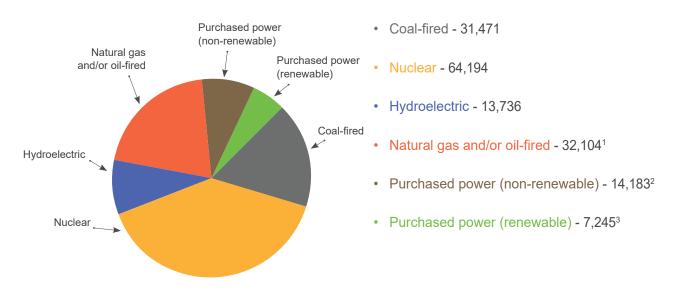


# TVA Power Generation and Purchased Power Twelve Months Ended September 30, 2018 (in millions of kilowatt hours)



Natural gas and/or oil-fired generation includes approximately 429 million kWh of pre-commercial generation at Allen and Paradise Combined Cycle Plants.

<sup>&</sup>lt;sup>2</sup> Purchased power amounts include generation from Caledonia Combined Cycle Plant, which is currently a leased facility operated by TVA. Generation from Caledonia Combined Cycle Plant was 4,125 million kWh.

<sup>&</sup>lt;sup>3</sup> Purchased power (renewable) includes power purchased from the following renewable sources: hydroelectric, solar, wind, and cogeneration.

# TABLE OF CONTENTS

Message from the Acting Inspector General
Special Features
Noteworthy Event
Executive Overview
Organization
Audits
Evaluations
Investigations
Legislation and Regulations
Appendices44
Appendix 1 – Index of Reporting Requirements Under the Inspector General Act
Appendix 2 – Audit and Evaluation Reports Issued47
Appendix 3 – Audit and Evaluation Reports Issued with Questioned and Unsupported Costs and Recommendations for Better Use of Funds
Appendix 4 – Audit and Evaluation Reports Recommendations Included in a Previous Semiannual Report and Awaiting Implementation
Appendix 5 – Investigative Referrals and Prosecutive Results
Appendix 6 – Substantiated Investigations Involving Senior Agency Officials
Appendix 7 – Previously Undisclosed Investigations Involving Senior Agency Officials
Appendix 8 – Statistical Highlights
Appendix 9 – Government Contractor Audit Findings
Appendix 10 - Peer Reviews of the TVA OIG59
Appendix 11 – Peer Review of Another OIG59
Glossary
Abbreviations and Acronyms

# MESSAGE FROM THE

# **ACTING INSPECTOR GENERAL**



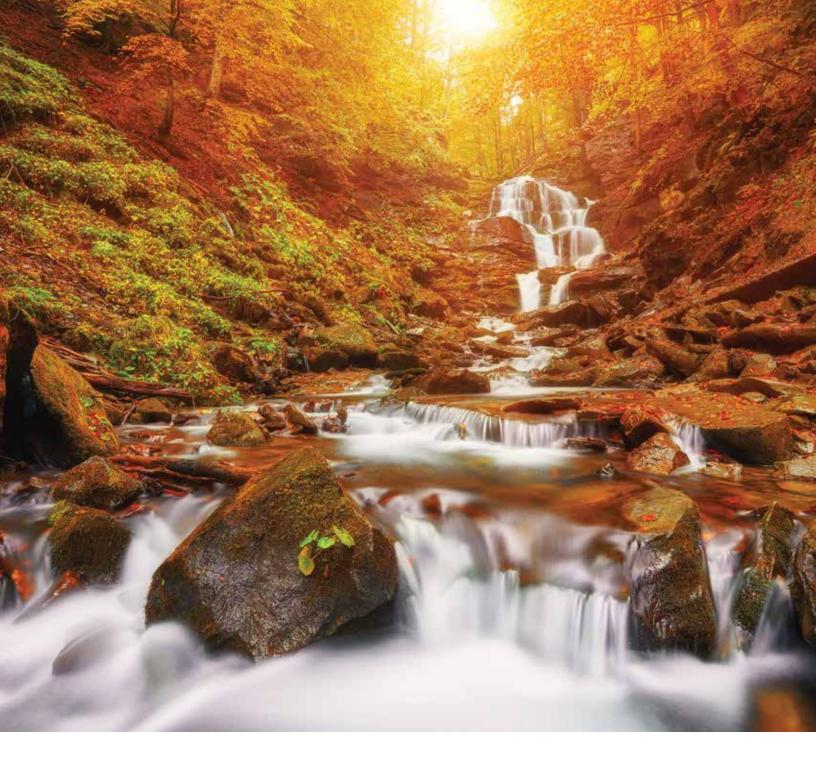
I am pleased to present our report for the period April 1, 2018, to September 30, 2018. In May 2018, the Tennessee Valley Authority (TVA) celebrated its 85th anniversary. Also in 2018, the Inspector General community commemorated the 40th anniversary of the Inspector General Act of 1978 which established Inspectors General at 12 agencies. There are now 73 Inspectors General in the federal government all with the mission to promote economy, efficiency, and effectiveness and prevent and detect fraud, waste, and abuse.

Our office was created 33 years ago by the TVA Board of Directors (Board) and later became statutory in the 1988 amendment to the Inspector General Act. For 33 years, our office has provided independent analyses of TVA operations and programs to help identify more efficient and effective ways to do business and to prevent and detect fraud, waste, and abuse. Simply put, we approach our work with the intention of making TVA better for the people of the Tennessee Valley.

In this semiannual period, our audit, evaluation, and investigative activities identified almost \$64 million in funds TVA could put to better use, questioned costs, recoveries and savings, and shared opportunities for TVA to improve its programs and operations. Below are highlights of our work this period.

- Five preaward contract examinations of cost proposals submitted by companies to provide coal combustion residual program management services and two examinations of proposed labor and labor markup rates for current contract extensions identified about \$57.4 million in potential savings opportunities for TVA.
- Four contract compliance audits identified potential overbillings of \$5.2 million.

- A limited scope review of a concern received regarding TVA aircraft flights to Oxford, Mississippi, did not identify any flights for nonbusiness purposes.
- An audit of TVA's capital projects found that TVA is not adequately monitoring actual return on investment of capital projects.
- An evaluation of hearing loss claims identified improvements were needed in meeting requirements of the hearing conservation program, documentation provided to the U.S. Department of Labor (DOL), and verification of accuracy of the amounts billed by DOL.
- A follow-up evaluation of the work environment in the Nuclear Oversight group found some aspects of the work environment had improved or stayed the same while others had declined.
- Information Technology Audits identified areas for improvement related to TVA's privacy program, controls over key Sarbanes-Oxley financial spreadsheets, network architecture at a plant, and operating system server baselines.
- Organizational effectiveness evaluations in seven areas across TVA's Gas and Hydro Operations,

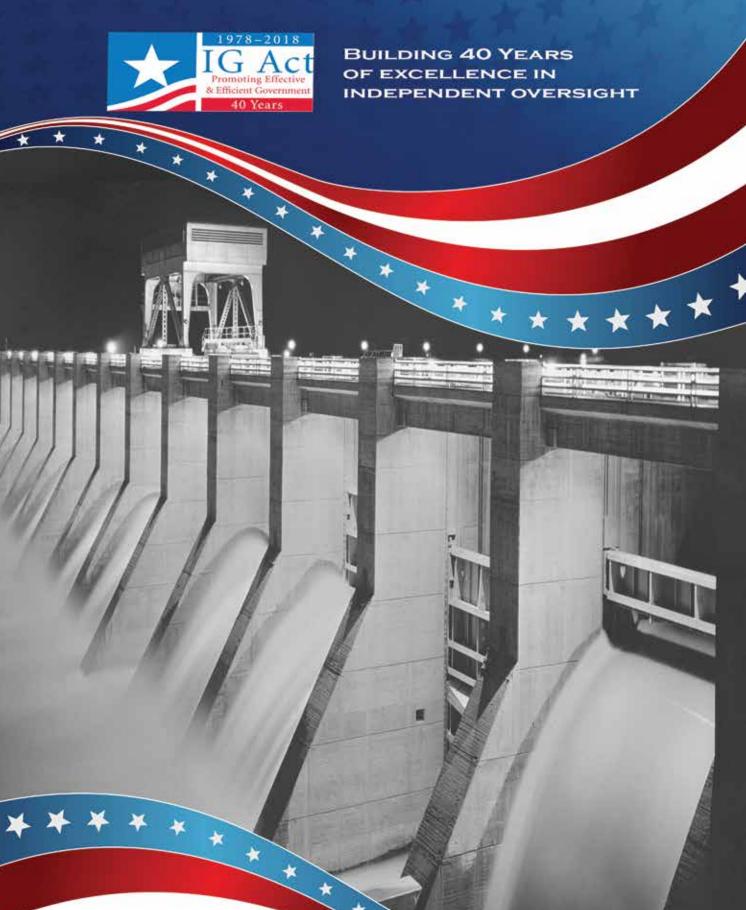


nuclear site security groups, and TVA's Supply Chain organization identified strengths as well as risks that could impact the ability for the groups to achieve their missions.

 Investigative results included the sentencing of a former contractor employee, a former employee's indictment, nuclear system improvements, and terminations of employees who failed to report opioid prescriptions as required. We look forward to continuing to work with the TVA Board and management toward our mutual purpose of making TVA better.

Jill M. Matthews

Acting Inspector General



# SPECIAL FEATURES

# THE MODERN INSPECTOR GENERAL CELEBRATES 40 YEARS

October 12, 2018, will mark the 40th anniversary of the passage of the Inspector General (IG) Act. In this feature, we revisit the creation of the Act and its evolution over the last 40 years, including the establishment of the TVA Office of the Inspector General (OIG). We also reflect on a few of the challenges IGs have encountered during that time, as well as ways to move beyond the natural tensions with agency management. Finally, we briefly note some of the financial results achieved by federal IGs and take a look ahead at the future of the IG Act.

# SETTING THE STAGE

Americans have a long and complicated relationship with the federal government, dating back to the American Revolution and the creation of the Constitution itself. Any student of history will tell you that the debate around the Constitution was a delicate balancing act between the rights citizens wanted to invest in the central government, those they wanted at the state level, and those they wanted to retain themselves.

A key question all Americans continue to face is whether they trust the federal government to do the right thing. While we can draw our own conclusions about many periods of our history, polling data as late as 1964 showed three-quarters of Americans believed they could trust the government in Washington, D.C., to do what was right. Within a decade—a period that included the Vietnam War, civil unrest and, perhaps most importantly, the Watergate scandal—this public trust was shared by only about a third of citizens and was continuing to decline.

### CREATION

In an effort to restore the American public's faith in its government after the Watergate scandal, President Jimmy Carter suggested the creation of a new federal role—the IG. Congress passed the IG Act in October 1978 to establish presidentially-appointed IGs in 12 federal agencies.

The Act codified an idea that General George Washington borrowed from the professional armies of Europe, an independent inspection and oversight authority to examine and report on his army. The Continental Congress, in one of its first resolutions, created an IG, declaring it "essential to the promotion of discipline in the American Army, and to the reformation of the various abuses which prevail in the different departments."

The IG Act created independent IGs charged with conducting audits and investigations that promote the economy, efficiency, and effectiveness of agency programs; prevent and detect fraud, waste, and abuse; and keep agency heads and Congress fully and currently informed of its findings and recommendations.

Forty years later, there are 73 statutory Inspectors
General, about half of which are presidentially-appointed
and Senate confirmed, and about half of which are
appointed by their agency heads, throughout the federal
government. By statute, IGs are required to be selected
without regard to political affiliation and solely on the basis
of personal integrity and professional expertise.



# TVA OIG - THE EARLY YEARS

The TVA OIG is one of the 73 statutory Inspectors General. Like some other OIG offices, our creation was also partially engendered by controversy.

In the mid-1980s, TVA was grappling with an encumbered nuclear program, facing spiraling costs, safety concerns, and ongoing conflict with the U.S. Nuclear Regulatory Commission (NRC). Ultimately, this led to the shutdown of all its nuclear operating plants, the cancellation of three unfinished plants, and putting a hold on two other plants. To address these problems, a determination was made to bring in outside consulting expertise and hire an IG. As a result, TVA Directors approved the OIG's creation stating there was a need to have an independent organization within TVA to receive complaints and report directly to the Board and to Congress.

The TVA OIG was created in October 1985 with the following parameters outlined in the Board's plan: The IG will be independent of TVA management, with a separate

staff and budget, and will report directly to the Board. He or she can be removed from office only by the Board, which must justify the action to Congress. The IG will have access to all TVA records and can make "any investigation deemed necessary or desirable by the inspector general," according to the plan approved by the Board. To maintain employee confidentiality, "the Board intends for the inspector general to receive in confidence allegations about any aspect of TVA."

Although there were occasional controversies, this management structure persisted for more than a decade. In 1999, a major event occurred which called into question whether the then-TVA Board Chairman was trying to impede the independence of the IG, which was a TVA Board-appointed position. The Government Accountability Office (GAO) investigated allegations against the then-TVA Board Chairman as well as allegations the Chairman made against the IG related to misuse of a TVA credit card. GAO found (1) the Chairman's actions "...could be viewed as an attempt to undermine the independence of the IG" and (2) "... no evidence of TVA credit card misuse by the IG."

As a result of this event, then-Senator Fred Thompson sponsored a bill to make the TVA IG a presidential appointment. He noted, "Independence is the lifeblood of the Inspector General." Congress enacted the proposal into law in the fall of 2000, introducing a new era in the TVA OIG.

### EVOLUTION OF THE IG ACT

The IG Act has been amended several times to provide additional tools to the community to perform its mission, strengthen IG independence, and promote public transparency through posting of IG reports. Some major amendments included:

- In 1988, Congress significantly expanded the IG concept to encompass most agencies of the federal government, including certain independent agencies, corporations, and other federal entities. The TVA OIG became a statutory IG under this amendment.
- The IG Reform Act of 2008, signed by President George W. Bush in October 2008, amended the IG Act to, among other things, enhance the independence of the IGs and establish a Council of the Inspectors General on Integrity and Efficiency (CIGIE) to address issues across agencies and aid in the establishment of a professional, well-trained and highly-skilled IG workforce.
- The latest major amendment to the IG Act, the IG Empowerment Act of 2016 signed by President Barack Obama in December 2016, was in response to attempts by several agencies to restrict the IG's access to agency documents. The Empowerment Act confirmed the IGs are entitled to full and prompt access to agency records. In addition, the Empowerment Act expanded the subpoena authority, exempted IGs from the Computer Matching and Privacy Protection Act and Paperwork Reduction Act, and enhanced the public's access to information about misconduct among senior government employees.

# MAINTAINING INDEPENDENCE

During the creation of and amendments to the IG Act, Congress was careful in constructing a framework that would ensure IGs are independent and have the tools necessary to look at anything in their purview from the outset. On the 40<sup>th</sup> anniversary of the IG Act, now is an opportune time to consider where we stand, particularly in light of recent tensions between IG offices and agency management in a number of executive agencies.

These tensions arose, as is often the case, out of disagreement on the scope of IG authority. In 2010, the U.S. Department of Justice (DOJ) and other agencies began vetting and redacting sensitive documents before giving them to IGs, increasing the amount of time it took for IGs to receive those documents, limiting the IGs' ability to fully investigate issues, and generally impeding the oversight process. The IG community and others viewed this as at odds with the original IG Act provisions granting IGs unfettered access to all agency documents. The controversy became even more significant in 2015 when the Office of Legal Counsel (OLC) released an opinion stating that the DOJ IG was not empowered to have complete access to all of the agency's documents. In essence, the opinion meant that the word "all" in the IG Act should not be read to mean all.

In response, a bipartisan effort in Congress crafted the IG Empowerment Act to address the threat to oversight posed by the OLC memorandum and the overall reduction of IG independence that started in 2010. Among other things, the legislation clarified that Congress intended IGs to access all agency records, notwithstanding any other provision of law, unless other laws specifically state that IGs are not to receive such access.

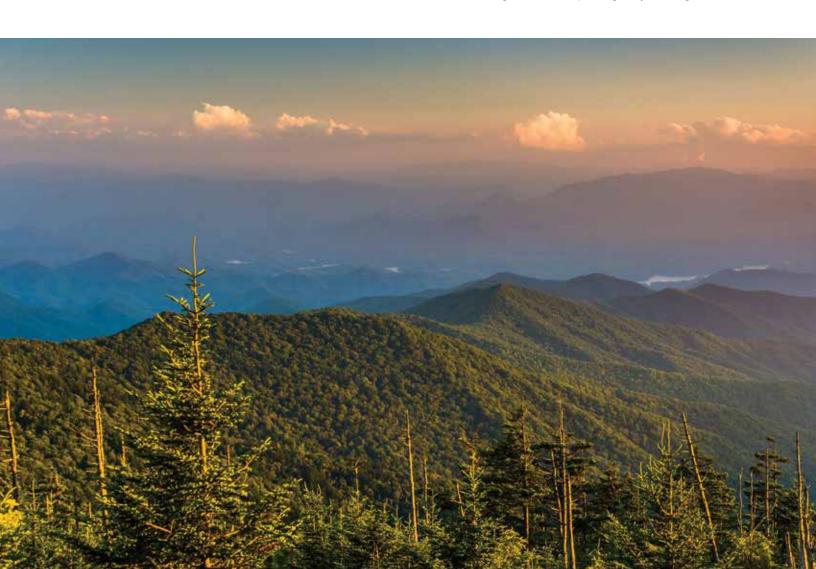
Not surprisingly, during the course of the debate around the IG Empowerment Act, there was much discussion about the role of the IG and its history. Retired Senator John Glenn, who was instrumental in the passage of the IG Act in 1978, advocated for the new legislation, reflecting:

The success of the IG Act is rooted in the principles on which the Act is grounded—independence, direct reporting to Congress, dedicated staff and resources, unrestricted access to agency records, subpoena power, special protections for agency employees who cooperate with the IG, and the ability to refer criminal matters to the Department of Justice without clearing such referrals through the agency. We considered these safeguards to be vital when we developed the Act and they remain essential today. No other entity within government has the unique role and responsibility of Inspectors General, and their ability to accomplish their critical mission depends on the preservation of the principles underlying the Inspector General Act.

# OVERCOMING OTHER HARD SPOTS

The debate around access to documents illustrated one of the tensions between IGs and agency management, but there are many others as well. Congress also required the IG keep both agency heads and Congress fully informed and IGs to publicly post reports. The complexity of the management and policy issues facing an entity like TVA will sometimes result in disagreement between the OIG and management regarding the extent of a problem and the nature of recommended corrective actions. When posted, the level of scrutiny and publicity associated with reports can make relationships between the IG and agency officials challenging.

It is important to the success of the agency and OIG to navigate this challenge. The OIG cannot force the agency to implement its recommendations; that is the responsibility of agency management. We can, however, use the tools at our disposal, including a well-trained workforce, constructive communication, and the latest best practices identified by both the IG community and the private sector to clearly convey our findings, including the associated risks to management, and recommend practical solutions. Recommending a potential solution, of course, differs from mandating one. It is up to agency management to



determine if it will implement the OIG's recommendations. One of the things that can make a difference in the implementation of recommendations is building and maintaining a mutually-respectful professional relationship between the OIG and agency officials.

The TVA OIG has had its share of challenges that jeopardized its professional relationship with TVA management over the years, as well illustrated by the conflict in 1999. Nevertheless, the OIG and TVA management have persevered to deliver value to the residents of the Tennessee Valley. One way we have achieved this is by striving to tell the good with the bad. In other words, it is as important to note when TVA is doing well as when improvements are possible. After all, credibility depends on following the facts where they lead, which can illustrate the positive rather than the negative.

In the end, it is important that the agency head, agency officials, and IG recognize that there is a mutual purpose—helping an agency become better at achieving its mission—which can best be accomplished by keeping the lines of communication open. The ultimate effectiveness of both the agency and the OIG depends on communication, especially in the most challenging times.

# DEMONSTRATING RESULTS

Nationally, facing these challenges head-on has allowed IGs to achieve remarkable results in recent years. Potential savings and investigative recoveries identified by IGs between 2012 and 2016 averaged more than \$45 billion a year. These potential savings and investigative recoveries represent, on average, more than \$17 for every dollar invested in the OIGs. In addition, thousands of recommendations are provided to agency management to improve the efficiency and effectiveness of agency programs and more than 5,600 successful prosecutions per year occur. Comprehensive information on the cumulative accomplishments of the 73 IGs who collectively oversee the operations of nearly all aspects of federal government can be found on www.oversight.gov, collected as the CIGIE Annual Reports for Fiscal Years 2012 - 2016.

### THE FUTURE

The IG Act has provided a broad framework for 40 years of efforts to improve the operation of the federal government. Federal OIGs have faced the challenges anticipated when the legislation was passed, such as occasional adversarial relationships with agency management. Likewise, almost all OIGs will periodically face the reality of budgetary constraints and being asked to do more with less. We have also had to face challenges that were unanticipated in the 1970s, such as powerful new technologies that have changed almost every aspect of life, including government operations. We live in a world where information can be stolen, transported across the globe, and misused in seconds. OIGs address these challenges, both old and new, every day.

While we do not know exactly what changes to expect, we do know there is a strong, vigilant IG community, working in concert with other government agencies, to identify emerging issues, develop new best practices, and keep the wheels of government turning efficiently. The IG Act has been flexible enough to accommodate most new developments without amendment from the beginning, and with occasional scrutiny, can serve as an effective tool for decades to come.

Perhaps CIGIE Chair Michael Horowitz, Inspector General of the DOJ, summed up our outlook best, stating:

Inspectors General have had a profound impact on the U.S. government. Their independent oversight brings to bear incontrovertible improvement in federal programs, and continues to reveal instances of fraud, waste, abuse, and misconduct. This year, we will commemorate all that we have accomplished, and look forward to the future of continued stewardship and accountability in the federal government.

We at the TVA OIG share his sentiments.

# MAKING TVA BETTER

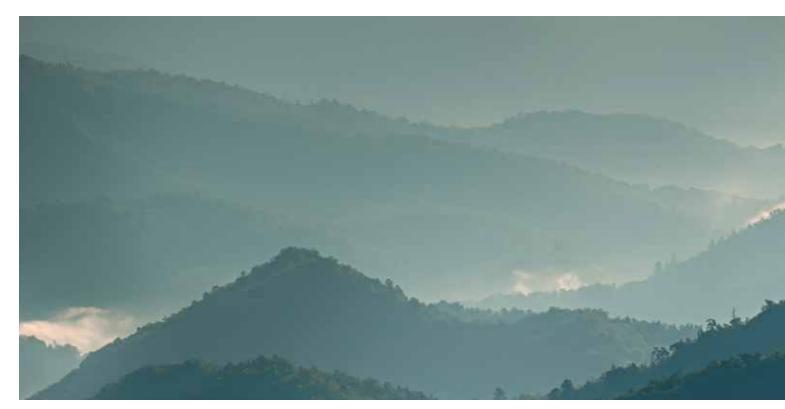
# FINDING WAYS TO SAVE OR RECOVER MONEY

The landscape of the utility industry has shifted in recent years. Electricity sales and utility revenues have declined. The TVA Board and management have studied the ongoing erosion of demand and future projections of stagnant growth both in the near term and in outlying years. As a result, they made difficult decisions to reduce TVA's costs to better align with the revenues and to reassess its generating portfolio to better position itself for the future and continue its mission to provide clean, reliable energy at the lowest feasible rates.

In this article, we focus on the OIG's audit, evaluation, and investigative efforts to help TVA identify ways to save and recover funds as a compliment to management's efforts to reduce costs. We focus on areas we consider high risk to TVA. Annually, TVA spends \$5 billion on contracts and purchase orders for labor, services, materials, and equipment. One of our audit departments is solely focused on oversight of TVA's contracting activities. In addition, other audits, evaluations, and investigations teams find

opportunities to save or recover money for TVA. In the last five years, the OIG has identified more than \$278.5 million in potential savings and recoveries to TVA through its preaward contract examinations, contract compliance audits, other audits and evaluations, and investigative activities.

 Preaward Examinations – TVA management often requests assistance from the OIG in determining if contractor cost proposals are fairly stated prior to the award of large contracts or extensions on current contracts. These reviews allow TVA management to understand where further negotiation could reduce costs. In fiscal year (FY) 2018, the OIG conducted 12 preaward examinations on proposals for coal combustion residual management and engineering services. These examinations identified more than \$97 million in potential savings.



- Contract compliance audits focus on areas such as the (1) accuracy of the contractor's billings to TVA,
  (2) compliance with contract terms and conditions (i.e., were costs billed to TVA eligible and supported),
  (3) reasonableness and clarity of contract terms (i.e., do the contract-compensation provisions make sense), and (4) identification of potential fraud. We use risk-based analysis to determine which contracts to review. In FY 2018, the OIG identified more than \$12 million in overbillings. The overbillings included ineligible and unsupported (1) labor costs,
  (2) temporary living allowance and travel costs,
  (3) elevator service costs, (4) subcontractor costs, and
  (5) other costs.
- Other reviews performed identified opportunities to save money. For example, in this reporting period, a review of early payment discounts found TVA had an opportunity to take advantage of an additional \$932,000 in available discounts. In the past five years, reviews of tax payments on credit cards and corporate cards found additional savings opportunities.
- Investigations We also help TVA, other agencies, and the general public recover funds through our investigative work. OIG investigations have resulted in

successful criminal prosecutions, monetary recoveries, fines, and penalties. OIG investigations have uncovered fraud in such areas as contractor billing, product substitution, medical provider billing, temporary living expense claims, government credit card misuse, and time and leave abuse. In FY 2018, Investigations had monetary recoveries, projected savings, and court-ordered fees totaling more than \$8.4 million, with an additional \$3 million in forfeitures ordered, and about \$71,500 in other monetary losses recorded. Of course, in addition to recovering funds, the value of this work greatly increases when one considers the unquantifiable future costs if the fraudulent activity remains undetected. The OIG also conducted or assisted with investigations for two local power companies who were financially impacted by employee embezzlement, resulting in recoveries or judgments for the distributors and highlighting the value of the public power partnership to those customers.

In short, savings and monetary recoveries resulting from these OIG examinations, audits, and investigations directly support TVA's efforts to provide clean, reliable energy at the lowest feasible rates.





The TVA OIG – along with 72 other federal OIGs – is part of the CIGIE. This community was formed as a result of the IG Reform Act of 2008.

To highlight the good work of federal IGs, CIGIE conducts an annual awards process where individual OIGs submit nominations for outstanding work performed. There are varying types of awards given based on established criteria.

This year, the TVA OIG won a CIGIE award for seven of its contract preaward examinations conducted from September 2017 through March 2018, at TVA management's request. The cost proposals the team reviewed were submitted by companies proposing to provide civil projects and coal combustion residual program management services through December 2026.

These seven proposed contracts had a combined estimated spend of \$950 million. Our examinations identified \$57.3 million of potential savings opportunities

for TVA to negotiate. This equates to an average of 6 percent in future savings opportunities on each of the proposed contracts, spanning over nine years. TVA was subsequently able to negotiate possible cost savings of \$40.1 million on the seven contracts.

In addition to the potential cost savings, the preaward contract review team made suggestions to reduce TVA's contracting risk such as clarifying contractual terms and conditions, and stressing the importance of proper invoice review and approval, contract management, and contract oversight.

The preaward contract review team members received their CIGIE award October 17, 2018, at an awards ceremony in Washington, D.C.



From left to right is: Mandi Russell, Jerry Stover,
Kristi Reynolds, John Barrow, Lauren Pionke,
Chris Sheets, Meghan Petty, Chad Bube,
David Shields, Karen McGrew, Joel Corbin,
Jennifer Harvey, Scott Norris, and Christopher Smith.



It was some 40 years ago when the IG Act of 1978 created 12 OIGs for select federal government agencies. About seven years later, the TVA OIG would become one of the additional federal OIGs that make up the current community of 73. Since its creation in late 1985, our office has been providing oversight to TVA by providing its leadership objective and fact-based insight into its operations. The TVA OIG was created with the intention that would later become our formal vision to make TVA better, which is what we strive to do every day.

# AUDITS

Our audit organization includes three departments that focus on contract audits, financial and operational audits, and information technology (IT) audits. During this reporting period, these teams completed 18 audit, examination, and agreed-upon procedures engagements. This work identified more than \$6.1 million in questioned costs for TVA to recover and identified \$57.4 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 (1) five preaward examinations of cost proposals submitted by companies proposing to provide civil projects and coal combustion residual program management services, and (2) two examinations to determine if the labor and labor markup rates in TVA's current contracts were fairly stated for planned five-year contract extensions. Our examinations identified \$57.4 million of potential savings opportunities for TVA to negotiate. We also completed four compliance audits of contracts with expenditures totaling \$165.5 million related to (1) indirect support services for Watts Bar Nuclear Plant Unit 2 start-up, (2) elevator maintenance and repair services, (3) project control services for TVA's Generation Construction, and (4) services to assist TVA

in the Valley-wide implementation of its energy-efficiency programs. These audits identified potential overbillings of \$5.2 million. The Contract Audits section begins on page 25 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 early payment discounts on vendor invoices, TVA's capital projects' post-project economic assessment process, and TVA economic development grants. These audits identified questioned costs of more than \$900,000. In addition to our audit work, we performed a limited scope review of TVA's fixed-wing aircraft flights to and from Oxford, Mississippi, and performed work to assist TVA's external auditor. The Financial and Operational Audits section begins on page 26 of this report.



Watts Bar Nuclear Plant

### IT Audits

We completed audits of TVA's privacy program, network architecture at a nuclear plant, server operating system baselines, and controls over key financial spreadsheets. The IT Audits section begins on page 28 of this report.

# **EVALUATIONS**

Our Evaluations organization includes two groups, one of which focuses on organizational effectiveness reviews. During this reporting period, our teams completed six evaluations and seven organizational effectiveness reviews, all of which identified opportunities for improvement. In addition, we completed four follow-up reviews to previous organizational effectiveness reviews.

### Evaluations

The Evaluations group completed six evaluations during this semiannual period. These included evaluations of heat rate input calculations, coal quality adjustment reports, coal condition reports, hearing loss claims, Nuclear Oversight's work environment, and Coal Operations' clearance procedure. The Evaluations section begins on page 30 of this report.

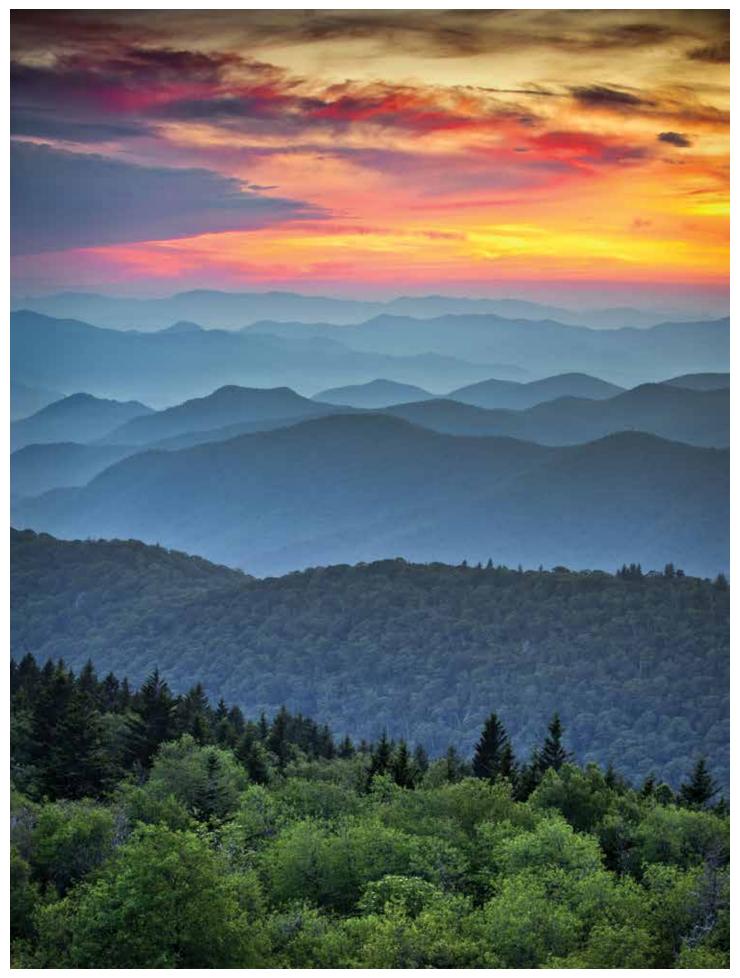
# Organizational Effectiveness

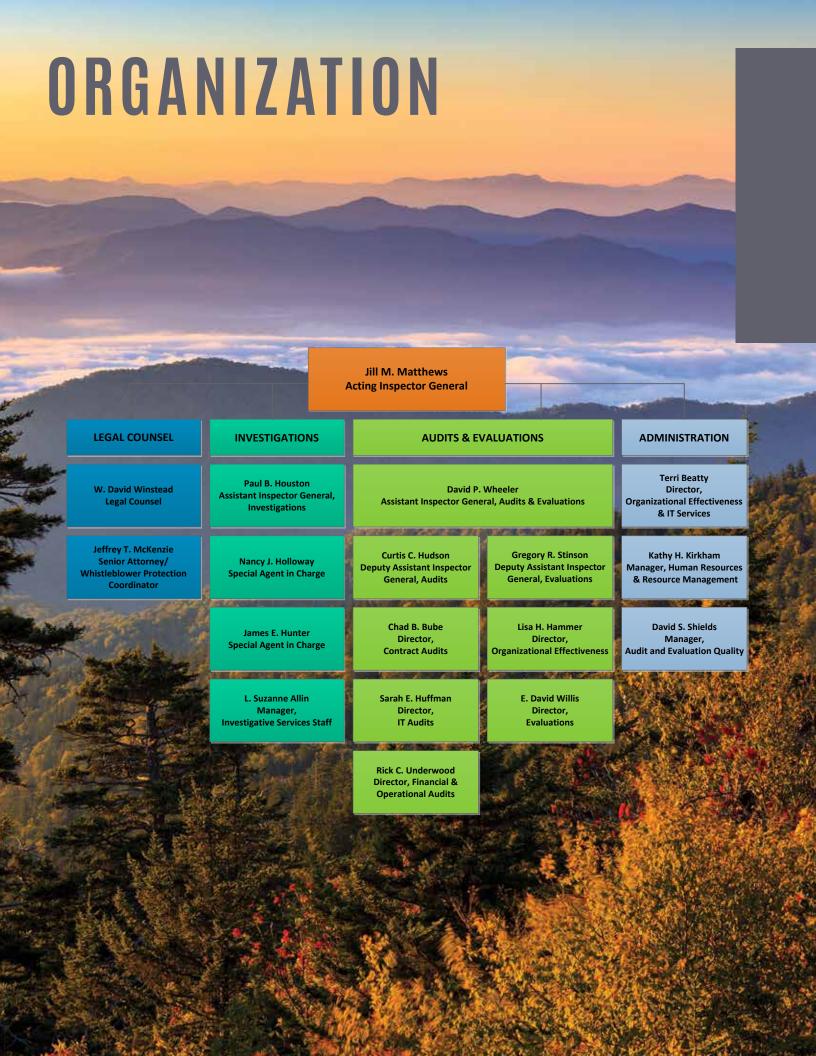
This group completed seven organizational effectiveness evaluations, including (1) three plants within TVA's Gas and Hydro Operations business unit, (2) two nuclear site security groups, and (3) two groups within TVA's Supply Chain business unit. In addition, the team conducted follow-up reviews to previous organizational effectiveness reviews of Supply Chain – Materials and Transportation Management, Human Resources and Employee Health, and Environmental Permitting and Compliance. The Organizational Effectiveness section begins on page 34 of this report.

## INVESTIGATIONS

This reporting period, we opened 117 cases and closed 110. Our investigative results include the sentencing of a former contractor employee, a former employee's indictment, nuclear safety system improvements, and terminations of employees who failed to report opioid prescriptions as required. The Investigations section begins on page 38 of this report.

	STATISTICAL HIGHLIGHTS  April 1, 2018 - September 30, 2018
Audit Reports Issued	18
Evaluations Completed	17
Questioned Costs	\$6,050,999
Questioned Costs Agreed to by TVA	\$6,154,575
Questioned Costs Recovered by TVA	\$740,380
Funds to be Put to Better Use	\$57,412,600
Savings Realized by TVA	\$59,875,434
Investigations Opened	117
Investigations Closed	110
Recoveries/Fees	\$86,614
Other Monetary Loss	\$30,714
Criminal Actions	1
Administrative Actions (Number of Subj	ects) 10





Since 1985, the OIG has worked to help TVA become better. 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 Knoxville Office Complex overlooking the downtown area.

The OIG has field offices in Chattanooga, Tennessee, where members of the Evaluations and Financial and Operational Audits departments and several special agents are located. Special agents are also located in Nashville, Tennessee, and Huntsville, Alabama. Additionally, we 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, 2018, the OIG had a total staff of 104.

# **ADMINISTRATION**

**The Administration team** works closely with the IG and Assistant IGs to address the day-to-day operations of the

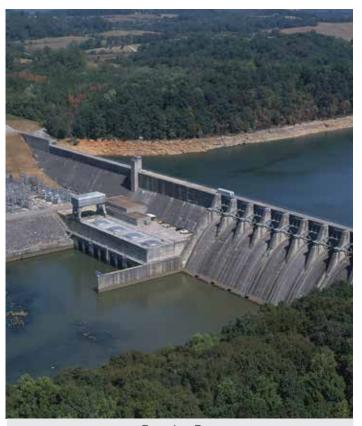
OIG and to develop policies and procedures designed to drive and enhance productivity, quality, and compliance, and achieve office goals. Responsibilities include personnel administration, internal assessments, budget and financial management, purchasing and contract services, facilities coordination, 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 organizations make recommendations to enhance the effectiveness and efficiency of TVA programs and operations.

The organizations 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



Douglas Dam

# TYPES OF AUDIT & EVALUATION ISSUES

#### Financial and Operational Audits

- Program Inefficiencies/Ineffectiveness
- Legal/Regulatory Noncompliance
- Policy Noncompliance
- Internal Control Deficiencies
- Fraud

#### **Contract Audits**

- Inflated Proposals
- Contract Overpayments
- Inferior Performance
- Fraud

#### IT Audits

- Internal Control Deficiencies
- Policy Noncompliance
- Integrity of Data and Assets
- Cyber Security
- Fraud

#### Evaluations

- Operational Inefficiency
- Policy Noncompliance
- Legal/Regulatory Noncompliance
- Fraud

# Organizational Effectiveness

- Operational Ineffectiveness
- Cultural Areas for Improvement
- Unmitigated Risks
- Fraud

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 the issues of highest impact and risk to TVA.

These issues vary depending on the objectives of the project. The graphic 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. The organization is made up of three departments—Contract Audits, Financial and Operational Audits, and IT Audits. The Audits organization performs its work in accordance with *Government Auditing Standards*.

 Contract Audits has lead responsibility for contract compliance audits and preaward examinations. In addition, this department 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
  department 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 department 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 organization is made up of two departments—Evaluations and Organizational Effectiveness. This organization performs its work in accordance with *Quality Standards for Inspection and Evaluation* as prescribed by the CIGIE.

 Evaluations conducts 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.

# INVESTIGATIONS

The Investigations team proactively and reactively uncovers activity related to fraud, waste, and abuse in TVA programs and operations. This organization 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 DOJ 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. The graphic 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 serve as ethics officials, providing OIG employees guidance on government ethics and standards of conduct. The TVA Whistleblower Protection Coordinator is also 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

#### Workers' Compensation Fraud

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

#### Health Care Fraud

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

#### **Employee Misconduct**

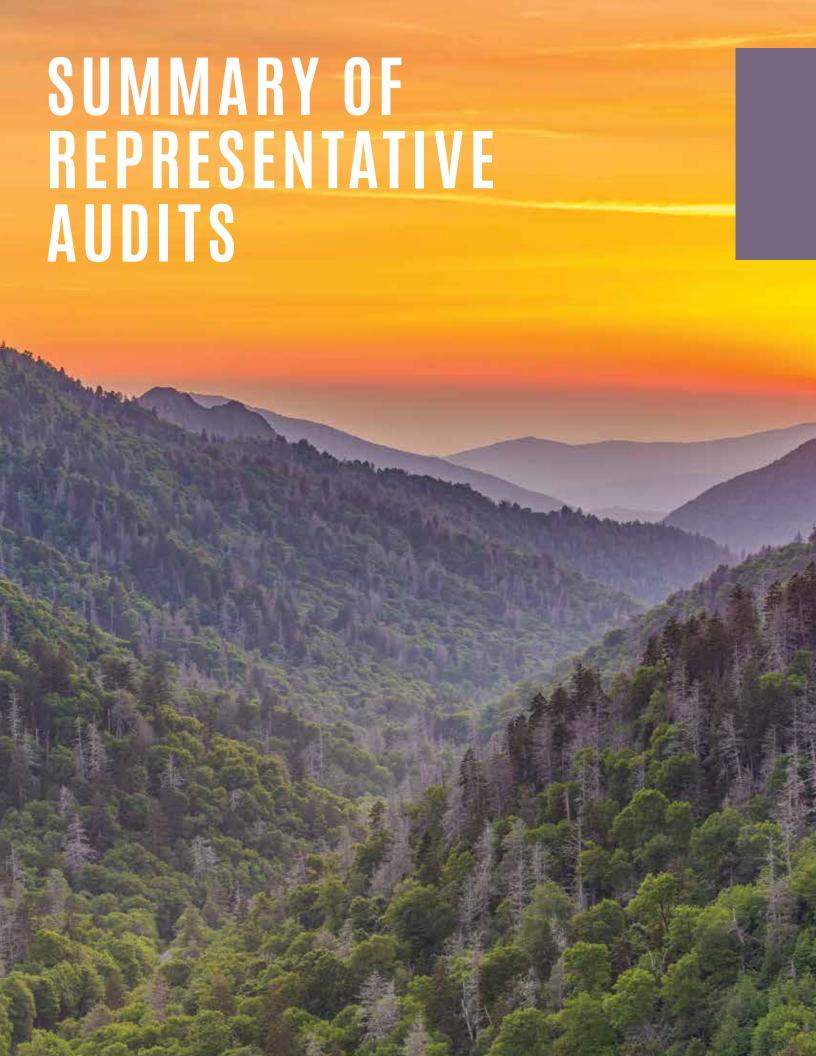
Misuse of TVA-furnished equipment, travel voucher fraud, a multitude of miscellaneous matters of abuse, conflict of interest, and violations of code of conduct

#### Unauthorized Access Into TVA Computer Systems

Accessing a TVA computer without authorization or exceeding authorized access

#### **Special Projects**

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



During this semiannual reporting period, the TVA OIG
Audit organization completed 18 audit and examination
engagements. This work identified more than
\$6.1 million in questioned costs for TVA to recover and
identified \$57.4 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**

# **Preaward Contract Examinations**

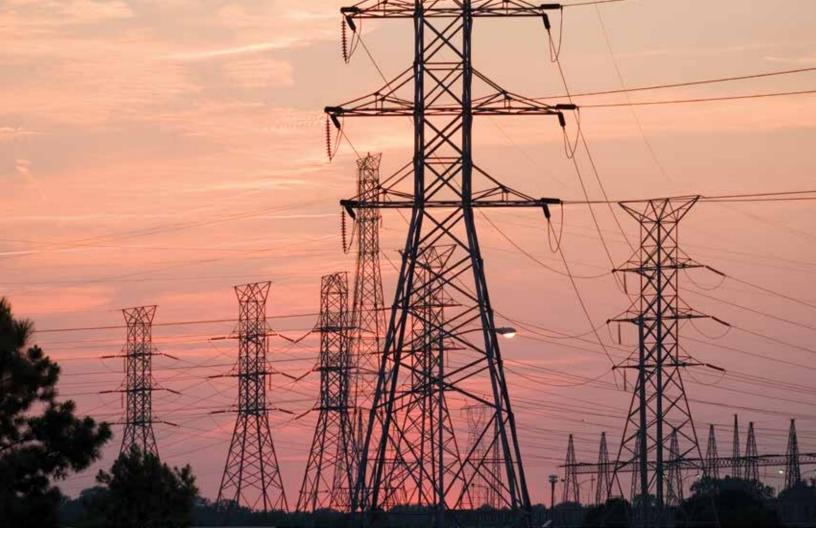
To support TVA management in negotiating procurement actions, we completed (1) five preaward examinations of cost proposals submitted by companies proposing to provide civil projects and coal combustion residual program management services, and (2) two examinations to determine if the labor and labor markup rates in TVA's current contracts were fairly stated for planned five-year contract extensions. Our examinations identified \$57.4 million of potential savings opportunities for TVA to negotiate. The savings opportunities were primarily related to overstated cost proposals, including overstated labor rates, equipment costs, material costs, indirect cost recovery rates, and profit rates.

# **Contract Compliance Audits**

During this semiannual period, we completed four compliance audits of contracts with expenditures totaling \$165.5 million and identified potential overbillings of more than \$5.2 million. Highlights of our completed compliance audits follow.

We audited \$104.3 million in costs billed by a contractor for providing indirect support services for Watts Bar Nuclear Plant Unit 2 start-up. We determined the contractor overbilled TVA \$4,376,936, including (1) \$3,458,285 in labor costs due to the use of labor classifications not provided for in the contract; (2) \$430,322 in other labor costs; (3) \$435,624 for ineligible and unsupported temporary living allowances and travel costs; and (4) \$52,705 for ineligible material

- and fitness-for-duty costs. In addition, we found the contractor did not provide labor classifications for \$20,458,040 in nonmanual employee labor costs when it billed TVA. Accordingly, TVA could not validate if the labor classifications were eligible for reimbursement or determine if the wage rates that were billed were within the ranges specified in the contract for each labor category.
- · We audited \$2.8 million in costs billed by a contractor for providing elevator maintenance and repair services. We determined the contractor overbilled TVA \$439,620 in elevator service costs, including (1) \$184,477 in ineligible modernization costs; (2) \$170,900 in unsupported and overbilled repair costs; (3) \$68,515 in overbilled preventative maintenance costs; and (4) \$15,728 in overbilled callback service costs. Additionally, we noted several opportunities to improve contract administration by TVA. Specifically, we found (1) stand-alone purchase orders that should have been referenced to the contract, (2) missing Maintenance Control Program documentation, (3) costs administratively paid under another contract that should have been administratively paid under this contract, and (4) missed early payment discount opportunities.
- We audited \$12.5 million in costs billed by a contractor for project control services for TVA's Generation
   Construction. We determined the contractor overbilled
   TVA \$109,504, including (1) \$85,565 for ineligible and
   unsupported temporary living allowance costs and
   (2) \$23,939 for unapproved and ineligible travel costs.
   In addition, the company billed TVA \$104,308 in fringe
   benefit costs it had not incurred because the contract
   did not provide a reduced fringe benefit markup rate
   for contractor employees who did not receive medical
   benefits.
- We audited \$45.9 million in costs billed to TVA under two contracts by a contractor providing services to assist TVA in the Valley-wide implementation of its energy efficiency programs. We determined the contractor overbilled TVA \$191,867, including (1) \$158,812 in subcontractor costs, (2) \$2,766 in



unsupported labor costs, (3) \$27,750 for ineligible sales tax costs, and (4) \$2,539 in travel costs. In addition, we noted the contractor billed TVA approximately \$1.15 million for holiday and paid-time-off hours under the contracts in which TVA did not (1) obtain any assurance the contractor's paid-time-off costs were not also included in the hourly billing rates or (2) limit the amount of paid time off the contractor could bill under the contract.

# FINANCIAL AND OPERATIONAL AUDITS

During this semiannual period, Financial and Operational Audits completed audits of early payment discounts on vendor invoices, TVA's capital projects post-project economic assessment process, and TVA economic development grants. In addition to our audit work, we performed a limited scope review of TVA's fixed-wing aircraft flights to and from Oxford, Mississippi, and performed work to assist TVA's external auditor.

# Early Payment Discounts on Vendor Invoices

As a follow-up to an audit of a contractor where TVA missed early payment discount opportunities of \$1,029,965, we audited TVA's management of early payment discounts on vendor invoices. Early payment discounts are offered by some contractors for payments made prior to the due dates on invoices. Our audit objective was to determine if early payment discounts are appropriately managed by TVA. Our scope included invoices from Supply Chain contracts and purchase orders with greater than \$1 million in spending in any one FY from October 1, 2014, through July 31, 2017.

We found TVA's management of early payment discounts needs improvement. TVA missed early payment discount opportunities of \$932,340 out of \$4,879,957 in early payment discounts available during our audit period. We also found early payment discount terms were generally entered accurately into TVA's Maximo system utilized to process and approve invoices. However, we noted a

few exceptions where Maximo's payment terms did not accurately reflect the contractual payment terms. TVA management agreed with our recommendations and provided planned corrective actions to implement our recommendations.

# TVA's Capital Projects - Post-Project Economic Assessment Process

TVA spent \$2.076 billion on capital expenditures in FY 2017 and anticipates capital expenditures of \$1.974, \$1.885, and \$1.706 billion, respectively, in FYs 2018, 2019, and 2020. Due to the capital-intensive nature of the electric utility industry, we audited TVA's capital projects post-project economic assessment process to determine if TVA adequately monitors the actual return on investment of capital projects compared to those submitted during the budgeting and project review processes. The scope of the audit was TVA's capital projects post-project economic assessment process for FYs 2015 through 2017. We limited our review to projects that were greater than \$10 million. During our audit period, TVA completed or put in service 22 projects totaling \$597.9 million that were considered candidates for post-project benefits assessments.

We found TVA is not adequately monitoring actual return on investment of capital projects. Specifically, TVA Standard Programs and Processes (SPP) requiring the assessments do not provide adequate guidance. We also found the required post-project benefits assessments were generally not being performed as only one assessment was performed in FYs 2015 through 2017 out of 22 projects completed. In addition, we found the estimated benefits in the project justification for the one assessment performed were not valid. Accordingly, the post-project assessment's basis for comparison was not valid. TVA management agreed with our recommendations and provided planned corrective actions to implement our recommendations.

# TVA Economic Development Grants

We included an audit of TVA's economic development (ED) grants in our annual audit plan based on findings

from our 2013 audit of TVA's Valley Investment Initiative, where we found TVA's oversight of that program could be improved. Currently, there are two main grant programs utilized—Performance Grant Program and InvestPrep Program. Our audit objectives were to determine if TVA has (1) adequate processes and procedures in place for awarding ED grants and (2) established performance metrics to determine if grant program objectives are met. The scope of the audit included ED grants active between June 1, 2015, and May 31, 2017.

We found (1) TVA has adequate processes in place for awarding ED grants but does not have an SPP for InvestPrep grants; (2) ED has not included InvestPrep grants in any compliance review program; and (3) the ED organization has not established specific performance metrics to determine if grant program objectives are met. We made recommendations to TVA management to improve governance over the ED grant programs. TVA management provided initiated and planned actions to implement our recommendations.

# Review of TVA's Fixed-Wing Aircraft Flights to Oxford, Mississippi

We recently completed an audit of TVA's use of fixed-wing aircraft (FWA). Subsequent to issuance of our report (on March 29, 2018), we received a concern that TVA-owned FWA flew to Oxford, Mississippi, home of TVA's Board Chair, at least 76 times between January 2013 and February 2018. The concern stated, "These trips to Oxford may represent additional occurrences of fraud and/or abuse, which deserve investigation by OIG. At the least, the Oxford trips are likely an inefficient use of TVA resources, which resulted in a significant number of flight legs where the aircraft [was] empty of passengers."

We performed a limited scope review of flights to and from Oxford, Mississippi, for the period January 9, 2013, through February 9, 2018, and determined none of the flights were for non-TVA business purposes. We did not look at the cost effectiveness of these flights because our previous audit determined one of the weaknesses of TVA's FWA program was that cost comparison analyses prior to use of FWA were not performed.

# IT AUDITS

During this semiannual period, IT Audits completed four audits in the IT environment regarding (1) TVA's privacy program, (2) network architecture at a nuclear plant, (3) server operating system baselines, and (4) key Sarbanes-Oxley financial spreadsheets.

# **Privacy Program**

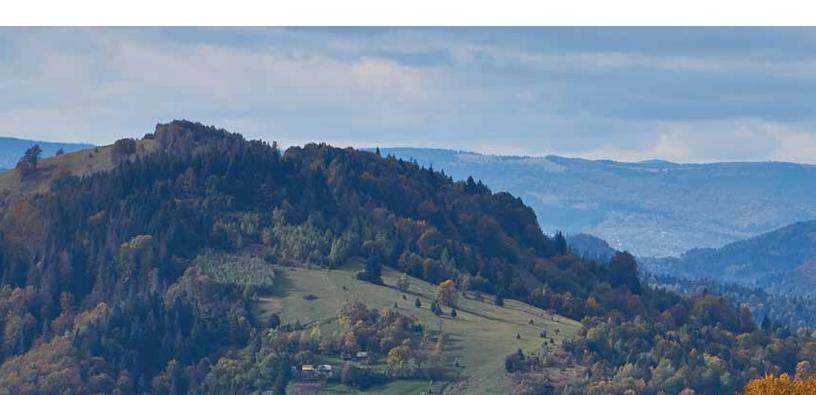
The Consolidated Appropriations Act of 2008 requires IGs to conduct periodic reviews of their agency's privacy program. We performed an audit to determine if TVA's privacy program is effective and in compliance with applicable regulations, guidance, policies, and procedures. We found several areas of the privacy program to be generally effective, including (1) controls protecting privacy information on TVA-owned mobile devices, (2) privacy training taken by network users, (3) regular reviews of the privacy program by TVA management, (4) encryption controls protecting data in privacy systems, and (5) appropriate use and protection of reports in privacy systems. However, we identified several issues that should be addressed by TVA management to further increase the effectiveness of the privacy program. We also found gaps between TVA's policies and procedures governing the privacy program and applicable federal privacy regulations and guidance. TVA management agreed with our findings and recommendations and

provided actions taken or planned to address our recommendations.

#### Network Architecture at a Nuclear Plant

We audited the network architecture of a nuclear plant to determine if the network architecture and assets in use to support a specific nuclear plant's business and operational functions are compliant with TVA policies, procedures, and identified best practices. Network infrastructure provides the communication path between users, processes, applications, and services. It also includes segregation of the corporate and control networks to ensure safety and confidentiality of information. TVA relies on network infrastructure to communicate, access critical applications, and operate its core business functions. Failure of this infrastructure has the potential to affect critical activities and systems such as nuclear outages, plant monitoring systems, and business productivity applications.

We found TVA management used proven best practices in the design of the corporate physical and wireless networks and the control network. However, we found cabling that was not used according to manufacturer's guidelines and several control network device configurations deviated from TVA baselines and industry best practices. TVA management agreed with our findings and recommendations.



# **Operating System Server Baselines**

We audited TVA's server operating baselines to determine if TVA's baselines are in alignment with best practices. Standard configurations, or baselines, for server operating systems help provide a secure and consistent server environment across an enterprise. Enterprises develop these baselines based on known risks, industry best practices, and the operational needs of their individual computing environments. We reviewed TVA's three operating system baselines and how they were applied to the tools used to deploy and manage TVA systems. In summary, we found TVA management aligned two of the three server operating system baselines with the identified best practices and had documentation to support any deviations. However, we found one of the three server operating system baselines did not fully align with the identified best practices and was not completely applied to the tools used to deploy and manage TVA server configurations. TVA management agreed with our findings and recommendations.

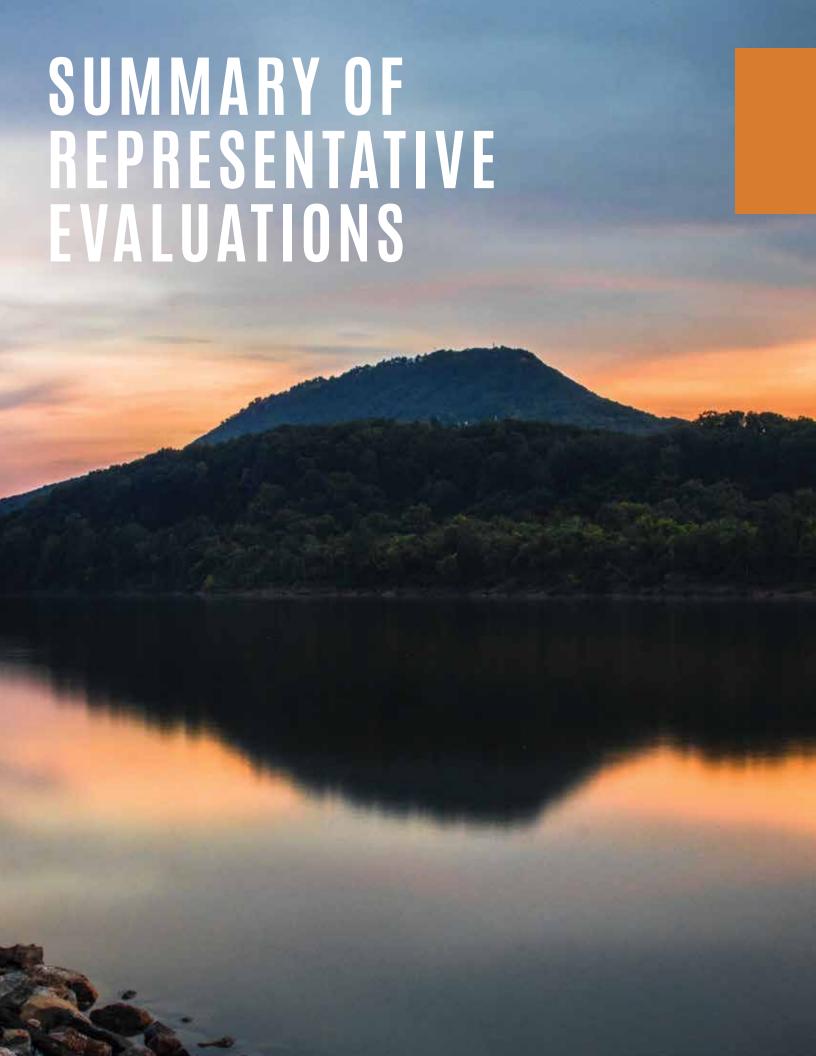
# Key Sarbanes-Oxley Financial Spreadsheet Controls

As part of the Sarbanes-Oxley (SOX) compliance initiatives, spreadsheets used in the financial reporting process have been classified as critical and provided with a risk ranking of high, moderate, or low based on its

purpose, complexity, and annual financial impact to TVA's financial statements. We audited the controls for key SOX spreadsheets to determine if the controls are sufficiently defined, appropriately designed, and operating effectively. The audit's scope was IT general controls for the SOX critical spreadsheets within TVA.

We identified several issues that could provide a stronger control environment for critical spreadsheets. Specifically, we found (1) shared passwords used to modify critical spreadsheets are not appropriately managed, (2) one spreadsheet was accessible using a shared account with no known business need, (3) TVA's SOX Program Management Office (PMO) group's inventory controls over critical spreadsheets are ineffective, (4) critical spreadsheets are not documented consistently in SOX control narratives maintained by TVA's SOX PMO group, (5) naming convention controls are not being enforced which limits TVA's ability to quickly assess if critical spreadsheets are properly stored for access control and backup purposes, and (6) TVA's SOX PMO group's spreadsheet policy could be strengthened by adding controls for user training, baselining, templates, and testing. TVA management agreed with our findings and recommendations.





During this reporting period, our teams completed six evaluations and seven organizational effectiveness reviews, all of which identified opportunities for improvement. In addition, we completed four follow-up reviews to previous organizational effectiveness reviews.

# **EVALUATIONS**

The Evaluations department completed evaluations of (1) heat rate input calculations, (2) coal quality adjustment reports, (3) coal condition reports, (4) hearing loss claims, (5) Nuclear Oversight's work environment, and (6) Coal Operations' clearance procedure.

# **Heat Rate Input Calculations**

TVA estimates the dispatch costs for coal and gas plants on a combination of elements including fuel pricing, physical operating characteristics, estimates of variable operating and maintenance costs, and other variables. Since heat rates are one of the primary physical characteristics used in the calculation of dispatch costs, we performed an evaluation to determine if inputs used in the development of heat rate curves were calculated accurately. The scope of our review was limited to the July 2017 heat rate updates for coal and combined cycle (CC) plants.

We determined some of the inputs used for the July 2017 heat rate curves were not calculated correctly. Specifically, we determined the hourly heat rates were incorrect for four of the five CC plants. We did not determine the impact of any inaccurate calculations. We were unable to verify the accuracy of the data used to calculate coal hourly reference heat rates due to inconsistencies in system settings or data not being available. However, we did determine the hourly reference heat rates were not calculated for six hours at one of the eight coal plants. TVA management provided actions planned to address our recommendations.

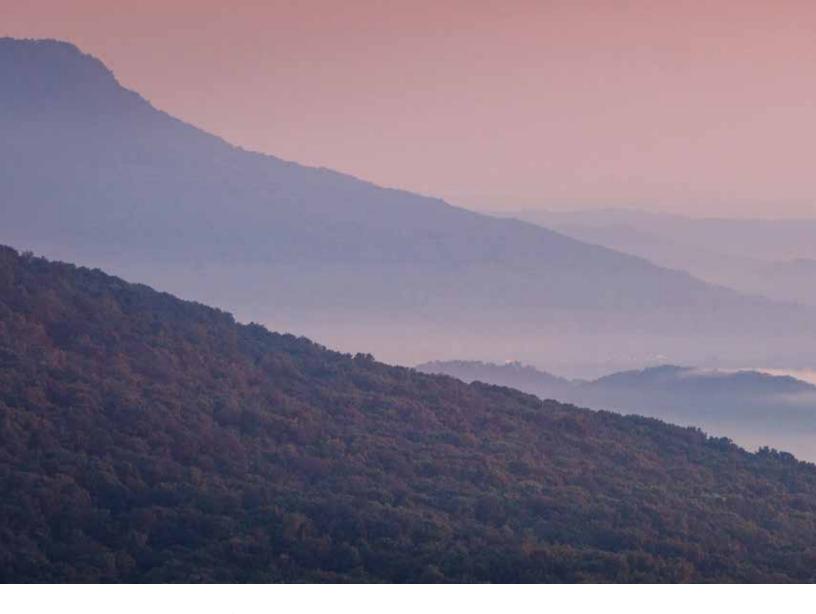
# Coal Quality Adjustment Reports

During FYs 2016 and 2017, TVA purchased about 43.5 million tons of coal at a cost of approximately \$1.3 billion to fuel its fossil plants. TVA also processed 245 coal quality adjustment reports (CQAR) totaling just over \$29.61 million in payment adjustments over the two-year period. Since the adjustments on coal quality can significantly affect the net cost TVA pays vendors for coal, we initiated an evaluation of CQARs processed during FYs 2016 and 2017 to determine if the CQARs were accurately calculated in accordance with contract terms. We determined CQARs were not always calculated in accordance with the applicable contractual terms, and as a result, TVA did not accurately adjust the payments made to some coal vendors. The miscalculations were due to incorrect (1) rounding of moisture, ash, and British thermal units quality adjustment rates and (2) weighted averages used for moisture, ash, and sulfur calculations. We estimated the incorrect calculations resulted in net underpayments to coal vendors totaling \$103,576. TVA management provided actions planned to address our recommendations.

# **Coal Condition Reports**

TVA business units are expected to find, analyze, and fix conditions that affect personnel safety, asset reliability, adverse trends, or other conditions that do not meet expectations. A condition report (CR) is created to record how a problem is found, analyzed, and solved. CRs address a range of conditions, including safety, environmental, and operational incidents. Due to the importance of finding, analyzing, and resolving concerns identified at coal plants, we conducted an evaluation of CRs at TVA coal plants to determine if (1) Coal Operations generated CRs for reported safety, environmental, and operational incidents; and (2) actions taken to address coal CRs were timely and effective.

We found that CRs were originated for all environmental incidents; however, some safety and operational incidents did not result in CRs being originated as required by the procedure. Of the 83 safety incidents reviewed, 24 did not have a CR, and of the 220 operational incidents reviewed, eight did not have a CR. In addition, two of



38 CRs with significance levels¹ reviewed were not completed in a timely manner and seven of the 75 CR originators (both with and without significance levels) interviewed did not consider the actions effective. We also found opportunities for improvement related to (1) classification of CRs by significance level, (2) documentation of actions taken to address CRs, and (3) discrepancies in the SPPs that govern this process. TVA management generally agreed with our recommendations and provided actions planned to address our recommendations.

# **Hearing Loss Claims**

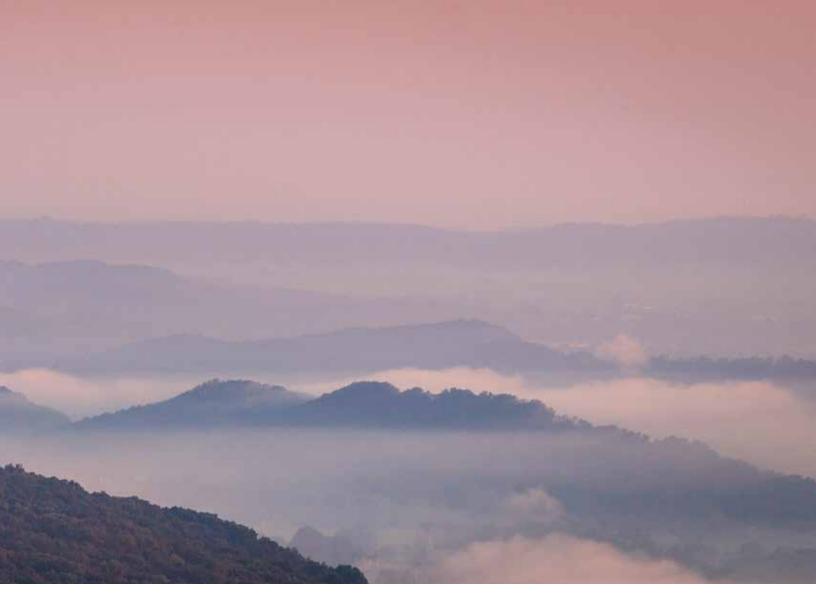
In 1983, TVA established a Hearing Conservation

Program (HCP) based on Occupational Safety and Health

Administration Standard 1910.95, Occupational Noise Exposure, which included noise monitoring, audiometric testing, and training for employees with workplace noise exposures. TVA employees injured in work-related incidents, including hearing loss, can file claims through the DOL Office of Workers' Compensation Programs. Due to concerns with the number of hearing loss claims filed by TVA employees, we scheduled an evaluation of actions taken to minimize TVA's financial exposure for hearing loss claims.

We determined some HCP requirements were not met, including (1) personal noise monitoring and noise surveys at nuclear plants and (2) annual audiograms and training. Additionally, our review of documentation associated with a sample of 29 approved/awarded hearing loss

<sup>&</sup>lt;sup>1</sup> CRs are screened to determine the significance classification level; A, B, or C, depending on the severity of the incident. Not all CRs meet the threshold to be given significance classification.



claims filed during chargeback years² 2015 and 2016 found TVA could have provided better documentation to DOL in 18 of the claims. Specifically, we identified opportunities for improvement related to (1) hearing loss claims documentation provided to DOL, (2) management statements provided to DOL, and (3) documentation of disciplinary actions for hearing protection violations. In addition, we determined that TVA did not verify the accuracy of the amounts billed by DOL. TVA management agreed with and provided planned actions for our recommendations except for one regarding the effectiveness of TVA's disciplinary process around hearing protection violations.

# Nuclear Oversight Work Environment Follow-Up

The NRC expects licensees to establish a safety conscious environment where employees are encouraged to raise concerns and where such concerns are promptly reviewed, given the proper priority based on their potential safety significance, and appropriately resolved with timely feedback to employees. In March 2016, the NRC issued a Chilled Work Environment Letter for Watts Bar Nuclear Plant. 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. As a result of the Chilled Work Environment Letter issued to the TVA, we initiated evaluations of the work environments for operators at Sequoyah and Browns

On an annual basis, DOL sends an invoice to TVA for the direct dollar costs of compensation and medical benefits claims paid throughout the July 1-June 30 chargeback period.

Ferry Nuclear Plants and the Nuclear Oversight group in 2016. This evaluation was initiated as a follow-up to the 2016 Work Environment review of the Nuclear Oversight group, which consists of both Quality Assurance and the Employee Concerns Program.

We found the work environment for Nuclear Oversight is not always conducive to raising concerns without fear of retaliation. Specifically, while all Nuclear Oversight employees indicated that they would report nuclear safety or quality problems and concerns, some expressed fear of retaliation for raising issues. We also found some aspects of the work environment within Nuclear Oversight have improved or stayed about the same, while others have declined since our previous evaluation. TVA has also taken steps to address employee concerns regarding how the use of rotational positions might negatively affect the independent performance of nuclear oversight roles. However, some employees continued to express concerns regarding rotational positions. TVA management agreed with our findings and recommendations.

# Coal Operations' Clearance Procedure

TVA's clearance procedure utilizes a tagout system to ensure equipment with potential for release of hazardous energy is properly controlled, providing a safe work environment for employees. Due to the importance of the clearance procedure to plant personnel safety, and in response to recent fatalities resulting from clearance violations, we initiated a review of the coal operations' clearance procedure. Our objectives were to determine if (1) the clearance procedure is being performed for work requiring clearances to safely control hazardous energy, (2) clearances issued are in compliance with the clearance procedure, and (3) required training and audits are being performed in compliance with the clearance procedure.

We determined the clearance procedure was being performed for work requiring clearances. However, the effectiveness of the clearance process is limited because (1) some clearances were not in compliance with the clearance procedure, (2) required training had not been completed by all personnel holding or working on clearances, and (3) audits performed were not in compliance with the procedure. We also identified opportunities for improvement related to procedure clarification and training. TVA management generally agreed with our recommendations and provided actions planned to address our recommendations.

# ORGANIZATIONAL EFFECTIVENESS

During this semiannual reporting period, the Organizational Effectiveness group completed seven organizational effectiveness evaluations, including (1) three plants within TVA's Gas and Hydro Operations business unit, (2) two nuclear site security groups, and (3) two groups within TVA's Supply Chain business unit. In addition, we conducted follow-up reviews of Supply Chain—Materials



Paradise Combined Cycle Plant

and Transportation Management, Human Resources and Employee Health, and Environmental Permitting and Compliance.

# Gas and Hydro Operations

Natural gas generation has taken on a larger role in the TVA generation mix in an effort to move toward a balanced portfolio. Natural gas combustion turbine plants are used for their quick-start capabilities to meet peak demands, as well as for backup power needs. Natural gas combined cycle plants are a combination of gas turbines, steam turbines, and heat recovery steam generators that can generate up to 50 percent more energy as compared to a simple-cycle generator alone. We assessed the strengths and risks that could impact the organizational effectiveness of Lagoon Creek Combustion Turbine Plant (LCCT), Lagoon Creek Combined Cycle Plant (LCCC), and Paradise Combined Cycle Plant (PCC).

 Lagoon Creek Combustion Turbine Plant - TVA's LCCT is in TVA's western region gas division under the Gas and Hydro Operations business unit. LCCT's operational focus is on peak economic/seasonal operation.

Our assessment of the strengths and risks that could impact LCCT's organizational effectiveness identified strengths related to (1) teamwork and (2) organizational alignment. However, we also identified risks related to (1) low morale caused by a lack of accountability and (2) perceptions of unethical behavior.

 Lagoon Creek Combined Cycle Plant - TVA's LCCC is in TVA's western region gas division under the Gas and Hydro Operations business unit. LCCC shares the same campus as TVA's Lagoon Creek Combustion Turbine Plant and produces approximately 550 megawatts of electricity.

Our assessment of the strengths and risks that could impact LCCC's organizational effectiveness identified strengths related to (1) teamwork, (2) a supportive plant manager, and (3) organizational alignment. However,

we also identified risks related to (1) training and knowledge of LCCC operating systems and (2) communication.

 Paradise Combined Cycle Plant - TVA's PCC is in TVA's eastern region gas division under the Gas and Hydro Operations business unit. PCC began commercial operation in April 2017, replacing the generation of Paradise Fossil Plant's Units 1 and 2.

Our assessment of the strengths and risks that could impact PCC's organizational effectiveness identified strengths related to (1) organizational alignment, (2) teamwork, and (3) management support. However, we also identified risks related to gaps in training and management communication.

TVA management agreed with our findings and recommendations and provided actions taken, or planned, to address our recommendations.

# **Nuclear Site Security**

Nuclear Site Security's primary responsibility is to maintain physical security at TVA's nuclear plants through its workforce and execution of its security plans. Through this obligation, the organization supports TVA's core safety value as well as Nuclear Power Group's mission of generating safe, reliable, and affordable electricity. In addition, site security also serves as the primary interface with federal, state, and local agencies on security-related issues and regulations. We assessed the strengths and risks that could impact the organizational effectiveness of Browns Ferry Nuclear Plant Site Security (BFN SS) and Sequoyah Nuclear Plant Site Security (SQN SS).

Browns Ferry Nuclear Plant Site Security - Our assessment of the strengths and risks that could impact BFN SS organizational effectiveness identified strengths related to (1) organizational alignment,
 (2) teamwork within departments, and (3) direct management support of employees. However, we also identified risks related to (1) ineffective leadership above first-line leaders due to inadequate

communication, lack of individual accountability, insufficient management support, and noninclusive behaviors; (2) lack of collaboration between departments within BFN SS; (3) ineffective work management processes; and (4) perceptions of unethical behaviors.<sup>3</sup> TVA management agreed with our findings and recommendations and provided actions taken to address our recommendations.

Sequoyah Nuclear Plant Site Security - Our assessment of the strengths and risks that could impact SQN SS organizational effectiveness identified strengths related to (1) organizational alignment,
 (2) teamwork, and (3) frontline (i.e., shift supervisors, shift managers) management support. However, we also identified risks related to (1) ineffective senior management support related to communication, accountability, behaviors, and resources; and
 (2) perceptions of unethical actions.

# Supply Chain

The responsibility of TVA's Supply Chain is to "provide materials and services to strategic business units at lowest total cost of ownership and manage and optimize sourcing, procurement, freight, inventory, material distribution, and TVA fleet to ensure reliable operation." We assessed the strengths and risks that could impact the organizational effectiveness of two groups within Supply Chain: Sourcing and Strategy and Performance. In addition, we assessed management's actions to address the risks included in our initial evaluation of Supply Chain Materials and Transportation Management's (MTM) organizational effectiveness.

Sourcing - Within Supply Chain, Sourcing's
objective is to reduce TVA's total cost of ownership
by strategically identifying the best suppliers in the
industry to provide products and services that meet
TVA's requirements. Individual contributors primarily
include procurement agents, contract managers, and
senior contract managers who, acting as the sole

agents of TVA, are authorized to execute or amend contracts and to provide formal contractual direction to contractors.

Our assessment of the strengths and risks that could impact Sourcing's organizational effectiveness identified strengths related to (1) teamwork, (2) direct management support for three of four departments, (3) perceptions of an ethical culture, and (4) customer support. However, we also identified risks related to (1) alignment, (2) the selection process, (3) management behaviors, and (4) work management. TVA management agreed with our findings and recommendations and provided actions taken, or planned, to address our recommendations.

- Strategy and Performance Supply Chain's Strategy and Performance (S&P) group provides business and technical support for the Supply Chain organization.
   Our assessment of the strengths and risks that could impact S&P's organizational effectiveness identified strengths related to (1) organizational alignment,
   (2) teamwork within departments, and (3) management support. We identified no risks and, therefore, had no recommendations.
- Materials and Transportation Management
  Follow-Up In July 2017, we issued a report
  on strengths and risks that could impact MTM's
  organizational effectiveness. The report included
  recommendations to address the areas for
  improvement. In summary, we determined
  management has taken actions to address most of the
  risks outlined in our initial organizational effectiveness
  evaluation. However, issues related to (1) one
  manager's behavior, as well as teamwork, at one
  location; (2) instances where goals were not SMART<sup>4</sup>;
  and (3) cross-functional risks related to business units
  remain unresolved.

<sup>3</sup> We did not determine the validity of each concern but did note a personnel action was taken to address abuse of sick leave policies.

<sup>&</sup>lt;sup>4</sup> SMART stands for specific, measurable, achievable, relevant, and time-bound.

#### **Human Resources**

In September, 2017, we issued a report on strengths and risks that could impact Human Resources' (HR) organizational effectiveness. The report included recommendations to address the areas for improvement within HR. In addition, recommendations were included that were specific to Employee Health (EH), which at the time was a part of the HR business unit.

We performed a follow-up to the HR organizational effectiveness evaluation, and a separate follow-up for EH risks and recommendations. The objective of our follow-up evaluations was to assess management's actions to address risks included in our initial organizational effectiveness evaluation.

In summary, we determined:

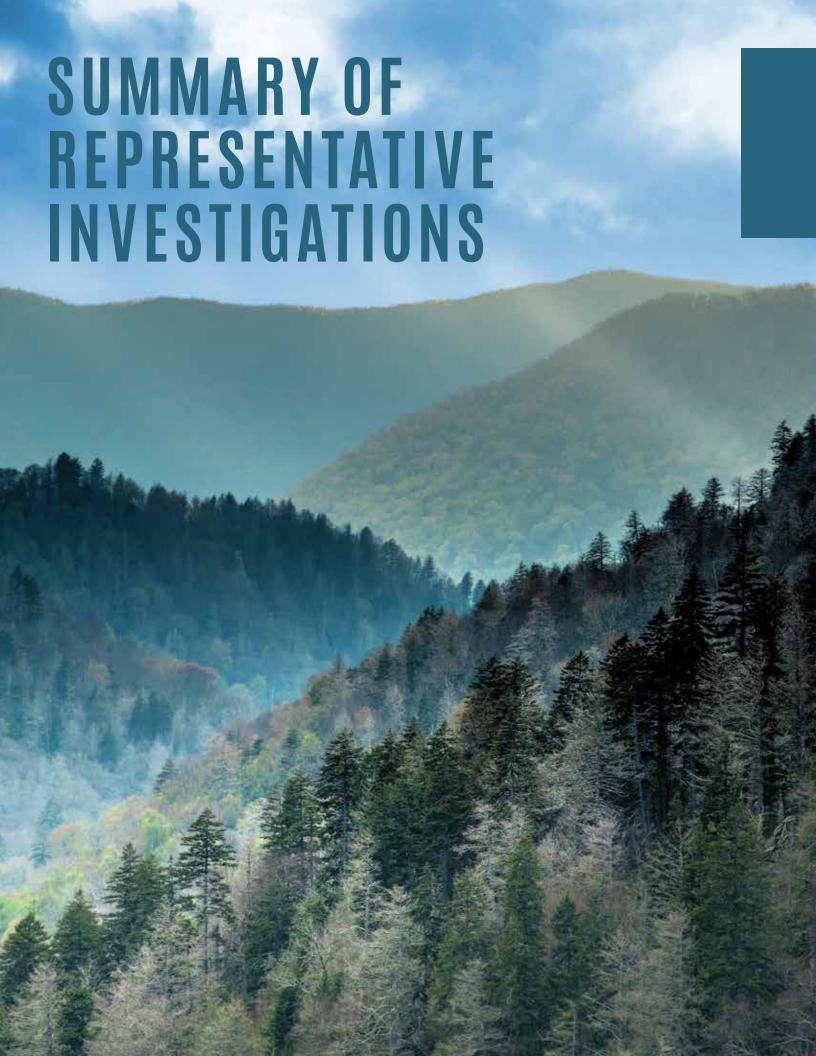
- HR has taken actions to address some of the risks outlined in our initial organizational effectiveness evaluation. However, issues related to (1) differences between the HR generalist (HRG) and senior HRG roles; (2) execution risks that included the HRG transition, employee feedback mechanism, and role clarity; and (3) ethical and inclusion concerns remain unresolved. HR management plans to address risks related to differences in HRG and senior HRG roles and execution risks as part of their organizational redesign (referred to as evolution), which is currently underway.
- EH has taken actions to address most of the risks outlined in our initial organizational effectiveness evaluation. However, all or portions of three of the five recommendations we made remain unresolved, including (1) the medical case management process and (2) inclusion concerns.

# Environmental Permitting and Compliance Follow-Up

In September 2016, we issued a report on strengths and risks that could impact Environmental Permitting and Compliance's (EP&C) organizational effectiveness. The

report included recommendations to address areas for improvement. We completed a follow-up evaluation that assessed management's actions to address risks from our initial organizational effectiveness evaluation. Our follow-up review found that EP&C had taken actions to address most of the risks outlined in our initial evaluation, with the exception of concerns with two managers' behaviors. The objective of this evaluation was to assess management's actions to address the remaining risks from our initial EP&C organizational effectiveness evaluation. In summary, we determined EP&C has taken actions to address the remaining risks outlined in our initial organizational effectiveness evaluation.





This reporting period, we opened 117 cases and closed 110. Our investigative results include the sentencing of a former contractor employee, a former employee's indictment, nuclear safety system improvements, and employee terminations based on failure to report prescription opioids. Highlights of this semiannual period follow.

## Former Contractor Ordered to Pay \$81,464 Restitution to TVA

As previously reported, on December 18, 2017, Timothy G. Krach, former Bechtel Power Corporation contractor employee at Watts Bar Nuclear Plant (WBN), pled guilty to a federal one-count Information in the Eastern District of Tennessee, charging him with making false claims to receive temporary living allowance (TLA) payments from TVA.

Mr. Krach's guilty plea stipulated that from October 2009 to April 2016 he worked at the WBN Bechtel project in Spring City, Tennessee. During that time, he applied for and received TLA from TVA based on his maintaining a permanent residence outside a 60-mile radius of his WBN job location. The investigation revealed Mr. Krach variously attested to TVA he maintained permanent addresses in Texas and Kentucky during his WBN assignment. During the December 2012 timeframe, however, Mr. Krach established a permanent residence with his family in Spring City, making him local to WBN and no longer eligible for TLA benefits.

Soon after his family's relocation to Tennessee, Mr. Krach submitted a claim for TLA, based on the false claim he maintained a permanent residence in Fort Worth, Texas. Through July 2015, Mr. Krach continued to attest on TVA Certification Required for Reimbursement of Temporary Living Allowance forms that he maintained a permanent residence in Texas to continue receiving TLA to which



Shawnee Fossil Plant

he was not entitled. On April 23, 2018, Mr. Krach was sentenced to serve three years of probation and to pay \$81,464 restitution to TVA for TLA he received based on false claims.

#### Former Technician Indicted

On September 26, 2018, Tristan James Robinson, former Browns Ferry Nuclear Plant (BFN) Technician, was charged on a two-count federal indictment in the Northern District of Alabama. The first count of the indictment charged Mr. Robinson with stealing TVA measuring/testing

equipment with an aggregate value in excess of \$1,000. The second count charged him with making false statements by minimizing the number of items he took from TVA then sold on eBay. The aggregated value of the items allegedly stolen exceeds \$90,000.

## Work Clearance, Nuclear Safety System Vulnerabilities Investigated

During this reporting period, we closed an investigation of allegations that during a 2016 nuclear outage at BFN, a small group of contractors and their supervision were



Bull Run Fossil Plant

circumventing controls in the Electronic Shift Operations System (eSOMS) by sharing passwords, to include recording them on paper, and some workers had verified clearances using the logons and passwords of others—all in violation of TVA Nuclear procedure. We substantiated the allegations.

A critical safety system, called eSOMS, is described as the single most important safety step required to control electrical, mechanical, and/or steam energy. Work clearances are issued to trained personnel ensuring equipment is cleared of all hazardous energy. Applicable policies/regulations for safely controlling energy are provided both by TVA's Nuclear Power Group and the U.S. Nuclear Regulatory Commission (NRC). eSOMS passwords and logon credentials ensure individual workers are accountable through logging-on and -off work clearances and ensuring equipment is not energized.

Our investigation and analytical review found evidence that supervisors and foremen were signing other workers on/off clearances in eSOMS. This was done by obtaining, retaining, or recording individuals' usernames and passwords. We found password requirements were minimal, and several persons used identical passwords—often the simple password intended for initial, one-time use. Analysis and interviews also showed that workers were signed-on continuously over more than one shift, regardless of whether they were on-site.

We issued a report to TVA management with our findings. Because our findings reflected a historical issue, management requested appropriate TVA personnel review current eSOMS use at all three TVA nuclear plants (BFN, WBN, and Sequoyah Nuclear Plant). Management subsequently reported to us the following on the status of concerns raised in our report.

As of August 2018, eSOMS was upgraded across
the nuclear fleet. The sites found some instances
of individuals with the same passwords before the
eSOMS upgrade, but the new system requires each
user to enter his or her own unique logon ID and
complex password.

- No examples were identified indicating signed-off clearances by unauthorized personnel.
- Site personnel found some examples of individuals not signing-off clearances at shift's end. Individual coaching and communication are provided in those cases.

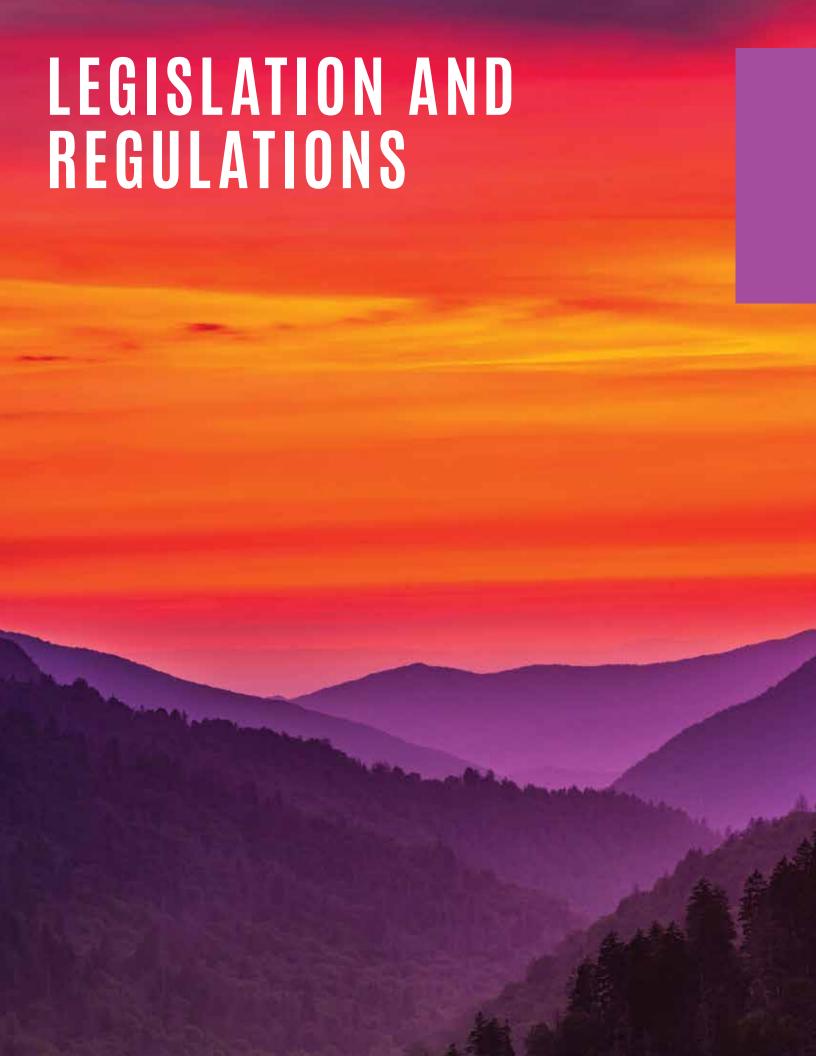
Our investigative report and management's response were forwarded to the NRC.

#### Employees' Failure to Report Opioid Use

TVA policy requires nuclear personnel to report the use of Suboxone to TVA management or TVA Nuclear medical staff; failure to do so is considered a falsification. Suboxone is a long-acting opioid that can be used to treat pain or to assist with treatment of addiction to narcotic pain relievers. Although Suboxone is used to treat addiction, it can become a primary drug of abuse. Due to its long-lasting narcotic effect, consumption of Suboxone, even when off-duty, creates a safety hazard that could affect TVA personnel and equipment and, by extension, the general public.

OIG data mining indicated that four TVA employees, who fall under the Nuclear Fitness for Duty program, were prescribed the narcotic Suboxone. Our findings were promptly reported to TVA's Senior Physician for disposition. It was substantiated that three of the four employees did not report the use of this drug as required. The three employees' nuclear access and employment with TVA were terminated, and their personnel files carry a restriction for future TVA employment.

The OIG will continue employing data analytics in the area of narcotic use/abuse. It is the OIG's stance that the misuse or failure to properly report any applicable prescription drug is an important issue when it comes to ensuring TVA maintains a safe work environment, whether this is in the nuclear arena or in the nonnuclear "safety sensitive" arena. The OIG maintains compliance with the Rehabilitation Act of 1973, the Americans with Disabilities Act, and the Health Insurance Portability and Accountability Act.



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 specific statutes and bills and their particular wording.

During this reporting period, TVA OIG has been tracking:

# S. 2178 - "INSPECTOR GENERAL RECOMMENDATION TRANSPARENCY ACT"

S. 2178 was approved by the Senate in May. In general, the bill promotes increased reporting regarding open IG recommendations by having such information be made available by IGs on a CIGIE Web site. It requires a short description of each open recommendation, the title of the report that any recommendations pertain to, and the assigned number of any recommendations within the report, among other details. The bill defines open recommendations to include circumstances where corrective action has not been completed by the agency during the one-year period following the date the recommendation was issued. The information would also be included in the semiannual reports to Congress. IGs would no longer have to report on (1) comments of the IG relating to why the recommendation remains open or (2) responses from the agency relating to why the recommendation remains open. CIGIE is working with Congress, as appropriate. However, as noted by CIGIE in communications with legislative staff, CIGIE requires a stable source of adequate funding to implement both the recommendations database and the reports database as envisioned by the drafters.

# S. 2948 - "THE PAYMENT INTEGRITY INFORMATION ACT"

S. 2948 was voted out of Senate Committee on Homeland Security and Governmental Affairs in June 2018. The bill modifies and restructures existing improper payments laws to improve efforts to identify and reduce government-wide improper payments. In short, the bill: (1) modifies the IG reporting requirement under Improper Payments Elimination and Recovery Improvement Act of 2012; (2) requires agencies to undertake additional efforts and develop plans to prevent improper payments: (3) changes the way agencies identify programs with the highest risk of improper payments; (4) requires the Office of Management and Budget and CIGIE to issue guidance for annual reporting on agencies' compliance with improper payments statutes; and (5) creates a working group aimed at helping federal agencies collaborate with each other and nonfederal stakeholders to develop strategies for addressing causes of improper payments. CIGIE provided technical assistance during drafting of the provisions related to Inspectors General.

#### H.R. 4917 - "IG SUBPOENA AUTHORITY ACT"

H.R. 4917 was voted out of the House in September. The bill would amend the IG Act to provide IGs with testimonial subpoena authority, reflecting the current scope of IG documentary subpoena authority found in IG Act Section 6. It would authorize Inspectors General to issue testimonial subpoenas for contractors, grant recipients, and former federal employees. The bill includes procedural and notification steps prior to issuing a subpoena under this authority.

# APPENDICES



#### INDEX OF REPORTING REQUIREMENTS UNDER THE INSPECTOR GENERAL ACT

REPORTING	REQUIREMENT	PAGE OR APPENDIX
Section 4(a)(2)	Review of legislation and regulations	42-43
Section 5(a)(1)	Significant problems, abuses, and deficiencies	24-41
Section 5(a)(2)	Recommendations with respect to significant problems, abuses, and deficiencies	24-41
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	24-41
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 (a) no management decision had been made; (b) no management comment was received within 60 days of issuing the draft report; and (c) there were any unimplemented recommendations, including the aggregate potential cost savings of those recommendations, at the end of the reporting period <sup>1</sup>	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)	Results of any peer review conducted by another Office of the Inspector General during the reporting period, and if none, a statement of the date of the last peer review	Appendix 10
Section 5(a)(15)	List of outstanding recommendations from any peer review conducted by another Office of the Inspector General, including a statement describing the status of the implementation and why implementation is not complete	None

<sup>1</sup> We had no open audit or evaluation reports that met all of these requirements. However, Appendix 4 includes a list of all audits issued in previous semiannual periods on which corrective action has not been completed.

#### INDEX OF REPORTING REQUIREMENTS UNDER THE INSPECTOR GENERAL ACT

REPORTING	REQUIREMENT	PAGE OR APPENDIX
Section 5(a)(16)	List of any 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 fully implemented	Appendix 11
Section 5(a)(17)	Statistical table showing the total number during the reporting period of (a) investigative reports issued, (b) persons referred to the Department of Justice for criminal prosecution, (c) persons referred to state and local prosecuting authorities for criminal prosecution, and (d) indictments and criminal informations resulting from any prior referral to prosecuting authorities	Appendix 5
Section 5(a)(18)	Metrics used to develop the data in the statistical table pursuant to Section 5(a)(17)	Appendix 5
Section 5(a)(19)	Investigations in which allegations of misconduct involving a senior government employee <sup>2</sup> were substantiated	Appendix 6
Section 5(a)(20)	Instances of whistleblower retaliation, information about the official found to have engaged in retaliation, and consequences actually imposed, if any, to hold the official accountable	None
Section 5(a)(21)	Attempts to interfere with the independence of the Office of the Inspector General	None
Section 5(a)(22)(A)	Audit or evaluation that was closed and not disclosed to the public	None
Section 5(a)(22)(B)	Investigation involving a senior government employee that was closed and not disclosed to the public	Appendix 7

<sup>&</sup>lt;sup>2</sup> Pursuant to Section 5(b)(7)(A) of the IG Act, as amended, a senior government employee at TVA is defined as an officer or employee whose rate of basic pay is equal to or greater than 120 percent of the minimum rate of basic pay payable for GS-15 of the General Schedule. This equates to a rate of basic pay for calendar year 2018 equal to or greater than \$126,148.

#### OIG AUDIT REPORTS • Issued During the Six-Month Period Ended September 30, 2018

Report Number and Date	Title	Questioned Costs	Unsupported Costs	Funds Put To Better Use
CONTRACT AUDITS				
2017-15502 04/17/2018	Restoration Services, Inc.	\$213,812	\$54,965	\$0
2017-15462 04/30/2018	ThyssenKrupp Elevator Americas	439,620	143,712	0
2018-15546 05/15/2018	Proposal for Coal Combustion Residual Program Management	0	0	4,651,000
2015-15343-01 05/29/2018	Williams Plant Services, LLC	4,376,936	11,145	0
2017-15515 06/05/2018	Proposal for Coal Combustion Residual Program Management	0	0	27,598,000
2018-15548 07/31/2018	Proposal for Coal Combustion Residual Program Management	0	0	5,570,000
2018-15564 08/20/2018	Rate Review for Contract Extension	0	0	0
2018-15569 08/23/2018	Rate Review for Contract Extension	0	0	0
2018-15547 08/27/2018	Proposal for Coal Combustion Residual Program Management	0	0	1,964,000
2015-15344 09/06/2018	Conservation Services Group	191,867	2,766	0
2018-15536 09/28/2018	Proposal for Coal Combustion Residual Program Management	0	0	17,629,600
FINANCIAL AND OP	ERATIONAL AUDITS			
2017-15500 05/30/2018	Early Payment Discounts on Vendor Invoices	\$932,340	\$0	\$0
2017-15488 07/18/2018	TVA Economic Development Grants	0	0	0
2018-15544 07/23/2018	Capital Projects - Post Project Economic Assessment Review	0	0	0
INFORMATION TEC	HNOLOGY AUDITS			
2017-15453 06/13/2018	TVA's Privacy Program	\$0	\$0	\$0
2017-15454 08/13/2018	Network Architecture - Nuclear	0	0	0
2018-15545 08/22/2018	TVA Server Operating System Baselines	0	0	0
2017-15451 09/13/2018	Key Sarbanes-Oxley Financial Spreadsheets	0	0	0
TOTAL AUDITS (18)		\$6,154,575	\$212,588	\$57,412,600

OIG EVALUATION REPORTS • Issued During the Six-Month Period Ended September 30, 2018 (CONTINUED)

Report Number and Date	Title	Questioned Costs	Unsupported Costs	Funds Put To Better Use
EVALUATIONS				
2017-15516 07/30/2018	Heat Rate Input Calculations	\$0	\$0	\$0
2017-15517 08/06/2018	Coal Quality Adjustment Reports	(103,576)	0	0
2017-15512 09/24/2018	Hearing Loss Claims	0	0	0
2018-15541 09/24/2018	Nuclear Oversight Work Environment Follow-Up	0	0	0
2018-15560 09/25/2018	Coal Operations' Clearance Procedure	0	0	0
2017-15511 09/26/2018	Coal Condition Reports	0	0	0
ORGANIZATIONA	AL EFFECTIVENESS			
2018-15524 04/12/2018	Organizational Effectiveness - Lagoon Creek Combustion Turbine Plant	0	0	0
2017-15503 04/25/2018	Organizational Effectiveness - Browns Ferry Nuclear Site Security	0	0	0
2018-15523 05/03/2018	Organizational Effectiveness - Lagoon Creek Combined Cycle Plant	0	0	0
2017-15514-01 06/13/2018	Organizational Effectiveness - Supply Chain: Strategy and Performance	0	0	0
2018-15559 06/13/2018	Follow-Up to Environmental Permitting & Compliance Organizational Effectiveness	0	0	0
2017-15514 08/17/2018	Organizational Effectiveness - Supply Chain: Sourcing	0	0	0
2018-15550 09/24/2018	Organizational Effectiveness - Sequoyah Nuclear Site Security	0	0	0
2018-15558 09/26/2018	Organizational Effectiveness - Paradise Combined Cycle Plant	0	0	0
2018-15582 09/27/2018	Follow-Up to Human Resources Organizational Effectiveness	0	0	0
2018-15578 09/28/2018	Follow-Up to Materials Management Organizational Effectiveness	0	0	0
2018-15583 09/28/2018	Follow-Up to Human Resources (Employee Health) Organizational Effectiveness	0	0	0
TOTAL EVALUATION	S (17)	(\$103,576)	\$0	\$0

Note: A summary of or link to the full report may be found on the OIG's Web site at https://oig.tva.gov.

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	5	\$6,154,575	\$212,588
Subtotal (A+B)	5	\$6,154,575	\$212,588
C. For which a management decision was made during the reporting period	5	\$6,154,575	\$212,588
Dollar value of disallowed costs	5	\$6,154,575	\$212,588
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	1	(\$103,576)	\$0
Subtotal (A+B)	1	(\$103,576)	\$0
C. For which a management decision was made during the reporting period	1	(\$103,576)	\$0
Dollar value of disallowed costs	0	\$0	\$0
2. Dollar value of costs not disallowed	1	(\$103,576)	\$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 (CONTINUED)

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	\$24,300,533
B. Which were issued during the reporting period	5	\$57,412,600
Subtotal (A+B)	7	\$81,713,133
C. For which a management decision was made during the reporting period	6	\$64,083,533
Dollar value of recommendations agreed to by management	6	\$47,253,533
2. Dollar value of recommendations not agreed to by management	2 <sup>1</sup>	\$16,830,000
D. For which no management decision has been made by the end of the reporting period	1	\$17,629,600

#### 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
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 total number of reports for which a management decision was made during the period differs from the sum of C(1) and C(2) when the same report(s) contain both recommendations agreed to by management and others not agreed to by management.

#### RECOMMENDATIONS INCLUDED IN A PREVIOUS SEMIANNUAL REPORT AND AWAITING IMPLEMENTATION

At the end of the semiannual period, final corrective action was not complete on 29 recommendations associated with three audit and seven evaluation reports and one special project issued in a prior period. Presented below for each audit and evaluation are the report number, date, and title, along with a brief description of action management agreed to take to resolve the open recommendation, including the date management expects to complete final action.

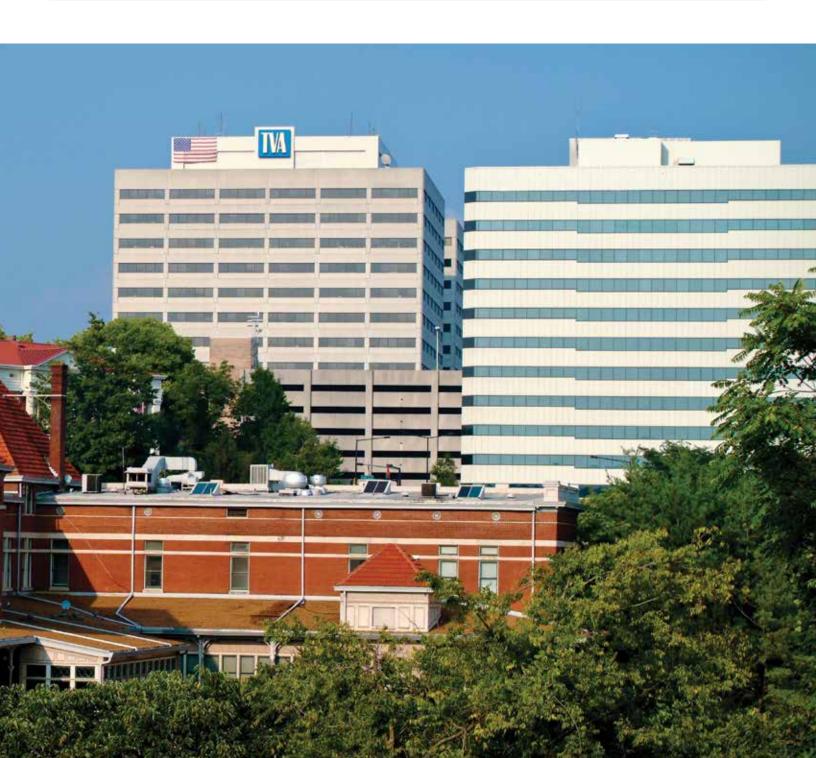
Audit Report Number and Date	Report Title and Actions Agreed to by Management to Resolve Recommendations
2013-14959 08/07/2014	Tennessee Valley Authority (TVA) Environmental Risk Management  TVA agreed to update TVA's Environmental Management System to better describe environmental review processes and responsibilities. TVA expects to complete final action by January 31, 2019.
2017-15489 12/21/2017	2017 Federal Information Security Modernization Act (FISMA)  TVA agreed to perform a risk assessment of the fiscal year 2017 Inspector General FISMA metrics rated at a level 3 to determine actions necessary to reduce cybersecurity risk to the agency in fiscal year 2018. TVA expects to complete final action by December 14, 2018.
2017-15470 03/29/2018	TVA Fixed-Wing Aircraft  TVA agreed to revise TVA Standard Programs and Processes (SPP) 32.040 to include appropriate costing information for TVA aircraft travel, cost analyses when required, and to ensure compliance with Federal Travel Regulation and other pertinent legal guidelines; evaluate replacement software to improve documentation, record keeping, review and reporting; increase Aviation Services oversight and take measures to assign the scheduling role in a manner which supports compliance and consistency with SPP and federal reporting requirements; implement accounting procedures to allow for recovery consistent with the Federal Travel Regulation in the event that incremental costs are incurred due to routing choices exercised during the course of official travel by government aircraft, as they are in travel by other modes; take measures to improve roles and responsibilities pertaining to data submissions to Federal Aviation Interactive Reporting System and Senior Federal Travel Report. TVA expects to complete final action by March 29, 2019.

#### RECOMMENDATIONS INCLUDED IN A PREVIOUS SEMIANNUAL REPORT AND AWAITING IMPLEMENTATION (CONTINUED)

Evaluation Report Number and Date	Report Title and Actions Agreed to by Management to Resolve Recommendations
	Follow-Up Review of Coal Fire Protection
2014-15216 09/29/2014	TVA agreed to revise FPG-SPP-18.123, Fire Protection Assessment Procedure, to include a new rating calculation and process for sharing assessment data with Power Operations senior leadership. TVA expects to complete final action by August 13, 2019.
	Organizational Effectiveness - Human Resources: Business Office
2016-15445-01 05/18/2017	TVA provided the Washington, D.C., Equal Employment Opportunity Commission (EEOC) Office documentation relative to the reporting structure for TVA Equal Opportunity Compliance department. The EEOC Office indicated a response would be provided to TVA by the end of fiscal year 2017. TVA expects to complete final action by March 31, 2019.
	Organizational Effectiveness - Supply Chain: Materials Management
2016-15386 07/27/2017	TVA agreed to (1) develop a plan to address teamwork and trust issues; (2) ensure complete and SMART (specific, measurable, achievable, relevant, and time-bound) goals by ensuring goals are clear, defined, and have a specific deliverable date; and (3) continue ongoing education of senior leadership and increased collaboration with line leadership for all business units that utilize Supply Chain Support. TVA expects to complete final action by March 30, 2019.
	Organizational Effectiveness - Human Resources: Human Resources
2016-15445-05 09/26/2017	Management stated they understood our recommendations and many had already been addressed or would be addressed through an organizational redesign. Management also stated they have increased transparency in staffing (including the selection process) by increasing communication and they will re-evaluate the approach and make necessary adjustments as they gain clarity on future roles; continue to evaluate and improve the medical case management process as needed; continue to address the grievance backlog; and promote an inclusive environment and address concerns related to promotions and assignments. TVA expected to complete final action by September 28, 2018.
	Organizational Effectiveness - Chief Human Resources Office
2016-15445 12/21/2017	TVA agreed to (1) focus on building relationships within the Chief Human Resources Office leadership team; (2) continue dialogue with employees to (a) gather differing opinions and encourage employees to voice opinions even if those opinions differ from management and (b) promote inclusive behaviors; (3) continue to communicate the importance of ethics and compliance; and (4) continue to utilize the business planning process to continuously improve their objectives and performance measures. TVA expects to complete final action by December 31, 2018.
	Data Used to Calculate Fuel Cost Adjustments
2017-15490 03/28/2018	TVA agreed to evaluate the hourly energy load queries to enhance their accuracy, identify opportunities to streamline and automate the calculation process, and document the fuel cost adjustment process in an SPP. TVA expects to complete final action by March, 31, 2019.
	Management of Employee Medical Work Restrictions and Accommodations
2017-15510 03/28/2018	TVA agreed to reinforce the need for employee medical work restrictions to be managed in accordance with the SPP; assess Medgate system limitations and engage Information Technology on how to navigate them; and reinforce expectations for restriction management for line managers through enhanced training modules and communications to improve leader ownership and accountability. TVA expects to complete final action by March 28, 2019.

#### RECOMMENDATIONS INCLUDED IN A PREVIOUS SEMIANNUAL REPORT AND AWAITING IMPLEMENTATION (CONTINUED)

Special Project Number and Date	Report Title and Actions Agreed to by Management to Resolve Recommendations
	Assessment of Chilled Work Environment at TVA Watts Bar Nuclear Unit 1 by NTD Consulting Group, LLC
2016-16702 04/19/2017	TVA conducted an independent nuclear safety culture (NSC) assessment for the Watts Bar Nuclear site. TVA developed actions based on the issues identified in the assessment. The actions were oriented toward both near-term mitigation of identified improvement areas as well as a sustainable improved NSC. Subsequently, TVA will re-administer an independent NSC assessment between 18 and 24 months after the original assessment. TVA expects to complete final action by June 30, 2019.



#### INVESTIGATIVE REFERRALS AND PROSECUTIVE RESULTS

Referrals	
Reports Issued to TVA Management	10
Subjects Referred to U.S. Attorneys	16
Subjects Referred to State/Local Authorities	0
Results	
Subject Indicted/Information Filed	1
Subject Convicted	0
Pretrial Diversion	0
Federal Referrals Declined	5
State/Local Referral Declined	0

**Metrics:** Reports issued to TVA Management are comprised of formal written reports and, when appropriate, e-mailed summaries conveying the findings of a completed investigation.

The number of indictments does not include sealed indictments or superseding indictments of the same individual already reported in this or a prior semiannual report.

These numbers include task force activities and joint investigations with other agencies.



#### SUBSTANTIATED INVESTIGATIONS INVOLVING SENIOR AGENCY OFFICIALS

Case No.	Allegation and Disposition
03F16642	TVA incurred more than \$35,000 in relocation expenses for a transferred manager who moved less than four miles from his previous residence.
	Substantiated: Although the manager moved in conjunction with his transfer, he remained in his local area, rather than nearer his new duty station. TVA spent \$35,664 in connection with the move (\$30,714 to a relocation company for the sale of the original residence, and \$4,950 to the manager for temporary living allowance [TLA]). An OIG memorandum was sent to management. It was determined that given the individual's new position and change in duty station, it was appropriate to approve a relocation package for the transfer, and only costs associated with the sale of the first home were paid. TLA associated with the move was considered inappropriate, however, and the manager reimbursed TVA \$4,950 for those funds. The OIG has classified the \$30,714 paid to the relocation company as "Other Monetary Loss." This matter was both referred to the U.S. Attorney's Office (USAO) and declined for prosecution on January 25, 2018.
18-0102	OIG data analysis found discrepancies regarding a senior manager's time and attendance records.  Substantiated: The individual acknowledged being absent without leave a total of 56 hours and informed investigating agents that any misrepresentation was unintentional based on the manager's normally extensive work hours. As a result of the investigation, the manager voluntary corrected his leave. USAO referred/declined on January 25, 2018.

**Metrics:** This appendix describes closed, substantiated investigations involving subjects specified by the IG Empowerment Act (salaried at 120 percent of GS-15 Level One). TVA does not operate on the GS scale, so all persons in this salary range, though included here, are not necessarily executive-level employees. Corollary to this, not all persons with substantial managerial duties are included here, based on their salaries.



#### PREVIOUSLY UNDISCLOSED INVESTIGATIONS INVOLVING SENIOR AGENCY OFFICIALS

Case No.	Allegation and Disposition
01C15721	A senior nuclear manager provided consulting services in violation of 10 CFR (Code of Federal Regulations) Part 810, Assistance to Foreign Atomic Energy Activities, and failed to report outside work activity to TVA as required. Unsubstantiated.
	A senior nuclear manager directed subordinates to create the appearance equipment was operational only to the extent it could pass a performance test.
02A16847	Although the allegation was unsubstantiated, we did identify concerns related to the incident in question. We referred relevant information to the U.S. Nuclear Regulatory Commission, our standard procedure involving allegations affecting nuclear safety systems. We found no misconduct involving the manager's role in the incident; however, the investigation indicated plant management's direct involvement in routine troubleshooting decisions contributed to a perception of undue management pressure. The OIG issued a Report of Administrative Inquiry to TVA management with our findings, which led to a lessons-learned discussion/counseling session with no further action planned.
18-0140	A manager committed ethics violations connected to TVA's ridesharing program. Unsubstantiated.
18-0198	Confidential TVA power generation matters were discussed during a daily conference call with no controls on who may have been participating, and no required documentation of any possible inadvertent disclosure. Unsubstantiated; however, based on our investigation, management took steps to ensure no unauthorized disclosures are made during applicable conference calls.

**Metrics:** This appendix describes any closed investigations, not disclosed to the public, involving subjects specified by the IG Empowerment Act (salaried at 120 percent of GS-15 Level One). TVA does not operate on the GS scale, so all persons in this salary range, though included here, are not necessarily executive-level employees. Corollary to this, not all persons with substantial managerial duties are included here, based on their salaries.



#### HIGHLIGHTS - STATISTICS

	SEPT 30, 2018	MAR 31, 2018	SEPT 30, 2017	MAR 31, 2017	SEPT 30, 2016
AUDITS					
AUDIT STATISTICS					
Carried Forward	21	18	15	22	22
Started	15	13	14	7	15
Canceled	$(0)^{1}$	(0)	(1)	(0)	(1)
Completed	(18)	(10)	(10)	(14)	(14)
In Progress at End of Reporting Period	17	21	18	15	22
AUDIT RESULTS (Thousands)					
Questioned Costs	\$6,155	\$6,829	\$4,672	\$10,531	\$3,271
Disallowed by TVA	\$6,155	\$6,829	\$5,080	\$8,046	\$3,271
Recovered by TVA	\$740	\$0	\$428	\$9,214	\$1,725
Funds to Be Put to Better Use	\$57,413	\$39,639	\$17,680	\$28,248	\$8,901
Agreed to by TVA	\$47,254	\$33,018	\$8,934	\$21,341	\$13,664
Realized by TVA	\$59,875 <sup>2</sup>	\$8,677	\$4,479	\$1,586	\$0
OTHER AUDIT-RELATED PROJECTS					
Completed	9	5	7	2	9
Cost Savings Identified/Realized (Thousands)	\$0	\$0	\$0	\$0	\$0
EVALUATIONS					
Completed	17	7	17	4	13
Cost Savings Identified/Realized (Thousands)	(\$104)	\$0	\$0	\$0	\$0
INVESTIGATIONS <sup>3</sup>					
INVESTIGATION CASELOAD					
Opened	117	97	95	97	108
Closed	110	98	92	84	104
In Progress at End of Reporting Period	143	141	147	146	136
INVESTIGATIVE RESULTS (Thousands)					
Recoveries	\$86.4	\$6,250	\$3,730.7	\$225.3	\$2,805.8
Projected Savings	\$0	\$2,079.1	\$680	\$404.8	\$4.5
Fines/Penalties/Fees	\$0.2	\$0.7	\$20.5	\$0.2	\$0
Other Monetary Loss	\$30.7	\$40.8	\$0	\$1,291.4	\$0
Forfeiture(s) Ordered - Criminal	\$0	\$3,041.9	\$0	\$0	\$0
Forfeiture(s) Ordered - Civil	\$0	\$0	\$0	\$0	\$0
MANAGEMENT ACTIONS					
Disciplinary Actions Taken (Number of Subjects)	10	11	6	8	17
Counseling/Management Techniques Employed (Number of Cases)	20	7	9	10	8
Debarment	0	0	0	0	0
PROSECUTIVE ACTIVITIES (Number of Subjects)					
Referred to U.S. Attorneys	16	5	6	7	10
Referred to State/Local Authorities	0	0	1	0	1
Indicted/Information Filed	1	2	8	1	5
Convicted	0	6	4	1	3

<sup>&</sup>lt;sup>1</sup> One project was postponed during the period.

<sup>&</sup>lt;sup>2</sup> Includes amounts agreed to in a prior period.

<sup>3</sup> These numbers include task force activities and joint investigations with other agencies.

<sup>&</sup>lt;sup>4</sup> Amount includes \$1,547,434, also included in AUDIT RESULTS—Recovered by TVA in the September 30, 2016, semiannual period, which was recovered in a qui tam settlement agreement negotiated by the U.S. Attorney's office with Bartlett Holdings, Inc.

#### 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, the Office of the Inspector General issued no contract review reports under this requirement.



Norris Dam

#### PEER REVIEWS OF THE TVA OIG

#### **Audits Peer Review**

Inspector General 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 Tennessee Valley Authority (TVA) Office of the Inspector General (OIG) underwent its most recent peer review of its audit organization for the period ended September 30, 2016. This review was performed by the Federal Deposit Insurance Corporation OIG. The Federal Deposit Insurance Corporation OIG issued its report, dated May 16, 2017, in which it concluded the system of quality control for the audit organization of TVA OIG in effect for the year ended September 30, 2016, has been suitably designed and complied with to provide TVA 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 <a href="http://oig.tva.gov/peer\_reports.html">http://oig.tva.gov/peer\_reports.html</a>.

#### **Investigations Peer Review**

Investigative Operations undergoes a Quality Assessment Review at least once every three years. The U.S. Railroad Retirement Board (RRB) OIG completed a Quality Assessment Review of TVA OIG Investigative Operations on May 23, 2016. RRB OIG found the "...system of internal safeguards and management procedures for the investigative function of the Tennessee Valley Authority OIG in affect [sic] through April 1, 2016 is compliant with the quality standards established by the CIGIE and the Attorney General Guidelines..." This confirmation is posted on our Web site at <a href="http://oig.tva.gov/peer\_reports.html">http://oig.tva.gov/peer\_reports.html</a>.

#### APPENDIX 11

#### PEER REVIEW OF ANOTHER OIG

The Tennessee Valley Authority Office of the Inspector General (OIG) initiated a peer review of the U.S. Department of Education OIG inspection operations. OIGs that conduct inspections and evaluations in accordance with Council of the Inspectors General on Integrity and Efficiency *Quality Standards for Inspection and Evaluation* (Blue Book) must undergo an external peer review every three years. The CIGIE peer review program is designed to ensure the organization's compliance with covered Blue Book standards. We anticipate issuing our final report prior to December, 31, 2018.

# GLOSSARY



#### 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 Payment 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 Inspector General 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 Cost**

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.

BEN	Browns Ferry Nuclear Plant
	Coal and Combined Cycle
	Council of the Inspectors General on Integrity and Efficiency
	U.S. Department of Justice
	U.S. Department of Labor
	Economic Development
	Equal Employment Opportunity Commission
	Employee Health
	Environmental Permitting and Compliance
	Electronic Shift Operations System
	Federal Information Security Modernization Act
	Fixed-Wing Aircraft
	Fiscal Year
	Hearing Conservation Program
	Human Resources
	Inspector General
	Information Technology
	Lagoon Creek Combined Cycle Plant
	Lagoon Creek Combined Cycle Turbine
	Materials and Transportation Management
	U.S. Nuclear Regulatory Commission
	Office of Legal Counsel
	Paradise Combined Cycle Plant
	Program Management Office
	U.S. Railroad Retirement Board
	Sarbanes-Oxley
	Strategy and Performance
	Standard Programs and Processes
	Sequoyah Nuclear Plant Site Security
	Temporary Living Allowance
**DI*	yvalis Dai Nucleai Flaiil



#### 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). 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



We are a high performing work team that achieves OIG strategic objectives through operational excellence and modeling our values and behaviors every day.





Great Smoky Mountains National Park

