of environmental permitting and compliance activities.
- Enabling a consistent and unified TVA voice in discussions and negotiations with regulators.
- Ensuring clarity and consistency in environmental functions, roles, responsibilities, and interfaces.
- Establishing a means to share information on environmental risks, corrective actions, and best practices.

In 2012, the environmental policy, compliance, and stewardship functions within TVA were all located in one organization, Environment and Technology, as shown in Figure 1. Since 2012, those environmental functions have been reorganized and changed several times and are currently in separate strategic BUs, as shown in Figure 2 on the following page.<sup>4</sup>



**Figure 1**

<sup>3</sup> For purposes of our review, we considered EP&C's long-term vision to be the organization's mission.

<sup>4</sup> Figures only include relevant organizations.

## Current Structure

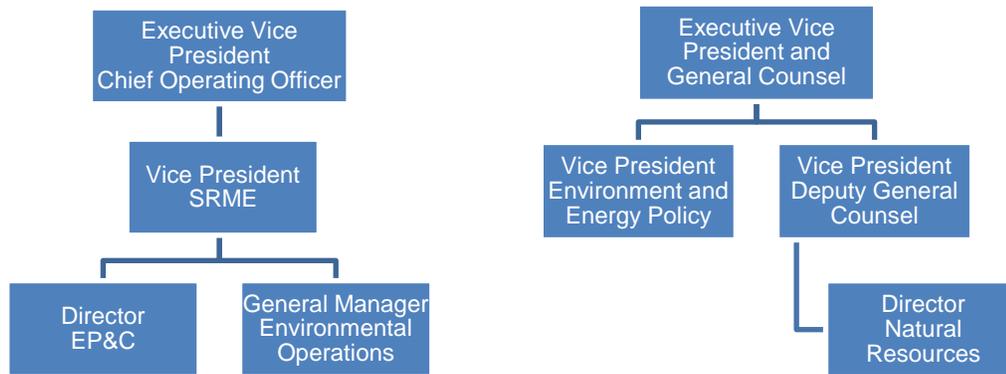


Figure 2

As of February 2016, EP&C had 88 employees<sup>5</sup> spread across five locations: Chattanooga (45), Knoxville (33), Muscle Shoals (8), Kingston (1), and Nashville (1). Employees work within the following departments.<sup>6</sup>

- Air Permits, Compliance, and Monitoring is responsible for managing the technical and administrative functions of TVA's air permitting and compliance programs in order to meet TVA's commitments concerning air-related environmental compliance; developing TVA recommendations, programs, practices, and procedures on air-related environmental matters; and providing overall regulatory and policy guidance within TVA on air-related environmental permitting and compliance activities. Air Permits, Compliance, and Monitoring also includes Continuous Emissions Monitoring and Emissions Allowance Programs and Air Programs Support.
- Waste Permits, Compliance, and Monitoring prepares environmental operating permits for solid waste, landfills, and other waste management activities. The department also coordinates and supports the environmental compliance activities associated with hazardous and solid waste, polychlorinated biphenyls, asbestos, and other waste for all operating facilities and sites in a cost-effective manner; supporting self-assessments and audits for operating facilities; and developing and maintaining compliance procedures.
- Water Permits, Compliance, and Monitoring prepares environmental permits for TVA's generating assets and construction projects to address requirements of the CWA. Water specialists function as subject matter experts providing regulatory and technical expertise to operating facilities and supporting BUs on environmental compliance matters involving potential discharges to waters of the United States.

<sup>5</sup> EP&C also relies on staff augmentation contractors. The fiscal year (FY) 2016 Staff Augmentation headcount is about 9 full-time equivalents.

<sup>6</sup> In their formal response to a draft of this report, TVA management provided additional background language explaining EP&C's oversight, execution, and support roles in the context of the environmental rules, regulations, and compliance obligations administered (see Appendix B).

- Natural Resources Compliance Programs is responsible for the more strategic portion of natural resources, including policy and programmatic items and the Natural Heritage Database.
- Biological and Cultural Compliance (BCC) provides consultation, guidance, and oversight in the application of biological and cultural review requirements for proposed TVA actions, such as construction projects, maintenance projects, and 26a<sup>7</sup> permit requests.
- Project Environmental Planning (PEP) is closely aligned with project management throughout TVA to ensure the proper EP&C objectives are met on all TVA projects, including regulatory and construction permitting, National Environmental Policy Act (NEPA) documentation, and construction support on major projects. The group is structured in three major branches aligning with its biggest partnering groups: Generation Projects, Transmission Projects, and Valley Projects.<sup>8</sup> PEP is also home to the NEPA program, which provides consultation, guidance, and oversight in the application of environmental review requirements for proposed TVA actions that have the potential to affect the environment.

The current management team is made up of the director and managers of each of the departments listed above. Internal customers of EP&C include Natural Resources, Transmission, Generation Construction, Power Operations, TVA Nuclear, and Infrastructure.

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

The objective of this evaluation was to identify operational and cultural strengths and risks that could impact EP&C's organizational effectiveness. We assessed operations from October 2013 to June 2016 and the culture of EP&C at the time of our interviews. To complete the evaluation, we:

- Reviewed the SRME business plan for FY2016 through FY2018 to gain an understanding of EP&C's goals and initiatives.
- Reviewed TVA values and competencies (see Appendix A) to gain an understanding of cultural factors deemed important to TVA.
- Interviewed the director, direct reports, and other designated supervisory/management-level EP&C employees to obtain their perspectives related to strengths and risks of the operational and cultural factors discussed previously.

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<sup>7</sup> Section 26a of the TVA Act requires that TVA's approval be obtained prior to the construction, operation, or maintenance of any dam, appurtenant works, or other obstruction affecting navigation, flood control, public lands, or reservations along or in the Tennessee River or any of its tributaries.

<sup>8</sup> Valley Projects includes projects for Natural Resources and Real Property Services, Facilities, Economic Development, Renewable Solutions, Security, Information Technology, and other corporate organizations.

- Conducted interviews and focus groups with 73 of the 75 employees in EP&C and analyzed the results to identify themes related to strengths and risks that could impact organizational effectiveness.
- Identified EP&C's customers and (1) conducted interviews and administered a survey and (2) analyzed the results to identify the quality of customer service provided by EP&C.
- Obtained and reviewed EP&C's operational data to utilize in our assessment of themes related to strengths and risks.
- Reviewed results of TVA's 2015 Employee Engagement Survey to gain additional understanding of the EP&C work environment.
- Assessed EP&C's overall effectiveness 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.
  - Execution – How well the organization achieves its objectives and mission.
  - Engagement – How the organization achieves the highest level of performance from its employees.

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

## **OBSERVATIONS**

We identified strengths within EP&C related to (1) compliance with regulations, (2) providing support to Operations, (3) relationships with regulators, (4) teamwork, (5) safety, and (6) direct management's support of employees. However, we also identified internal and external factors that, if left unresolved, could increase the risk that EP&C will not be able to effectively meet its long-term vision. The ability of EP&C to meet its long-term vision could impact TVA's ability to meet the environmental portion of its mission. These factors are related to:

- Organizational alignment and role clarity within TVA's environmental functions.
- Resource availability to cover the current and emerging TVA risk landscape, which includes a large number of projects, implementation of several new environmental regulations, an increase in environmental legal actions, and the closure of several existing coal plants.
- Employee engagement risks, including a lack of actions taken from TVA's 2015 Employee Engagement Survey, relationship issues with two managers, accountability, morale, and a lack of upper management understanding.

## STRENGTHS

We identified strengths in EP&C in the following areas: (1) compliance with regulations, (2) providing support to Operations, (3) relationships with regulators, (4) teamwork, (5) safety, and (6) direct management's support of employees.

### Compliance With Regulations

Based on operational data we reviewed, EP&C is helping TVA meet its compliance goals. EP&C met all regulatory due dates<sup>9</sup> for the period we reviewed (FY2014 through June FY2016). TVA tracks Reportable Environmental Events<sup>10</sup> (REE) and Notice of Violations<sup>11</sup> as key performance metrics for SRME. Overall, REEs have trended downward since 1996. As shown in Figure 3, in recent years there was a small peak in FY2015, but REEs are currently at the lowest level in 20 years. Additionally, TVA has received no fines or penalties since 2013.

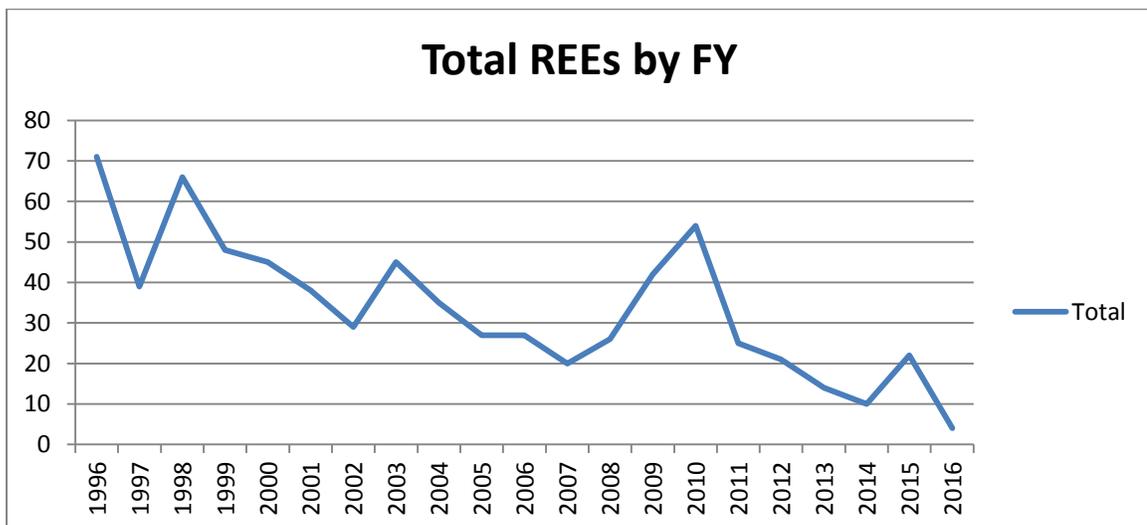


Figure 3

### Providing Support to Operations

We also found EP&C employees are committed to the TVA value of service and customers indicate that they are responsive and helpful. In TVA's 2015 Employee Engagement Survey, employees answered 100 percent favorably

<sup>9</sup> Regulatory due dates are (1) due dates stipulated by a regulatory letter or permit, (2) a date stipulated by a requirement date listed in an enforcement action, (3) a date stipulated in correspondence with a regulatory agency, or (4) a project milestone.

<sup>10</sup> An REE is an environmental event or incident at a TVA facility or elsewhere caused by TVA or TVA contractors that (1) should have been subject to an environmental permit or regulatory notification, but TVA failed to obtain the appropriate permit or make required notification; (2) violates permit conditions or other regulatory requirements and triggers regulatory required oral or written notification to a regulatory agency; or (3) triggers enforcement action by a regulatory agency.

<sup>11</sup> A Notice of Violation is any official notification of violation from a regulatory agency. This includes all notifications that either resulted in enforcement action (e.g., fine or corrective action) or were administrative in nature (e.g., did not result in a fine or require alteration of operations, procedures, or equipment).

when asked how committed they are to the success of TVA. EP&C employees are seen by their customers and peers as subject matter experts in their respective fields. Customer feedback from Environmental Operations indicated that, overall, EP&C is very responsive and helpful in providing field support.

### **Relationships With Regulators**

Most employees indicated they maintain good relationships with regulators. Employees stated they are respected by their state and federal peers. Managers also stated their relationships with regulators was a strength. However, one manager indicated that, due to lack of resources, they have not been able to maintain the same level of interaction with the regulators. Another TVA organization that interacts with EP&C and regulators also mentioned that interactions with regulators are less frequent than they used to be. One of the mitigation strategies to the ERM risk of the changing regulatory landscape mentioned above is regular meetings with state regulators to maintain relationships.

### **Teamwork**

TVA's value of collaboration includes a commitment to fostering teamwork. Most EP&C employees cited teamwork as a strength within their individual departments. In TVA's 2015 Employee Engagement Survey, employees responded favorably to the statement "I receive support I need from other employees to be successful in my job." In our interviews, employees stated they communicate well within the team and rely on one another to get the job done.

### **Safety**

We found that EP&C is committed to the TVA value of safety. As of May FY2016, EP&C worked 122,938 work hours with one incident requiring first aid and no recordable injuries. While some of the departments in EP&C are mostly office workers, three are involved in extensive field work. In TVA's 2015 Employee Engagement Survey, EP&C employees responded overwhelmingly that they feel personally responsible for adhering to high safety standards.

### **Direct Management's Support of Employees**

We found that most EP&C employees feel supported by their direct managers. We identified the following strengths in relation to direct managers:

- *Employees Comfortable to Raise Differing Opinions Without Fear of Retaliation* – During our interviews, most employees stated they feel comfortable with raising a differing opinion from their managers and do not have concerns of retaliation for doing so.
- *Employees Trust of Direct Managers* – Inspiring trust and engagement is one of TVA's leadership competencies. Most employees in EP&C expressed trust in their direct managers.
- *Employees Satisfied with Direct Management's Understanding* – Business acumen is also one of TVA's leadership competencies. Most employees in EP&C were satisfied with their direct managers' understanding of the roles

they perform. Most managers have similar backgrounds and understand the pressures and road blocks employees face in their day-to-day responsibilities.

## RISKS

We identified internal and external factors that, if not resolved, could increase the risk that EP&C will not be able to effectively meet its long-term vision. These factors are related to (1) organizational alignment and role clarity within TVA's environmental functions, (2) resource availability to cover the current and emerging TVA risk landscape, and (3) employee engagement risks.

### Organizational Alignment and Role Clarity

One of the specific organizational objectives of the Environment organization is to ensure clarity and consistency in environmental functions, roles, responsibilities, and interfaces. However, EP&C managers interviewed indicated that due to the number of reorganizations that have taken place within TVA's environmental organizations over the last few years, roles and responsibilities are not being defined appropriately. Feedback from organizations that work closely with EP&C indicated that there is room for improvement with regard to role clarity amongst the various environmental organizations.

Currently, the responsibility for TVA's environmental stewardship and natural resources are shared between two organizations, SRME and Office of the General Counsel, which creates role clarity issues. Furthermore, responsibilities are shared amongst departments within those organizations. For example, employees in Natural Resources Compliance Programs and BCC report overlap in the groups and redundancies in having two managers. Additionally, some customers of EP&C shared that there is an opportunity for greater role clarity within the environmental functions.

One customer indicated they need to work together and communicate more, which is difficult with the current structure. Some customers indicated that it is difficult to know where policy ends and compliance begins. Another one of EP&C's organizational objectives is to enable a consistent and unified TVA voice in discussions and negotiations with regulators. However, as stated previously, there are now environmental responsibilities found within several groups in TVA. With the environmental functions separated within TVA, there is an increased risk that the environmental message to external stakeholders, including regulators, will not be consistent.

Additionally, EP&C was moved into the SRME organization during FY2015. The SRME organization includes six directors or managers and several support functions within TVA, including safety and dam safety. The environmental compliance message is shared along with other important messages. Some employees stated they do not feel they have a strong environmental voice or the environmental voice is shared with other important things such as safety. Some customers also mentioned a lack of executive involvement as an area for improvement.

Project environmental support was previously located within each BU, and there remain some alignment concerns regarding project support being located within EP&C. One BU customer and employees within the project support group indicated that there are some barriers to communication and teamwork with project support being located within EP&C.

### **Resource Availability**

As indicated above, there has been an increase in environmental regulations as well as environmental legal challenges from third parties. Additionally, TVA is in the process of closing several coal-fired plants. TVA is also currently anticipating making significant investments in environmental projects through 2025, including new clean energy generation such as natural gas, nuclear, and renewables to reduce TVA's overall environmental footprint. As a federal agency, TVA must comply with NEPA, which requires that all agencies use a systematic interdisciplinary approach to environmental planning and evaluation of projects that may have an impact on the environment. These additional responsibilities along with limited resources could increase execution risks.

While results from TVA's 2015 Employee Engagement Survey indicate that employees within EP&C are committed to the success of TVA, employees responded unfavorably to questions related to the amount of work interfering with the quality of work and having enough qualified people to do the work in the department.

The most often cited area for improvement from customers as well as employees within EP&C was the process flow between PEP and BCC. PEP coordinates environmental reviews, consultation, and guidance from BCC for projects within TVA that may have an impact on the environment. The number of completed environmental service requests for the past 3 years was 1,322 (FY2014), 1,438 (FY2015), and 1,066 (FY2016 through June 2016). There is one employee that is currently responsible for reviewing and assigning all service requests for BCC. This coordinator is also responsible for ensuring all work packages have sufficient data and assigning a due date for the requested work to be completed. According to employees, the work packages received are often incomplete, which causes delays in performing the review. According to one employee, the coordinator's workload is such that there is not adequate time to review the work package for completeness or negotiate the due date requested on the front end. Prior to detailed design,<sup>12</sup> there were two employees performing this coordinator function; currently, there is one.

In addition, the headcount in BCC decreased from 20 to 10 in 2013. According to interviews, due to the headcount decrease, BCC is not able to complete its work in a timely manner, which impacts PEP in its ability to deliver its work to its customer. PEP created a significant projects list that updates the BUs on all major project work being performed by EP&C with indicators of any areas that are expected to miss the due date. However, some customer feedback indicated

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<sup>12</sup> Detailed design was the TVA reorganization effort that took place in 2013.

communication is not timely regarding delays or due dates that will be missed, and it takes a long time to get work that has been requested.

BCC and PEP utilize the contractor model to augment staff. However, according to employees, the addition of contractors does not necessarily lessen the workload, as will be discussed later in this report. Currently, there is a process improvement team that is working to improve these workflow issues. The team is working with Information Technology to develop a database that will help to provide accountability for work packages being complete on the front end as well as provide more context for assigning deadlines and determining schedules. However, due to workload, one team member indicated difficulty in contributing the amount of time and involvement necessary to the team.

The impact of the lack of resources is evident in several other areas within EP&C, including the Heritage Database, responsiveness of certain departments, and the reliance on contractors.

#### Heritage Database

According to an EP&C Manager, TVA's Regional Natural Heritage Database, which began when the snail darter was discovered at Tellico Dam, houses threatened and endangered species data and data on protected lands (including local, state, and federal parks; refuges; and other special management areas). This database includes over 36,000 records on caves, animals, plants, natural areas, and other sensitive resources. It is used by BCC in Section 26a permit review and every project review. TVA executes data use agreements with the states to exchange threatened and endangered species data.<sup>13</sup> Employees indicated the data in the database is out of date and is continuing to become less reliable because neither the state's data nor TVA's collected data are being added to the database. Employees stated they do not have time to input new data they obtain due to the goals they are given for time charged to projects. Due to the fact this database affects all TVA projects, there is a risk that there could be project decisions made based on incomplete or inaccurate data. Additionally, this issue could further impede BCC's ability to provide timely support to the BUs because extra time is required to consult multiple sources for accurate data.

The data use agreements with the state heritage programs require that TVA take reasonable precautions to ensure the security of location information for species and natural community. We obtained and analyzed a list of users of the system and determined there are 82 users who have access. Three of the users could not be identified in the People Lifecycle Unified System as an employee or contractor. The program manager responsible for the system also could not identify these users. Of the remaining users, there were 61 employees, 17 contractors, and 1 intern. One EP&C employee knowledgeable of the database was unaware as to why several of these users had access. With the number of users with access throughout TVA, there is a risk the data could be

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<sup>13</sup> Kentucky is currently charging a fee on a project-by-project basis for site specific data and does not have a data use agreement with TVA for the exchange of biological data.

used not in accordance with the data use agreements TVA has signed with the states.

### Responsiveness of Certain Departments

Although compliance with regulations is a strength for the group and metrics show it is meeting its milestones, we received customer feedback regarding the responsiveness of certain areas within EP&C. Some customers indicated it is difficult to get a response from certain departments or specialists and may require calling other specialists, escalating to a manager, or utilizing other resources to get answers to environmental questions. These customers acknowledged that the headcount of EP&C is a factor in its responsiveness. Some customers stated EP&C is still doing good work, despite being “stretched.”

### Reliance on Contractors

EP&C utilizes a contractor model to perform the work required to achieve its objectives. This model is used in order to be responsive to EP&C workload peaks and valleys and cost-effectively leveraging outside expertise. However, according to employees, reliance on contractors does not alleviate workload issues. TVA employees still spend time overseeing and performing quality control reviews of the contractor’s work. Additionally, there is concern from employees and managers regarding the amount of intellectual capital lost with the use of contractors. Many contractors in EP&C have worked almost exclusively with the group for years.

### **Risks to Employee Engagement**

In *State of the American Workplace*,<sup>14</sup> Gallup, Inc.<sup>15</sup> defines engaged employees as “those who are involved in, enthusiastic about and committed to their work and contribute to their organization in a positive manner.” EP&C employees are passionate about the work they perform, as evidenced by the performance of their objectives. However, we identified the following areas of risk that, if not addressed, could impact employees’ engagement:

- *Lack of Actions From Engagement Survey* – When asked about any actions taken from TVA’s 2015 Employee Engagement Survey, most employees indicated they had not seen any actions taken. Management indicated they performed group working sessions to determine who can fix the problems identified and the potential benefit to EP&C but that no action plans have been put in place at this time.
- *Employee Relationship Issues With Two Managers* – While most employees indicated supervisors/managers in EP&C are trusted, our interviews identified two supervisors/managers with whom employees have unresolved conflict

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<sup>14</sup> “State of the American Workplace,” Gallup, Inc., <http://employeeengagement.com/wp-content/uploads/2013/06/Gallup-2013-State-of-the-American-Workplace-Report.pdf>.

<sup>15</sup> Gallup, Inc., originally founded in 1935 as the American Institute of Public Opinion, is primarily a research-based, performance management consulting company. In the 1990s, it developed a tool for measuring and managing employees, the Gallup Q12, which includes 12 actionable workplace elements linked to vital performance outcomes.

and relationship issues. We discussed these relationship concerns with the director.

- *Accountability* – Approximately one-third of EP&C employees responded unfavorably in TVA’s 2015 Employee Engagement Survey to the statement “Employees are held accountable for the work they produce or fail to produce.” During our employee interviews, accountability was mentioned as an area for improvement with some comments specifically related to the process flow issue described above.
- *Morale* – As a result of the lack of resources mentioned, some employees indicated morale is low. As employees who are committed to TVA and proud to work for TVA, the current workload level is impacting the quality of their work, which impacts the way they feel about their work product. Additionally, employees indicated there are still concerns related to the potential for additional cuts.
- *Lack of Upper Management Understanding* – While employees indicated a strong level of trust and understanding from direct managers, they expressed a lack of management understanding above the direct manager level. Employees do not feel that upper management understands what they do or why it is important. Employees indicated the director seems to understand but does not have the ability to impact many changes. Employees gave an example of the director’s understanding in that he moved a headcount position to other departments within EP&C instead of keeping an administrative position for himself.

## **CONCLUSION**

Environment is important to TVA as it is one part of the threefold mission. EP&C is operating in an unfamiliar time based on the retirement of coal-fired power plants as well as several new regulations. Therefore, it is important that EP&C have the proper resources, structure, and engagement necessary to achieve its long-term vision, thereby enabling TVA to achieve its mission. Based on TVA’s Business Operating Model, we evaluated the risk of three critical areas that could impact EP&C’s effectiveness:

- Alignment risk is high based on the current risk landscape and the structure of the environmental functions within TVA.
- Execution risk is rated medium. EP&C met its milestones for FYs 2014, 2015, and 2016 (through June 2016). However, performance gaps such as process flow, timeliness, and responsiveness issues related to the lack of resources could adversely impact execution in the future if not addressed or considered.
- Engagement risk is medium. We found strengths in the competencies and behaviors of safety, teamwork, and direct management’s support. However, risks to engagement were identified in the competencies and behaviors of

leadership with two specific managers and accountability. Additionally, morale is low in some areas due to matters like workload issues, which could negatively impact employee engagement.

These risks, if not resolved or adequately considered, could (1) increase alignment, execution, and engagement risks and (2) negatively affect EP&C's ability to meet its long-term vision.

## **RECOMMENDATIONS**

We recommend the Vice President, SRME, in collaboration with the Chief Operating Officer:

1. Evaluate the alignment, roles, and responsibilities of environmental functions within TVA.
2. Assess the resources, workload, and associated environmental risks in specific areas mentioned to determine if EP&C can fulfill its long-term vision.

We recommend the Director, EP&C:

1. Evaluate the roles and responsibilities of EP&C within TVA's environmental functions and communicate and clarify those roles and responsibilities.
2. Determine the actions necessary to update and maintain the Natural Heritage Database.
3. Evaluate the current users of the Natural Heritage Database and remove access as appropriate.
4. Develop action plans to address TVA's 2015 Employee Engagement Survey results.
5. Identify ways to improve the applicable managers' leadership skills and ensure each manager is demonstrating TVA's Values and Competencies.
6. Leverage strength of teamwork within EP&C to enhance peer-to-peer accountability. Leverage direct manager support and trust to enhance overall accountability within EP&C.
7. Continue with the process improvement team and planned database implementation to address BCC's process flow concerns. Modify these plans as necessary to include indicators to gauge the effectiveness of the actions and feedback received from customers.

## **TVA MANAGEMENT'S COMMENTS**

Prior to their formal response to our draft report, TVA management provided informal comments that have been incorporated in the final report as appropriate. In their formal response, TVA management stated they agreed with our recommendations. To address these recommendations, TVA management provided the following actions planned or already completed:

- Evaluate TVA's environmental functional alignment and roles and responsibilities, coinciding with FY2018 through 2020 business planning cycle. Identify and implement alignment corrections, as needed.
- Evaluate, communicate, and clarify EP&C roles and responsibilities coinciding with FY2018 through FY2020 business planning cycle. Identify and implement alignment corrections, as needed.
- Conduct process mapping of the Heritage Database function and identify program changes and required resources to ensure the Heritage Database is sustainably updated and maintained.
- Heritage Database certification training was conducted September 13, 2016. Inactive and uncertified users have been removed from the user list.
- Develop and implement an action plan, including results from most recent Pulse Survey, that addresses "2015 Employee Engagement Pulse Survey" results.
- For current and emerging leaders, establish employee engagement expectations, performance management, and competency reinforcement.
- Develop and implement a program to gather middle- and front-line management's input directly into FY2018 through FY2020 business planning. In addition, TVA management plans to complete the initial session of the SRME, *Leader Forum*, a series of six day-long leadership meetings specifically designed to engage middle- and front-line leaders.
- Create a metric that measures the effectiveness of Environmental Services Coordination System planning tool.

TVA management also provided additional background language explaining EP&C's oversight, execution, and support roles in the context of the environmental rules, regulations, and compliance obligations administered. 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 and Engagement

September 23, 2016

Mr. David P. Wheeler, ET 3C-K

RESPONSE TO REQUEST FOR COMMENTS - DRAFT EVALUATION 2016-15366 -  
ENVIRONMENTAL PERMITTING AND COMPLIANCE ORGANIZATIONAL EFFECTIVENESS  
EVALUATION

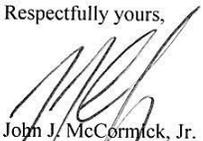
Reference: OIG Memorandum to Wilbourne C. Markham, Jr, Director, Environmental Permitting and  
Compliance and John J. McCormick, Jr., VP, Safety, River Management, and Environmental

This is in response to the recommendations provided in your August 24, 2016, draft evaluation of the  
organizational effectiveness within SRME's Environmental Permitting and Compliance group. We agree  
with the recommendations and will develop & implement actions responding to each finding.

One Recommendation has been addressed and requires further action. Also, we recommend additional  
Background language explaining Environmental Permitting and Compliance's mission. The more  
granular language provided explains our oversight, execution, and support roles in the context of the  
environmental rules, regulations, and compliance obligations administered.

We thank Lisa Hammer, Lindsay Denny, and the audit team for their professionalism and cooperation  
conducting this review. If you have any questions please contact M. Susan Smelley at (423) 751.3304.

Respectfully yours,



John J. McCormick, Jr.  
Vice President  
Safety, River Management, and Environmental  
BR 4D-C



Wilbourne C. Markham, Jr., PE  
Director  
Environmental Permitting and Compliance  
LP 2V-C

Attachments

cc

Susan E. Collins, LP 6A-C  
Dwain K. Lanier, MR 6D-C  
Robertson D. Dickens, WT 4D-K  
Charles G. Pardee, WT 7B-K  
Megan T. Flynn, LP 2A-C  
William D. Johnson, WT 7B-K

Appendix A

Table One - Summary of EP&C Actions, Due Dates, and Responses to OIG Recommendations

OIG Recommendations	Status	Action Status	Action Due Date	Action Completed Date	SRME Action Owner	Commentary
To Vice President, SRME and Chief Operating Officer:						
1	Agree	Pending	09/30/2017	TBD	VP, SRME	Evaluate TVA's environmental functional alignment and roles & responsibilities, coinciding with FY2018-20 Business Planning cycle. Identify and implement alignment corrections, as needed.
2	Agree	Pending	09/30/2017	TBD	VP, SRME	
To Director, Environmental Permitting and Compliance:						
1	Agree	Pending	06/16/2017	TBD	Director, EP&C	Evaluate, communicate, and clarify EP&C roles & responsibilities coinciding with FY2018-20 Business Planning cycle. Identify and implement alignment corrections, as needed.
2	Agree	Pending	07/15/2017	TBD	Director, EP&C	Conduct process mapping of the Heritage Database function. Identify program changes and required resources to ensure that Heritage Database is sustainably updated and maintained
3	Agree	Complete	--	9/23/16	Manager, NRCP	Heritage database certification training was conducted 9/13/2016. Inactive and uncertified users have been removed from user list.
4	Agree	Pending	01/15/2017	TBD	Director, EP&C	Develop and implement an action plan, including results from most recent Pulse Survey, that addresses 2015 Employee Engagement Pulse Survey results.
5	Agree	Pending	03/30/2017	TBD	VP, SRME	For current and emerging leaders establish Employee Engagement Expectations, Performance Management, and Competency Reinforcement. (BP Gap 5, Initiative 5)
6	Agree	Pending	04/30/2017	TBD	VP, SRME	Develop and implement program to gather middle and first line management's input directly into FY2018-20 Business Planning. (BP Gap 3, Initiative 2)
6	Agree	Pending	05/15/2017	TBD	VP, SRME	Complete initial session of SRME <i>Leader Forum</i> , a series of six (6) day-long leadership development meetings specifically designed to engage middle and front line leaders. (BP Gap 3, Initiative 1)
7	Agree	Pending	10/30/2017	TBD	SM, PEP	Create a metric that measures effectiveness of Environmental Services Coordination System (ESCS) planning tool.

## **Appendix B**

### *Recommended EP&C Group Descriptions*

#### Air Permits, Compliance and Monitoring

Air Permits, Compliance and Monitoring (APC&M) obtains environmental permits for TVA's nuclear, hydro, coal and gas electric generating assets and for new generation and clean air construction projects to address requirements of the Clean Air Act (CAA). This group plays a critical role in the implementation of both existing regulatory requirements and new regulations, such as EPA's Mercury and Air Toxics Standards, that have major technical and cost implications for TVA.

Three air specialists within the group function as subject matter experts providing regulatory compliance interpretations and technical expertise and guidance to operating facilities and supporting business units (BU) on air permitting and compliance matters. Air specialists communicate with regulators to ensure regulatory interpretations are accurate, that TVA's interactions with regulators are consistent ("one voice") and that regulators are kept informed of TVA's compliance activities.

The CEMS (Continuous Emissions Monitoring System) and Emissions Allowance group also falls under the APC&M organization. This group of four CEMS specialists and one air specialist comprises subject matter experts in the monitoring and reporting requirements for CEMS and for maintenance and reporting of the TVA emissions allowance bank. The Air Programs Support group within APC&M provides support in air dispersion modeling, air emission inventory and toxic release inventory (TRI) reporting, development of air permit applications, and meteorology for nuclear power facilities.

#### Biological and Culture Compliance

Biological and Cultural Compliance (BCC) provides consultation, guidance and oversight in the application of biological and cultural review requirements for proposed TVA actions, such as construction projects, maintenance projects, and 26a<sup>5</sup> permit requests. Regulations and Executive Orders addressed on a project-by-project basis by this program include the National Historic Preservation Act (NHPA), the Archaeological and Historic Preservation Act (AHPA), Endangered Species Act (ESA), Clean Water Act (CWA) - primarily Wetlands issues addressed under Section 404), Wild and Scenic River Act (WSA), Bald and Golden Eagle Protection Act (BGEPA), Federal Cave Resources Protection Act (FCRPA), EO 11990 - Protection of Wetlands, EO 13112 - Invasive Species, Amended by EO 13286, EO 13186 - Responsibilities of Federal Agencies to Protect Migratory Birds. SMEs in this group support NRCP and EEP in developing and executing strategic, policy and programmatic activities related to these regulations and EOs.

SMEs in this group also support Natural Resource Management programs which address the Archaeological Resources Protection Act (ARPA) in addition to the statutes and EOs listed above.

#### Natural Resource Compliance Programs

Natural Resources Compliance Programs (NRCP) is responsible for the more strategic portion of natural resources, including policy and programmatic items, and the TVA Regional Natural Heritage Database. Regulations and Executive Orders addressed strategically and programmatically by this program include

the Endangered Species Act (ESA), Clean Water Act (CWA) - (primarily Wetlands issues addressed under Section 404), Wild and Scenic River Act (WSA), Bald and Golden Eagle Protection Act (BGEPA), Federal Cave Resources Protection Act (FCRPA)EO 11990 – Protection of Wetlands, EO 13112 – Invasive Species, Amended by EO 13286, EO 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds. In addition, most if not all, TVA reviews conducted under NEPA rely on information in the Natural Heritage Database.

This group is also responsible for managing the implementation of TVA activities resulting from individual and programmatic ESA consultations. In particular, this group coordinates activities required by TVA's 2006 consultation on Operation of TVA's Water Control System. NRCP coordinates with SMEs in Biological Permitting and Compliance (BCC) and Environment and Energy Policy (EEP) in developing and executing strategic, policy and programmatic activities related to these regulations and EOs.

#### Project Environmental Planning

Project Environmental Planning is closely aligned with project management throughout TVA's Operations and Corporate business units to ensure the proper Environmental Permitting & Compliance objectives are met on all TVA projects. This includes regulatory and construction permitting, NEPA documentation, and construction support on major projects. The group is structured in three major branches aligning with our biggest partnering groups. Transmission Projects Environmental Support, Generation Projects Environmental Support, and Valley Projects.

Project Environmental Planning is also home to the NEPA Program which provides consultation, guidance, and oversight in the application of environmental review requirements for proposed TVA actions that have the potential to affect the environment. This program is administered under Instruction IX of TVA's Regulations.

These groups were brought together during detailed design to drive consistency, leverage limited resources for support, and share lessons learned for continuous improvement in the environmental compliance of all projects across the agency.

#### Waste Permits, Compliance and Monitoring

Waste Permits, Compliance and Monitoring prepares environmental permits for TVA's nuclear, hydro, coal and gas electric generating assets as well as for TVA facilities and transmission assets as it relates to solid waste, landfills, groundwater monitoring, soil remediation on TVA property, and other solid waste related activities. This group plays a critical role in the implementation of existing regulatory requirements as well new regulations such as EPA's Coal Combustion Residuals (CCR) from electric utilities and new PCB regulations - each with major technical and cost implications for TVA.

Subject matter experts also provide regulatory compliance interpretations and technical expertise and guidance to operating facilities and supporting business units (BU) on environmental compliance matters involving potential asbestos, PCB, non-hazardous, and hazardous waste generation and disposal.

The group also owns oversight for TVA's Integrated Pollution Prevention (IPP) program, providing regulatory compliance interpretations, technical expertise, and risk minimization guidance to operating facilities and supporting BU related to oil and regulated liquid storage.

Waste PC&M engages communications with regulators to ensure regulatory interpretations are accurate, that TVA's interactions with regulators are consistent ("one TVA voice") and that regulators are aware of TVA's compliance activities.

Water Permits, Compliance and Monitoring

Water Permits, Compliance and Monitoring prepares environmental permits for TVA's nuclear, hydro, coal and gas electric generating assets and myriad operationally-related construction projects to inform and communicate compliance requirements with the CWA. This critical role implements and oversees existing regulatory requirements as well new regulations; such as EPA's CWA § 316(b) cooling water intake rule and new Effluent Limitations Guidelines for the power industry.

Function includes TVA's system-wide River and Reservoir Compliance Monitoring group also falls under the Water Permits, Compliance and Monitoring organization. This group of aquatic scientists and technicians performs a dual function: 1) having responsibility for the annual collection and accurate interpretation of surface water quality and ecological data from Tennessee River main stem and tributary reservoirs to support generating assets' environmental compliance requirements associated with permitted discharges to waters of the United States; and 2) providing support for TVA's environmental stewardship responsibilities under the TVA Act.