

A Focus on

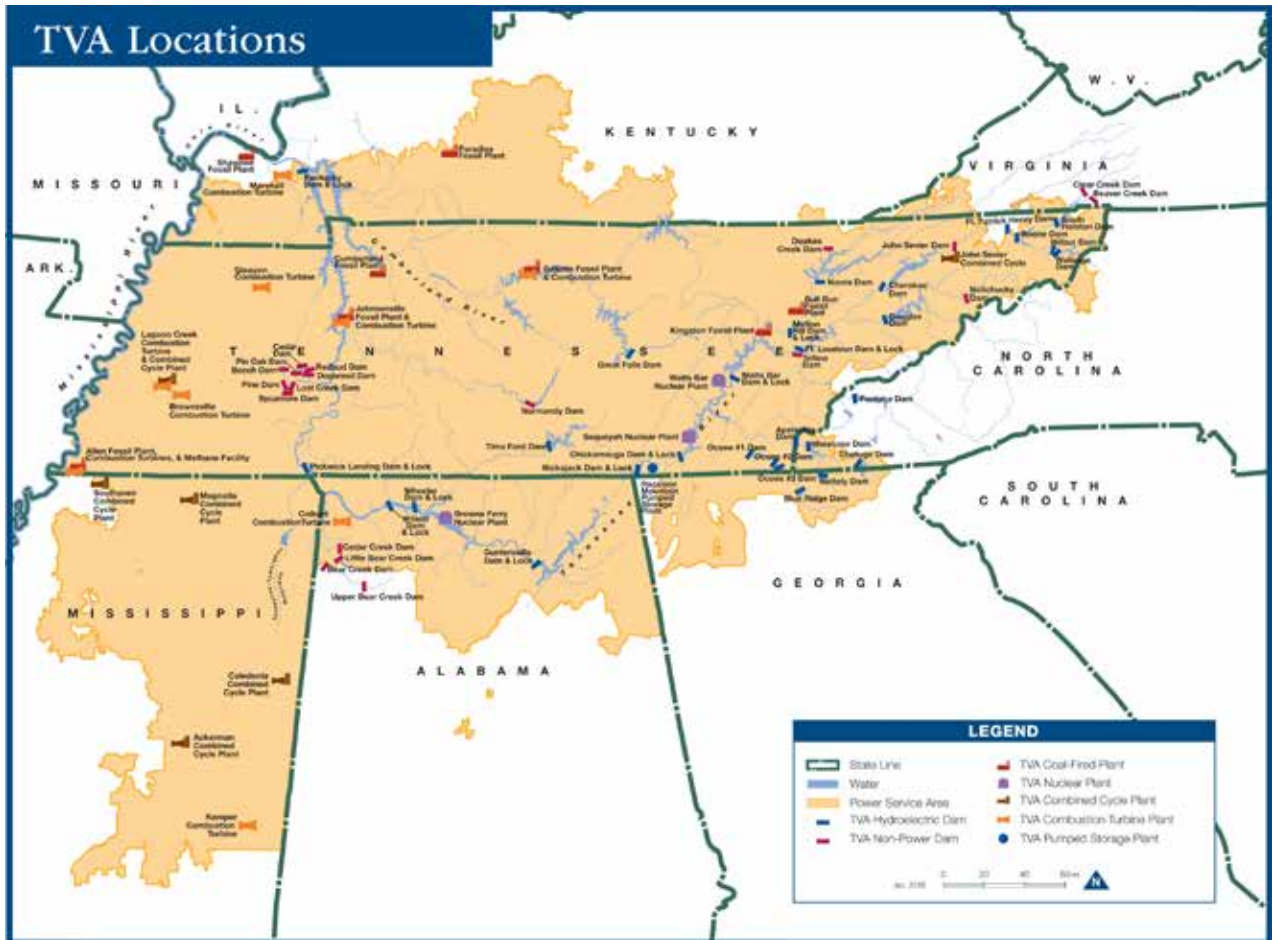
# ORGANIZATIONAL EFFECTIVENESS



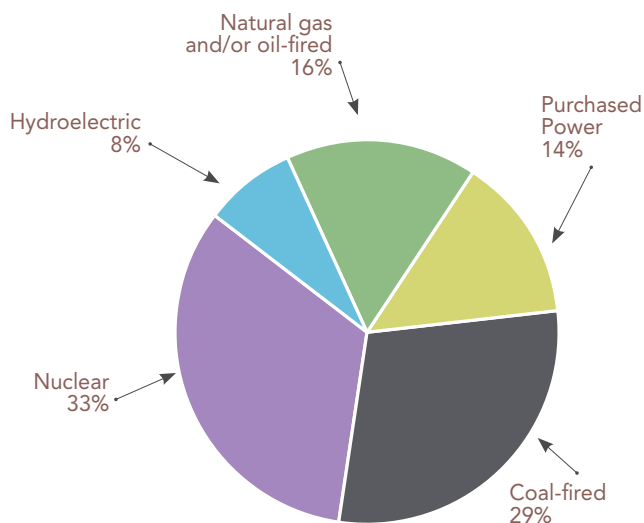
Office of the Inspector General  
TENNESSEE VALLEY AUTHORITY  
Semiannual Report  
April 1, 2016 - September 30, 2016



## TVA Locations



## TVA POWER GENERATION AND PURCHASED POWER FOR THE YEAR ENDED SEPTEMBER 30, 2016 (in millions of kilowatt hours)



- Coal-fired - 46,028
- Nuclear - 52,897
- Hydroelectric - 12,618
- Natural gas and/or oil-fired - 25,221
- Purchased Power - 22,107

SOURCE: TVA 2016 FORM 10-K, FILED WITH THE SECURITIES AND EXCHANGE COMMISSION ON NOVEMBER 14, 2016

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## MESSAGE FROM THE INSPECTOR GENERAL



*I am pleased to present our report for the period April 1, 2016, to September 30, 2016. The role of the Office of the Inspector General (OIG) in identifying potential risks to the Tennessee Valley Authority's (TVA) ability to achieve its mission of providing reliable power at affordable rates, environmental stewardship, and economic development to the Tennessee Valley is imperative to the agency's success. In the past, the capacity for a business to accomplish its objectives was talked about in terms of goal-setting, strategic execution, and milestone measurement as if the objectives could somehow achieve themselves. But, with evolving insight, we now recognize the behaviors of the more than 10,000 people in TVA's workforce define its effectiveness as much as anything else. This realization is reflected in the highlights of our work throughout this report.*

In this semiannual period, our audit, evaluation, and investigative activities identified nearly \$15 million in funds TVA could put to better use, questioned costs, recoveries and savings as well as opportunities for TVA to improve its programs and operations. Some of the highlights include:

- Three preaward examinations of cost proposals related to TVA fossil operations that identified \$8.9 million of potential savings opportunities for TVA to negotiate.
- An audit finding that improvements are needed in incorporating fraud risk management practices, as identified by the United States (U.S.) Government Accountability Office (GAO), in TVA's organizational culture and structure.
- Four Information Technology (IT) audits including the

final report in a series of IT organizational effectiveness audits, a review of controls related to cyber security at a fossil plant as well as controls related to network architecture at a hydro plant, and controls for access to the corporate wireless network.

- Three evaluations to determine whether the work environments for the Nuclear Oversight group and operators at Sequoyah and Browns Ferry nuclear plants were conducive to raising concerns without fear of retaliation as well as four evaluations related to the proposed sale of the Bellefonte Nuclear Plant site, delivered cost of fuel calculations for coal and gas, firearms and ammunition at coal plants, and actions taken to address risks related to ductwork at coal plants.

- Organizational Effectiveness reviews of TVA's Coal and Gas Services, Environmental Permitting and Compliance, Environmental Operations, and Enterprise Project Management Office as well as follow-up reviews of TVA's Cumberland Fossil Plant and Corporate Accounting.
- Investigative results including three indictments, two informations filed, three convictions, and a qui tam resulting in a \$2,078,208 payment to TVA.

As always, we appreciate the ability to work with the TVA Board and management in mutual support of TVA's ability to achieve its mission of service for the 9 million people of the Tennessee Valley in increasingly efficient and effective ways.

A handwritten signature in black ink that reads "Richard W. Moore". The signature is fluid and cursive, with a large, stylized "M" at the end.

**Richard W. Moore**  
Inspector General





# SPECIAL FEATURE

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## A FOCUS ON ORGANIZATIONAL EFFECTIVENESS

*The OIG is charged with promoting economy and efficiency throughout TVA while also preventing and detecting fraud, waste, and abuse. Typically, the focus of an audit or evaluation is on the structural and/or operational aspects of a program or process. Does the organization have the right policies and procedures in place to drive expected actions and/or mitigate risks? Does the organization have the right number of employees or the right materials for accomplishing goals? It is sometimes easy to forget about the human element associated with goal achievement. The behaviors and actions of the workforce, which comprise the organizational culture, are just as necessary as the structural and operational elements for achievement of an organization's mission.*

Given the acknowledged importance of a healthy organizational culture, one might think that internal auditors and inspectors general would have been auditing this area for the last 30 years or so. We haven't. While we might have assessed policies and procedures, such as codes of conduct and ethics guidelines designed to set the tone at the top and drive the culture, we have shied away from evaluating the behaviors of both management and employees—the epitome of an organization's culture. However, the world is changing as noted by President and Chief Executive Officer of the Institute of Internal Auditors, Richard Chambers. In a 2014 article on the evolving role of auditing culture, he stated:

When I think about how the role of internal auditing is evolving, I am struck by the diversity of issues we address. Internal auditors deal with an ever-expanding portfolio of challenges that encompass operational risk, strategic decision-making, compliance, technology vulnerabilities, security threats, fraud prevention and detection, environmental risks, disaster preparedness . . . the list goes on and on. Even once-unthinkable subjects like corporate culture are now subject to audit. This is as it should be. We can't deliver fully effective risk-based

audit services if we ignore critical issues, such as a toxic corporate culture.<sup>1</sup>

For the past thirty years, TVA OIG, through its audits, evaluations, and investigations, has provided “snapshots” of TVA's organizational health, sometimes directly referred to as “culture” but, more often than not, labeled as “leadership” or “process control” issues. These “snapshots” have sometimes revealed patterns of behavior that have negatively impacted operational performance thereby heightening risks related to effectiveness and efficiency. We also recognize the risks to organizational health that have increased because of staffing reductions, organizational realignments, aging infrastructure, increased regulation, low-load growth, and turnover at the senior manager ranks.

As a part of the OIG's mission to promote economy and efficiency throughout TVA, the OIG has undertaken a new type of evaluation that focuses on the organizational effectiveness or the ability of an organization to achieve its mission and goals. In these evaluations, the OIG assesses a TVA business unit from both an operational and a cultural perspective by identifying strengths and risks to the individual business unit's ability to achieve its mission.

<sup>1</sup> Richard Chambers, *Auditing the Organizational Culture: A New Frontier for Internal Audit*, July 2014, <https://iaonline.theiia.org/auditing-theorganizational-culture>.

## OUR MODEL'S VALUE PROPOSITION

Because culture and its impact on organizational effectiveness is a relatively new concept in the auditing arena, it became necessary for us to develop our own methodology for evaluating organizational effectiveness. We were entering into new territory with the initiation of these evaluations. Not only were we changing our approach to identify organizational risks from a holistic standpoint, our approach also included the identification of potential leadership and behavioral issues that were risks to organizational effectiveness. We recognized this could cause angst among TVA executives and employees; therefore, it was important to enter into and stay in dialogue with TVA executives. We sought to develop our methodology using criteria relevant to TVA and in the spirit of continuous improvement.

TVA developed a business operating model consisting of activities designed to address organizational “alignment, engagement, and execution,” as shown in the figure below. Additionally, TVA management defined the desired corporate values and developed individual contributor and leadership competencies for assessment of

behaviors. We utilize the business operating model as well as the TVA values and competencies as criteria for determining potential areas of strength and risk related to organizational effectiveness.

Our objective for these reviews is to assess TVA business units both operationally and culturally in order to identify strengths and risks to individual business units' organizational effectiveness. Ultimately, we report on the strengths and risks related to organizational alignment, expectations for achievement of long-term goals, the achievement of the organizational mission and objectives, and behaviors related to increasing the performance of leaders and employees. We conduct follow-up evaluations after six months for select organizations to provide additional feedback to managers on the effectiveness of the actions taken to address our recommendations.

## OUR EVALUATION APPROACH

Each year, the OIG plans audits and evaluations based on where we see the top risks in the agency. Because the focus of our organizational effectiveness evaluations consists of both operational and cultural risks, we consider a number of factors







when determining which of TVA's approximately 70 diverse business units to evaluate. We review TVA's employee engagement survey to identify potential business units with low engagement scores and consider the operational and work environment risks identified by TVA's enterprise-risk process. Other factors, such as the role or importance of a business unit in accomplishment of the TVA mission and the number of business units supported by an organization, are also considered.

The operational aspects of our reviews include areas that are commonly covered in traditional auditing. We examine the organization's business plan, review financial data and performance metrics, and examine select policies and procedures related to work management specific to the organization. For the cultural portion of our evaluations, we rely on "tools in our toolbox," which include surveys, one-on-one interviews, and focus groups to allow employees to "brag" about their business unit and identify cultural issues. In determining which "tool(s)" to use, we consider factors such as the number and location of employees, as well as suggestions from business unit management as to best methods to use for their particular employees. In addition to business unit personnel, we may also interview contractors and internal customers of those business units.

Operational factors as well as cultural components that align with TVA's values and competencies are included in questions for business unit management and employees. From these conversations, we identify recurring themes related to organizational strengths and risks. These discussions, in conjunction with the examination of operational information, allow us to determine potential root causes behind the strength(s) or risk(s) and assist in the development of recommendations. TVA management and employees can then work together to leverage their strengths and make any necessary improvements. We continue to refine this methodology as we gain additional experience and knowledge with these reviews.

## WHAT WE'VE LEARNED

As of September 30, 2016, our organizational effectiveness department had completed eight organizational effectiveness evaluations of corporate and operational business units and two six-month follow-up evaluations. To date, we have identified strengths in various business units such as positive working relationships with other organizations, management support of employees, and engaged employees who take pride in their work. We have also identified risks related to alignment, execution, and engagement that include:

- Lack of alignment of individual performance goals with business unit objectives and organizational mission. Based on interviews with employees, we believe this lack of alignment has contributed to perceptions of management favoritism and the uncertainty of how employees contribute to the overall mission.
- Safety and environmental issues related to one fossil plant's flue gas ductwork. These issues resulted in a separate evaluation to determine whether TVA is taking actions to address the environmental and safety risks of flue gas ductwork at all fossil plants.
- Distrust of some managers due to lack of communication, inconsistencies in disciplinary actions, and lingering unresolved conflicts. As a result, management has increased communications to improve trust, provided leadership training and coaching, and addressed unresolved conflicts.

While there have been some common strengths and risks across the groups, results of these reviews varied widely from business units with serious issues to organizations that exemplify organizational effectiveness. At Kingston Fossil Plant, low trust and morale played a major role in the day-to-day lives of plant employees. At Bull Run Fossil Plant, poor asset condition negatively influenced the culture. Employees in the Environmental Permitting and Compliance group pointed to organizational structure and staffing levels as key issues in their business unit. Conversely, we found the Enterprise Project Management Office's group to be effective in achieving its goals and objectives largely because of strong leadership that supports and empowers employees.

Through the performance of these evaluations, we have provided employees with an opportunity to discuss organizational strengths and risks to achievement of the organizational mission. We use this information to provide TVA management



**ALLEN FOSSIL PLANT**

with context for known and unknown operational and behavioral strengths and risks impacting organizational effectiveness. TVA management, though understandably hesitant initially, has expressed appreciation for the organizational effectiveness evaluations. We have received positive comments pertaining to the approach, commitment, and engagement efforts of the organizational effectiveness evaluation team.

## CONCLUSION

Organizational effectiveness evaluations are unlike other audits and evaluations because they include a review of structural and/or operational aspects considered in traditional auditing and encompass evaluation of behaviors and actions within the work environment. Furthermore, these evaluations provide an opportunity for us to interact with individuals who we might not have interacted with in a traditional audit or evaluation. Through these actions, we can provide a holistic view of organizational strengths and risks that allows TVA

management to focus on corrective actions that improve organizational effectiveness and further achievement of the mission. By conducting these reviews as a part of the OIG mission to promote economy, efficiency, and effectiveness, we provide an independent perspective to the TVA Board and to TVA management and promote efforts to ensure a sustained focus on TVA organizational effectiveness strategies.

While we recognize that developing a new strategy for evaluating TVA operations can cause apprehension with TVA management, we have found that discussions with management have helped to alleviate concerns. Dialogue with TVA management has assisted in the refinement of our methodology that is both useful and relevant to TVA especially in light of organizational changes. Furthermore, through this dialogue, our model has evolved since inception and we plan to continue refining the methodology as we go forward.





# EXECUTIVE OVERVIEW

*To support TVA, the OIG conducts audits, evaluations, and investigations, providing TVA objective findings that highlight risks and strengths related to its ability to achieve its mission. Traditionally, OIG reviews have focused primarily on TVA operations without a direct and strong view toward the collective impact of employee behaviors on TVA's capacity to meet its goals. Consequently, in recent years, our office began providing TVA a more holistic view of its operations and the impact employee behaviors can have on performance. Our work now routinely assesses this "human factor" to support TVA management in maximizing its strategy to achieve its mission in energy, environmental stewardship, and economic development for the Tennessee Valley.*



## AUDITS

The TVA OIG audit organization completed 14 audit, examination, and agreed-upon procedures engagements. This work identified more than \$3 million in questioned costs for TVA to recover and \$8.9 million in funds the company could put to better use. We also identified several opportunities for TVA to improve the effectiveness and efficiency of its programs and operations.

### CONTRACT AUDITS

To support TVA management in negotiating procurement actions, we completed three preaward examinations of cost proposals submitted by companies proposing to provide (1) construction management services for TVA's Civil Projects and Coal Combustion Product Management group, and (2) engineering, design, and construction support for Holistic Industrial Wastewater Treatment Program services at TVA's fossil plants. Our examinations identified \$8.9 million of potential savings opportunities for TVA to negotiate. We also completed two compliance audits of contracts with expenditures totaling \$255.9 million related to (1) prescription drug benefits services, and (2) the purchase of large and medium power transformers. These audits identified potential overbillings of \$2.2 million. The Contract Audits section begins on page 21 of this report.

### FINANCIAL AND OPERATIONAL AUDITS

With a focus on financial reporting, compliance with applicable laws and regulations, and TVA operations, we completed audits of a TVA contract with Seven States Power Corporation for an aggregated demand response proof of concept agreement, TVA's local power company rate-review process, TVA fraud risk management, and mitigation of risks from bulk industrial gases. In addition to our audit work, we performed assistance work for TVA's external auditor and applied agreed-upon procedures related to

verification of TVA compliance with the Green Pricing Accreditation Program requirements for calendar year 2015. The Financial and Operational Audits section begins on page 21 of this report.

### IT AUDITS

IT Audits (1) completed the final report in a series of IT organizational effectiveness audits, (2) audited controls related to cyber security at a fossil plant, (3) audited controls related to network architecture at a hydro plant, and (4) audited controls for access to the corporate wireless network. The IT Audits section begins on page 25 of this report.

## EVALUATIONS

Our Evaluations organization includes two departments, one of which focuses on organizational effectiveness reviews. During this reporting period, our evaluation teams completed seven evaluations and six organizational effectiveness reviews, including two follow-up reviews. The teams identified a number of opportunities for improvement.

### EVALUATIONS

This group completed seven reviews. These evaluations included (1) three reviews of the work environments of the Nuclear Oversight group and operators at Sequoyah and Browns Ferry nuclear plants, (2) the proposed sale of Bellefonte Nuclear Plant, (3) delivered cost of fuel calculations for coal and gas, (4) firearms and ammunition at coal plants, and (5) actions taken to address risks related to ductwork at coal plants. The Evaluations section begins on page 29 of this report.

### ORGANIZATIONAL EFFECTIVENESS

This group evaluated four business units within TVA: Coal and Gas Services, Environmental Permitting and Compliance, Environmental Operations, and Enterprise Project Management Office. In



addition, follow-up reviews were conducted of TVA's Cumberland Fossil Plant and Corporate Accounting. The Organizational Effectiveness section begins on page 35 of this report.

## INVESTIGATIONS

This reporting period, we opened 108 cases and closed 104. Our investigative results include three indictments, two informations filed, three convictions, and a qui tam resulting in a \$2,078,208 payment to TVA. The Investigations section begins on page 38 of this report.

## STATISTICAL HIGHLIGHTS

*April 1, 2016 - September 30, 2016*

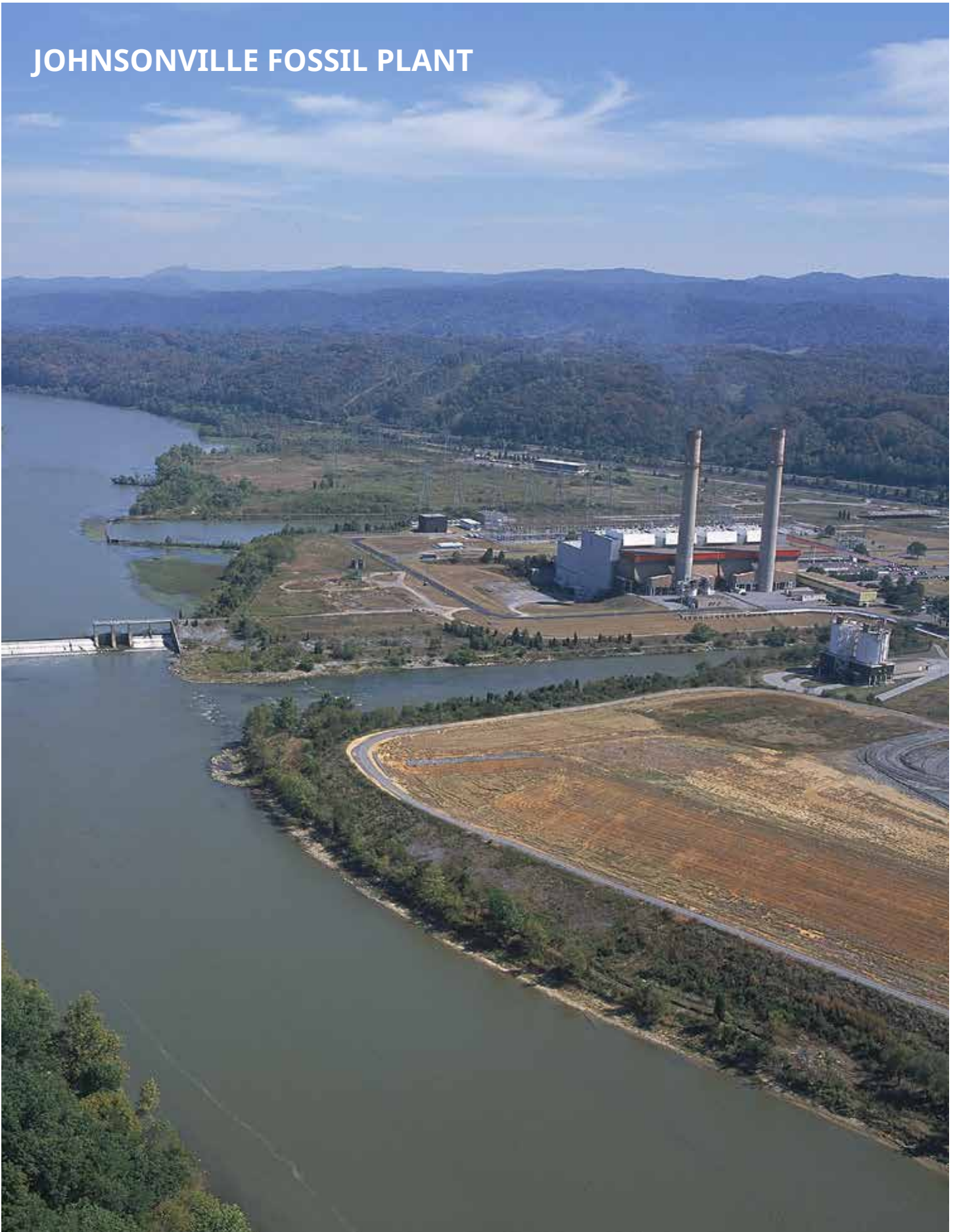
Audit Reports Issued	14
Evaluations Completed	13
Questioned Costs	\$3,271,248
Questioned Costs Agreed to by TVA	\$3,271,248
Questioned Costs Recovered by TVA	\$1,724,647
Funds to be Put to Better Use	\$8,901,000
Savings Realized by TVA	\$0
Investigations Opened	108
Investigations Closed	104
Recoveries/Savings	\$2,810,279 <sup>2</sup>
Other Monetary Loss	\$0
Criminal Actions	8
Administrative Actions (No. of Subjects)	17

<sup>2</sup> Amount includes \$1,547,434, also included in Questioned Costs Recovered by TVA, which was recovered in a qui tam settlement agreement negotiated by the U.S. Attorney's office with Bartlett Holdings, Inc.





# JOHNSONVILLE FOSSIL PLANT



# ORGANIZATION

Since 1985, the OIG has worked to help TVA become better which is the OIG's vision. Through our audits, evaluations, and investigations, we provide TVA management, the TVA Board, and Congress with an independent look at the economy, efficiency, and effectiveness of TVA programs and help prevent and detect fraud, waste, and abuse. Over the years, the OIG has helped TVA save or recover millions of dollars and recommended numerous program improvements. We credit our success to the efforts of our hardworking and talented staff and the professional responsiveness of TVA management to our recommendations.





## TVA OIG OFFICE LOCATIONS

The OIG has a work philosophy of being in the right place at the right time to do the best work possible. We support that philosophy by encouraging our OIG employees to work where they can be most effective whether that is in one of our physical offices, in the field, or in one of our virtual offices that enable our employees to telework from home or while traveling.

The OIG has strategically located its offices near all major TVA offices throughout the Tennessee Valley. We are headquartered in TVA's East Tower, opposite TVA's corporate offices, overlooking downtown Knoxville.

The OIG has field offices in Chattanooga, Tennessee, where members of the Evaluations and Financial and Operational Audits teams and several special agents are located, and special agents are located in Nashville, Tennessee, and Huntsville, Alabama, as well. We also have office locations at Watts Bar Nuclear Plant in Spring City, Tennessee; and Sequoyah Nuclear Plant in Soddy Daisy, Tennessee. Staff work in these locations as needed. As of September 30, 2016, the OIG had a total staff of 106.

## ADMINISTRATION

**The Administration team** works closely with the Inspector General (IG), Deputy IG, and Assistant IGs to address the day-to-day operations of the OIG and to develop policies and procedures designed to drive and enhance productivity, quality, and compliance, and achieve office goals. Responsibilities include personnel administration, internal assessments, budget and financial management, purchasing and contract services, facilities coordination, training event planning, communications facilitation, and IT support.

## AUDITS AND EVALUATIONS

**The Audits and Evaluations teams** perform a wide variety of engagements designed to promote positive change and provide assurance to TVA stakeholders. Based upon the results of these engagements, the Audits and Evaluations teams make recommendations to enhance the effectiveness and efficiency of TVA programs and operations.

The teams use an impact- and risk-based approach to develop an annual work plan. In developing the plan, the OIG considers TVA's strategic plans, major management challenges, TVA's enterprise risk management process, and other input from TVA management. This planning model also evaluates each potential engagement from the standpoint of materiality (i.e., costs or value of assets), potential impact, sensitivity (including public and congressional interest), and the likelihood it will result in recommendations for cost savings, recovery of dollars, or process improvements. The result of the OIG Audits and Evaluations planning process is a focus on those issues of highest impact and risk to TVA.

These issues vary depending on the objectives of the project. The graphic on the next page shows some representative examples of issues our audit and evaluation projects are commonly designed to identify.

**The Audits team** generates and oversees comprehensive financial and performance audits of TVA programs and operations, providing an inclusive picture of TVA's overall fiscal and operational health. This team is made up of three departments—Contract Audits, Financial and Operational Audits, and IT Audits. The Audits team performs its work in accordance with *Government Auditing Standards*.



- Contract Audits has lead responsibility for contract compliance audits and preaward examinations. In addition, this team performs audits of TVA contracting processes and provides claims assistance as well as litigation support.
- Financial and Operational Audits is responsible for performing audit work mandated by legislation, agreed-upon procedures, as well as risk-based audits associated with TVA financial and operational activities. The work stems largely from mandated activities, review of TVA's business-risk environment, consideration of emerging issues, and requests. This group also provides oversight of TVA's external auditor's compliance with professional standards.
- IT Audits has lead responsibility for audits relating to the security of TVA's IT infrastructure, application controls, and general controls associated with TVA systems. This team also performs operational audits of the effectiveness of IT-related functions.

**The Evaluations team** assesses both operational and cultural aspects of programs and departments throughout TVA to ensure objectives and operational functions are achieved effectively and efficiently. This team is made up of two departments—Evaluations and Organizational Effectiveness.

This team performs its work in accordance with *Quality Standards for Inspection and Evaluation* as prescribed by the Council of the Inspectors General on Integrity and Efficiency (CIGIE).

- Evaluations performs both comprehensive reviews and more limited-scope policy and program reviews to monitor compliance, measure performance, and assess the efficiency and effectiveness of operations.
- Organizational Effectiveness performs risk-based reviews to assess operational and cultural areas, including strengths and risks that could impact an organization's ability to achieve its mission and goals.

## TYPES OF AUDIT & EVALUATION ISSUES



# INVESTIGATIONS

**The Investigations team** proactively and reactively uncovers activity related to fraud, waste, and abuse in TVA programs and operations. This team performs its investigations in accordance with the *Quality Standards for Investigations* as prescribed by CIGIE, applicable U.S. Attorney General Guidelines, and other guiding documents. OIG special agents maintain liaisons with federal and state prosecutors and notify the U.S. Department of Justice whenever the OIG has reason to believe there has been a violation of federal criminal law. Special agents partner with other investigative agencies and organizations on special projects and assignments, including interagency law enforcement task forces on terrorism, the environment, health care, and public corruption, as well as securities fraud. The graphic below shows the major categories of investigations.

# LEGAL

**The OIG Legal Counsel team** monitors existing and proposed legislation and regulations that relate to the mandate, operations, and programs of the OIG and TVA. Additionally, this team provides legal advice as needed for administrative, audit, evaluation, and investigative projects. OIG attorneys also serve as ethics officials, providing OIG employees guidance on government ethics and standards of conduct. Additionally, the TVA Whistleblower Protection Ombudsman is a part of this team and provides information regarding the statutory protections against retaliation for all TVA employees.

## MAJOR CATEGORIES OF INVESTIGATIONS

### Contract Fraud

Defrauding TVA through its procurement of goods and services including fraud schemes such as misrepresenting costs, overbilling, product substitution, and falsification of work certifications.

### Theft of Government Property and Services

Theft of TVA property such as material, tools, equipment, or resources.

### Environmental Crime

Violations of environmental criminal law pertaining to the Tennessee River system and its watershed, along with violations relating to TVA land and facilities.

### Health Care Fraud

Intentional misrepresentation of health care services, expenses, billings, needs, or coverage that results in unauthorized payments or other benefits.

### Unauthorized Access Into TVA Computer Systems

Accessing a TVA computer without authorization or exceeding authorized access.

### Workers' Compensation Fraud

Falsification of documents to receive payments by employees, former employees, or health care providers.

### Employee Misconduct

Misuse of TVA-furnished equipment, travel voucher fraud, a multitude of miscellaneous matters of abuse, conflict of interest, and violations of code of conduct.

### Special Projects

Management requests, data mining and predictive analysis, congressional and TVA Board requests, and fraud risk assessments.

# SUMMARY OF REPRESENTATIVE AUDITS

*During this semiannual period, the Audits team completed four audits in the IT environment, three preaward contract examinations to help TVA management negotiate procurement terms as well as two compliance audits of contracts that identified potential overbillings of \$2.2 million, and four audits in TVA's financial and operational areas. Additionally, we provided assistance work for TVA's external auditor and applied agreed-upon procedures related to verification of TVA's compliance with the Green Pricing Accreditation Program requirements for calendar year 2015.*





## CONTRACT AUDITS

### PREAWARD CONTRACT EXAMINATIONS

To support TVA management in negotiating procurement actions, we completed three preaward examinations of cost proposals submitted by companies proposing to provide (1) construction management services for TVA's Civil Projects and Coal Combustion Product Management group, and (2) engineering, design, and construction support for Holistic Industrial Wastewater Treatment Program services at TVA's fossil plants. Our examinations identified \$8.9 million of potential savings opportunities for TVA to negotiate. The savings opportunities were primarily related to overstated cost proposals, indirect cost recovery rates, and profit rates.

### CONTRACT COMPLIANCE REVIEWS

During this semiannual period, we completed two compliance audits of contracts with expenditures totaling \$255.9 million and identified potential overbillings of \$2.2 million. Highlights of our completed compliance audits follow.

- We audited \$172.6 million in costs billed by a contractor for prescription drug benefits services. In summary, we determined the contractor overbilled TVA \$562,498 and overbilled program participants \$121,048 because the contractor did not use the contractually defined methodology for pricing certain claims. The contractor also overbilled TVA \$106,788, including (1) \$50,000 for performance-standard penalties not paid to TVA, (2) \$38,815 for ineligible claim dispensing fees, (3) \$13,820 in duplicate claim costs, and (4) \$4,153 in ineligible utilization-management fees. In addition, we noted instances of inadequate contract administration. Specifically, we found Medicare eligible individuals were enrolled in the Commercial account, rather than

the Medicare Supplement account, which we estimated has cost TVA up to \$200,420 in federal subsidies. We also determined TVA did not perform any independent analyses to verify the contractor had achieved the contractually defined operational and pricing guarantees.

- We audited \$83.3 million in costs billed by a contractor for providing large and medium power transformers. We determined (1) TVA missed payment discount opportunities of \$1.03 million, (2) the contractor overbilled TVA \$155,577 for transformer and other costs, and (3) TVA is due a \$188,000 rebate for a transformer that had been purchased. We also noted several opportunities to improve contract administration by TVA. Specifically, we found (1) the contractor billed TVA \$10.3 million for materials, equipment, and services not provided for under the contract's scope of work; (2) TVA's payments exceeded the contract's monetary limits; (3) the contractor billed TVA \$506,592 for instrument transformer purchases that should have been ordered and paid for under a different contract TVA had with the contractor; and (4) the contractor had not provided the price adjustment formulas for each transformer-design type as required by the contract.

## FINANCIAL AND OPERATIONAL AUDITS

During this semiannual period, Financial and Operational Audits completed audits of TVA's (1) aggregated demand response proof of concept agreement with Seven States Power Corporation, (2) fraud risk management, (3) local power company rate review process, and (4) mitigation of risks from bulk industrial gases. In addition to our audit work, we performed assistance work for TVA's external auditor and applied agreed-upon procedures related to verification of TVA's compliance with the Green Pricing Accreditation Program requirements for calendar year 2015.

## AGGREGATED DEMAND RESPONSE PROOF OF CONCEPT AGREEMENT

We audited TVA's agreement with Seven States Power Corporation for a demand response pilot study in which Seven States was to demonstrate its capability to provide aggregated demand response (ADR) services. Under the ADR proof of concept (POC) program, Seven States serves in an administrative role, coordinating recruitment of customers with participating local power companies, communication with TVA, and tracking of program performance. Participating customers are incentivized to reduce power usage at specific times when called on by TVA. Seven States aggregates the load reduction estimates submitted by participating customers each month and provides TVA with an overall estimate of the

load reduction available for the ADR POC program as a whole. TVA's payments to Seven States are based on capacity nominations each month (up to defined limits) and Seven States actual performance in delivering load curtailment when needed. Seven States retains a portion of the payments to cover administrative expenses and the balance is passed on to the participating local power companies who compensate their end-use customers based on separate agreements.

Our audit objectives were to (1) determine if amounts invoiced by Seven States were in compliance with the contract agreement and (2) assess the effectiveness and management of the ADR POC program. Our audit included \$2.3 million in payments TVA made to Seven States from August 1, 2013, through February 5, 2016.



**FORT PATRICK HENRY DAM**

In summary, we found Seven States invoiced amounts to TVA in accordance with the contract terms and conditions. However, we also found (1) Seven States had not met capacity nominations, and (2) TVA's management of the ADR POC program needs improvement. Specifically, TVA management (1) did not establish capacity-nomination limits that reflected Seven States' actual load-curtailement capability and penalties for underperformance until September 30, 2015, which resulted in TVA incurring approximately \$1,028,000 in additional costs; (2) had not performed a cost/benefit analysis of the six load-curtailement events; and (3) had not established criteria to measure the program's effectiveness.

We recommended TVA management (1) ensure the ADR POC program has demonstrated the ability to provide load curtailment at a level consistent with the nominated capacity prior to extending the POC agreement or expanding the program into a commercial ADR contract, (2) perform a cost/benefit analysis of the program benefits, and (3) define specific criteria, goals, and/or milestones by which ADR POC program performance can be objectively evaluated.

## **TVA FRAUD RISK MANAGEMENT**

We audited TVA's fraud risk management activities to determine if TVA had incorporated practices conducive to fraud risk management in its organizational culture and structure, as identified by the GAO. In summary, we found while TVA has attempted to demonstrate a senior-level management commitment to integrity through various ethics and code of conduct policies, improvements are needed in TVA's practices to (1) combat fraud and (2) involve all levels of the agency in setting an antifraud tone. In addition, TVA management had not formally designated an entity to design and oversee fraud risk management activities.

We recommended TVA management consider (1) developing policies and practices that directly communicate the senior-level commitment to combating fraud; (2) implementing practices, such as training and other fraud awareness activities, that involve all levels of TVA in setting an antifraud tone that permeates the organizational culture; and (3) designating an entity within TVA to lead fraud risk management activities in accordance with the guidelines provided by the GAO framework. TVA management agreed with our recommendations.

## **LOCAL POWER COMPANY RATE REVIEW PROCESS**

We audited local rate adjustments (LRAs) processed during fiscal year (FY) 2015 to determine if TVA's process for reviewing local power company (LPC) rate change requests complies with the approved Revised Rate Review Process (RRRP) in the TVA regulatory policy. We found TVA's process for reviewing LPC rate change requests did not comply with the approved RRRP in the TVA regulatory policy due to improper and unapproved calculations of the Guideline Amount in two areas. We also noted the method used to initially calculate an LPC's cash ratio excluded loans and investments of electric system funds to third parties. We recommended TVA calculate the Guideline Amount as stated in the RRRP or obtain approval for the current calculation method and include any loans or investments of electric system funds in the initial calculation to determine the LPC's cash ratio.

In response, management stated it would modify the LRA process by documenting, for those LPCs that have any loans or investments of electric system funds, the calculation of the cash ratio with and without such loans. Management also plans to meet with the Audit, Risk, and Regulation Committee to review the report's findings, discuss the recommendations, and obtain advice on any further action.



## TVA MITIGATION OF RISK FROM BULK INDUSTRIAL GASES

TVA uses bulk industrial gases including oxygen, hydrogen, nitrogen, and carbon dioxide as part of its normal operations. Due to hazards associated with handling bulk industrial gases and the importance of worker and public safety at TVA, we initiated an audit of TVA's mitigation of risks from bulk industrial gases. We limited our scope to the explosive and flammable risks of hydrogen and oxygen and the asphyxiation risks of nitrogen and carbon dioxide. Our audit objective was to determine whether TVA designed mitigating actions for fire, explosion, and asphyxiation risks related to hydrogen, oxygen,

nitrogen, and carbon dioxide bulk industrial gases. We determined TVA designed mitigating actions for fire, explosion, and asphyxiation risks related to hydrogen, oxygen, nitrogen, and carbon dioxide bulk industrial gases. However, we identified several areas for improvement to further mitigate the risks from bulk industrial gases. Specifically, we found (1) contract terms did not require a supplier to provide TVA with inspection and maintenance reports for bulk gas tanks; (2) emergency plans do not list types and quantities of on-site gases; and (3) unsecured portable compressed gas cylinders at Gallatin Fossil Plant and Widows Creek Fossil Plant. We recommended TVA (1) update site emergency plans to identify types and quantities

### PARADISE FOSSIL PLANT



of compressed gases and cryogenic fluids stored at generating plants, (2) assess the root cause of unsecured compressed gas cylinders at Gallatin Fossil Plant and Widows Creek Fossil Plant and address as appropriate, and (3) amend gas supplier contracts to require suppliers to provide TVA with inspection and maintenance reports that show contractor compliance with appropriate inspection/maintenance-related codes and regulations and enable TVA to confirm the supplier is meeting its obligations for tank safety. TVA management agreed with our findings and provided the actions they have taken or plan to take to address each of our recommendations.



## **VERIFICATION OF TVA'S COMPLIANCE WITH THE GREEN PRICING ACCREDITATION PROGRAM REQUIREMENTS FOR CALENDAR YEAR 2015**

TVA's Green Power Switch Program supports the production of electric power from renewable resources such as solar, wind, and methane gas, and adds such sources to TVA's power mix. TVA certifies the Green Power Switch program with the Center for Resource Solutions (CRS) which promotes the development of renewable energy. The OIG completed agreed-upon procedures to assist the CRS in determining TVA's compliance with the annual reporting requirements of the CRS Green Pricing Accreditation Program for the year ended December 31, 2015.

These procedures included steps to verify the renewable energy supply was sufficient to meet sales; products met the Green-e criteria and stated product content; and marketing as well as product information was accurate and communicated to customers. The results of the procedures verified that TVA's Green Power sales were based on electricity generated or acquired from eligible renewable sources and otherwise met the above aspects. CRS was provided with results of the procedures applied.

## **IT AUDITS**

During this semiannual period, IT Audits completed four audits in the IT environment regarding (1) the final report in a series of IT organizational effectiveness audits, (2) controls related to cyber security at a fossil plant, (3) controls related to network architecture at a hydro plant, and (4) controls for access to the corporate wireless network.

## IT ORGANIZATIONAL EFFECTIVENESS AUDITS

In 2008, we performed an audit on the effectiveness of the IT organization and made several recommendations for improvements. In 2011, we completed a follow-up audit and determined the actions taken were not carried through year to year, and as a result, effectiveness in many areas decreased. Accordingly, recommendations in that audit focused on creating sustainable processes. In addition, TVA's former Chief Information Officer created a program titled 1,000 Days to Success (IT1K) to address findings from the 2011 audit as well as other observations he made as to the current state of IT.

We recently performed a series of audits to assess the IT organization's (1) current effectiveness, including alignment with TVA values; (2) sustainability of actions taken in response to the 2011 OIG audit; and (3) outcomes of the IT1K program. Previously, we reported on six audits we completed of IT organizations, including: Enterprise Information Security and Policy, Enterprise Architecture and Programs, Operations Solutions Delivery, Enterprise Customer Operations, Infrastructure Delivery, and Enterprise Solutions Delivery. During this reporting period, we completed the final report in the series and summarized results across the entire IT organization.

In summary, we found although operational maturity levels within the IT organization were generally trending upward, actions were needed to improve alignment with TVA values in two IT groups, and some IT1K initiatives and management action plans had not been completed or sustained. Additionally, we found the organization could make improvements in three areas that were not previously covered in our audits of the individual groups, including: (1) enhancing clarity on how to progress from entry-level IT positions; (2) widening support for one key application that was limited to one system analyst

who was eligible to retire—a repeat finding; and (3) improving minimum qualifications language in IT job descriptions, which were repetitive, generalized, and did not describe specialized skills and experience required for the positions.

We recommended TVA management (1) coordinate with Human Resources as needed and communicate guidance and direction to IT staff about progressing in IT positions, (2) assess IT support for critical functions to identify resource limitations and develop plans to reduce risks, and (3) coordinate with Human Resources to ensure job descriptions accurately capture qualifications and job duties prior to making hiring decisions. TVA management agreed with our findings and provided planned actions to take to address our recommendations

## CYBER SECURITY AT A FOSSIL PLANT

We audited the cyber security controls at a fossil plant facility to determine the adequacy of (1) physical and environmental controls, logical security controls, network infrastructure controls, general controls such as backup and recovery, change control, and incident response; and (2) compliance with the Maritime Transportation Security Act.

We found opportunities for improvement in the areas of (1) physical access and environmental controls; (2) logical access controls for Universal Serial Bus devices; (3) network infrastructure controls, including network cabling design and capacity; and (4) general controls. Additionally, during our review of the Maritime Transportation Security Act requirements, we found no issues with compliance. Lastly, we identified no control weaknesses during our testing of (1) a sample of business network laptops, desktops, and servers; (2) wireless access points; and (3) modems.



We recommended TVA management (1) comply with its policies on physical access reviews, backups, and change management; (2) improve controls in data centers; (3) update network diagrams; (4) conduct security planning and risk assessments; (5) consider our audit findings in remote access process redesign; (6) ensure networking devices are configured appropriately; and (7) continue the cable plant upgrade project. TVA management agreed with our recommendations and is taking corrective action to address the issues.

## NETWORK ARCHITECTURE AT A HYDROELECTRIC PLANT

We performed an audit of a hydroelectric plant's network architecture. Our audit objectives were to (1) review logical and physical network architecture to identify security zones and perimeters and (2) analyze network devices and physical



infrastructure for compliance to policies, procedures, and best practices. We found TVA management used proven best practices in the design of the physical and wireless corporate networks as well as the control network. These networks were architected appropriately, and the cable plant itself was installed in a neat and organized manner. However, we found control weakness in the physical security of network equipment and logical security on a network device.

We recommended TVA management (1) improve physical security of the corporate network devices and (2) implement and monitor compliance of updated configuration baselines for all network devices on the business network. TVA management agreed with our recommendations and is taking corrective action to address the issues.

## CORPORATE WIRELESS NETWORK

We performed an audit of TVA's wireless local area network (WLAN) deployment. Our audit objectives were to determine whether (1) appropriate WLAN physical and logical access controls had been implemented and (2) those controls were effective. We found TVA's implementation of WLAN physical and logical access controls generally followed recommended best practices. However, we found TVA (1) could strengthen wireless security and (2) improve unauthorized wireless access point detection.

We recommended TVA management review current (1) wireless network design and identify a method to strengthen wireless security and (2) unauthorized wireless access point detection and response processes to identify areas for improvements. TVA management agreed with our recommendations and is taking corrective action to address the issues.

# SUMMARY OF REPRESENTATIVE EVALUATIONS

*Our Evaluations organization includes two departments, one of which focuses on organizational effectiveness reviews. During this reporting period, our evaluation teams completed seven evaluations and six organizational effectiveness reviews, including two follow-up reviews. The teams identified a number of opportunities for improvement.*



## EVALUATIONS

The Evaluations group completed three evaluations to determine whether the work environments for the Nuclear Oversight group and operators at Sequoyah and Browns Ferry nuclear plants were conducive to raising concerns without fear of retaliation. We also completed four evaluations related to TVA operations, which included (1) the proposed sale of the Bellefonte Nuclear Plant site, (2) delivered cost of fuel calculations for coal and gas, (3) firearms and ammunition at coal plants, and (4) actions taken to address risks related to ductwork at coal plants.

## WORK ENVIRONMENT IN NUCLEAR OPERATIONS

The Nuclear Regulatory Commission (NRC) expects licensees to establish a safety-conscious environment where employees are encouraged to raise concerns and where such concerns are (1) promptly reviewed, (2) given the proper priority based on their potential safety significance, and (3) appropriately resolved with timely feedback to employees. According to the NRC, a safety conscious work environment (SCWE) is an environment in which “employees feel free to raise safety concerns, both to their management and to the NRC, without fear of retaliation.” Retaliation for raising concerns is unacceptable and unlawful. Even a perception that raising concerns has resulted in retaliation can generate a chilling effect among workers that may discourage them from raising concerns. According to the NRC’s *Policy Statement for Nuclear Employees Raising Safety Concerns Without Fear of Retaliation*, “A reluctance on the part of employees to raise concerns is detrimental to nuclear safety.”

In March 2016, the NRC issued a *Chilled Work Environment Letter* for Watts Bar Nuclear Plant (WBN). The NRC concluded a “chilled work environment” existed in the Operations Department because of a perception that operators were not

free to raise safety concerns using all available avenues without fear of retaliation. According to the NRC Inspection Procedure 93100, “a ‘chilled work environment’ is one in which employees perceive that raising safety concerns to their employer or to the NRC is being suppressed or is discouraged and can occur because of an event, interaction, decision, or policy change.” As a result of the *Chilled Work Environment Letter* issued to TVA, we initiated evaluations of the work environments for the Nuclear Oversight group and operators at Sequoyah and Browns Ferry nuclear plants.

- **Nuclear Oversight Group** - TVA’s Nuclear Oversight group consists of both Quality Assurance (QA) and the Employee Concerns Program (ECP). The Nuclear Oversight group, through the QA function, should provide reasonable assurance that plant safety functions are performed in a satisfactory manner. Additionally, Nuclear Oversight’s ECP is charged with providing an independent avenue for employees to raise concerns. With these key roles, it is crucial that employees in Nuclear Oversight feel free to raise concerns without fear of retaliation. The objective of this evaluation was to determine if the work environment in Nuclear Oversight was conducive to raising concerns without fear of retaliation.

We found the work environment for Nuclear Oversight is not always conducive to raising concerns without fear of retaliation. Most QA employees felt free to raise concerns or problems without fear of retaliation; however, one QA employee informed us that although they would report a nuclear quality problem or concern, they would not report the problem or concern to their management. While most QA employees felt free to raise concerns or problems, most ECP employees did not feel free to do so without fear of retaliation. Our interviews with QA and ECP personnel identified issues that could be impacting employees’ willingness



to report concerns, including (1) distrust of management, (2) past concerns being overridden or ignored, (3) work being influenced, and (4) QA rotational positions. TVA management accepted the evaluation conclusions and recommendations provided in the OIG's report and provided planned actions to address the recommendations.

- **Operators at Sequoyah Nuclear Plant -**

Sequoyah Nuclear Plant (SQN) is one of three TVA nuclear plants. It sits beside the Chickamauga Reservoir near Soddy Daisy, Tennessee, and consists of two pressurized water reactors that produce more than 1,160 megawatts of electricity each. The objective of this evaluation was to determine if the work environment for operators at SQN was conducive to raising concerns without fear of retaliation.

In summary, we found employees interviewed within the Operations Department at SQN generally felt free to raise concerns without fear of retaliation. All but one employee reported feeling free to report nuclear safety, quality, or technical concerns without fear of retaliation.

Also, most employees were comfortable reporting nuclear safety or quality concerns through multiple avenues. However, 11 percent indicated there could be retaliation when expressing concerns. Even though the potential for retaliation may not currently impact their decision to report concerns, it could in the long term.

Our interviews with the operators identified other issues that could impact employees' willingness to report concerns in the future, including (1) the Outage Control Center (OCC)<sup>3</sup> and site management overriding and pressuring operators, (2) employees' distrust of management, and (3) perceptions that the Corrective Action Program and ECP are not effective. It is important for management to be aware of and proactive in addressing these issues to help ensure operators at SQN continue to be willing to report concerns. TVA management accepted the evaluation conclusions and recommendations provided in the OIG's report and provided planned actions to address the recommendations.

- **Operators at Browns Ferry Nuclear Plant -**

Browns Ferry Nuclear Plant (BFN) is TVA's first and largest nuclear plant capable of producing

<sup>3</sup> The OCC is staffed by site management to address issues that arise during an outage.



3,400 megawatts, about 10 percent of TVA's total generation capacity. Located beside Wheeler Reservoir near Athens, Alabama, the plant has 1,400 full-time employees on-site and, in 2014, was the second largest power producer in the U.S. The objective of this evaluation was to determine if the work environment for operators at BFN was conducive to raising concerns without fear of retaliation.

In summary, we found employees interviewed within the Operations Department at BFN generally felt free to raise concerns without fear of retaliation. All but one employee reported feeling free to report nuclear safety, quality, or technical concerns without fear of retaliation. Also, most employees were comfortable reporting nuclear safety or quality concerns through multiple avenues. A few employees were aware of retaliation, mostly citing events dating back several years. However, several employees relayed a perception there could be retaliation for raising concerns. Even though the potential for retaliation may not currently impact their decision to report concerns, it could in the long term.

Our interviews with Operations Department employees at BFN identified issues that could impact employees' willingness to report concerns in the future, including (1) inadequate resolution of concerns, (2) employees' distrust of management, (3) OCC personnel and site management pressure on employees, and (4) limited awareness and understanding of the ECP. It is important for management to be aware of and proactive in addressing these issues to help ensure operators at BFN continue to be willing to report concerns. TVA management accepted the evaluation conclusions and recommendations provided in the report and provided planned actions to address the recommendations.

## **PROPOSED SALE OF BELLEFONTE NUCLEAR PLANT SITE**

TVA began construction of the Bellefonte Nuclear Plant (Bellefonte), located near Hollywood, Alabama, in 1974. Since then, TVA has made the decision to start and stop construction three different times at a total capital cost of approximately \$4.8 billion. TVA's 2015 Integrated Resource Plan concluded there would be no need for Bellefonte before 2033. In September 2015, TVA's Office of the General Counsel informed the OIG that TVA had





received a proposal from a group, which included commercial developer Franklin L. Haney, interested in acquiring Bellefonte through a negotiated sale. The combination of the 2015 Integrated Resource Plan's conclusion, the request from Mr. Haney's group to acquire the site, and TVA's desire to allow an opportunity for economic development at that location prompted TVA to consider its sale.

Due to the significance of the investment made by TVA and the importance of Bellefonte's future to various stakeholders and potential purchasers, we initiated an evaluation to determine whether (1) the proposed sale was being conducted according to TVA's policies and procedures, (2) TVA had taken reasonable measures to ensure transparency regarding the sale, and (3) TVA evaluated alternative uses for the site. We also evaluated TVA's assessment of the risks associated with the potential sale. We did not provide an opinion regarding whether TVA should sell or retain ownership of the Bellefonte site.

We issued a report on July 11, 2016, to provide the results of our work to date that addressed the transparency of the sale, alternative uses for the site, and risks associated with the potential sale. In summary, we determined TVA had taken reasonable actions to promote transparency of the sales process to date and had evaluated alternative uses for the Bellefonte site. In addition, TVA appears to have considered the significant risks associated with selling the Bellefonte site.

TVA management requested the TVA Board to surplus the Bellefonte site during its May 5, 2016, public board meeting so TVA could begin the process for selling the site. After consideration of the analysis performed by TVA management on the future needs for the site, as well as the risks associated with a potential sale, the Board voted to surplus Bellefonte. Since TVA can now go forward with the sale of Bellefonte, we plan to issue a follow-up report after TVA completes the sale of the property to determine whether the sales process was conducted according to TVA's policies and procedures.

## **DELIVERED COST OF FUEL CALCULATIONS FOR COAL AND GAS**

Electric utility companies, including TVA, are faced with the decision of how to meet customers' varying demand for electricity in the most reliable and economical manner. TVA has a diverse portfolio of energy resources it uses to meet system demand, which primarily include (1) nuclear plants, (2) coal-fired plants, (3) hydroelectric plants, and (4) natural gas plants, including combustion-turbine and combined-cycle plants. TVA attempts to use its blend of generating assets to meet load demand as economically as possible. As coal and natural gas prices fluctuate, TVA must continually evaluate which generating units are the most economical to commit and dispatch to meet demand at a given time. Commitment is the process of deciding when and which generating units to start up and shut down. Once the units are on, deciding at what level to run them is called dispatching. According to Transmission Operations and Power Supply personnel, TVA attempts to commit and dispatch units in the best way to reliably meet system demand at the lowest cost while operating within other parameters such as unit ramp rates, outages, electric transmission system requirements, and air permit requirements.

The dispatch decision-making process takes into consideration unit dispatch costs, which are the variable operating costs of generating each additional megawatt hour. TVA's dispatch costs are derived from unit specific data on delivered cost of fuel, heat rates, variable operations and maintenance costs, and transmission line losses. TVA's delivered cost of fuel includes the cost of the commodity (e.g., coal, natural gas, and fuel oil), the cost to transport the commodity to the plant, and the cost of reagents used during fuel consumption. Delivered cost of fuel is the main component of dispatch costs and, as such, plays an important role in TVA's dispatch decision-making process, although other considerations (e.g., reliability) impact TVA's



dispatch decisions. Due to the significant impact the delivered cost of fuel has on TVA's operational dispatch decisions, we initiated an evaluation of TVA's delivered cost of fuel calculations for coal and gas.

The objective of this evaluation was to determine if TVA's delivered cost of fuel included all appropriate costs and was calculated consistently across commodities. We hired a consultant, Synapse Energy Economics, Inc., to (1) review TVA's delivered cost of fuel components and calculations and (2) research industry practices related to calculating fuel costs for dispatch purposes. In summary, in conjunction with Synapse Energy Economics, Inc., we determined TVA was making dispatch decisions using inaccurate cost information. The dispatch costs were inaccurate because TVA's delivered cost of fuel, which is a major component of dispatch costs, did not include all appropriate costs, was not calculated consistently across commodities, and was not calculated correctly. The errors we identified skewed coal-dispatch costs up to 8.4 percent and gas-dispatch costs up to 2.8 percent. In addition, other opportunities for improvement were identified related to inflation and escalation rates used in the delivered cost of fuel calculations and the usage percentages assigned to each gas hub used by TVA in calculating the delivered cost of gas. TVA management accepted the evaluation conclusions and recommendations provided in the report and provided planned actions to address the recommendations.

## **FIREARMS AND AMMUNITION AT COAL PLANTS**

Maintenance personnel at TVA coal plants use firearms (i.e., shotguns) to remove boiler slag, which is the buildup of molten ash. The objective of this evaluation was to determine if firearms and ammunition at coal plants are properly accounted for and safeguarded. Our scope included five of TVA's coal plants that maintain firearms and ammunition.

In summary, we determined not all coal plants using shotguns have standardized guidance related to the accountability of firearms and ammunition. Instead, each plant has implemented individualized accountability processes. Although three plants have written guidance related to accounting for and safeguarding firearms and ammunition, two plants did not. Our review of the written guidance and actual practices utilized at each plant found they were insufficient to account for and safeguard firearms and ammunition. Additionally, a firearm sent to one plant by TVA Police & Emergency Management could not be located by plant personnel. TVA management agreed with our findings and provided an action plan to address our recommendations.

## **ACTIONS TAKEN TO ADDRESS RISKS RELATED TO COAL PLANT DUCTWORK**

TVA operates 9 coal-fired fossil plants with a total of 39 active generating units. Each unit produces electricity by burning coal in a boiler to heat water, producing steam to spin a turbine. Along with steam, the coal combustion process produces hot gases (called flue gases) that include sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), and ash particles. Flue gas moves through ductwork to various air pollution control devices prior to being emitted through the stack. According to the Electric Power Research Institute, "Corrosion of carbon steel flue ducts is common in power stations." Air leaks and cold regions on the ductworks' surfaces lead to condensation of acid gases, which can create corrosive conditions and leaks. These acidic compounds in flue gas can make it into the atmosphere through leaks, causing both public-health and safety and environmental risks, according to TVA Environmental Systems. In addition, these acidic compounds can damage the ductwork exterior, which can pose risks to employee safety.

We recently completed an organizational effectiveness evaluation of the TVA Cumberland Fossil Plant (Cumberland) that identified concerns with ductwork leaks and falling lagging (finishing material used to cover insulation surrounding the duct) at the site. Based on our observations from that review, we initiated an evaluation of the actions TVA has taken to address risks related to coal plant ductwork. The objective of our evaluation was to determine if TVA is taking actions to address environmental and safety risks related to flue-gas ductwork at coal plants.

We found TVA has completed repairs to address environmental risks associated with flue-gas ductwork at coal plants. However, TVA's framework for repairing and reporting ductwork leaks could be improved by (1) clarifying thresholds to repair and report cumulative leaks, (2) establishing realistic repair timelines, and (3) prioritizing the most

environmentally damaging leaks for repair. We also found that TVA has completed some repairs designed to address safety risks associated with ductwork, but TVA site management indicated long-term capital projects are needed and planned for remediation at Bull Run Fossil Plant and Cumberland where the worst material conditions were present. In addition, we found weakness in the identification of safety concerns related to ductwork at the sites. Lastly, we determined TVA is assuming risk by adopting a strategy to apply thermal coatings to ductwork at Cumberland to resist corrosion. Thermal coatings have not previously been used for this application nor have they been through a technical review involving Generation Engineering. This could result in TVA spending several million dollars on a solution that may not work.

TVA management agreed with our findings and provided an action plan to address our recommendations.



## ORGANIZATIONAL EFFECTIVENESS

During this semiannual reporting period, the Organizational Effectiveness group evaluated four business units within TVA: Coal and Gas Services, Environmental Permitting and Compliance, Environmental Operations, and Enterprise Project Management Office. In addition, we conducted follow-up reviews for TVA's Cumberland Fossil Plant and Corporate Accounting.

### COAL AND GAS SERVICES

Coal and Gas Services (CGS), a business unit falling under TVA's Power Operations, is responsible for the procurement, transportation, storage, and delivery of coal, natural gas, fuel oil, and reagents for all of TVA's power generation fleet. CGS' basic mission is to provide reliable, cost effective, and flexible fuel supply for TVA's generating fleet. CGS has identified several performance metrics to determine whether it is meeting these components of its mission.

Our assessment of the strengths and risks that could affect CGS' organizational effectiveness found CGS met its reliability metrics for gas and coal for FY 2015 and FY 2016 (through January 2016), although it did not meet some of its cost effectiveness and fuel flexibility targets during the same period because of outside factors such as weather and price volatility. We also identified strengths related to CGS' (1) employee teamwork, (2) management support of its employees, (3) employee engagement, and (4) working relationships with other TVA organizations. However, we identified employee perceptions concerning management favoritism and lack of transparency in specific areas, which could be the result of alignment and goal-measurement issues in CGS' performance reviews. In addition, we noted conditions that could negatively affect business relationships with gas pipeline companies and result in increased transportation risk. Finally, we identified issues

related to knowledge transfer. TVA management agreed with our findings and recommendations and provided actions planned to address our recommendations.

### ENVIRONMENTAL PERMITTING AND COMPLIANCE

Environmental Permitting and Compliance (EP&C), a business unit falling under TVA's Safety, River Management, and Environment, 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. EP&C's long-term vision 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."

Our assessment of the strengths and risks that could affect EP&C's organizational effectiveness identified strengths within EP&C related to (1) compliance with regulations, (2) providing support to other TVA organizations, (3) relationships with regulators, (4) teamwork, (5) safety, and (6) direct management's support of employees. However, we also identified factors that if left unresolved could increase the risk 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 three-fold mission. TVA management agreed with our recommendations and provided actions planned, in process, or already completed.



## ENVIRONMENTAL OPERATIONS

Environmental Operations (EO) is responsible for the environmental site and field support for all operations, including inspections, environmental sampling, regulatory reporting, and oversight. We assessed strengths and risks that could affect EO's organizational effectiveness.

Our evaluation identified strengths related to EO's (1) organizational alignment, (2) positive working relationships with other organizations,

(3) management support of employees, and (4) employee teamwork. However, we also identified issues that if left unresolved could increase the risk EO will be unable to meet its future responsibilities effectively. Specifically, we found role clarity and relationship issues between EO and Nuclear staff, staffing and environmental-audit coverage concerns, as well as concerns related to one manager's behavior. TVA management generally agreed with our recommendations and provided planned actions for addressing those recommendations.



## ENTERPRISE PROJECT MANAGEMENT OFFICE

In FY 2009, TVA hired McKinsey & Company consultants “to complete a detailed review of TVA’s systems, standards, controls and culture.” As part of that review, TVA personnel, in conjunction with McKinsey & Company, commenced various initiatives, including one pertaining to capital productivity.<sup>4</sup> According to TVA documentation dated March 2012, the capital productivity initiative resulted in the identification of gaps in governance, oversight, and the support structure for project management within TVA. To address the identified gaps, in FY 2014, TVA management created the Enterprise Project Management Office (EPMO), which is currently located under the Generation Construction, Projects, and Services strategic business unit. The EPMO is responsible for the development and deployment of project management processes, systems, tools, and training to project organizations within Generation Construction, Projects, and Services, as well as TVA fleet-wide. Additionally, the EPMO is responsible for evaluating project performance.

Our assessment of the strengths and risks that could impact the organizational effectiveness of the EPMO identified strengths related to (1) organizational alignment, (2) trust and accountability, (3) management support of employees, and (4) employee engagement. However, we also identified an inherent risk that if not well mitigated, could threaten the mission of the EPMO, as well as the potential for sustainable project management cultural change across TVA. This risk pertains to organizational resistance to change. We determined the EPMO is in the process of mitigating this risk.

## CORPORATE ACCOUNTING FOLLOW-UP

In November 2015, we issued a report on operational and cultural strengths and areas for improvement that could impact Corporate Accounting’s organizational effectiveness (Corporate Accounting Organizational Effectiveness – 2015-15313). The report included recommendations to address the areas for improvement.

The objective of our follow-up review was to assess actions taken by management to address the areas for improvement from our initial review. In summary, we determined actions taken or planned by Corporate Accounting appear to have addressed the areas for improvement identified in the initial review. In addition, employees felt actions taken to date have resulted in positive change.

## CUMBERLAND FOSSIL PLANT FOLLOW-UP

In November 2015, we issued a report on operational and cultural strengths and areas for improvement that could impact Cumberland Fossil Plant’s organizational effectiveness (Cumberland Fossil Plant Organizational Effectiveness – 2015-15296). The report included recommendations to address the areas for improvement.

The objective of our follow-up review was to assess actions taken by management to address the areas for improvement from our initial review. In summary, we determined the actions taken or planned by Cumberland Fossil Plant appear to have addressed the areas for improvement identified during our initial review. In addition, employees and management reported seeing positive changes at the plant.

<sup>4</sup> The initiative was designed to identify actions to improve management of capital and operations and maintenance projects to achieve specific dollar savings by a specific deadline period.



# SUMMARY OF REPRESENTATIVE INVESTIGATIONS

*This reporting period, we opened 108 cases and closed 104. Our investigative results include three indictments, two informations filed, three convictions, and a qui tam resulting in a \$2,078,208 payment to TVA. Highlights of our activities follow.*





## **FORMER TVA SENIOR MANAGER PLEADS GUILTY TO SHARING PROHIBITED NUCLEAR INFORMATION; INDICTMENT FILED IN RELATED MATTER**

On April 29, 2016, the Chief U.S. District Judge, Eastern District of Tennessee, ordered unsealed the conviction of Ching Ning Guey, former TVA Senior Manager, Probabilistic Risk Assessment, who pled guilty to one count of conspiracy to unlawfully engage and participate in the production and development of special nuclear material outside the U.S. (42-USC-2077(b) and 2272(a)). Mr. Guey's guilty plea was accepted by the court on May 4, 2015. In it, he acknowledged providing prohibited Electric Power Research Institute, Inc., documentation to the People's Republic of China available to him during the course of his official TVA duties, despite receiving warnings and guidance on the restrictions and controls pertaining to prohibitions against sharing this information with restricted countries.

The illegal activity took place during Mr. Guey's four year TVA employment (2010 to 2014) and included traveling to China at the request of a Chinese, state owned nuclear power company during November 2013. The Chinese government invited him to a technological exchange, where he expected to be paid to provide information. Once there, he illegally provided to the Chinese government three Electric Power Research Institute, Inc., reports, all certified as containing information related to the development and use of technology associated with light and heavy water reactors. Mr. Guey awaits sentencing.

Although Mr. Guey's guilty plea was entered during 2015, all information pertaining to the matter was sealed by the court to prevent compromising a related case involving Szuhsiung (Allen) Ho, China General Nuclear Power Company (CGNPC)—the largest nuclear power company in the People's Republic of China—and Energy Technology International (ETI).

Mr. Ho is a nuclear engineer employed by CGNPC as a senior advisor and is the owner and president of ETI (a Delaware-based corporation). An April 5, 2016, indictment alleges Mr. Ho arranged Mr. Guey's illegal activity, and Mr. Ho solicited similar activity from five other persons as well. Mr. Ho is charged with identifying, recruiting, and causing payments to be made to six U.S.-based individuals (including Guey) to provide information related to the development and production of special nuclear material to CGNPC without authorization from the Secretary of Energy as required by law. The indictment charges Mr. Ho, CGNPC, and ETI with conspiracy to unlawfully engage and participate in the production and development of special nuclear material outside the U.S. (42-USC-2077(b) and 2272(a)), and Mr. Ho alone was additionally charged with a second count of conspiracy to illegally act as an unregistered agent of a foreign government (18-USC-951). His trial is upcoming.

These cases were investigated by TVA OIG, the Federal Bureau of Investigation (FBI), the Department of Energy (DOE) National Nuclear Security Administration, and the Immigration and Customs Enforcement Homeland Security Investigations, with additional assistance from other agencies.

## **FALSE CLAIMS ACT ALLEGATIONS SETTLED AGAINST TVA CONTRACTOR**

The U.S., on behalf of TVA, reached a settlement on April 22, 2016, with TVA contractor Bartlett Holdings, Inc. (Bartlett), doing business as BHI Energy/Sun Technical Services. Bartlett was alleged to have violated the False Claims Act by knowingly concealing or knowingly and improperly avoiding an obligation to refund overpayments received from TVA for work performed on the project to complete the construction of WBN Unit 2. Under the terms of the settlement, Bartlett agreed to pay the U.S. \$2.8 million—the majority, \$2,078,208, to TVA.

During January 2008, Bartlett entered into a subcontract with Bechtel Power Corporation, TVA's engineering, procurement, and construction contractor on the WBN Unit 2 project, to furnish qualified personnel to Bechtel for the project. Bartlett's subcontract, which was funded by TVA, provided for Bartlett to be reimbursed its actual costs for wages and related expenses, including payroll taxes and insurance incurred for employees working on the project. However, the U.S. alleged that Bartlett received payments from TVA in excess of actual costs for payroll taxes and insurance and knowingly failed to timely identify, report, and refund those overpayments to TVA as required under the subcontract.

This settlement resulted from a joint, comprehensive investigation conducted by the U.S. Attorney's Office and TVA OIG. During January 2014, TVA OIG's audit organization initiated an audit of payments to Bartlett under its subcontract. TVA OIG Investigative Operations subsequently initiated an investigation following the filing of a *qui tam* during May 2014.

Claims settled by this agreement are allegations only, and there has been no determination of liability.

## **VALLEY DEFENSE CONTRACTOR INDICTED ON SIX COUNTS INVOLVING U.S. ARMY CONTRACTS**

The six-count indictment of the co-owner of Protech Metal Finishing, LLC, was unsealed in federal court May 17, 2016. Phillip Michael Huddleston, who controlled business operations at the Vonore, Tennessee, metal finishing company, was charged with one count of conspiracy to defraud the U.S. (18-USC-371), three counts of wire fraud and conspiracy (18-USC-1343 and 1349), and two counts of unlawful monetary transactions (18-USC-1957 and 2). The charges surround three Protech contracts with the U.S. Army for Protech to apply nickel plating to ammunition racks which would be placed in M1

Abrams tanks (contracts cited were valued in excess of \$1.2 million) and Protech's storage of company-generated hazardous waste.

The conspiracy charge of the indictment alleges Mr. Huddleston and an unindicted co-conspirator defrauded the Department of Defense (DOD) by directing Protech employees to engage in deceptive practices to conceal Protech's failure to meet contract specifications, including the use of substandard materials; failure to conduct, or falsifying, required quality inspections; and deceiving inspectors by hiding physical evidence of noncompliance. The conspiracy charge also alleges Mr. Huddleston and the unindicted co-conspirator stored, and directed others to store, waste at Protech's facility in violation of the federal Resource Conservation and Recovery Act, using deception and intimidation to avoid detection.

The three wire-fraud counts—each corresponding to one of three DOD/Protech contracts—allege Mr. Huddleston invoiced and received payment from DOD under false and fraudulent pretenses as described above. The unlawful monetary transaction counts charge him with conducting financial transactions based on funds he received through the criminal activity alleged in this matter.

The OIG joined the multiagency investigation of Mr. Huddleston by request of the Environmental Protection Agency Criminal Investigation Division (EPA CID). Initial information indicated Protech illegally released hazardous materials into a wastewater treatment plant that discharges into the Tennessee River, damaging the health of the Tennessee River watershed and Valley residents.

Allegations related to releasing hazardous material into the watershed included the disposal of numerous chemicals, such as cadmium, which are classified by the EPA as hazardous waste and are used in the metal-treatment process. Shortly after the initiation of this investigation in 2013, a search warrant was

executed at Protech's plant and offices. Following the search warrant's execution, there have been no additional allegations, nor information uncovered, to indicate illegal dumping occurred.

Mr. Huddleston's trial is set for January 31, 2017, and Mr. Huddleston and Protech have been debarred from federal contracts based on pending proceedings.

Agencies involved in this investigation additionally include the Defense Criminal Investigative Service, FBI, Internal Revenue Service CID, and DOE OIG.

### **FORMER TVA CONTRACTOR EMPLOYEE PLEADS GUILTY TO FALSE CLAIMS**

On August 4, 2016, Jim L. Calloway, a former Bechtel contractor at WBN, in Spring City, Tennessee, pled guilty to a federal information charging him with filing criminal false and fictitious claims (18-USC-287) to receive government funds to which he was not entitled.

The plea agreement stipulates Mr. Calloway established a permanent residence in eastern Tennessee at the beginning of his WBN assignment in June 2011, and from that time through May 2015, he certified he maintained a permanent residence in Houston, Texas, so he would meet eligibility requirements to receive temporary living allowance. While at WBN, he received in excess of \$100,000 in temporary living allowance based on false

statements. Following his WBN assignment, Mr. Calloway transferred to DOE's Y-12 installation in Oak Ridge, Tennessee. He again falsely claimed a permanent residence in Houston; and, based on that claim, received more than \$7,000 relocation-expense reimbursement from DOE. Mr. Calloway's sentencing is scheduled for December 7, 2016. This investigation was conducted with the assistance of DOE OIG.

### **FORMER TVA EMPLOYEE PLEADS GUILTY TO EMBEZZLEMENT**

On August 18, 2016, Frank Blair Tomb, a former TVA heavy equipment operator, pled guilty in federal court to one count of embezzlement of government property (18-USC-641).

Mr. Tomb's plea centered on an ongoing fraud scheme, which lasted from December 20, 2013 until December 3, 2014. The scheme involved purchasing diesel fuel at retail gas stations with his TVA-issued credit card, then privately reselling the fuel to truck drivers for \$200 per 100 gallons. Additionally, on October 30, 2014, Mr. Tomb requested time off work, never returned, and resigned December 3, 2014; during that period, he continued to use his TVA credit card without proper authorization.

Mr. Tomb's plea agreement stipulates at sentencing he will be responsible for \$20,000 restitution to TVA. Sentencing is set for January 11, 2017.





# LEGISLATION AND REGULATIONS

*Section 4(a) of the Inspector General Act of 1978, as amended, provides that the Inspector General shall review existing and proposed legislation and regulations relating to programs and operations of such establishment and make recommendations in the semiannual reports...concerning the impact of such legislation or regulations on the economy and efficiency in the administration of such programs and operations administered or financed by such establishment or the prevention and detection of fraud and abuse in such programs and operations.*

In this section of our Semiannual Report, it is our intent to address only current and pending legislation which relates to the economy or efficiency of TVA operations when we have recommendations or comments to make to Congress regarding the legislation. At times, we

may direct recommendations to general positions and issues, particularly when there are multiple bills dealing with the issue. At other times, we anticipate making recommendations relating to particular statutes and bills and their specific wording.

During this reporting period, we are not making any recommendations to Congress regarding current or pending legislation.



## PARADISE FOSSIL PLANT







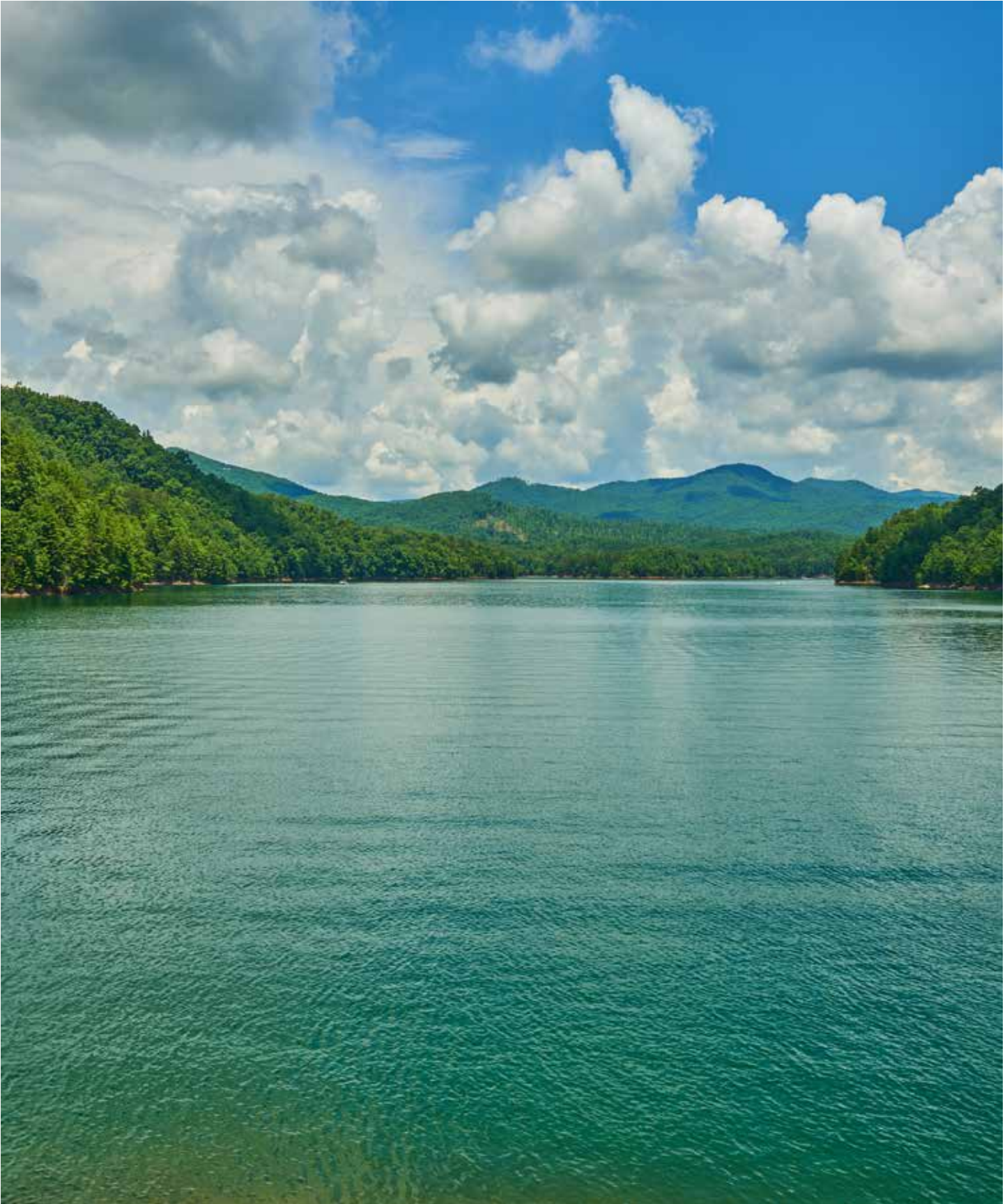






# APPENDICES

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## INDEX OF REPORTING REQUIREMENTS UNDER THE INSPECTOR GENERAL ACT

REPORTING	REQUIREMENT	PAGE
Section 4(a)(2)	Review of Legislation and Regulations	42-43
Section 5(a)(1)	Significant Problems, Abuses, and Deficiencies	20-41
Section 5(a)(2)	Recommendations With Respect to Significant Problems, Abuses, and Deficiencies	20-41
Section 5(a)(3)	Recommendations Described in Previous Semiannual Reports on Which Corrective Action Has Not Been Completed	Appendix 4
Section 5(a)(4)	Matters Referred to Prosecutive Authorities and the Prosecutions and Convictions That Have Resulted	Appendix 5
Section 5(a)(5) and 6(b)(2)	Summary of Instances Where Information Was Refused	None
Section 5(a)(6)	Listing of Audit and Evaluation Reports	Appendix 2
Section 5(a)(7)	Summary of Particularly Significant Reports	20-41
Section 5(a)(8)	Status of Management Decisions for Audit and Evaluation Reports Containing Questioned Costs	Appendix 3
Section 5(a)(9)	Status of Management Decisions for Audit and Evaluation Reports Containing Recommendations That Funds Be Put to Better Use	Appendix 3
Section 5(a)(10)	Summary of Audit and Evaluation Reports Issued Prior to the Beginning of the Reporting Period for Which No Management Decision Has Been Made	None
Section 5(a)(11)	Significant Revised Management Decisions	None
Section 5(a)(12)	Significant Management Decisions With Which the Inspector General Disagreed	None
Section 5(a)(13)	Information Under Federal Financial Management Improvement Act of 1996	Not Applicable
Section 5(a)(14)	Appendix of results of any peer review conducted by another Office of Inspector General during the reporting period, and if none, a statement of the date of the last peer review.	Appendix 8
Section 5(a)(15)	List of outstanding recommendations from any peer review conducted by another Office of Inspector General, including a statement describing the status of the implementation and why implementation is not complete.	None
Section 5(a)(16)	List of peer reviews conducted of another Office of the Inspector General during the reporting period, including a list of any outstanding recommendations made from any previous peer review that remain outstanding or have not been implemented.	None



## APPENDIX 2

### OIG AUDIT REPORTS • ISSUED DURING THE SIX-MONTH PERIOD ENDED SEPTEMBER 30, 2016

Report Number and Date	Title	Questioned Costs	Unsupported Costs	Funds Put To Better Use
CONTRACT AUDITS				
2014-15043 05/31/2016	Medco Health Solutions, Inc.	\$869,706	\$0	\$0
2015-15318 07/07/2016	ABB, Inc.	1,373,542	0	0
2016-15394 07/18/2016	Proposal for Construction Management Services	0	0	4,100,000
2016-15405 08/04/2016	Proposal for Holistic Industrial Wastewater Treatment Program Services	0	0	1,120,000
2016-15419 09/22/2016	Proposal for Holistic Industrial Wastewater Treatment Program Services	0	0	3,681,000
FINANCIAL AND OPERATIONAL AUDITS				
2014-15081 04/14/2016	TVA Mitigation of Risks from Bulk Industrial Gases	\$0	\$0	\$0
2015-15341 05/05/2016	Aggregated Demand Response Proof of Concept Agreement with Seven States Power Corporation	1,028,000	0	0
2016-15395 05/31/2016	Verification of TVA's Compliance with the Green Pricing Accreditation Program Requirements for Calendar Year 2015	0	0	0
2016-15377 07/27/2016	TVA Fraud Risk Management	0	0	0
2016-15361 08/19/2016	Local Power Company Rate Review Process	0	0	0
INFORMATION TECHNOLOGY AUDITS				
2015-15286 04/20/2016	Power Generation Facility Cyber Security	\$0	\$0	\$0
2014-15063 06/29/2016	Information Technology Organizational Effectiveness	0	0	0
2016-15367 09/27/2016	Physical and Logical Network Architecture - Hydroelectric	0	0	0
2016-15393 09/30/2016	Wireless Local Area Network Deployment	0	0	0
TOTAL AUDITS (14)		\$3,271,248	\$0	\$8,901,000

## APPENDIX 2

### OIG EVALUATION REPORTS • ISSUED DURING THE SIX-MONTH PERIOD ENDED SEPTEMBER 30, 2016

Report Number and Date	Title	Questioned Costs	Unsupported Costs	Funds Put To Better Use
2015-15346 05/10/2016	Firearms and Ammunition at Coal Plants	\$0	\$0	\$0
2015-15268 06/24/2016	Delivered Cost of Fuel Calculations for Coal and Gas	0	0	0
2016-15376 07/11/2016	Proposed Sale of Bellefonte Nuclear Plant Site	0	0	0
2016-15359 07/28/2016	Actions Taken to Address Risks Related to Coal Plant Ductwork	0	0	0
2016-15422 08/15/2016	Organizational Effectiveness Follow-Up - Corporate Accounting	0	0	0
2016-15365 08/29/2016	Coal and Gas Services Organizational Effectiveness	0	0	0
2016-15398 09/15/2016	Work Environment for Nuclear Oversight	0	0	0
2016-15384-01 09/20/2016	Enterprise Project Management Office Organizational Effectiveness	0	0	0
2016-15396 09/21/2016	Work Environment for Operators at Sequoyah Nuclear Plant	0	0	0
2016-15397 09/21/2016	Work Environment for Operators at Browns Ferry Nuclear Plant	0	0	0
2016-15383 09/26/2016	Environmental Operations Organizational Effectiveness	0	0	0
2016-15366 09/28/2016	Environmental Permitting and Compliance Organizational Effectiveness	0	0	0
2016-15420 09/28/2016	Organizational Effectiveness Follow-Up - Cumberland Fossil Plant	0	0	0
TOTAL EVALUATIONS (13)		\$ 0	\$ 0	\$ 0

Note: A summary of or link to the full report may be found on the OIG's Web site at [www.oig.tva.gov](http://www.oig.tva.gov).

## APPENDIX 3

TABLE I • TOTAL QUESTIONED AND UNSUPPORTED COSTS • AUDITS

Audit Reports	Number of Reports	Questioned Costs	Unsupported Costs
A. For which no management decision has been made by the commencement of the period	0	\$0	\$0
B. Which were issued during the reporting period	3	\$3,271,248	\$0
Subtotal (A+B)	3	\$3,271,248	\$0
C. For which a management decision was made during the reporting period	3	\$3,271,248	\$0
1. Dollar value of disallowed costs	3	\$3,271,248	\$0
2. Dollar value of costs not disallowed	0	\$0	\$0
D. For which no management decision has been made by the end of the reporting period	0	\$0	\$0

TABLE I • TOTAL QUESTIONED AND UNSUPPORTED COSTS • EVALUATIONS

Evaluation Reports	Number of Reports	Questioned Costs	Unsupported Costs
A. For which no management decision has been made by the commencement of the period	0	\$0	\$0
B. Which were issued during the reporting period	0	\$0	\$0
Subtotal (A+B)	0	\$0	\$0
C. For which a management decision was made during the reporting period	0	\$0	\$0
1. Dollar value of disallowed costs	0	\$0	\$0
2. Dollar value of costs not disallowed	0	\$0	\$0
D. For which no management decision has been made by the end of the reporting period	0	\$0	\$0



TABLE II • FUNDS TO BE PUT TO BETTER USE • AUDITS

Audit Reports	Number of Reports	Funds To Be Put To Better Use
A. For which no management decision has been made by the commencement of the period	2	\$6,790,000
B. Which were issued during the reporting period	3	\$8,901,000
Subtotal (A+B)	5 <sup>1</sup>	\$15,691,000
C. For which a management decision was made during the reporting period	5	\$13,664,000
1. Dollar value of recommendations agreed to by management	5	\$13,664,000
2. Dollar value of recommendations not agreed to by management	0	\$0
D. For which no management decision has been made by the end of the reporting period	1	\$2,027,000

TABLE II • FUNDS TO BE PUT TO BETTER USE • EVALUATIONS

Evaluation Reports	Number of Reports	Funds To Be Put To Better Use
A. For which no management decision has been made by the commencement of the period	0	\$0
B. Which were issued during the reporting period	0	\$0
Subtotal (A+B)	0	\$0
C. For which a management decision was made during the reporting period	0	\$0
1. Dollar value of recommendations agreed to by management	0	\$0
2. Dollar value of recommendations not agreed to by management	0	\$0
D. For which no management decision has been made by the end of the reporting period	0	\$0

<sup>1</sup> The subtotal of reports (A+B) differs from the sum of C and D when the same report contains recommendations for which a management decision was made and other recommendations for which a management decision was not made by the end of the period.

## APPENDIX 4

### AUDIT AND EVALUATION REPORTS WITH CORRECTIVE ACTIONS PENDING

As of the end of the semiannual period, final corrective actions associated with 21 audits and 9 evaluations/inspections reported in previous semiannual reports were not completed. Presented below for each audit and evaluation are the report number, date, and title, along with a brief description of final actions management has planned to resolve the open recommendations, including the date management expects to complete final action.

Audit Report Number and Date	Report Title and Recommendation(s) for Which Final Action is Not Complete
<b>2012-14567</b> <b>01/30/2013</b>	<b>Building and Infrastructure Failure Risks</b> TVA agreed to enhance Tririga functionality and other tools for building asset information and address weaknesses in the Tririga production database. Management expects to complete final action by September 30, 2017.
<b>2013-14959</b> <b>08/07/2014</b>	<b>TVA Environmental Risk Management</b> TVA Environment and Energy Policy group will update TVA's Environmental Management System to better describe environmental review processes and responsibilities. Management expects to complete final action by September 30, 2017.
<b>2014-15063-01</b> <b>06/04/2015</b>	<b>Information Technology Organizational Effectiveness – Enterprise Information Security and Policy</b> TVA agreed to develop a unified risk management program and update appropriate security process documents to reflect improvements in integrating risk management and assessment activities. Management expects to complete final action by February 17, 2017.
<b>2014-15031</b> <b>06/23/2015</b>	<b>Adequacy of the Invoice Approval Process</b> TVA agreed to develop a contract quality assurance program; coordinate training/communication of personnel and ensure storage expectations are documented; review and revise the Field Invoice Approver (FIA) training; partner with Financial Services to ensure invoice approval oversight and guidance are housed in the proper organization and expert guidance is used in providing direction on the invoice review process; update the Standard Programs and Processes (SPP) and FIA training modules to include more specific language/instruction and identify opportunities to standardize invoice formats; and look at technology options to improve the invoice approval process. Management expects to complete final action by February 28, 2018.
<b>2014-15234</b> <b>06/25/2015</b>	<b>TVA's Talent Acquisition and Deployment Process</b> TVA agreed to address process inefficiencies and provide general training on how to use the PLUS recruiting module; standardize the recruitment cycle and develop a central depository for recruitment tools and templates; develop a talent acquisition alignment team; update SPPs to reflect the current process and add pertinent information to the Employee Handbook and Leadership Handbook; work on process improvements to identify position requirements; evaluate the use of a single application for nuclear candidates; and continue to work with IT Security and the Office of General Counsel to implement ways to mitigate the duplication of applicant employee identification number. Management expects to complete final action by June 30, 2017.
<b>2014-15063-02</b> <b>08/04/2015</b>	<b>Information Technology Organizational Effectiveness – Enterprise Architecture and Programs</b> TVA agreed to review the current process and tools, standardize the documents and processes, including business/function requirements, update SharePoint to conveniently make the process and tools available, and train appropriate personnel on the process. Management expects to complete final action by November 30, 2016.
<b>2014-15063-03</b> <b>09/03/2015</b>	<b>Information Technology Organizational Effectiveness – Operations Solutions Delivery (OSD)</b> TVA agreed to examine OSD work processes along with efficiency of coordination, communication, and best practices (such as LEAN) across the other IT departments and complete LEAN process reviews of IT Engineering Design Review, IT Change Management, and IT System Development Lifecycle and implement steps that will assist OSD personnel in expediting changes and other required support. Management expects to complete final action by November 30, 2016.

## AUDIT AND EVALUATION REPORTS WITH CORRECTIVE ACTIONS PENDING (CONTINUED)

Audit Report Number and Date	Report Title and Recommendation(s) for Which Final Action is Not Complete
2014-15024 09/09/2015	<p><b>TVA Overtime</b></p> <p>TVA agreed to (1) develop guidance as part of the nonnuclear Fitness for Duty program that will specifically address the response to extended hours of work and management of worker fatigue; (2) continue to use NPG-SPP-03.21, Fatigue Management and Work Hour Limits, to meet Federal Nuclear Regulations, and develop a methodology for overtime review on a quarterly basis with trigger points for assessing if safety or productivity are being challenged; and (3) develop procedural guidance to include: (a) when verbal overtime approval is allowed, and (b) when documented preapproval of overtime is required. Management expects to complete final action by January 9, 2017.</p>
2014-15062 09/10/2015	<p><b>Maximo 7.5 Upgrade</b></p> <p>TVA agreed to (1) develop a different approach for maintaining accountability and (2) engage the business units to ensure ownership of stranded documents and establish a process to place documents in appropriate folders within the published Enterprise Content Management content during content migration. Management expects to complete final action by June 29, 2018.</p>
2014-15063-04 09/22/2015	<p><b>Information Technology Organizational Effectiveness – Enterprise Customer Operations</b></p> <p>TVA agreed to properly track IT assets that introduce risk to TVA by storing sensitive data (e.g., on laptops, PCs, tablets, and external disk drives), and modify processes and procedures to support IT's Service Management program to more clearly align technical support expectations between IT and the business units. Management expects to complete final action by May 15, 2017.</p>
2014-15224 09/30/2015	<p><b>Obtaining Things of Value</b></p> <p>TVA agreed to (1) enhance the protocol by (a) identifying the types of "things of value" and "covered persons" that should be defined in the protocol, (b) incorporating how employees report a request for a "thing of value," (c) developing a process for documenting and tracking all types of defined "covered person" requests, (d) defining applicant consequences for violating the protocol, and (e) implementing a review cadence; (2) present revised protocol to TVA Board of Directors; (3) provide detailed and robust annual training to all employees; (4) collaborate with affected TVA business units to incorporate the protocol into all related SPPs and processes associated with requests for all TVA benefits identified as "things of value"; (5) disseminate the protocol annually to TVA business units with employees who could be affected by the requirements; and (6) post the "Obtaining Things of Value" protocol on the appropriate TVA Web sites. Management expects to complete final action by April 3, 2017.</p>
2015-15321 11/17/2015	<p><b>Review of Contractor Proposed Rates</b></p> <p>TVA agreed to (a) negotiate lower prices for the baseline project, overhead and general and administrative rates that reflect actual costs, lower markup rates applied to subcontractor costs, wages that reflect actual salaries and a reasonable escalation rate, and (b) revise the contract terms to include the equipment rate schedule and how the contractor will be compensated for equipment, reflect both parties' intent regarding application of fee(s), and other revisions as recommended by the OIG. Management expects to complete final action by November 17, 2016.</p>



## APPENDIX 4

### AUDIT AND EVALUATION REPORTS WITH CORRECTIVE ACTIONS PENDING (CONTINUED)

Audit Report Number and Date	Report Title and Recommendation(s) for Which Final Action is Not Complete
<b>2014-15228</b> <b>12/10/2015</b>	<p><b>TVA Corporate Card</b></p> <p>TVA agreed to provide annual training on corporate card use and voucher approval, revise policies and procedures (SPPs), provide system-generated notification when vouchers lacking receipts are being approved or duplicate charges are detected, resolve questioned charges and reimbursements and collect via payroll deduction any overpayments due to TVA, and establish state and local tax exemption guidelines for employees. Management expects to complete final action by January 1, 2017.</p>
<b>2015-15322</b> <b>12/10/2015</b>	<p><b>Review of Contractor Proposed Rates</b></p> <p>TVA agreed to negotiate a lower craft payroll tax rate to reflect actual regional state unemployment insurance rates, ensure labor ranges and billing rates in the contract are correct and reflective of actual costs and no conflicting language is included in the contract. Management expects to complete final action by December 12, 2016.</p>
<b>2015-15327</b> <b>12/17/2015</b>	<p><b>Review of Contractor Proposed Rates</b></p> <p>TVA agreed to revise the contract terms to include lower minimum wage and fringe benefit rates and a comprehensive equipment schedule, where overhead, general and administrative (G&amp;A) costs and fee(s) are not subject to being charged twice; specify overhead, a 4 percent G&amp;A rate and labor costs apply to total cost; include payroll tax and insurance markups as recommended by the OIG; avoid overstatement of fixed prices and a small tools rate; and avoid conflicting language and ensure the contractor bills the correct rates. TVA expects to complete final action by December 19, 2016.</p>
<b>2014-15063-05</b> <b>01/12/2016</b>	<p><b>Information Technology Organizational Effectiveness - Infrastructure Delivery</b></p> <p>TVA agreed to expand disaster recovery activities by (a) leading an IT-wide effort to update the 2011 BIA, (b) leading a single point of failure analysis of production IT data center infrastructure and facilities, (c) the startup order of required applications for critical TVA systems, and (d) identifying the software platform subcomponents of the systems in part (c). TVA expects to complete final action by April 28, 2017.</p>
<b>2014-15047</b> <b>01/26/2016</b>	<p><b>URS Energy and Construction, Inc. (URS)</b></p> <p>TVA agreed to recover \$794,406 from URS, along with temporary assignment costs where URS lacks employee temporary living certifications, and other overbilled direct costs, including overbilled craft and nonmanual labor costs. TVA expects to complete final action by January 25, 2017.</p>
<b>2014-15063-06</b> <b>02/25/2016</b>	<p><b>Information Technology Organizational Effectiveness - Enterprise Solutions Delivery</b></p> <p>TVA agreed to (1) revisit development processes and evaluate how to reduce the number of systems that require separate documentation; (2) engage the Learning, Growth, and Management group within HR to perform assessments and identify gaps and team issues, engage ECM, and engage Project Leadership to encourage more face-to-face interactions and develop communication paths; and (3) continue enterprise data warehouse IT 1,000 days to success efforts. TVA expects to complete final action by September 20, 2018.</p>
<b>2015-15324</b> <b>03/03/2016</b>	<p><b>Review of Contractor Proposed Rates</b></p> <p>TVA agreed to revise the contract terms to include lower payroll tax, insurance, and fringe benefit rates and specify these rates should be applied to total labor; specify the overhead/G&amp;A rate should be applied to total burdened labor; include wage ranges instead of a single estimated rate; eliminate labor classifications typically recovered through the overhead/G&amp;A rates; include profit as a single line item on fixed-price proposals; and avoid conflicting contract language. TVA expects to complete final action by March 3, 2017.</p>
<b>2016-15358</b> <b>03/23/2016</b>	<p><b>Proposal for Engineering and Management Services</b></p> <p>TVA agreed to (a) negotiate to reduce the profit rate to 7 percent applied to total costs, (b) negotiate to eliminate the craft burden, insurance, and bonding markups, and reimburse these costs as actually incurred, and (c) remove the annual true-up provisions and fix the rates for the duration of the contract. TVA expects to complete final action by March 23, 2017.</p>
<b>2014-15241</b> <b>03/29/2016</b>	<p><b>Energy Solutions, LLC</b></p> <p>TVA agreed to recover \$56,279 from Energy Solutions for overbilled costs and advise the field invoice approvers to more carefully match the contract number referenced on each purchase order with the number on the invoice to ensure costs are recorded as paid under the correct contract. TVA expects to complete final action by March 29, 2017.</p>

## AUDIT AND EVALUATION REPORTS WITH CORRECTIVE ACTIONS PENDING (CONTINUED)

Evaluation Report Number and Date	Report Title and Recommendation(s) for Which Final Action is Not Complete
2012-14535 03/21/2013	<b>Master Key Program Management – Energy Delivery</b> TVA agreed to secure facilities protected by master keys to minimize the risk posed by keys outside TVA's control and develop specifications for the purchase of a new system. A contract has been awarded and management expects to complete final action by June 30, 2017.
2013-14950 09/19/2013	<b>TVA's Succession Planning</b> TVA management agreed to continue to evaluate ways to improve cross-pollination using a system to reduce preparation time and submit a proposal for a new system during FY 2016 business planning. Management expects to complete final action by September 30, 2017.
2014-15056 09/25/2014	<b>Nuclear Groundwater Review</b> TVA agreed to form a groundwater working group with representatives from all sites to address outstanding program weaknesses. Management expects to complete final action by November 30, 2016.
2014-15216 09/29/2014	<b>Follow-Up Review of Coal Fire Protection</b> TVA agreed to prioritize impairments and establish a due date for long-term fire impairments or make a formal decision to not pursue repair; train employees on work management priorities for fire impairments; revise SPPs to require capturing and sharing of lessons learned for all fires; and revise SPPs to include a new rating calculation and process for sharing assessment data with Power Operations senior leadership. Management expects to complete final action by December 31, 2016.
2015-15273 07/24/2015	<b>Nuclear Outage Performance</b> TVA agreed to drive the TVA Nuclear Fleet to top quartile performance in duration, dose, and dollars using "FY2016-FY2020 Nuclear Operations Support Business Plan-Outage Execution," which contains the initiatives the Nuclear Executive Team has developed to achieve industry top quartile outage performance in the TVA Nuclear Fleet. TVA will monitor/analyze budget performance and seek other cost saving initiatives and continue to drive outage performance and achieve top quartile outage rating in all categories. Management expects to complete final action by November 4, 2016.
2015-15294 07/24/2015	<b>Hydro Generation Fire Protection</b> TVA agreed to (1) develop an SPP to provide guidance for reporting, and maintain a historical record of fire protection system impairments in Hydro Generation, as well as coal and gas; develop an SPP for providing guidance and implementing code-required activities; perform annual facility walk downs to verify compliance with housekeeping; supersede an SPP with site specific emergency response plans; develop property risk improvement prioritization methodology to qualify and prioritize property loss control recommendations across the organization; and employ a modifier to capture the criticality of the affected plant or unit to TVA's load strategy; and (2) revise SPPs to capture lessons learned for all fires and require the use of the Homeland Security Exercise and Evaluation Program for the design, conduct, and documentation of emergency response exercises. Management expects to complete final action by January 31, 2017.
2015-15296 11/04/2015	<b>Cumberland Fossil Plant Organizational Effectiveness</b> TVA agreed to address OIG's recommendations through open communication, reiteration of core values to management and employees, and by holding itself to higher levels of accountability for living the values. TVA expects to complete final action by October 31, 2016.
2015-15329 03/10/2016	<b>Kingston Fossil Plant Organizational Effectiveness</b> TVA agreed to address work management process challenges; effectively communicate the rationale for business decisions affecting staffing, operational and budgetary challenges; strengthen trust, provide feedback, and increase resolution effectiveness. TVA expects to complete final action by March 10, 2017.
2016-15357 03/30/2016	<b>Bull Run Fossil Plant Organizational Effectiveness</b> TVA agreed to work with employees to screen and prioritize safety and work-related issues identified, review the safety backlog, and use a contractor to facilitate training and implementation of the work management process; minimize required overtime per the General Agreement to address safety concerns; and use on-the-job training coordinators with contractor assistance to close knowledge gaps. TVA expects to complete final action by March 30, 2017.

# APPENDIX 5

## INVESTIGATIVE REFERRALS AND PROSECUTIVE RESULTS<sup>1</sup>

Referrals	
Subjects Referred to U.S. Attorneys	10
Subjects Referred to State/Local Authorities	1
Results	
Subject Indicted/Information Filed	5
Subject Convicted	3
Pretrial Diversion	0
Federal Referrals Declined	5
State Referrals Declined	1

<sup>1</sup> These numbers include task force activities and joint investigations with other agencies.





## HIGHLIGHTS – STATISTICS

	SEPT 30, 2016	MAR 31, 2016	SEPT 30, 2015	MAR 31, 2015	SEPT 30, 2014
<b>AUDITS</b>					
<b>AUDIT STATISTICS</b>					
Carried Forward	22	26	28	28	24
Started	15	15	21	11	20
Canceled	(1)	(4)	(1)	(0)	(1)
Completed	(14)	(15)	(22)	(11)	(15)
In Progress at End of Reporting Period	22	22	26	28	28
<b>AUDIT RESULTS (Thousands)</b>					
Questioned Costs	\$3,271	\$9,039	\$7,599	\$8,908	\$2,612
Disallowed by TVA	\$3,271	\$2,411	\$2,156	\$8,908	\$2,612
Recovered by TVA	\$1,725	\$268	\$2,981	\$89	\$484
Funds to Be Put to Better Use	\$8,901	\$15,447	\$2,106	\$1,067	\$512
Agreed to by TVA	\$13,664	\$10,491	\$1,067	\$512	\$414
Realized by TVA	\$0	\$792	\$142	\$7,375	\$13,114
<b>OTHER AUDIT-RELATED PROJECTS</b>					
Completed	9	3	7	5	10
Cost Savings Identified/Realized (Thousands)	\$0	\$0	\$0	\$0	\$0
<b>EVALUATIONS</b>					
Completed	13	5	6	1	10
Cost Savings Identified/Realized (Thousands)	\$0	\$0	\$0	\$0	\$0
<b>INVESTIGATIONS<sup>1</sup></b>					
<b>INVESTIGATION CASELOAD</b>					
Opened	108	100	126	126	134
Closed	104	103	142	146	123
In Progress at End of Reporting Period	136	131	134	152	163
<b>INVESTIGATIVE RESULTS (Thousands)</b>					
Recoveries	\$2,805.8 <sup>2</sup>	\$615.2	\$1,064.0	\$522.2	\$89.1 <sup>3</sup>
Savings	\$4.5	\$0	\$1,897.1	\$403.3	\$125
Fines/Penalties/Fees	\$0	\$0.1	\$64.1	\$0.2	\$0.8
Other Monetary Loss	\$0	\$1,418.8	\$0	\$0	\$0
<b>MANAGEMENT ACTIONS</b>					
Disciplinary Actions Taken (No. of Subjects)	17	11	14	10	14
Counseling/Management Techniques Employed (No. of Cases)	8	18	9	17	11
Debarment	0	0	3	0	0
<b>PROSECUTIVE ACTIVITIES (No. of Subjects)</b>					
Referred to U.S. Attorneys	10	14	18	8	16
Referred to State/Local Authorities	1	0	2	0	0
Indicted/Information Filed	5	1	1	6	0
Convicted	3	1	1	6	0
Pretrial Diversion	0	0	0	0	0

<sup>1</sup> These numbers include task force activities and joint investigations with other agencies.

<sup>2</sup> Amount includes \$1,547,434, also included in Audits Results-Recovered in this semiannual period, which was recovered in a qui tam settlement agreement negotiated by the U.S. Attorney's office with Bartlett Holdings, Inc.

<sup>3</sup> \$12,573 of this amount is restitution ordered to be paid to a nongovernmental financial institution as the result of a criminal investigation.

## APPENDIX 7

### GOVERNMENT CONTRACTOR AUDIT FINDINGS

The National Defense Authorization Act for Fiscal Year 2008, P.L. 110-181, requires each Inspector General appointed under the Inspector General Act of 1978 to submit an appendix on final, completed contract audit reports issued to the contracting activity that contain significant audit findings—unsupported, questioned, or disallowed costs in an amount in excess of \$10 million, or other significant findings—as part of the Semiannual Report to Congress. During this reporting period, OIG issued no contract review reports under this requirement.



**SHAWNEE FOSSIL PLANT**

## PEER REVIEWS OF THE TVA OIG

### AUDITS PEER REVIEW

IG audit organizations are required to undergo an external peer review of their system of quality control at least once every three years, based on requirements in the Government Auditing Standards. Federal audit organizations can receive a rating of pass, pass with deficiencies, or fail. The TVA OIG underwent its most recent peer review of its audit organization for the period ended September 30, 2013. This review was performed by the Special Inspector General for the Troubled Asset Relief Program (SIGTARP). The SIGTARP issued its report, dated March 31, 2014, in which it concluded the TVA OIG audit organization's system of quality control for the fiscal year ended September 30, 2013, was suitably designed and complied with to provide the OIG with reasonable assurance of performing and reporting in conformity with applicable professional auditing standards in all material respects. Accordingly, the TVA OIG received a rating of pass. The peer review report is posted on our Web site at <http://www.oig.tva.gov/PDF/PeerReviewReport03312014>.

The Federal Deposit Insurance Corporation OIG is currently performing a peer review of our audit organization for the period ended September 30, 2016. Results of the ongoing review will be included in our next semiannual report.

### INVESTIGATIONS PEER REVIEW

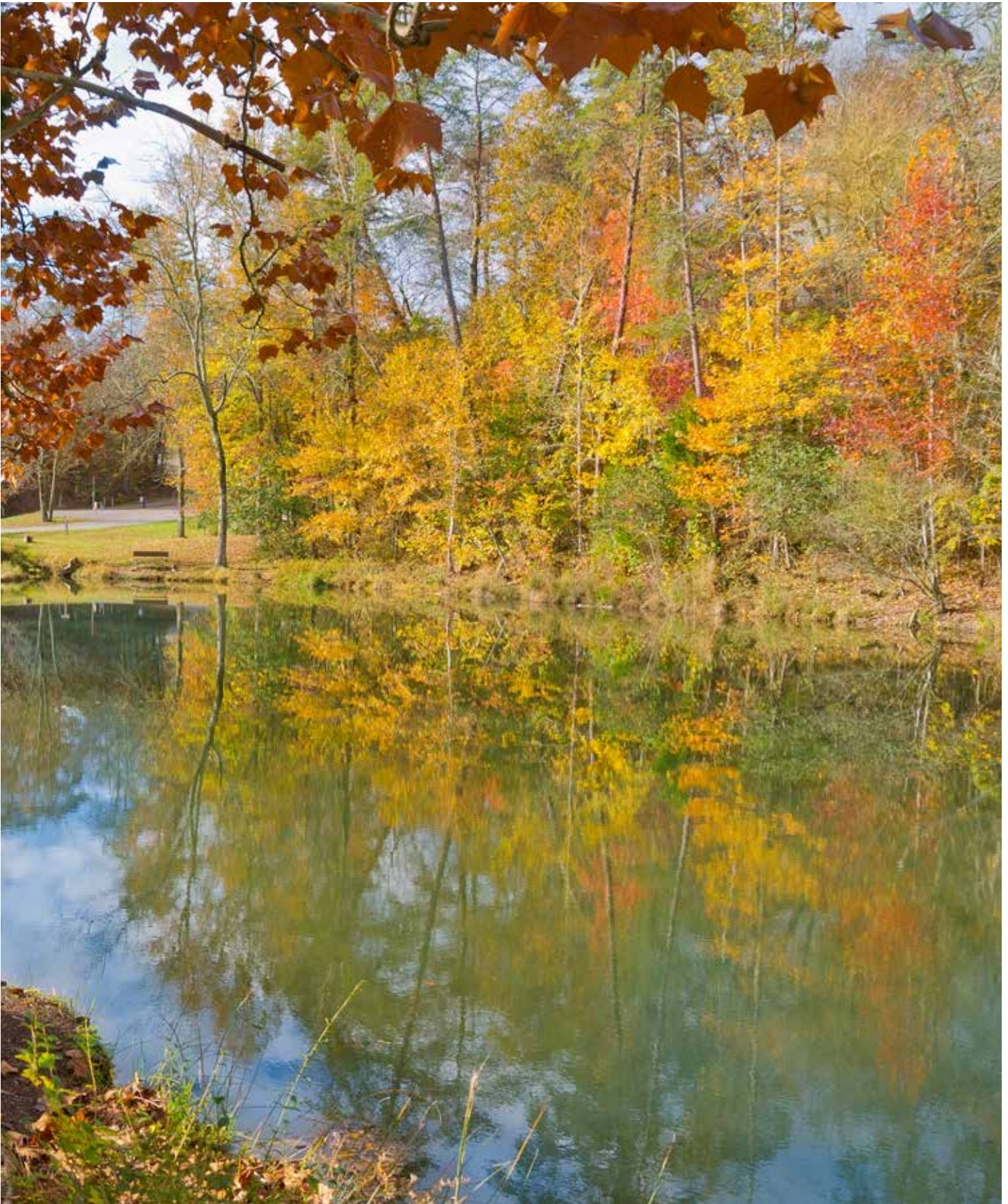
Investigative operations undergo an external peer review, Quality Assessment Review, at least once every three years. The United States Railroad Retirement Board OIG completed a Quality Assessment Review of TVA OIG Investigative Operations on May 23, 2016. The United States Railroad Retirement Board OIG found the "... system of internal safeguards and management procedures for the investigative function of the Tennessee Valley Authority OIG in effect through April 1, 2016 is compliant with the quality standards established by CIGIE and the applicable Attorney General Guidelines...." This confirmation is posted on our Web site at <http://oig.tva.gov/reports/PeerReviewLetter2016-RRB.pdf>.





# GLOSSARY

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**DISALLOWED COST** – A questioned cost that management, in a management decision, has sustained or agreed should not be charged to the agency.

**FINAL ACTION** – The completion of all management actions, as described in a management decision, with respect to audit findings and recommendations. When management concludes no action is necessary, final action occurs when a management decision is made.

**FUNDS PUT TO BETTER USE** – Funds which the OIG has disclosed in an audit report that could be used more efficiently by reducing outlays, deobligating program or operational funds, avoiding unnecessary expenditures, or taking other efficiency measures.

**IMPROPER PAYMENT** – Any payment that should not have been made or was made in an incorrect amount under statutory, contractual, administrative, or other legally applicable requirements, as defined in the Improper Payments Information Act.

**INFORMATION** – A formal accusation of a crime made by a prosecuting officer as distinguished from an indictment presented by a grand jury.

**MANAGEMENT DECISION** – Evaluation by management of the audit findings and recommendations and the issuance of a final decision by management concerning its response to such findings and recommendations.

**QUESTIONED COST** – A cost the IG questions because (1) of an alleged violation of a law, regulation, contract, cooperative agreement, or other document governing the expenditure of funds; (2) such cost is not supported by adequate documentation; or (3) the expenditure of funds for the intended purposes was unnecessary or unreasonable.

**UNSUPPORTED COSTS** – A cost that is questioned because of the lack of adequate documentation at the time of the audit.



## ABBREVIATIONS & ACRONYMS

The following are acronyms and abbreviations widely used in this report.

ADR.....	Aggregated Demand Response
Bartlett.....	Bartlett Holdings, Inc.
Bellefonte.....	Bellefonte Nuclear Plant
BFN.....	Browns Ferry Nuclear Plant
CGNPC.....	China General Nuclear Power Company
CGS.....	Coal and Gas Services
CIGIE.....	Council of the Inspectors General on Integrity and Efficiency
CRS.....	Center for Resource Solutions
Cumberland.....	Cumberland Fossil Plant
DOD.....	Department of Defense
DOE.....	Department of Energy
ECP.....	Employee Concerns Program
EO.....	Environmental Operations
EPA CID.....	Environmental Protection Agency Criminal Investigation Division
EP&C.....	Environmental Permitting and Compliance
EPMO.....	Enterprise Project Management Office
ETI.....	Energy Technology International
FBI.....	Federal Bureau of Investigation
FIA.....	Field Invoice Approver
FY.....	Fiscal Year
G&A.....	General and Administrative Costs
GAO.....	U.S. Government Accountability Office
IG.....	Inspector General
IT.....	Information Technology
IT1K.....	1,000 Days to Success
LPC.....	Local Power Company
LRAs.....	Local Rate Adjustments
NRC.....	Nuclear Regulatory Commission
OCC.....	Outage Control Center
OIG.....	Office of the Inspector General
OSD.....	Operations Solutions Delivery
POC.....	Proof of Concept
QA.....	Quality Assurance
RRRP.....	Revised Rate Review Process
SCWE.....	Safety Conscious Work Environment
SIGTARP.....	Special Inspector General for the Troubled Asset Relief Program
SPP.....	Standard Programs and Processes
SQN.....	Sequoyah Nuclear Plant
TVA.....	Tennessee Valley Authority
URS.....	URS Energy and Construction, Inc.
U.S.....	United States
WBN.....	Watts Bar Nuclear Plant
WLAN.....	Wireless Local Area Network





## **OFFICE of the INSPECTOR GENERAL**

400 West Summit Hill Drive  
Knoxville, Tennessee 37902

The OIG is an independent organization charged with conducting audits, evaluations, and investigations relating to TVA programs and operations, while keeping the TVA Board and Congress fully and currently informed about problems and deficiencies relating to the administration of such programs and operations.

The OIG focuses on (1) making TVA's programs and operations more effective and efficient; (2) preventing, identifying, and eliminating waste, fraud, and abuse and violations of laws, rules, or regulations; and (3) promoting integrity in financial reporting.

If you would like to report to the OIG any concerns about fraud, waste, or abuse involving TVA programs or violations of TVA's Code of Conduct, you should contact the OIG EmPowerline system. The EmPowerline can be reached 24 hours a day, seven days a week, either by a toll-free phone call (1-855-882-8585) or over the Web ([www.oigempowerline.com](http://www.oigempowerline.com)). A third-party contractor will take your call or online concern and immediately forward it to OIG personnel. You may report your concerns anonymously or you may request confidentiality.

## **REPORT CONCERNS TO THE OIG EMPOWERLINE**

### **WATCH, LEARN AND BE EMPOWERED**

If you see or suspect wrongdoing and report it, TVA could recover money and you could receive a cash reward from the TVA Office of the Inspector General. Learn how by watching this revealing video. To watch this video now, simply scan the QR symbol at the lower right with your smart phone to be taken directly to the video. QR Code scan app required.



You can report wrongdoing to the Office of the Inspector General by visiting our EmPowerline® website at [www.oigempowerline.com](http://www.oigempowerline.com) or by calling toll-free at 855-882-8585. See the EmPowerline® website for details on the cash reward process and other important information.





Office of the Inspector General  
**TENNESSEE VALLEY AUTHORITY**  
Semiannual Report  
April 1, 2016 - September 30, 2016