Memorandum from the Office of the Inspector General

June 29, 2012

Joseph J. Hoagland, WT 7B-K

REQUEST FOR FINAL ACTION – AUDIT 2010-13657 – DISTRIBUTOR AUDIT OF MEMPHIS LIGHT, GAS AND WATER DIVISION

Attached is the subject final report for your review and action. Your written comments, which addressed your management decision and actions planned or taken, have been included in the report. Please notify us when final action is complete.

Information contained in this report may be subject to public disclosure. Please advise us of any sensitive information in this report that you recommend be withheld.

If you have questions or wish to discuss our findings, please contact me at (865) 633-7373 or Richard C. Underwood, Director, Corporate Governance and Finance Audits, at (423) 785-4824. We appreciate the courtesy and cooperation received from your staff during the audit.

David P. Wheeler
Deputy Assistant Inspector General
(Audits)
ET 3C-K

SLS:DBS
Attachment
cc (Attachment):

Micheal B. Fussell, WT 9B-K	Ronald L. Owens, SP 3A-C
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Richard W. Moore, ET 4C-K	Robert B. Wells, WT 9B-K
Robert A. Morris, WT 7C-K	OIG File No. 2010-13657

Office of the Inspector General

Audit Report

To the Senior Vice President,
Policy and Oversight

DISTRIBUTOR AUDIT OF MEMPHIS LIGHT, GAS AND WATER DIVISION

Audit Team
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Audit 2010-13657
June 29, 2012

ABBREVIATIONS

CIS	Customer Information System
EGC	Enhanced Growth Credit
FY	Fiscal Year
kW	Kilowatt
kWh	Kilowatt Hours
MW	Megawatt
OIG	Office of the Inspector General
TVA	Tennessee Valley Authority

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EXECUTIVE SUMMARY

Why the OIG Did This Audit

In 2002, the Tennessee Valley Authority's (TVA) Board of Directors approved and made available to distributors six wholesale power contract flexibility options. One of the options terminated TVA's contract authority and obligations regarding distributors' retail rates. Four distributors (Memphis Light, Gas and Water Division (Memphis), Knoxville Utilities Board, Meriwether Lewis Electric Cooperative, and Scottsboro Electric Power Board) selected this option. Although each of these four distributors has the authority to determine the retail rates it will charge to its customers with limited or no oversight by TVA, the TVA Board did not relinquish its responsibility to ensure (1) the power purchased is sold and distributed to the ultimate consumer without discrimination among consumers of the same class; and (2) no discriminatory rate, rebate, or other special concession will be made or given to any consumer.

The supplemental agreement between TVA and Memphis became effective in 2002. As part of our annual audit plan, the OIG (Office of the Inspector General) included an audit of the electric system of Memphis, a distributor based in Memphis, Tennessee, for compliance with the TVA power contract for the period January 2009 through December 2010. Key contract provisions included (1) proper reporting of electric sales, (2) nondiscrimination in providing power, and (3) use of electric revenue for approved purposes. For the twelve-month reporting period ended June 30, 2010, Memphis reported it provided power to approximately 406,000 customers resulting in electric sales revenue of approximately $1.2 billion to Memphis. At December 31, 2010, Memphis had a 7.02 percent cash ratio before actual fiscal year 2011 capital expenditures and a 1.92 percent cash ratio after actual fiscal year 2011 capital expenditures, which is below TVA's established guidelines for adequate cash ratios of 5 to 8 percent.

Audit 2010-13657 – Distributor Audit of Memphis Light, Gas and Water Division

EXECUTIVE SUMMARY

What the OIG Found

Our audit of TVA's power contract with Memphis found:

- $3.6 million underpayment to TVA – An erroneous adjustment made to a customer account resulted in a $3.6 million underpayment to TVA in January 2010.
- Key Contract Provisions – We noted some other isolated instances of noncompliance related to the proper reporting of electric sales including customer misclassifications and a metering issue.
- Other Contract Provisions – Memphis could improve compliance with other contract provisions and/or Memphis' policy by (1) obtaining and maintaining required documentation and (2) increasing accuracy of contract demand in the billing system.

We also identified two areas where TVA's oversight of distributors should be enhanced. The two issues, addressing (1) the lack of guidance related to permitted expenditures and (2) the lack of a joint cost study, have been reported in previous OIG distributor audit reports, and TVA has agreed to take corrective action on these issues.

What the OIG Recommends

We make 10 specific recommendations in this report that require Memphis action and recommend TVA's Senior Vice President, Policy and Oversight, work with Memphis to resolve them. These recommendations generally relate to (1) complying with power contract provisions and (2) remediating classification and metering issues. In addition, to enhance TVA's oversight of all distributors, TVA's Senior Vice President, Policy and Oversight, should address and take corrective action on two issues identified at Memphis that have been reported in previous OIG distributor audit reports.

Memphis' and TVA Management's Comments

Memphis and TVA management generally agreed with our recommendations and are taking actions to address the recommendations. See Appendix B for Memphis' complete response and Appendix C for TVA's complete response.

Auditor's Response

The OIG concurs with the planned actions of Memphis and TVA to correct the identified issues.

BACKGROUND

Memphis Light, Gas and Water Division is a distributor for Tennessee Valley Authority (TVA) power based in Memphis, Tennessee, with revenues from electric sales to end-use customers of approximately $1.2 billion for the twelve-month reporting period ended June 30, 2010. Prior to April 1, 2011,[1] TVA relied on distributors to self-report customer usage and subsequently the amount owed to TVA (Schedule 1). Customers are generally classified as residential, commercial, manufacturing, and lighting. Within these classes are various rate classifications based on the customer type and usage. Table 1 shows the customer mix for Memphis reported to TVA as of June 2010.

Memphis' Customer Mix as of June 2010

Customer Classification	Number of Customers	Revenue	Kilowatt Hours Sold
Residential	362,030	$469,684,062	5,423,086,422
General Power – 50 Kilowatt (kW) and Under (Commercial)	35,485	79,275,714	809,694,948
General Power – Over 50 kW (Commercial or Manufacturing)	8,213	593,406,041	7,610,463,008
Street and Athletic	121	14,664,180	100,019,614
Outdoor Lighting[2]		6,183,277	60,956,968
Total	**405,849**	**$1,163,213,274**	**14,004,220,960**

Table 1

TVA's distributors are required to establish control processes over customer setup, rate application, and measurement of usage to ensure accurate and complete reporting to TVA. Memphis uses Banner CIS (Customer Information System) and BillGen to establish and set up new customers, input customer meter information, perform the monthly billing process, and maintain customer account information. Additionally, Banner CIS and BillGen provide Memphis with the management reporting (e.g., exception reports) designed to ensure the accuracy and completeness of the customer invoice and the purchased power invoice (Schedule 1) to TVA. All other accounting and finance responsibilities are handled by Memphis, which has a five-member Board of Commissioners who provides oversight and a President and Chief Executive Officer and management team who manage the daily activities. In addition to providing electric service, Memphis also (1) operates

[1] On April 1, 2011, TVA moved from distributors self-reporting customer usage to billing distributors based on actual energy and demand takings using meter readings from the wholesale delivery points.

[2] The "Number of Customers" represents those customers who only have Outdoor Lighting accounts at June 30, 2010. In addition, another 16,948 customers had Outdoor Lighting accounts as well as accounts for other services. However, the totals for "Revenue" and "Kilowatt Hours Sold" include both categories of Outdoor Lighting customers.

nonelectric businesses in gas and water; and (2) provides billing services, including solid waste, sewer, storm water, fire protection, and vector (mosquito and pest control) services, for surrounding areas.

Granting of Authority to Set Retail Rates

In 2002, TVA's Board approved and made available to distributors six wholesale power contract flexibility options. One of the options terminated TVA's contract authority and obligations regarding distributors' retail rates. In 2002, Memphis and TVA agreed to a wholesale power contract supplement that granted Memphis authority to set its own retail rates. Three other distributors (Knoxville Utilities Board, Meriwether Lewis Electric Cooperative, and Scottsboro Electric Power Board) were also granted this authority by TVA. As a result, these four distributors have the authority to determine the retail rates charged to their customers with no or limited oversight by TVA. The TVA Board, however, did not relinquish the responsibility to ensure (1) the power purchased is sold and distributed to the ultimate consumer without discrimination among consumers of the same class; and (2) no discriminatory rate, rebate, or other special concession will be made or given to any consumer.

Cash Position and Rate Increases

As of December 31, 2010, Memphis had $83.8 million in cash and cash equivalents and a 7.02 percent cash ratio[3] before actual fiscal year (FY) 2011 capital expenditures. Actual capital expenditures in FY 2011 were $60.9 million, which results in a 1.92 percent cash ratio. This is below TVA's established guidelines for an adequate cash reserve ratio, which ranges from 5 to 8 percent. Table 2 shows the balance at December 31, 2010, for cash and cash equivalents, and the corresponding cash ratios after actual FY 2011 capital expenditures.

Memphis' Cash Ratio Compared to Actual FY 2011 Capital Expenditures

	Cash and Cash Equivalents at December 31, 2010	Reserve After Actual FY 2011 Capital Expenditures
Amount	$83,845,198	$22,968,454
Cash Ratio Percentage	7.02%	1.92%

Table 2

Discussions with Memphis management indicated its operating philosophy is generally debt averse. Memphis described its focus as more on working capital than cash balance and stated its goal is to maintain 45 days' working capital.

3 TVA reviews the cash ratios of distributors as part of its regulatory rate review function. Cash ratio is calculated as follows: $\frac{\text{Cash + Cash Equivalents}}{\text{Total Variable Expenses (Operations and Maintenance + Purchased Power)}}$

A complete discussion of the audit objectives, scope, and methodology is included as an Appendix.

FINDINGS

Our audit of TVA's power contract with Memphis found:

- An erroneous adjustment to a customer account resulting in a $3.6 million underpayment to TVA.
- Other isolated instances of noncompliance related to the proper reporting of electric sales including customer misclassifications and a metering issue.
- Memphis could improve compliance with other contract provisions and/or Memphis' policy by (1) obtaining and maintaining required documentation and (2) increasing accuracy of contract demand[4] in the billing system.
- TVA's oversight of distributors should be enhanced.

The following provides a detailed discussion of our findings.

ERRONEOUS ADJUSTMENT CAUSED UNDERPAYMENT TO TVA

While reconciling the billing data provided by Memphis to the Schedule 1 invoice, a large discrepancy was noted for one of the GSA part 2 charge codes in January 2010. As a result of our audit work, Memphis personnel verified an adjustment was erroneously made to a customer's kW demand instead of kilowatt hour (kWh) consumption. This resulted in Memphis not reporting 331,038 kW in demand to TVA for one of the GSA part 2[5] charge codes in

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[4] Demand is a measure of the rate at which energy is consumed. The demand an electric company must supply varies with the time of day, day of the week, and the time of year. Peak demand seldom occurs for more than a few hours or fractions of hours each month or year, but electric companies must maintain sufficient generating and transmission capacity to supply the peak demand. Demand charges represent the high costs electric companies pay for generating and transmission capacity that sits idle most of the time. Demand charges are based on the amount of energy consumed in a specified period of time known as a demand interval. Demand intervals are usually 15 or 30 minutes. (Engineering Tech Tips, December 2000, Dave Dieziger, Project Leader, United States Department of Agriculture, Forest Service, Technology & Development Program, http://www.fs.fed.us/eng/pubs/htmlpubs/htm00712373/index.htm.)

For TVA distributors, the commercial and manufacturer Schedules of Rates and Charges direct that metered demand be calculated as ". . . the highest average during any 30-consecutive-minute period of the month of the load metered in kW."

[5] Under the General Power Rate – Schedule GSA, customers are classified based on the following requirements:

- GSA Part 1 – If (a) the higher of (i) the customer's currently effective contract demand, if any, or (ii) its highest billing demand during the latest 12-month period is not more than 50 kW and (b) customer's monthly energy takings for any month during such period do not exceed 15,000 kWh.
- GSA Part 2 – If (a) the higher of (i) the customer's currently effective contract demand or (ii) its highest billing demand during the latest 12-month period is greater than 50 kW but not more than 1,000 kW or (b) the customer's billing demand is less than 50 kW and its energy takings for any month during such period exceed 15,000 kWh.
- GSA Part 3 – If the higher of (a) the customer's currently effective contract demand or (b) its highest billing demand during the latest 12-month period is greater than 1,000 kW.

January 2010. We calculated the wholesale effect of this error to be an underpayment to TVA of $3,601,693. According to Memphis personnel, the monetary charges to the retail customer were calculated correctly.

Memphis informed us its current adjustment process is to review and approve the paper copy of an adjustment prior to entering it into the billing system. Since there is no control for verifying the adjustment was entered in the billing system accurately, Memphis is in the process of determining what controls could be put in place to prevent similar errors in the future.

OTHER ISOLATED INSTANCES OF IMPROPER REPORTING OF ELECTRIC SALES AND/OR POTENTIAL DISCRIMINATION IN PROVIDING POWER TO CUSTOMERS

Although Memphis generally complied with key contract provisions, during our review of Memphis' billing data, we identified other isolated instances of noncompliance including customer misclassifications and a metering issue that could impact the (1) proper reporting of electric sales and/or (2) ability to ensure nondiscrimination in providing power to members of the same rate class.[6] The specific issues we found pertain to misclassified residential accounts and a lack of documentation for the evaluation of demand meter installations when energy usage exceeds 25,000 kWh.

Commercial Accounts Misclassified as Residential

We reviewed detailed billing data for approximately 362,000 accounts classified under the Residential Rate – Schedule RS,[7] and identified 1,187 accounts that appeared to be potentially misclassified based on the account's name (e.g., LLC, Inc., Services, Properties, Corporation, etc.). From these 1,187 accounts, we selected a judgmental sample of 65 accounts (5.5 percent) for further review. At our request, Memphis reviewed the 65 accounts and determined 7 accounts (10.8 percent) should have been classified under the commercial General Power Rate – Schedule GSA. The 7 misclassified accounts were for service to locations, which do not qualify as a single-family dwelling. Memphis reclassified the 7 accounts during the audit. The monetary impact of these misclassifications would not be significant to Memphis or TVA. An additional 4 accounts are still classified as residential, but Memphis has not been able to determine if this classification is correct. Projection of the results was not appropriate because nonstatistical sampling was used.

6 Section 5, "Resale Rates," subsection (a) of the power contract between TVA and Memphis states, ". . . power purchased hereunder shall be sold and distributed to the ultimate consumer without discrimination among consumers of the same class and that no discriminatory rate, rebate, or other special concession will be made or given to any consumer, directly or indirectly."

7 Under the Residential Rate – Schedule RS, customers are classified based on the following requirement: "This rate shall apply only to electric service to a single-family dwelling (including its appurtenances if served through the same meter), where the major use of electricity is for domestic purposes such as lighting, household appliances, and the personal comfort and convenience of those residing herein."

Metering Issue

During our review of billing agency data, we noted 4 customer accounts classified as GSA Part 2 had energy usage in excess of 25,000 kWh but were not measured for demand. TVA guidance, issued in February 2010, requires distributors to evaluate the installation of a demand meter once a customer's monthly usage exceeds 25,000 kWh. TVA recommends the evaluation indicating the basis for the conclusions reached should be documented and maintained on file. Under Part 2 of the GSA schedule and the Wholesale Power Rate – Schedule WS with TVA, there would be no effect on the revenues for TVA or the distributor unless the customer demand exceeded 50 kW. Without demand meters in place or evidence indicating other circumstances exist that would prevent a customer from exceeding demand of 50 kW, we could not estimate the monetary effect or determine if these customer accounts would have exceeded 50 kW. As a result of our audit, Memphis documented its evaluation of whether a demand meter was needed at the 4 customer locations we identified.

OTHER ISSUES

We identified two areas where Memphis could improve compliance with other contract provisions and/or Memphis' policy by (1) obtaining and maintaining required documentation and (2) increasing accuracy of contract demand in the billing system. Specifically:

- Memphis could not provide required fully executed contracts for 11 of the 35 customer accounts tested.
- Contract demand in the billing system did not agree with the contract demand amount stated in the contract for 4 the 35 accounts tested.
- Memphis could not provide a required manufacturing certification for 1 of the 2 accounts tested.
- Memphis could not provide the required documentation for 4 of the 30 accounts receiving the Enhanced Growth Credit (EGC).

Customer Contracts Not On File

The original power contract required all customers who exceed 50 kW per month to sign a formal contract. In 2002, Memphis was granted authority to determine the components of its retail rates (i.e., energy usage and demand thresholds, amounts to charge, etc.) and decided to remain with the 50 kW requirement for customer contracts. In February 2011, TVA issued guidance to distributors increasing the threshold for requiring a customer contract to accounts exceeding 1 megawatt (MW). The guidance also stated effective, signed contracts should be retained in customer files for all customer accounts that meet the threshold requirement. Each customer contract includes a contract demand that is used for customer classification and calculating the account's billed demand and minimum bill. Therefore, having the required contract documentation is necessary to support the classification assigned and the rates charged.

To determine compliance, we selected a random nonstatistical sample of 35 customer accounts from the 337 accounts (10.4 percent) with demand exceeding 1 MW. We found 11 of the 35 accounts (31.4 percent) did not have the required fully executed contract. Projection of the results was not appropriate because nonstatistical sampling was used.

Inaccuracy of Contract Demand Information in Billing System

In our sample of 35 accounts requiring contracts, we found contract demand in the billing system did not agree with the documented contract demand for 4 accounts (11.4 percent). Projection of the results was not appropriate because nonstatistical sampling was used. Verifying all components applicable to an account have been entered into the billing system accurately in accordance with the supporting documentation is necessary to ensure each account (1) is properly classified; (2) has energy, demand, minimum bill charges, and applicable credits calculated correctly; and (3) receives credits as appropriate.

Required Manufacturing Certification Not On File

In our sample of 35 accounts requiring contracts, we found 1 of the 2 customers (50 percent) receiving power under the Manufacturing Service Rate – Schedule MSB[8] did not have a manufacturing certification on file. Projection of the results was not appropriate because nonstatistical sampling was used. According to the MSB rate schedule, prior to initially taking any service under this schedule, a customer shall certify to Memphis and TVA that the major use of electricity is for activities that are classified with a 2-digit Standard Industrial Classification (SIC) Code between 20 and 39, inclusive. Certifying and documenting a customer meets the SIC code requirement is important to correctly place customers within rate classifications.

Required EGC Documentation Not On File

Memphis could improve contract compliance by consistently obtaining and maintaining required EGC documentation. According to the EGC agreement between Memphis and TVA, the distributor shall enter into a participation agreement with each qualifying customer. The participation agreement includes information necessary for the credit calculation and requires the customer to sign a certification statement outlining their eligibility to receive the credit. Memphis did not have the required documentation on file for 4 of 30 customers (13.3 percent) receiving the credit. Specifically, we noted 2 customers did not have certification statements, 1 customer had an incomplete participation agreement, and 1 customer had an incomplete certification statement and an incomplete participation agreement. The other eligibility requirements were met for these customers.

8 Under the Manufacturing Service Rate – Schedule MSB, customers are classified as MSB where (a) the customer's currently effective contract demand is greater than 5,000 kW but not more than 15,000 kW, and (b) the major use of electricity is for activities conducted at the delivery point serving that customer, which are classified with a 2-digit Standard Industrial Classification Code between 20 and 39, inclusive.

TVA OVERSIGHT OPPORTUNITIES

We identified two areas where TVA's oversight of distributors should be enhanced. The two issues, addressing (1) the lack of guidance related to permitted expenditures and (2) the lack of a joint cost study every 3 to 4 years or when a significant change occurs in accordance with the TVA Accountant's Reference Manual, have been reported in previous Office of the Inspector General (OIG) distributor audit reports. TVA has agreed to take corrective action on these issues. A full discussion of the previously reported issues and TVA's planned actions can be found in prior OIG distributor audit reports[9] on our Web site, www.oig.tva.gov.

RECOMMENDATIONS

We make 10 specific recommendations in this report that require Memphis action and recommend TVA's Senior Vice President, Policy and Oversight, work with Memphis to resolve them. These recommendations generally relate to (1) complying with power contract provisions, and (2) remediating classification and metering issues. Specifically, Memphis should address the following recommendations associated with the findings described in the above sections of the report.

Erroneous Adjustment Caused Underpayment to TVA

1. Correct the underpayment to TVA of $3,601,693 related to the January 2010 billing error.

   Memphis' Comments – Memphis agreed with the finding and stated it is working with TVA to correct the underpayment on an upcoming power invoice. See Appendix B for Memphis' complete response.

   TVA Management's Comments – TVA management agreed with the recommendation and stated the error was identified on the wholesale bill and has a direct impact to TVA's revenues. TVA management has verified and confirmed the underpayment amount, and this amount is expected to be billed to Memphis on its June 2012 invoice. See Appendix C for TVA's complete response.

   Auditor's Response – The OIG agrees with the actions planned by Memphis and TVA.

[9] Inspection 2008-12040 – Distributor Review of Lewisburg Electric System dated May 13, 2009; Audit 2008-12036 – Distributor Review of City of Oxford Electric Department dated August 31, 2009.

2. Establish a process for approving and/or reviewing adjustments to customer accounts after they are entered into the billing system.

   Memphis' Comments – Memphis agreed with the recommendation and stated the timing of the adjustment approval process will be changed from before input into Banner CIS to after input into Banner CIS. See Appendix B for Memphis' complete response.

   TVA Management's Comments – TVA management agreed the distributor should have good internal controls to verify adjustments are entered correctly into the system, especially as that data entry might impact TVA wholesale billing. TVA management understands that distributor will review its process to see if any improvements are needed to enter, verify, and approve adjustments. See Appendix C for TVA's complete response.

   Auditor's Response – The OIG agrees with the actions planned by Memphis.

<u>Other Isolated Instances of Improper Reporting of Electric Sales and/or Potential Discrimination in Providing Power to Customers</u>

3. Review remaining potentially misclassified residential accounts and reclassify accounts as appropriate.

   Memphis' Comments – Memphis agreed with the recommendation and stated remaining potentially misclassified accounts will be reviewed, and appropriate corrections will be made. See Appendix B for Memphis' complete response.

   TVA Management's Comments – In regards to Recommendations 3, 4, and 6, TVA management stated the Schedule of Rates and Charges to the Memphis Power Contract has not contained retail rate schedules since that Power Contract was amended in 2002 by a resale rate flexibility agreement. Therefore, TVA stated it has no legal basis for correcting these misclassifications except for potential discrimination in retail billing. TVA also stated it is aware of the corrective actions planned by Memphis in relation to these recommendations and, as a result, plans to take no further action with respect to the potential discrimination in retail billing. See Appendix C for TVA's complete response.

   Auditor's Response – The OIG agrees with the actions planned by Memphis.

4. Review and modify process(es) in place to identify all residential accounts that should be commercial and reclassify as appropriate.

   Memphis' Comments – Memphis agreed with the recommendation and stated the root cause of misclassified accounts will be determined, and a process to correct the cause will be implemented. See Appendix B for Memphis' complete response.

   TVA Management's Comments – See TVA management's response to Recommendation 3 and Appendix C for TVA's complete response.

   Auditor's Response – The OIG agrees with the actions planned by Memphis.

5. Establish a process for documenting the evaluation of a demand meter installation once a customer's monthly usage exceeds 25,000 kWh.

   Memphis' Comments – Memphis agreed with the recommendation and stated a process to identify customers with zero demand and consumption greater than 25,000 kWh will be implemented and demand meters set as appropriate. See Appendix B for Memphis' complete response.

   TVA Management's Comments – TVA management agreed the distributor should review customer usage greater than 25,000 kWh and install demand meters if needed. TVA management stated it understands that distributor will review its process to see if any improvements are needed to the process for documentation and evaluation of demand meters for customers whose monthly usage exceeds 25,000 kWh. See Appendix C for TVA's complete response.

   Auditor's Response – The OIG agrees with the actions planned by Memphis.

<u>Other Issues</u>

6. Obtain and maintain properly executed, effective customer contracts for all customers with demand in excess of 50 kW in accordance with Memphis policy.

   Memphis' Comments – Memphis stated it will evaluate requiring contracts only for demand in excess of 1,000 kW in accordance with TVA guidance. A contract repository will be established subject to annual review. See Appendix B for Memphis' complete response.

   TVA Management's Comments – See TVA management's response to Recommendation 3 and Appendix C for TVA's complete response.

Auditor's Response – The OIG agrees with the actions planned by Memphis.

7. Correct customer contract demand errors identified in the billing system and, at a minimum, review customer contract demand entered into the billing system for the remaining accounts with contract demand in excess of 1 MW in accordance with TVA guidance. Consider reviewing customer contract demand entered into the billing system for contracts in excess of 50 kW in accordance with Memphis policy.

   Memphis' Comments – Memphis stated it will review contracts in excess of 1,000 kW and ensure billing data is correct. See Appendix B for Memphis' complete response.

   TVA Management's Comments – TVA management agreed the distributor should have good internal controls to verify data is entered correctly into the system, especially as that data entry might impact TVA wholesale billing. TVA management stated it understands that distributor will correct contract demand for contracts in excess of 1,000 kW in accordance with the OIG minimum review recommendation. See Appendix C for TVA's complete response.

   Auditor's Response – The OIG agrees with the actions planned by Memphis.

8. Review and modify the process for entering customer contract demand into the billing system to verify the contract demand value in the system agrees with the customer's contract.

   Memphis' Comments – Memphis stated a process will be developed to ensure contract demand in Banner CIS matches the contract demand in the customer's contract. See Appendix B for Memphis' complete response.

   TVA Management's Comments – TVA management agreed the distributor should have good internal controls to verify data is entered correctly into the system, especially as that data entry might impact TVA wholesale billing. TVA management stated it understands that distributor will develop a process to ensure contract demand in the billing system matches the customer's contract demand. See Appendix C for TVA's complete response.

   Auditor's Response – The OIG agrees with the actions planned by Memphis.

9. Obtain and maintain required documentation for customers served under the manufacturing rates.

   Memphis' Comments – Memphis stated a contract repository will be established, subject to annual review. See Appendix B for Memphis' complete response.

   TVA Management's Comments – TVA management agreed with the recommendation and stated it understands that distributor will work with the customers to ensure appropriate certifications are obtained from the customer and retained on file. See Appendix C for TVA's complete response.

   Auditor's Response – The OIG agrees with the actions planned by Memphis.

10. Obtain and maintain required documentation for customers receiving credits under the TVA EGC program.

    Memphis' Comments – Memphis stated a contract repository will be established, subject to annual review. See Appendix B for Memphis' complete response.

    TVA Management's Comments – TVA management agreed with the recommendation and stated it understands that distributor will work with the customers to ensure appropriate certifications are obtained from the customer and retained on file. See Appendix C for TVA's complete response.

    Auditor's Response – The OIG agrees with the actions planned by Memphis.

OBJECTIVE, SCOPE, AND METHODOLOGY

This audit was included in our annual distributor audit plan based on our review of several factors including the distributor's percentage of electric sales revenue, cash ratio, joint operations, SAS 70 review results, and surplus ratio. The objective was to determine compliance with key provisions of the power contract between the Tennessee Valley Authority (TVA) and Memphis Light, Gas and Water Division and not to assess the distributor's or TVA's system of internal controls. Therefore, controls associated with contract provisions listed below were not tested as part of this audit. The key contract provisions include:

- Proper reporting of electric sales by customer class to facilitate proper revenue recognition and billing by TVA.
- Nondiscrimination in providing power to members of the same rate class.
- Use of revenues, including any surplus, for approved purposes, such as:
  - Operating expenses
  - Debt service
  - Reasonable reserves for renewals, replacements, and contingencies

To achieve our objective, we:

- Obtained electronic billing data for the audit period and created a database for use in performing analytical testing. To validate the reliability of the billing data, we compared the data to the information reported to TVA on the Schedule 1. Based on our comparisons, we concluded the data provided for 2010 appeared to be sufficient for our analytical testing.
- Performed queries on the billing data to identify classification, metering, and contract compliance issues. We reviewed results of the queries and where possible exceptions were identified, selected accounts for further analysis and follow-up to determine whether misclassification, metering issues, or noncompliance with contract requirements occurred. Where large numbers of potential exceptions were identified, we selected accounts for further analysis and follow-up using nonstatistical samples. Projection of the results was not appropriate because nonstatistical sampling was used.
  - When performing our analysis of residential accounts, we used the detailed billing data and:
    - Isolated accounts classified as residential that contained words in the account name commonly used to refer to business entities (e.g., LLC, partner, Inc., etc.). As a result of this review, we identified 1,187 possible exceptions from the population of 362,000 residential accounts. Due to the number of potential exceptions identified, we judgmentally selected a nonstatistical sample of 65 (5.5 percent) accounts to have distributor personnel review for accurate classification.

OBJECTIVE, SCOPE, AND METHODOLOGY (cont.)

      - Ran an automated query to identify any physical locations with multiple meters classified as residential at the location. Our analysis identified 1,450 residential meters from the population of approximately 362,000 residential accounts. We assigned numbers to the 1,450 locations and used a random number generator to select a nonstatistical sample of 35 meters (2.4 percent) for additional review and follow up with the distributor.
  - When reviewing general schedule accounts, we used the detailed billing data obtained from the distributor and isolated 337 accounts with contract demand values in the billing system exceeding 1000 kW. We assigned numbers to the 337 locations and used a random number generator to select a nonstatistical sample of 35 locations (10.4 percent) for additional review and follow up with the distributor.

- Determined through inquiry and review of documentation whether Memphis had any nonelectric, system-related business interests supported by electric system funds.
- Obtained disbursements listing for the audit period and categorized the disbursements by vendor name. We reviewed and analyzed disbursements to identify instances where electric system funds may have been used for purposes not allowed under the TVA power contract. We judgmentally selected a sample of 970 vendor names based on the vendor name and/or payment amounts. We focused on names that (1) had nonelectric service in the title, e.g., water, gas, etc.; (2) could require allocation between multiple service departments, e.g., advertising, fuel, consultants, legal, etc.; (3) possibly should not have been paid from electric funds, e.g., community assistance, charitable contributions, economic development, etc.; (4) were paid to employees or board members. We focused on payment amounts where (1) singular large payments were made to one entity or (2) the payments in total were considered large either by themselves or compared to total disbursements for the audit period. We then selected 108 individual transactions from the list of 970 vendor names and reviewed the detailed documentation. Projection of the results was not appropriate because nonstatistical sampling was used.
- Reviewed cash and cash equivalents in relation to actual capital expenditures and other business uses of cash.

When evaluating results of our audit work, we used both qualitative and quantitative factors when considering the significance of an item. For the purposes of this audit, the quantitative factor(s) to be considered in determining an item's significance were:

- If the dollar value of an error(s) and/or item of noncompliance with the contract exceeds 3 percent of the distributor's average annual power cost during the audit period, or $ 30,034,035, it would be considered significant.

OBJECTIVE, SCOPE, AND METHODOLOGY (cont.)

- In respect to the distributor's unapproved use of revenues, we consider the following to be significant.
  - A negative cash ratio results after subtracting the distributor's funds at risk during the audit period (loans extended or debts guaranteed with electric revenues) from the cash and cash equivalents balance at the end of the audit period.
  - Amounts expended by the electric department on behalf of a nonelectric department/operating unit during the audit period (without payback from the nonelectric department) exceed the rate increase amounts approved by TVA during the audit period.

The scope of the audit was for the period January 2009 through December 2010. Fieldwork was conducted between November 2011 and May 2012 and included visiting the distributor's corporate office in Memphis, Tennessee. This performance audit was conducted in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

MEMPHIS LIGHT, GAS AND WATER DIVISION

June 11, 2012

Mr. David P. Wheeler
Deputy Assistant Inspector General (Audits)
Office of the Inspector General
Tennessee Valley Authority
400 West Summit Hill Drive
Knoxville, TN 37902-1401

Dear Mr. Wheeler:

RESPONSE TO DRAFT AUDIT 2010-13657 – DISTRIBUTOR AUDIT OF MEMPHIS LIGHT, GAS AND WATER DIVISION

The following is the Memphis Light, Gas, and Water (MLGW) response to the findings and recommendations of the TVA OIG review of Memphis Light, Gas, and Water Division. The TVA OIG recommendations are listed, followed by MLGW's response.

Erroneous Adjustment Caused Underpayment to TVA

1. Correct the underpayment to TVA of $3,601,693 related to the January 2010 billing error.

   MLGW Response: MLGW agrees with the finding and is working with TVA to correct the underpayment on an upcoming power invoice. The issue is anticipated to be corrected not later than August 2012.

2. Establish a process for approving and/or reviewing adjustments to customer accounts after they are entered into the billing system.

   MLGW Response: MLGW agrees with the recommendation. The timing of the adjustment approval process will be changed from before input to the Customer Information System (CIS) to after input to CIS. This change will be implemented by December 31, 2012.

P.O. BOX 430 MEMPHIS, TENNESSEE 38101-0430 TELEPHONE (901) 528-4011

Other Isolated Instances of Improper Reporting of Electric Sales and/or Potential Discrimination in Providing Power to Customers

3. **Review remaining potentially misclassified residential accounts and reclassify accounts as appropriate.**

   MLGW Response: MLGW agrees with the recommendation. Remaining potentially misclassified residential accounts will be reviewed and appropriate corrections made by August 31, 2012.

4. **Review and modify process(es) in place to identify all residential accounts that should be commercial and reclassify as appropriate.**

   MLGW Response: MLGW agrees with the recommendation. The root cause of misclassified accounts will be determined, and a process to correct this will be implemented by December 31, 2012.

5. **Establish a process for documenting the evaluation of a demand meter installation once a customer's monthly usage exceeds 25,000 kWh.**

   MLGW Response: MLGW agrees with the recommendation. A process to identify customers with zero demand and consumption greater than 25,000 kWh will be implemented by August 31, 2012. Demand meters will be set as appropriate.

Other Issues

6. **Obtain and maintain properly executed, effective customer contracts for all customers with demand in excess of 50 kW in accordance with Memphis policy.**

   MLGW Response: MLGW will evaluate requiring contracts only for demand in excess of 1,000 kW, in accordance with TVA guidance. A contract repository will be established, subject to annual review. These changes will be implemented by December 31, 2012.

7. **Correct customer contract demand errors identified in the billing system and, at a minimum, review customer contract demand entered into the billing system for the remaining accounts with contract demand in excess of 1 MW in accordance with TVA guidance. Consider reviewing customer contract demand entered into the billing system for contracts in excess of 50 kW in accordance with Memphis policy.**

   MLGW Response: MLGW will review all contracts in excess of 5,000 kW and ensure billing data is correct by August 31, 2012. MLGW will review all contracts in excess of 1,000 kW and ensure billing data is correct by December 31, 2012.

8. **Review and modify the process for entering customer contract demand into the billing system to verify the contract demand value in the system agrees with the customer's contract.**

   MLGW Response: MLGW will develop a process by August 31, 2012 to ensure that contract demand in CIS matches the contract demand in the customer's contract.

9. **Obtain and maintain required documentation for customers served under the manufacturing rates.**

   MLGW Response: A contract repository will be established, subject to annual review, by December 31, 2012.

10. **Obtain and maintain required documentation for customers receiving credits under the TVA EGC program.**

    MLGW Response: A contract repository will be established, subject to annual review, by December 31, 2012.

Sincerely,

Dana Jeanes

Dana Jeanes
VP, CFO, and Secretary Treasurer

c: Jerry Collins

TVA SENSITIVE INFORMATION

June 20, 2012

David P. Wheeler, ET 3C-K

RESPONSE TO DRAFT AUDIT REPORT 2010-13657 – DISTRIBUTOR AUDIT OF MEMPHIS LIGHT, GAS AND WATER DIVISION

This is in response to your memorandum to Joseph Hoagland dated May 25, 2012.

Agreement or disagreement with all facts, conclusions, and recommendations are stated first, followed by the actions planned or taken and completion dates, if applicable, for each of the recommendations.

Erroneous Adjustment Caused Underpayment to TVA

1. Correct the underpayment to TVA of $3,601,693 related to the January 2010 billing error.

    - TVA management agrees with this recommendation. The error was identified on the wholesale bill and has a direct impact to TVA's revenues.

    - Actions taken or planned completion dates: TVA management has verified and confirmed the underpayment amount and this amount is expected to be billed to MLGW on their June 2012 invoice. Target completion date is September 30, 2012.

2. Establish a process for approving and/or reviewing adjustments to customer accounts after they are entered into the billing system.

    - TVA management agrees that the distributor should have good internal controls to verify that adjustments are entered correctly into the system, especially as that data entry might impact TVA wholesale billing.

    - Actions taken or planned completion dates: TVA management understands that Distributor will review its process to see if any improvements are needed to enter, verify and approve adjustments. Target completion date is June 2013.

Other Isolated Instances of Improper Reporting of Electric Sales and/or Potential Discrimination in Providing Power to Customers

3. Review remaining potentially misclassified residential accounts and reclassify accounts as appropriate.

    - The Schedule of Rates and Charges to the TVA/MLGW Power Contract has not contained retail rate schedules since that Power Contract was amended in 2002 by a resale rate flexibility agreement. Therefore, TVA has no legal basis for correcting these misclassifications except for potential discrimination in retail billing. However, we understand that for the business accounts identified as being improperly classified as residential, MLGW is correcting these misclassifications to comply with their own policy on rate classifications and thus TVA management plans to take no further action with respect to the potential discrimination in retail billing.

4. Review and modify process(es) in place to identify all residential accounts that should be commercial and reclassify as appropriate.

    - The Schedule of Rates and Charges to the TVA/MLGW Power Contract has not contained retail rate schedules since that Power Contract was amended in 2002 by a resale rate flexibility agreement. Therefore, TVA has no legal basis for reviewing and modifying these processes except for potential discrimination in retail billing. However, we understand that MLGW will identify root causes for this problem and modify their process to correct this. TVA management plans to take no further action with respect to the potential discrimination in retail billing.

5. Establish a process for documenting the evaluation of a demand meter installation once a customer's monthly usage exceeds 25,000 kWh.

    - TVA management agrees that the distributor should review customer usage greater than 25,000 kWh and install demand meters if needed. TVA does not regulate the retail rates for MLGW and after the rate change in April 2011, there would be no impact on TVA revenues for accounts without demand meters. However, unless MLGW has a good process and documentation for reviewing customers that have usage greater than 25,000 kWh to determine if they require demand meters, potential discrimination issues could arise.

    - Actions taken or planned completion dates: TVA management understands that Distributor will review its process to see if any improvements are needed to the process for documentation and evaluation of demand meters for customers whose monthly usage exceeds 25,000 kWh. Target completion date is June 2013.

<u>Other Issues</u>

6. Obtain and maintain properly executed, effective customer contracts for all customers with demand in excess of 50 kW in accordance with Memphis policy.

    - The Schedule of Rates and Charges to the TVA/MLGW Power Contract has not contained retail rate schedules since that Power Contract was amended in 2002 by a resale rate flexibility agreement. Therefore, TVA has no legal basis of enforcing the written contract requirement absent a showing that MLGW is engaging in discrimination. We have seen no evidence of MLGW discrimination that would merit any TVA action. However, we understand that MLGW will evaluate requiring contracts only for demand in excess of 1,000 kW, in accordance with TVA guidance and then establish a contract repository which will be subject to annual review.

7. Correct customer contract demand errors identified in the billing system and, at a minimum, review customer contract demand entered into the billing system for the remaining accounts with contract demand in excess of 1 MW in accordance with TVA guidance. Consider reviewing customer contract demand entered into the billing system for contracts in excess of 50 kW in accordance with Memphis policy.

   - TVA management agrees that the distributor should have good internal controls to verify that data is entered correctly into the system, especially as that data entry might impact TVA wholesale billing.

   - Actions taken or planned completion dates: TVA management understands that Distributor will correct contact demand for contracts in excess of 1,000 kW in accordance with the OIG minimum review recommendation. Target completion date is June 2013.

8. Review and modify the process for entering customer contract demand into the billing system to verify the contract demand value in the system agrees with the customer's contract.

   - TVA management agrees that the distributor should have good internal controls to verify that data is entered correctly into the system, especially as that data entry might impact TVA wholesale billing.

   - Actions taken or planned completion dates: TVA management understands that Distributor will develop a process to ensure that contract demand in the billing system matches the customer's contract demand. Target completion date is June 2013.

9. Obtain and maintain required documentation for customers served under the manufacturing rates.

   - TVA management agrees with the recommendation.

   - Action taken or planned and completion dates: TVA management understands that Distributor will work with the customers to ensure that appropriate certifications are obtained from the customer and retained on file. Target completion date is June 2013.

10. Obtain and maintain required documentation for customers receiving credits under the TVA EGC program.

    - TVA management agrees with the recommendation.

- Action taken or planned and completion dates: TVA management understands that Distributor will work with the customers to ensure that appropriate certifications are obtained from the customer and retained on file. Target completion date is June 2013.

Cynthia L. Herron

Cynthia L. Herron
Director
Retail Regulatory Affairs
OCP 1B NST

VB: AMM

cc:
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