



Memorandum from the Inspector General, ET 4C-K

June 23, 2009

TVA Board of Directors

FINAL REPORT – INSPECTION 2007-11399 – REVIEW OF TVA'S FINANCIAL PERFORMANCE

Attached is the final report which answers the basic question of "How is TVA doing in regard to financial performance." This report incorporates formal comments on a draft of this report, which were provided by Kimberly S. Greene, Chief Financial Officer and Executive Vice President, Financial Services.

This review is the second in a series that will provide an independent assessment of TVA's performance in key areas. The Office of the Inspector General will issue reports annually on TVA's financial performance as well as its operational, environmental, and customer relations performance. These reports are intended to give an objective assessment to the TVA Board of Directors and Congress regarding TVA's performance and to highlight significant challenges facing TVA.

This report will be placed on our Web site and delivered to Members of Congress. Please advise us of any sensitive information in this report that you recommend be withheld.

We would be happy to brief you on this report. If you have specific questions about this report, please contact Ben R. Wagner, Deputy Inspector General, at (865) 633-7500 or Robert E. Martin, Assistant Inspector General, Audits and Inspections, at (865) 633-7450.

Richard W. Moore

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Attachment

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OIG File No. 2007-11399



Tennessee Valley Authority
Office of the Inspector General

Inspection Report

REVIEW OF TVA'S FINANCIAL PERFORMANCE

Inspection 2007-11399
June 23, 2009

INTRODUCTION

What We Are Trying To Accomplish

This is the second in a series of inspections that seek to provide a perspective on the question, "How is TVA doing?" Although there are existing sources to answer that question, those sources often tend to be either hyper technical or anecdotal. Some sources require interpretation from TVA management. Also, the primary source of relevant information needed to assess TVA's financial performance—TVA's reports to the Securities and Exchange Commission (SEC)—can be difficult to understand. These reports are lengthy and contain detailed technical information. In fact, as recently as August 2008, an SEC Advisory Committee noted that "many individual investors may find a company's periodic reports overly complex and detailed."¹ We are attempting to fill the gap that exists in the information available for most TVA stakeholders to be able to understand how TVA "stacks up" against other utilities.

What We Are Evaluating

We will be addressing four key strategic areas including financial health, operational performance, environmental stewardship, and customer relations. We believe that if TVA's performance in these areas is documented and understood, the question "How is TVA doing?" will have been answered. Our reviews are intended to give an objective evaluation of TVA's performance and to present, as appropriate, the significant management challenges facing TVA. By doing this work, the Office of the Inspector General (OIG) adds value to stakeholders by objectively assessing key issues confronting TVA. The "audience" for the OIG is primarily the TVA Board, Congress, and residents of the Tennessee Valley.

Why the Office of the Inspector General Should Do These Reviews

There are three reasons why this work should fall to the OIG: (1) We have the expertise to do it. For over 20 years the OIG has been scrutinizing TVA programs and operations, and we have developed a cadre of professionals immersed in the analysis of utility work. Simply put, our people know TVA; (2) we have the independence to do it. The OIG does not have a stake in the outcome of any report we write. We are neither fans nor foes of TVA management. Whether TVA ranks high or low in comparison to other utilities does not in any way affect the OIG. We have complete discretion to look wherever we want and to report the facts as we find them; and (3) we print what we do. Our work is public and posted on our Web page—the good, the bad, and

¹ Final Report of the Advisory Committee on Improvements to Financial Reporting to the United States Securities and Exchange Commission, August 1, 2008, page 3.

everything in between. Transparency and accountability should be the hallmark of a government agency. Our very public work makes that more likely for TVA.

Why Now?

The United States (U.S.) is facing an energy crisis of historic proportions and when coupled with the recent national economic instability across the U.S., this combination presents unique challenges. Congress is currently grappling with issues that will directly impact TVA and other utility companies. The financial soundness of TVA is perhaps more important now than at any other time in history.

Moreover, TVA is in the throes of making strategic decisions that will affect generations of Valley residents. Historically, TVA has a spotty record in evaluating market conditions and investing in the right generation mix. The current financial status and performance metrics of TVA should be all the more transparent to its stakeholders. A high-performing, competitive, and forward-thinking TVA is more critical now than ever before.²

Why This Particular Report on Financial Performance?

Financial performance is a prime determinate of sustainable success. The strategic challenges facing TVA require a sound, long-term financial plan and vision. The key has always been and will always be accountability through management, financial reporting, and operational controls.

How We Did This Report

This inspection report will provide a high-level evaluation of TVA's financial performance. Specifically, we reviewed TVA's strategic goals and objectives focusing our evaluation on the three primary drivers: maintaining adequate revenue, making sound capital investments, and containing costs. In conducting this review, we: (1) assessed key performance measures and their alignment with the key strategic objectives, (2) evaluated TVA's results relative to targets and available benchmark information, and (3) identified key management challenges that could affect how successful TVA is in achieving these strategic objectives.

² The TVA Board approved construction of an 880-megawatt gas-fired power plant in northeast Tennessee and deferred two planned construction projects to upgrade gas plants in west Tennessee and northeast Mississippi at the June 2009 Board meeting held in Young Harris, Georgia. While the OIG will review TVA's cost benefit analysis used to make this decision, that will be the subject of a future report, and the impact of that decision on TVA's financial strength is not a part of this report.

Key factors we considered, where appropriate, were how TVA's results compare to (1) those of others and (2) the goals TVA sets for itself, as shown below. We also considered TVA initiatives for improving future performance.

RESULTS	4-5 Star Good	2-3 Star Fair	1 Star Poor
How do TVA's results compare to (1) those of other utilities and (2) the goals it sets for itself?	<ul style="list-style-type: none"> Measured results compare favorably with peer group for most of the key metrics. Measured results achieve TVA's goals. 	<ul style="list-style-type: none"> Measured results compare favorably with peer group for several of the key metrics. Measured results achieve a portion of TVA's goals. 	<ul style="list-style-type: none"> Measured results compare favorably with peer group for few of the key metrics. Measured results do not achieve TVA's goals.

More information regarding our objectives, scope, and methodology can be found in Appendix 1. We requested and received from the TVA Chief Financial Officer comments on a draft of this report. The comments are included in Appendix 2 to this report. Management expanded on points we made in various instances and disagreed with our assessment in certain areas. We made changes to the final report to clarify certain matters and to provide context suggested by TVA management. However, these changes did not affect our conclusions about TVA's financial performance. Our assessment and response to TVA management's comments are included in Appendix 3 to this report.

BACKGROUND

TVA operates the nation's largest public power system. In 2008, TVA provided electricity to 52 large industries, 6 federal agencies, and to 159 distributor customers that serve nearly 9 million people in seven southeastern states. TVA generates almost all of its revenues from the sale of electricity and, in 2008, revenues from the sale of electricity totaled \$10.3 billion.³ As a wholly owned agency and instrumentality of the U.S., however, TVA is different from other electric utilities in a number of ways. A few of the more distinguishing features include the:

- **Defined Service Area** – TVA has a defined service area established by federal law. Subject to certain minor exceptions, TVA may not, without specific authorization from the U.S. Congress, enter into contracts which would have the effect of making it, or the distributor customers of its power, a source of power supply outside the area for which TVA or its distributor customers were the primary source of power supply on July 1, 1957.
- **TVA Board's Rate Authority** – Typically, an investor-owned utility is regulated by a public utility commission which approves the rates the utility may charge. TVA, however, is self-regulated with respect to rates similar to other publically owned utilities. The TVA Act gives the TVA Board sole responsibility for establishing the rates TVA charges for power. In setting TVA rates, the TVA Board is charged by the TVA Act to have due regard for the objective that power be sold at rates as low as feasible.⁴

³ TVA had \$130 million in other revenues in addition to the \$10.3 billion from sales of electricity. Beginning October 2006, certain items previously considered revenue from sales of electricity were reclassified as other revenue including delivery point charges, administrative charges, and customer charges. Additionally, certain items previously considered revenue from other revenue were reclassified as other income. These items are not directly associated with revenue derived from electric operations but are associated with the operation of service organizations which provide environmental and maintenance and testing services.

⁴ The TVA Act specifies that TVA is to charge rates for power which will produce gross revenues sufficient to provide funds for (1) operation, maintenance, and administration of the power system; (2) payments to states and counties in lieu of taxes; (3) debt service on outstanding indebtedness; (4) payments to the U.S. Treasury in repayment of and as a return on the power facilities' appropriation investment; and (5) such additional margin as the TVA Board may consider desirable for investment in the power system assets, retirement of debt, and other purposes connected with TVA's power business.

- **Sources of Funding** – TVA, unlike investor-owned power companies, is not authorized to raise capital by issuing equity securities. TVA relies primarily on cash from operations and proceeds from power program borrowings to fund its operations. The TVA Act authorizes TVA to issue bonds, notes, and other evidences of indebtedness (collectively, "bonds") in an amount not to exceed \$30 billion at any time. As of September 30, 2008, TVA's total bonds, notes, and other obligations were \$25.1 billion.⁵
- **Required Stewardship Activities** – TVA's mission includes managing the United States' fifth largest river system, the Tennessee River and its tributaries, to provide, among other things, year-round navigation, flood damage reduction, affordable and reliable electricity, and, consistent with these primary purposes, recreational opportunities, adequate water supply, improved water quality, and economic development.

TVA published a Business Education Series to help employees better understand TVA and their role in helping the company achieve its strategic objectives. In discussing the "Big Picture," questions applicable to where TVA revenue comes from, where it goes, and what does this mean were answered. The questions and answers in the Business Education Series included:

How does TVA generate cash?

- By selling power to power distributors and direct-served customers.
- By selling power through power exchange agreements.
- By issuing bonds to pay for debt retirement or capital investments.

What does TVA use this cash for?

- Fuel (e.g., coal, uranium, and natural gas), materials/supplies, and services needed to run the business.
- Payroll and employee benefits, both for the power business and river stewardship.
- Interest and payments on debt.
- Payments in lieu of taxes to the states and counties where TVA does business or owns power property.

⁵ Specifically, TVA had (1) \$20.4 billion in long-term bonds and notes outstanding of various final maturities, (2) \$2.2 billion in short-term discount notes and current maturities of long-term debt, and (3) \$2.5 billion of other financing obligations outstanding including energy prepayment and lease/leaseback obligations. The amount of TVA's bonds outstanding has been reduced by about \$5 billion since September 30, 1996, when the end-of-year balance of outstanding bonds peaked.

- Capital expenditures to maintain plant and equipment and to fund investments in new generating plants and clean-air equipment.

What does all of this mean to TVA?

- "Prosperity and excellent quality of life in the Tennessee Valley create continuing demand for electricity, generating more revenue for TVA. TVA must be financially healthy to achieve excellence in business performance and public service."

Financial Performance Strategic Objective

According to the 2007 TVA Strategic Plan, TVA's strategic objective for financial performance is to: "**Adhere to a set of sound guiding financial principles to improve TVA's fiscal performance.**" According to the Plan, critical success factors include:

- Applying sound economic and financing practices to new investments.
- Paying financing obligations before assets are fully depreciated.
- Strengthening TVA's balance sheet by improving the ratio of financing obligations to total assets.
- Improving TVA's cash return on total assets in order to service debt, preserve existing assets, reinvest in new assets, and improve environmental performance.
- Achieving top-quartile performance in non-fuel operation and maintenance (O&M) expenses and then hold increases to be less than unit sales growth (kWhs).

As shown in Figure 1, TVA currently has three performance metrics in place to monitor TVA's performance toward successful implementation of its strategy.

Figure 1. TVA Financial Performance Measures.

Measures	Definition
Total Financial Obligations/Asset Value	Measure of debt-like obligations compared to total assets. Lowering debt-like obligations over the long term will produce a more flexible cost structure, allowing TVA to react more advantageously in the changing power market.
Earnings Before Interest, Taxes, Depreciation & Amortization (EBITDA)/Asset Value	Measure of profitability and return on assets. EBITDA is a good measure to evaluate profitability, and this measure allows TVA to compare its performance against the industry and evaluate trends over time.
TVA Non-Fuel O&M (\$/MWh Sales)	Measure of the most significant controllable component of TVA's total costs and represents the non-fuel O&M costs per MWh sales.

Source: TVA 2008 Balanced Scorecard.

SUMMARY CONCLUSIONS

In our judgment, TVA's overall financial performance for this assessment period was adequate; however, the agency faces several significant financial challenges, some of which recently emerged. This conclusion is based on our analysis of TVA's financial health in three areas: (1) maintaining adequate revenues, (2) making sound capital investments, and (3) containing costs. In summary:

- TVA's ability to set its own rates and the implementation of a fuel cost-adjustment clause provides flexibility to help maintain adequate revenues to cover costs. Additionally, TVA operates in a service area that is largely free from competition and has a large and diverse customer base.
- The electric utility industry is a very capital intensive one requiring TVA to make large-scale capital investment decisions. TVA currently projects annual capital spending of more than \$2 billion per year through 2011 and about \$2.9 billion in 2012. These investments pertain to new generation and transmission assets, environmental requirements, and existing assets that are aging and need regular upgrades to keep running. TVA has made certain investment decisions in the past that did not pay off. For example, TVA began a significant nuclear plant construction program in 1966 to meet projected system load growth that did not materialize. The construction program was largely abandoned over time due to the less-than-projected load growth. TVA is seeking to improve its capital investment decisions and the financial performance of its capital assets. TVA's ability to make these large investments will be a challenge given its financing structure and legislative debt ceiling. TVA is not allowed to raise financing by issuing equity securities but instead must rely on operating revenues and debt financing. According to TVA management, one of the factors TVA considers in making investment decisions is its investment in non-operational nuclear assets that were not completed and may provide unique, lower cost investment options for TVA in meeting load growth (e.g., the Browns Ferry Nuclear Plant (BFNP) Unit 1 restart, Watts Bar Nuclear Plant (WBNP) Unit 2, and Bellefonte Nuclear Plant (BLNP)).
- TVA is attempting to reduce certain costs to improve its financial position. It fares poorly when compared to other electric utilities with respect to non-fuel O&M costs. TVA is seeking to reduce non-fuel O&M costs but has made limited progress to date. TVA has also focused on reducing interest costs as a percentage of revenues and has made progress in doing so in recent years.

- It is important to note that TVA faces many significant management challenges in generating effective financial performance results. Recent events negatively affecting TVA financially include a wet coal fly ash spill at the Kingston Fossil Plant,⁶ declining power sales due to a downturn in the economy, a court ruling on a lawsuit brought by the state of North Carolina, and significant losses on accounts established to fund retirement and asset decommissioning. In addition, we have included in this report discussions of the necessity to manage commodity price, investment price, credit, and capital requirement risks, and the risk that interest rates might rise. In addition, while TVA's bond rating is based primarily more on its federal ties than its financial position, TVA management has identified maintaining the AAA bond rating as a risk factor in its 2008 U.S. SEC Annual Form 10-K.

⁶ As has been widely reported in the media, on December 22, 2008, a dike failed at Kingston, allowing approximately five million cubic yards of water and coal fly ash to flow out onto approximately 300 acres, primarily Watts Bar Reservoir and shoreline property owned by the U.S. and managed by TVA. TVA had originally estimated that 50 acres of property not managed by TVA had been affected by the spill. Fly ash is a by-product of a coal-fired plant and, according to the Tennessee Department of Health, may contain the following metals: arsenic, beryllium, cadmium, chromium, lead, selenium, thallium, and vanadium. See *infra* for a discussion of the estimated cost of this spill to TVA.

The following discussion provides the basis for our conclusions.

Maintaining Adequate Revenue (4 Star)



TVA's performance has been good in this regard. Unlike the typical electric utility, TVA has the ability to set its own rates. It also implemented a fuel cost-adjustment clause in fiscal year (FY) 2007 which provides the flexibility to help maintain adequate revenues to cover costs. In addition, TVA operates in a service area where competition is limited and has a large and relatively stable customer base. However, recent events such as the Kingston coal fly ash spill, significant losses on accounts established to fund retirement and asset decommissioning, and a downturn in the economy affecting power sales will severely test TVA's ability to generate adequate revenues.

TVA Has Rate Setting Flexibility

Typically, a utility is regulated by a public utility commission which approves the rates the utility may charge. In contrast, TVA is self-regulated with respect to rates. The TVA Act gives the TVA Board sole responsibility for establishing the rates TVA charges for power. These rates are not subject to judicial review or review or approval by any state or federal regulatory body.

The Act requires that TVA charge rates that produce sufficient revenues to provide funds for operation, maintenance, and administration of its power system; make payments to states and counties in lieu of taxes; make debt service payments; make payments to the U.S. Treasury in repayment of previous appropriations invested in TVA's power system plus a return on that investment; and allow an additional margin for investment in power system assets and for other purposes connected with TVA's power business. In setting TVA's rates however, the TVA Board is required by the TVA Act to have due regard for the objective that power be sold at rates as low as feasible.

On July 28, 2006, the TVA Board of Directors approved a fuel cost adjustment to be used quarterly to adjust TVA's rates to reflect forecasted changing fuel and purchased power costs. It was implemented in FY 2007 and first impacted rates on January 1, 2007. This fuel cost adjustment provides flexibility to help maintain adequate revenues to cover costs and help manage the volatility of fuel and purchased power costs. It allows TVA to reconcile its forecasts for fuel and purchased power costs with the actual costs. In assessing an electric utility, Standard & Poor's considers a utility's ability to pass along higher fuel costs to customers a key factor.

The fuel cost adjustment is part of consumer power bills. It can be either a charge or a credit, depending on quarterly increases or decreases in fuel and purchased power costs. Key factors that affect fuel and purchased power costs are the weather and changes in prices for various fuels. According to TVA officials, many utilities, including most neighboring TVA's service area, use similar rate adjustment mechanisms.

The Kingston coal fly ash spill will exert significant financial pressure on TVA. According to its first quarter 2009 10-Q filing with the SEC,⁷ TVA has begun to estimate the cost associated with the associated cleanup and recovery operations. According to an update presented by the Kingston Recovery Executive dated June 8, 2009, the estimated cost ranges from about \$675 million to about \$975 million, depending on the long-term disposal options. As of March 31, 2009, according to TVA's second quarter filing with the SEC,⁸ TVA has recognized a charge of \$675 million for the six months ended March 31, 2009, in connection with the current expected cleanup costs related to the event. Costs incurred through March 31, 2009, totaled \$77 million. The \$675 million expense currently includes, among other things, a reasonable estimate of costs to contain the cenospheres, perform sampling and analysis, construct the weir and dike, and the low end of an estimated range to remove an estimated 5 million cubic yards of ash. The cost of removal is in a large part dependent on the final disposal plan.

In addition, the value of assets held in TVA's retirement and asset decommissioning funds has dropped dramatically as financial markets have declined. The assets in TVA's retirement system declined by almost \$1.5 billion for the six months ended March 31, 2009. Because of this decline TVA may need to make additional contributions to the retirement system in the future. In a special called meeting on June 8, 2009, The TVA Retirement System Board voted to recommend a contribution by TVA to the System of \$300 million for fiscal year 2010. This has been communicated to TVA, and they are currently reviewing the request. In addition, for the same six-month period, TVA's nuclear decommissioning fund declined by \$240 million, which may require TVA to make additional contributions to its nuclear decommissioning trust to meet regulatory funding requirements. TVA does not anticipate making significant changes in its basic investment policies as a result of current market conditions.

⁷ TVA Form 10Q for the quarterly period ending December 31, 2008.

⁸ TVA Form 10Q for the quarterly period ending March 31, 2009.

Legislative Provisions Limit TVA's Exposure to Competition

According to Standard & Poor's, the extent to which an electric utility is shielded from competition is a key consideration in analyzing a utility's financial prospects. Certain provisions of law limit direct wholesale competition between TVA and other electric utilities. One provision is called the "fence," and one is called the "anti-cherry picking" provision.

The TVA Act was amended in 1959 to establish what is commonly referred to as the TVA "fence," which generally prohibits TVA from entering into contracts to sell power outside the service area that TVA and its distributors were serving on July 1, 1957.

The Energy Policy Act of 1992 provides TVA with certain protections from competition called the "anti-cherry picking" provision. This Act exempts TVA from having to allow other utilities to use its transmission lines to transmit power to customers within TVA's service area.

However, TVA is subject to some forms of indirect competition. For example, TVA has no protection against its industrial customers relocating outside its service area or businesses deciding not to move to its service area for reasons related to the cost of power. In addition, customers can decide to generate their own power, and distributors on the TVA boundary have the ability to purchase from another supplier. While in actuality all TVA customers have the ability to purchase power from other providers, as stated above, TVA does not have to provide transmission service for the purpose of delivering power within its service area for other providers.

TVA Has a Large and Diverse Customer Base

TVA has a large and diverse customer base. As of March 2009, it primarily sells power at wholesale to 158 distributor customers⁹ consisting of municipalities and cooperatives that resell the power at a retail rate to nearly 9 million people in seven southeastern states. In FY 2008, 83 percent of TVA's revenue was attributed to these sales. TVA also currently sells power to (1) 58 directly served industries and federal facilities and (2) 12 exchange power customers (electric systems that border TVA's service area) with which TVA has entered into exchange power arrangements.

⁹ Monticello EPB ("MEPB") provided the required five-year notice to terminate its TVA power contract on November 20, 2003. As a result, it was no longer a distributor of TVA power effective midnight on Thursday, November 20, 2008. With the departure of MEPB, TVA serves 158 power distributor customers.

Operating revenues by customer type for FYs 2005–2008 are shown in Figure 2.

Figure 2.

Operating Revenues by Customer Type for the Years Ended September 30 (in Millions)				
	2008	2007	2006	2005
Municipalities and cooperatives	\$ 8,659	\$ 7,847	\$ 7,659	\$ 6,539
Industries directly served ¹	1,472	1,221	1,065	961
Federal agencies and other				
Federal agencies directly served ¹	108	95	103	86
Off-system sales	13	17	13	95
Subtotal	10,252	9,180	8,840	7,681
Other revenues	130	146	143	101
Total operating revenues	\$ 10,382	\$ 9,326	\$ 8,983	\$ 7,782

Source: TVA Form 10K Pursuant to Section 13, 15(d), or 37 of the Securities Exchange Act of 1934, for the FY ended September 30, 2008.

Note:

¹ "In this table, sales to industries directly served are included in Industries directly served, and sales to federal agencies directly served and to exchange power customers are included in Federal agencies and other."

The downturn in the nation's economy has had an impact on TVA's energy sales in recent months. According to TVA's first quarter 2009 10-Q filing with the SEC, this downturn has resulted in less demand for power by certain customer types. In particular, some customers directly served by TVA have reduced production in response to the economic downturn. For the quarter ended December 31, 2008, TVA's energy sales to industries directly served declined by almost 9 percent compared to the same period the previous year, while energy sales to municipalities and cooperatives increased by less than 1 percent. In December 2008, TVA revised its forecast of total 2009 energy sales; the revised forecast is for 5 percent lower sales for the year than initially forecast.

According to TVA management, "The effects of the economic downturn are resulting in less demand for electric power. For the six months ended March 31, 2009, directly served industrial sales were down approximately 14.9% compared to the same period in the prior year, while municipal and cooperative sale experienced a 3.1% decline. TVA's total sales from electricity for the six months ended March 31, 2009, were down 5.6% from the same period in the prior year. TVA continues to revise its forecast for 2009 fiscal year energy sales."

As shown in figure 3, previous economic downturns deeply impacted TVA's energy sales (in gigawatt hours – gWh). TVA raised its rates in the early 1980s and in doing so was able to offset the decrease in energy sales. However since that time economic downturns (depicted as shaded areas in the figure) have negatively impacted TVA's revenues. TVA's economist informed us that the TVA service region is more dependent on manufacturing employment than the overall U.S. economy because manufacturing accounts for 16 percent of the region non-farm employment as compared to 10 percent for the U.S. as a whole. Therefore, recessions tend to hurt the TVA service region (and TVA's energy sales) deeper than the U.S. as a whole.

A Standard & Poor's Ratings Services report issued March 4, 2009, states that the economic downturn will create the most immediate problems for public power and electric cooperatives. According to the report, the utilities most at risk are those with large industrial loads. The report states that as manufacturers shut down facilities or cut production, electricity demand decreases, and unless utilities' managements take action to offset lower demand, even the most diverse power generators may not be able to achieve their budgeted margins.

Figure 3. TVA's gWh Sold, Revenue, and U.S. Recessions.

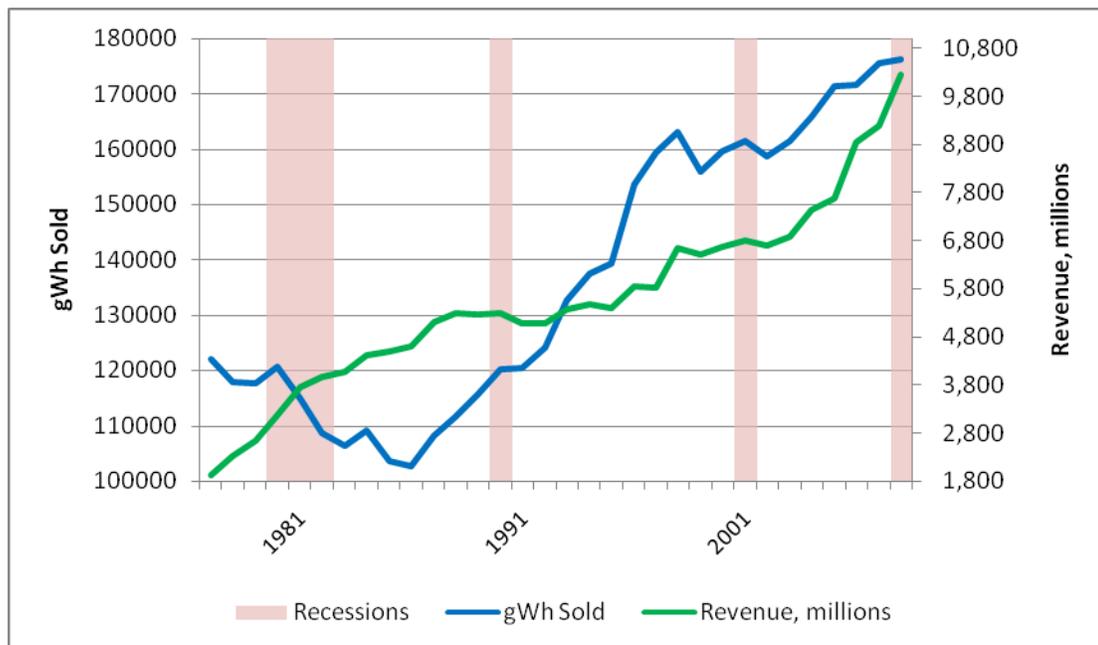


Figure 4 shows TVA's gWh sold to all business accounts over the past 24 months (through January 2009). The chart uses weather-normalized gWh sold and includes TVA's direct serve industrial customers plus commercial and industrial customers served through the municipal and cooperative distributors. The figure indicates that the current recession is already having a significant impact on TVA.

Figure 4. TVA's gWh Sold to Business Accounts, Last 24 Months.



Together, this historical data indicates that TVA is facing a formidable challenge in maintaining adequate revenue in future years.

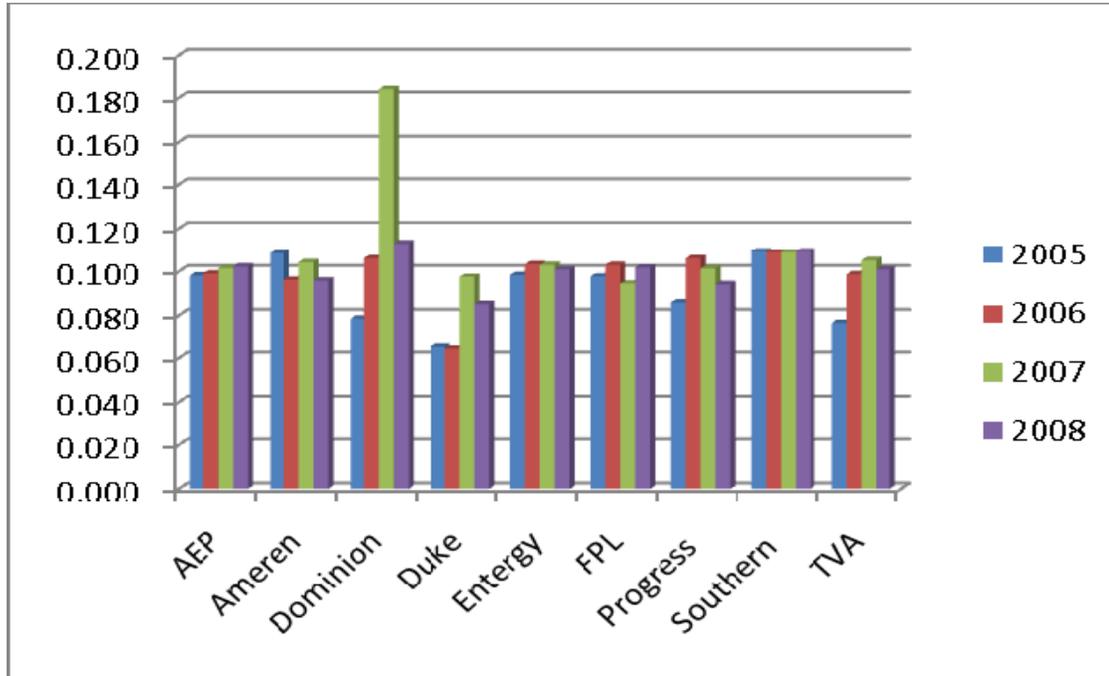
One of TVA's key means of focusing on its income statement and evaluating its financial performance is by measuring its return on assets. It does so by calculating earnings to asset value ratio. According to TVA documentation,¹⁰ this metric allows TVA to compare its performance to the industry and evaluate trends over time. This measure is part of TVA's Winning Performance incentive plan¹¹ and is calculated by dividing earnings before interest, taxes, depreciation, and amortization (EBITDA) by total assets. It shows the amount of revenue generated by a company's assets.

¹⁰ "Winning Performance: TVA Balanced Scorecard," July 2008.

¹¹ As noted in TVA's "Winning Performance Team Incentive Plan," FY 2008, the Winning Performance incentive plan is a performance management program designed to promote teamwork, focus on high performance, and motivate and reward employees for achieving strategic objectives and critical success factors. A key component of the plan is the Balanced Scorecard. The plan is based on the idea that operational improvements, reduced costs, and improved revenues can be achieved by applying management focus and offering monetary incentives. The Balanced Scorecard is the primary tool for identifying and communicating the incentives to TVA's workforce. Through the incentive plan, the Balanced Scorecard provides the basis for a lump-sum payout to eligible employees not part of the Executive Annual Incentive Plan.

As shown in Figure 5, TVA has performed competitively on the earnings to asset value ratio in comparison to other electric utilities.

Figure 5. TVA's EBITDA to Asset Value Ratio Compared to Eight Other Electric Utilities for the 3-Year Period 2005–2008.



Source: Developed by OIG from entities' SEC 10-K filings.

As we noted in our separate inspection report on TVA's performance in the area of customer relations,¹² TVA's electricity rates are competitive. For the 12 months ended September 2007, they were (1) 24 percent below the national average, (2) below the median when compared with neighboring utilities,¹³ and (3) at the median when compared to other utilities within one wheel¹⁴ of TVA. This gives TVA added flexibility to maintain a rate structure that produces adequate revenues to cover its costs.

¹² See Inspection Report 2007-11401 – Review of TVA's Customer Relations Performance.

¹³ For neighboring utilities, all but TVA's average commercial rate was below the median when benchmarked or compared with other utilities for 2007.

¹⁴ One wheel is defined as a movement of power across intervening hubs with each hub counting as one wheel. CBOT® Electricity Futures and Options Reference and Applications Guide, ComEdSM and TVA Hub Electricity Futures and Options: The Reference and Applications Guide, page 12.

Making Sound Capital Investments (2-3 Star)



The electric utility industry is capital intensive and requires economic decisions regarding (1) building new generation to meet projected demands, (2) major capital improvements to meet environmental requirements, and (3) investing in existing assets that are aging and need regular upgrades to keep running. TVA's performance is fair in this area. In past years TVA has made certain investment decisions that did not pay off. For example, as is well known, TVA began a significant nuclear plant construction program in 1966 to meet projected system load growth that did not materialize. At the height of the construction program, TVA had 17 units under construction or in commercial operation at seven plant sites, but the construction program was largely abandoned over time due to the less-than-projected load growth. Current management did not make the decision to embark on this nuclear construction program and is seeking to make the most of capital projects that were not completed to derive future value for TVA's ratepayers. TVA is seeking to improve its capital investment decisions and the financial performance of its capital assets.

Large Capital Investment Decisions Are Required

The electric utility industry is a capital intensive one. TVA and other utilities are required to make many different capital investment decisions that are critical to their future success. Decisions must be made regarding new generation, environmental compliance, and maintaining and upgrading current assets.

In recent years TVA has taken significant actions to provide power availability for the future by investing in nuclear and combustion turbine generation. TVA recently completed restoring BFNP Unit 1 to service which provides 1,150 megawatts of baseload capacity at a cost of about \$1.84 billion through September 2007.¹⁵ According to TVA management, completing the BFNP has added environmentally friendly base-load generation at significantly less cost than adding equivalent capacity from renewable energy sources or by building nuclear capacity from scratch. TVA estimates that it has avoided \$800 million in purchased power costs since the Browns Ferry restart. TVA is also constructing the WBNP Unit 2 and studying the costs/benefits of constructing additional nuclear units at the BLNP site. To help meet peak demand needs, in 2007 TVA acquired combustion turbine facilities that collectively provide 11 units and 1,296 megawatts of winter net dependable capacity.¹⁶ In addition, in September 2007 the TVA Board approved the acquisition and construction of a combined-cycle facility in southwest Tennessee. This facility, with an anticipated

¹⁵ Total project costs of \$2.111 billion less allowance for funds used during construction of \$269 million.

¹⁶ This represents the amount of power a plant can produce on an average winter day, minus the electricity used by the plant itself.

operation date of June 2010, is expected to have a planned winter net capacity of approximately 600 megawatts. Also, on April 3, 2008, TVA reported that it had agreed to purchase a three-unit, 810-megawatt combined-cycle combustion turbine facility for \$461.3 million.¹⁷

With respect to environmental compliance, TVA has also made significant investments. As of September 30, 2008, TVA reported that \$5.1 billion has been invested to reduce emissions and plans to invest another \$400 million through 2010 for additional controls. In the decade beginning in 2011, TVA estimates spending an additional \$3 billion to \$3.7 billion on emission controls for conventional pollutants. This would bring TVA's investment in emission controls to over \$9 billion. However, on July 11, 2008, a federal appeals court unanimously ruled that Environmental Protection Agency (EPA) overstepped its authority when it instituted the Clean Air Interstate Rule (CAIR). It was reported that a few electric companies opposed CAIR, but most favored it because it included cap-and-trade provisions related to emission credits. Now TVA possibly faces a new law or replacement regulation and possible carbon and mercury legislation.¹⁸

TVA also faces accelerated capital spending for pollution controls on fossil plants as a result of a January 13, 2009, federal district court ruling on a lawsuit brought by the state of North Carolina. Among other things, the court ruled¹⁹ that TVA must accelerate its environmental mitigation spending in certain cases, by:

- Adding scrubbers and selective catalytic reduction systems (SCRS) at the John Sevier Fossil Plant by December 31, 2011, instead of the current planned timeframes of mid-2012 for the scrubbers and 2015 for the SCRS.
- Completing its plan to modernize the two existing scrubbers at Widows Creek and installing scrubbers and SCRS at Widows Creek Units 1-6 by December 31, 2013.

In addition to the \$0.8 billion TVA was already planning to spend, TVA estimates that the court actions will require accelerated spending of about \$1 billion on John Sevier and Widows Creek scrubbers and SCRS through 2014.

In addition, as a result of the Kingston fly ash spill, TVA could be required to significantly alter or stop using surface impoundments for combustion by-products. As TVA noted in its first quarter 2009 10-Q filing with the SEC, the Kingston spill resulted in interest by members of Congress increasing the potential that coal combustion by-products will be regulated, which could require

¹⁷ On top of the purchase price, TVA will pay \$5 million to terminate an existing operation and maintenance agreement at the facility.

¹⁸ According to the 2009 10Q, EPA requested a rehearing of the case or, in the alternative, that the case be remanded without CAIR being vacated. On December 23, 2008, the D.C. Circuit granted the motion and ordered EPA to develop a new rule but allowed CAIR to remain in effect during this process, page 59.

¹⁹ TVA appealed the district court order on May 29, 2009, to the Fourth Circuit Court of Appeals.

additional capital spending by TVA. Even absent such regulation, TVA's response to the spill will likely include capital improvement spending at coal combustion by-product containment areas.

TVA, like much of the electric utility industry, also faces large capital investments to keep an aging generating fleet operating. TVA operates (1) 59 coal-fired units with an average age of about 53 years, (2) 83 combustion turbines with an average age of about 25 years, (3) 29 power-producing dams with an average age of about 68 years, and (4) an aging transmission system. Significant resources will be needed to keep these aging assets operating.

TVA currently estimates capital project spending to exceed \$2 billion per year through 2011 and about \$2.9 billion in 2012. The breakdown of project capital spending is shown in Figure 6 below. This table does not include the estimated accelerated capital spending for pollution controls on fossil plants as a result of a January 13, 2009, court ruling on a lawsuit brought by the state of North Carolina.

Figure 6. Actual and Estimated Capital Expenditures¹ for FYs 2008–2013.

	Estimated Construction Expenditures					
	Actual 2008	2009	2010	2011	2012	2013
Watts Bar Unit 2	\$ 245	\$ 649	\$ 681	\$ 595	\$ 314	–
Other Capacity Expansion Expenditures	827	665	773	957	1,507	1,954
Clean Air Expenditures	277	232	223	440	475	608
Transmission Expenditures ²	98	32	45	34	40	41
Other Capital Expenditures ³	547	510	489	557	566	557
Total Capital Projects Requirements	\$ 1,994 ⁴	\$ 2,088	\$ 2,211	\$ 2,583	\$ 2,902	\$ 3,160

Source: TVA Form 10K Pursuant to Section 13, 15(d), or 37 of the Securities Exchange Act of 1934, for the FY ended September 30, 2008, page 65.

Notes:

- ¹ TVA plans to fund these expenditures with power revenues and proceeds from power program financings. This table shows only expenditures that are currently planned. Additional expenditures may be required for TVA to meet the anticipated growth in demand for power in its service area.
- ² Transmission Expenditures include reimbursable projects. Transmission expenditures for capacity expansion or load growth are included in Other Capacity Expansion Expenditures.
- ³ Other Capital Expenditures are primarily associated with short, lead-time construction projects aimed at the continued safe and reliable operation of generating assets.
- ⁴ The numbers above exclude allowance for funds used during construction of \$4 million in 2008.

TVA's ability to make needed investments will be a challenge given current projections and TVA's financing structure and legislative debt ceiling. TVA is not allowed to raise financing by issuing equity securities but instead must rely on operating revenues and debt financing. According to a 2003 federal study,²⁰ "from its inception in 1933 through fiscal year 1959, TVA received appropriations to finance its internal cash and capital requirements. However, in 1959 the Congress amended the TVA Act to authorize the use of debt financing. Under this legislation, the Congress ended the appropriations that had financed the TVA power program and required that TVA's power program be "self financing" through revenues from electricity sales. For its capital needs in excess of funds generated from operations, TVA was authorized to borrow by issuing bonds and notes. TVA's authority to issue bonds and notes is set by the Congress and is currently \$30 billion."

TVA's high credit rating is an advantage in financing these capital investments. In analyzing an electric utility, Standard & Poor's states that "a debt rating measures a company's financial position and its ability to repay debt. The Standard & Poor's ratings for a utility's debt securities are a good indication of a company's financial security." In its FY 2008 Form 10K, TVA management asserted that "TVA's rated securities are currently rated "Aaa" by Moody's Investors Service and "AAA" by Standard and Poor's and Fitch Ratings, which are the highest ratings assigned by these rating agencies. TVA's credit ratings are not based solely on its underlying business or financial condition which, by themselves, may not be commensurate with a triple-A rating. TVA's current ratings are based to a large extent on the body of legislation that defines TVA's business structure."

²⁰ "Tennessee Valley Authority: Information on Lease-Leaseback and other Financing Arrangements," U.S. General Accounting Office, July 2003 (GAO-03-784), page 5.

While TVA's rating is based largely on factors other than TVA's underlying financial condition, it does provide TVA with access to a lower interest rate for debt than available to most of its potential competitors. As shown by the latest data available to us, TVA has a credit rating superior to all of the eight potential competitors as shown in Figure 7.

Figure 7. Credit Ratings of TVA and Eight Investor-Owned Utilities.

Standard and Poor's Credit Ratings ²¹			
Company	Long Term	Rating Outlook	Short Term
Ameren Corp.	BBB-	Stable	A-3
American Electric Power Co. Inc.	BBB	Stable	A-2
Dominion Resources Inc.	A-	Stable	A-2
Duke Energy Corp.	A-	Stable	NR
Entergy Corp	BBB	Negative	--
Florida Power & Light Co	A	Stable	A-1
Progress Energy Inc.	BBB+	Stable	A-2
Southern Company	A	Stable	A-1
Tennessee Valley Authority	AAA	Stable	--

Source: Developed by the OIG based on data from Standard & Poor's Web site.

Certain Past Investment Decisions Did Not Pay Off

TVA began a significant nuclear plant construction program in 1966 to meet projected system load growth that did not materialize. At the height of the construction program, TVA had 17 units under construction or in commercial operation at seven plant sites, but the construction program was largely abandoned over time due to the less-than-projected load growth.

In 1982 and 1984, a total of eight units were canceled due to lower than expected load growth. By August 1985 TVA had delayed construction of two units each at Watts Bar Nuclear Plant and Bellefonte Nuclear Plant and had shut down the three-unit Browns Ferry Nuclear Plant and two-unit Sequoyah Nuclear Plant because of an increasing number of technical and operational problems. In November 2005, TVA canceled the construction of Units 1 and 2 at Bellefonte Nuclear Plant.

TVA has made other poor investment decisions as well. For example, TVA incurred about \$10.4 million in build-out costs related to the Highland Ridge Tower in Nashville. Initial occupancy of the building by TVA began in April 2000.

²¹ According to Standard & Poor's Rating Definitions dated December 1, 2008, Standard & Poor's assigns "dual" ratings to all debt issues that have a put option or demand feature as part of their structure. The first rating addresses the likelihood of repayment of principal and interest as due, and the second rating addresses only the demand feature. The long-term rating symbols are used for bonds to denote the long-term maturity and the short-term rating symbols for the put option (for example, "AAA/A-1+"), page 6. Also, A Standard & Poor's rating outlook assesses the potential direction of a long-term credit rating over the intermediate term (typically six months to two years). In determining a rating outlook, consideration is given to any changes in the economic and/or fundamental business conditions, page 11.

TVA later incurred savings by leasing office space with less square footage. Savings were realized even though TVA's sublease rate was less than its lease rate per square foot. In addition, on April 1, 2002, TVA canceled a project for two 500-megawatt combined-cycle turbines. At the time TVA abandoned the project, TVA had spent \$154 million, or 44 percent, of around \$350 million in estimated project costs. Also, TVA spent about \$17.6 million during FY 2003 and about \$35.4 million in total pursuing the Regenesys Project. The project was cancelled because, according to TVA, the company developing the flow-cell technology made a decision to close down all of its operations.

TVA Seeking to Improve Capital Investment Decisions and Asset Performance

In recognizing the importance of making sound investments in operating assets, TVA management has taken the position that investments in new capital projects and leases will be economically justified or needed to meet regulatory requirements, such as environmental compliance. Further, management has stated that new financial obligations will be paid down through revenue or savings generated from the investments they funded and that the financing obligations will be retired before the value of the associated assets is depleted. According to TVA, this should help ensure that financing obligations are manageable and commensurate with the associated assets.

According to TVA management, to increase the effectiveness of the capital investment process, TVA has revised a standardized capital review and approval process for all projects which was enhanced to include standard project prioritization for all significant projects. In addition, they stated that TVA executive management develops capital spending targets for each business unit in conjunction with the annual business planning process.

To measure performance toward these goals, TVA included debt-like obligations as a percentage of asset value as a Winning Performance measure for FY 2008. The goal of reducing debt-like obligations relates to TVA's strategic plan objective of increasing financial flexibility. Lowering the amount of debt-like obligations as a percentage of assets would produce a more flexible cost structure, allowing TVA to react more advantageously in the changing power market.

This measure is identified as relating to three of the critical success factors that management feels are necessary to achieve TVA's strategic objective of, "Adhere to a set of sound financial guiding principles to improve TVA's fiscal performance."²² These critical success factors are:

- Apply sound economic and financing practices to new investments.
- Pay financing obligations before assets are fully depreciated.
- Strengthen TVA's balance sheet by improving the ratio of financing obligations to total assets.

²² TVA's 2007 Strategic Plan.

Containing Costs (2-3 Star)



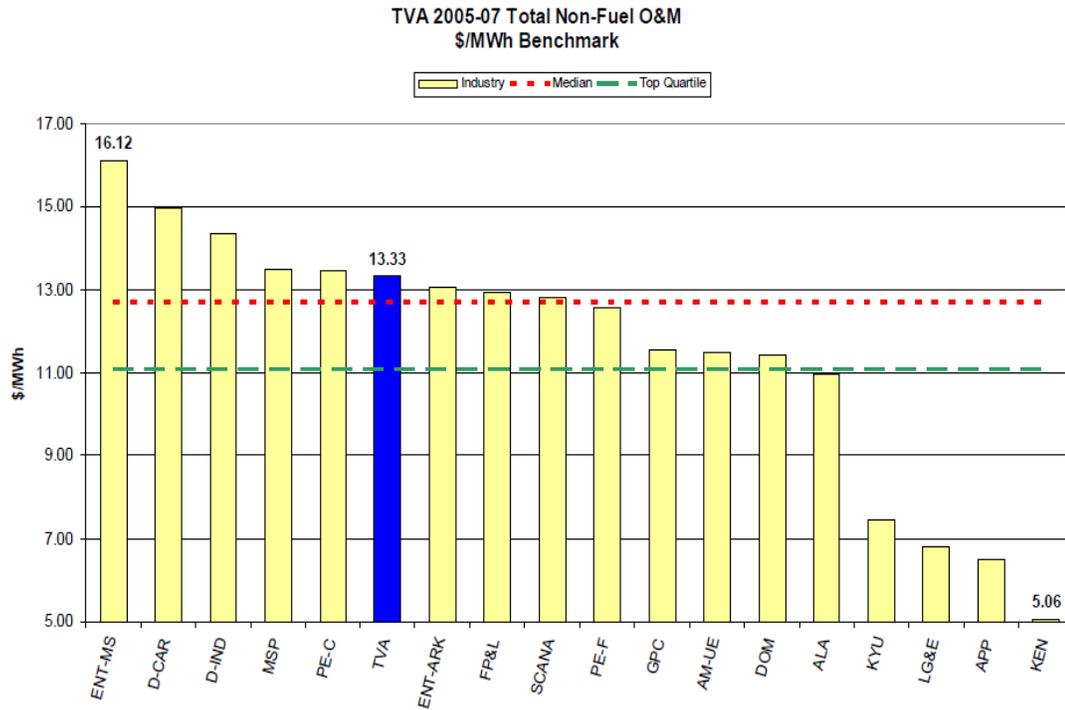
TVA is attempting to reduce certain costs to improve its financial position. Its performance is only fair in this area. For example, TVA fares poorly when compared to other electric utilities with respect to non-fuel O&M costs. Specifically, TVA benchmarking data shows that it is in the bottom third when compared to others in terms of non-fuel O&M costs. While TVA is seeking to reduce non-fuel O&M costs, it has made limited progress to date in doing so. TVA has also focused on reducing interest costs as a percentage of revenues in recent years and has made progress in doing so.

TVA Seeks to Reduce Non-Fuel O&M Costs

TVA considers improving its non-fuel O&M costs relative to other electric utilities to be a key means of improving its competitiveness and positioning it for future success. This is an important goal. Standard & Poor's notes that "an improving trend in operating and maintenance costs usually indicates that a company is focusing on streamlining its operations and controlling costs."

Currently, however, TVA fares poorly when compared to its peers in this regard. Information provided by TVA's benchmarking group shows that TVA was in the bottom third of performance for the three-year period 2005–2007 as shown in Figure 8.

Figure 8.

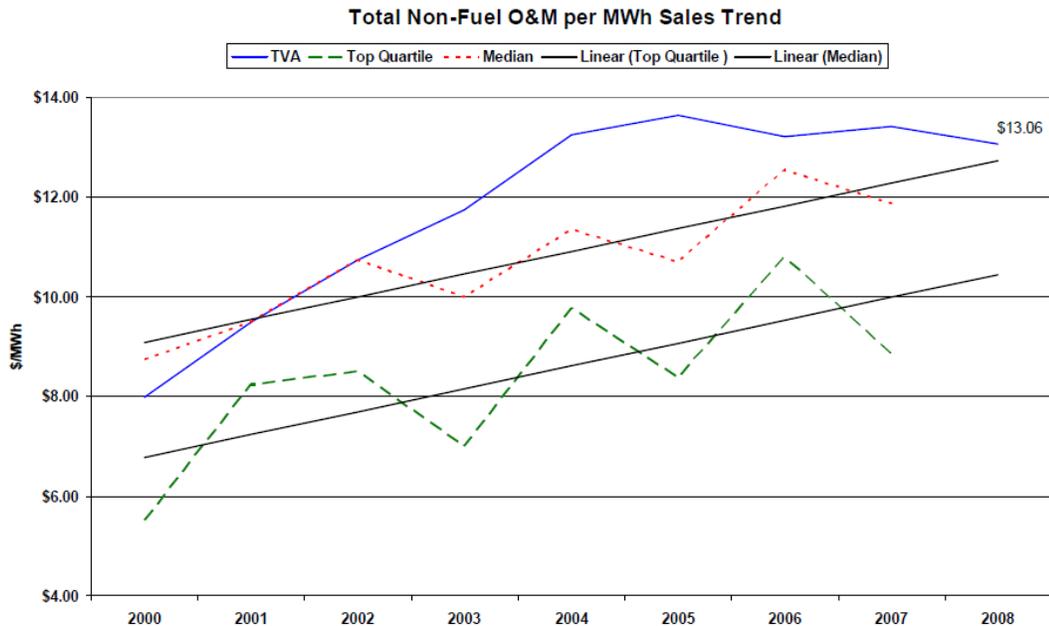


Source: TVA Benchmarking Update, January 23, 2009, page 69.

TVA management recognizes that O&M cost performance is in the bottom third and, in recent years, TVA has made a priority of seeking ways to operate more efficiently and save money in order to improve its non-fuel O&M costs in relation to other electric utilities. In the previous benchmarking study for 2004–2006, TVA's O&M cost performance was in the bottom quartile. Actions taken, according to TVA management, include establishing O&M spending targets for each business unit and identifying and focusing on specific areas where cost improvements are thought to be necessary. The goal of this effort is to put TVA in a better competitive and operational position. The 2007 TVA Strategic Plan states that it, "...intends to achieve top-quartile performance in non-fuel O&M expenses and limit the growth of these expenses to less than the growth in sales. Within three years TVA should achieve top quartile in non-fuel O&M expenditure performance. Achieving this goal will require TVA to reduce non-fuel O&M expenses relative to total generating capacity, megawatt-hour produced, and rate of sales growth. Meeting these goals will significantly affect TVA's ability to achieve certain critical success factors identified in the Strategic Plan."

Figure 9, which was taken from TVA Benchmarking Update, compares total non-fuel O&M to MWh sold from 2000 through 2008. As shown, TVA's non-fuel O&M costs have relatively flattened out over the last three years, however, TVA's non-fuel O&M cost per MWh sales is greater than the median.

Figure 9.



Source: TVA Benchmarking Update, January 23, 2009, page 71.

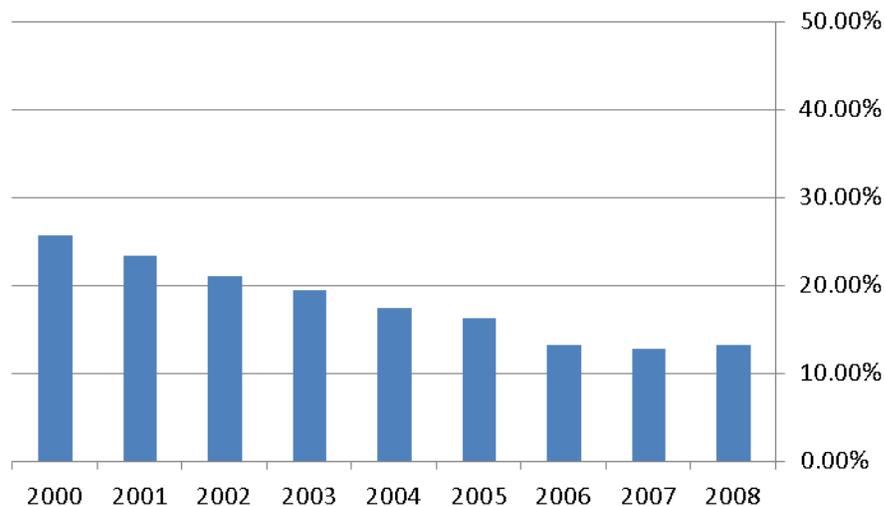
TVA management measured performance in O&M as part of its Winning Performance incentive plan in 2008. TVA believed that this measure focused attention on the most significant controllable component of TVA's total costs and that continued monitoring and controlling of these costs is key to remaining competitive and positioning itself for future success.

In FY 2008, TVA achieved the low end of the range with respect to its non-fuel O&M Winning Performance cost reduction target. Reductions in certain areas, including cost savings achieved on normal O&M spending and specific O&M projects, were offset by increases in other areas, such as workers' compensation costs and unplanned outages necessitating O&M spending. TVA's adding non-fuel O&M as an incentivized measure to its FY 2008 Winning Performance metrics indicated a new focus on streamlining operations and controlling costs. The critical success factor associated with this item in the Strategic Plan is to "achieve top-quartile performance in non-fuel O&M expenses and then hold increases to be less than unit sales growth." However, we noted that non-fuel O&M is not an incentivized measure for FY 2009.

TVA Also Seeks to Reduce Interest and Other Financing Costs and Has Made Some Progress In Doing So

In addition to non-fuel O&M costs, TVA focuses on interest costs as a means of assessing its financial performance. According to Standard & Poor's, interest payments are the electric utility industry's most significant non-operating expense because the industry is extremely capital-intensive. This can certainly be seen at TVA. TVA's interest expense was \$1.376 billion in FY 2008 which represented 13.25 percent of total revenues. While still very large, TVA's interest costs as a percentage of total revenue have decreased since 2000 when it was 25.67 percent. This can be seen graphically in Figure 10 below. Because of its importance as a financial indicator, TVA tracks this measure as a performance indicator monthly in its Performance and Financial Report.

Figure 10. TVA's Interest Expense as a Percentage of Revenues for the Years 2000 Through 2008.



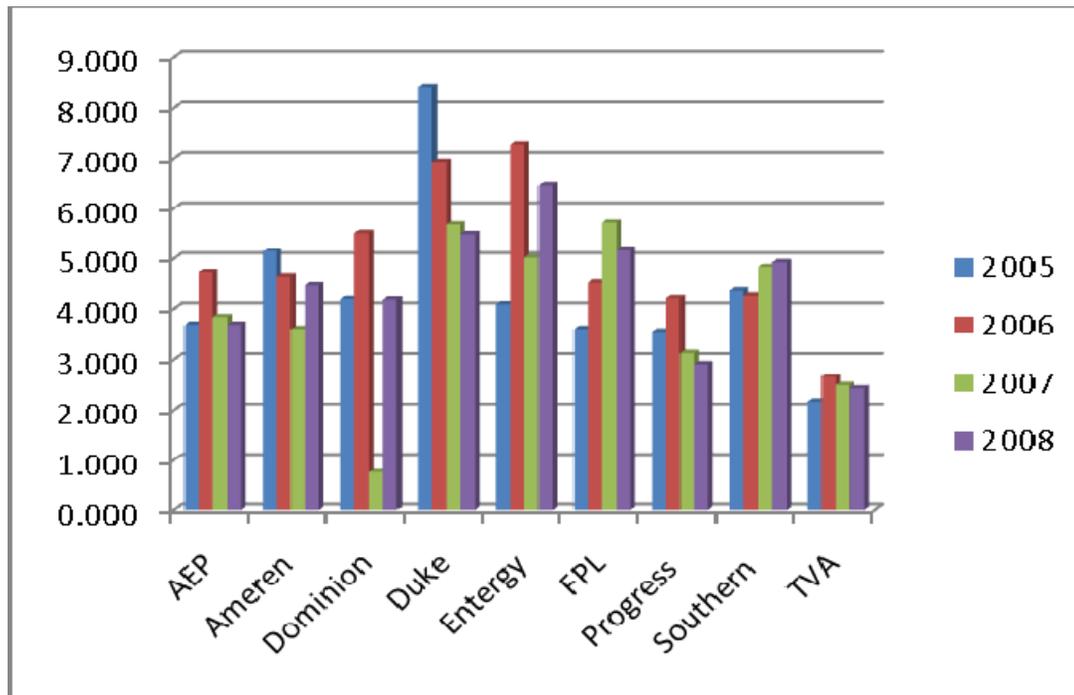
Because of the importance of interest costs to the capital-intensive electric utility industry, an interest coverage ratio analysis is another way to assess financial performance. As stated in a TVA document explaining key financial issues,²³ "just as a person must make loan payments as scheduled, TVA must pay interest on its bonds and notes (debt) in order to avoid 'defaulting' on these obligations. 'Interest coverage' is a measure of 'default risk,' or TVA's ability to pay the interest on its debt. Since interest is paid in cash, an interest-coverage ratio shows the number of times cash generated from operations exceeds total interest payments. For example, if TVA generated cash flow during the year equal to double what it paid out in interest on its debt, its interest-coverage ratio would be 2.0, or two times interest."

²³ "Understanding How TVA Works: Meeting the Budget Head-On (Part 12 in TVA's Business Education Series)," August 2006.

To identify a peer group for comparison, we reviewed the utilities included in TVA's Regional Peer Panel identified in an April 2006 ScottMadden Study and TVA's Capacity Peer Panel identified in TVA's 2005 Federal Energy Regulatory Commission Form 1. After reviewing the two identified peer groups, we decided to choose the eight utilities that appeared in both groups to have a peer group of companies that compare to TVA based on both capacity and location.

We compared TVA's interest coverage ratio to those of the eight other utilities. TVA tracks the interest coverage ratio monthly as a performance indicator in its Performance and Financial Report and has included in the Financial category of TVA's Winning Performance, the metric "Funds from Operations/Interest (Ratio)" which is a form of the interest coverage ratio. TVA's interest coverage ratio was lower than the other eight utilities for the four-year period 2005–2008, as shown in Figure 11 below.

Figure 11. TVA's Interest Coverage Ratio Compared to Eight Other Electric Utilities for FYs 2005–2008.



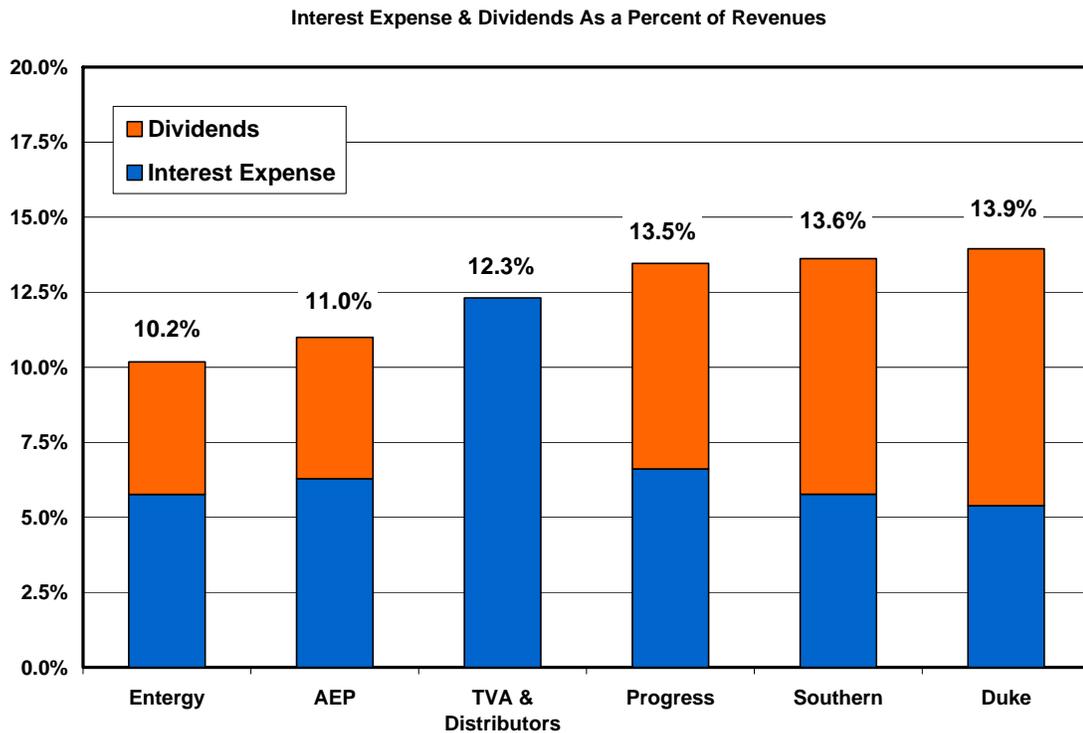
Source: Developed by OIG based on data in TVA documents and subject companies' SEC filings.

However, because of the differences in financing structures, direct comparisons between TVA and investor-owned utilities (IOU) are imperfect. TVA finances its operations through debt and operating revenues and is legislatively prohibited from issuing equity securities. IOUs, in contrast, finance with equity securities in addition to debt and operating revenues. Thus, IOUs typically have financing costs comprised of both interest and dividends. TVA management stated that,

therefore, its interest coverage ratio would not be expected to be as high as that of an IOU.

Another way to assess TVA is to look at total financing costs. That is, to compare TVA's interest costs to the interest and dividend costs of IOUs. As shown in Figure 12, a recent analysis by TVA shows that when dividends are considered, TVA's total financing expense, as a percent of revenues, is roughly comparable to that of peer, investor-owned utilities.

Figure 12. Comparison of TVA's Interest Expense to the Interest Expense and Dividends for Selected IOUs (as a Percent of Revenues).



Source: TVA Data for Investor-Owned Utilities is for 2007 from their annual reports. Data for TVA distributors is for June 30, 2008. Data for TVA is for September 30, 2008. Includes interest expense on debt and common stock dividends paid.

TVA management recognized that "one criticism of this type of comparison could be that the investor-owned, peer utilities are vertically-integrated, selling directly to retail consumers, whereas TVA is primarily a wholesaler."

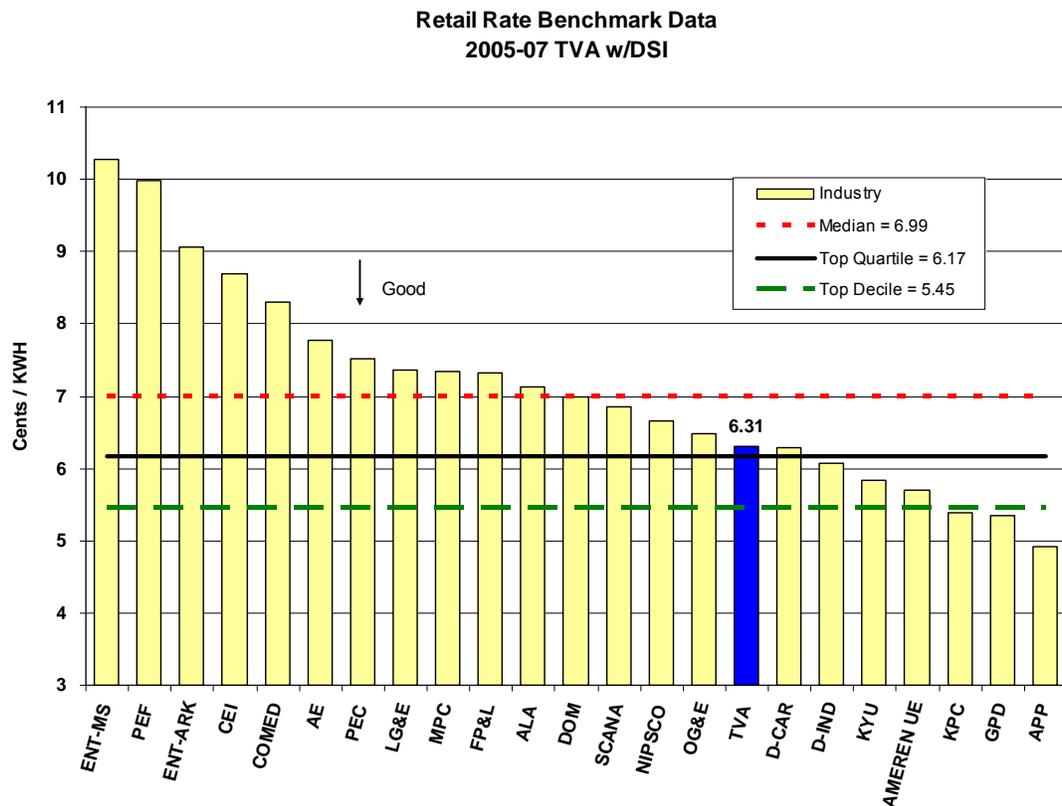
In addition to the above comparisons, as discussed in the "Making Sound Capital Investments" section above, TVA measures its performance in reducing debt-like obligations as a percentage of asset values as part of its Winning Performance incentive plan.²⁴ This measure relates to cost containment as well as making

²⁴ TVA's formula for calculating debt-like obligations as a percentage of asset value is (Statutory debt plus lease obligations plus prepaid energy obligations)/Total Assets.

sound investment decisions. Reducing these obligations as a percentage of total assets would result in TVA having a larger asset base to generate revenue from which to make interest and lease payments. The components of TVA's targeted reduction in debt-like obligations include statutory debt, lease obligations, and prepaid energy obligations.²⁵

O&M and interest costs are important to consider in assessing TVA's cost containment performance. It is also important to note how TVA's rates, which are cost-based, compare to those of others. TVA's most recent retail rate benchmark data shows that its retail rates are just below the top quartile, as shown in Figure 13 below. For a more complete discussion of TVA's rates and how they compare to others, see our recent report on TVA's customer-stakeholder performance.²⁶

Figure 13. Retail Rate Benchmark Data.



Source: TVA Benchmarking Update, January 23, 2009, page 5.

²⁵ During 2002, TVA introduced an energy prepayment program, the discounted energy units (DEU) program. Under this program, TVA customers could purchase DEUs generally in \$1 million increments, and each DEU entitles the purchaser to a \$0.025/kilowatt-hour discount on a specified quantity of firm power over a period of years (5, 10, 15, or 20) for each kilowatt-hour in the prepaid block. TVA did not offer the DEU program after 2005.

²⁶ See Inspection Report 2007-1140 – Review of TVA's Customer Relations Performance, pages 14-18.

Management Challenges

TVA is subject to a variety of market risks that could negatively affect TVA's cash flows, results of operations, and financial risk. TVA is not alone in facing these types of risks and has disclosed them in SEC reports. In July 29, 2008, it was reported to the Finance, Strategy, Rates, and Administration Committee that financial highlights include (1) all business units are continuing to find additional operations and maintenance expense reductions and (2) significant progress has been made in reducing material weaknesses and deficiencies through SOX testing. However, financial hard spots as identified by the Chief Financial Officer include:

- Identifying ways organizations across TVA can operate more efficiently and save money to achieve non-fuel O&M targets, thus putting TVA in a better competitive and operational position.
- Cost increases in non-fuel expenses, as well as TVA's capital replacement and expansion program, make it difficult to keep increases below sales growth.
- Interest rates general and TVA-specific could rise.

It also should be noted that approaching or reaching TVA's debt ceiling could adversely affect TVA's business by limiting TVA's ability to borrow money and increasing the cost of servicing TVA's debt.²⁷ In addition, approaching or reaching this debt ceiling could lead to increased legislative or regulatory oversight of TVA's activities.

It is important to note that TVA faces many significant management challenges in generating effective financial performance results. As discussed previously, recent events have negatively affected TVA financially. These include a wet coal fly ash spill at the Kingston Fossil Plant, a downturn in the economy causing declining power sales, a court ruling on a lawsuit brought by the state of North Carolina, and significant losses on accounts established to fund pensions and asset retirements.

Key risks that could affect TVA's financial performance include those related to commodity prices, investment prices, credit, and the potential for interest rates to rise above today's historically low levels. While TVA's current retail rates are generally below market, as discussed in our first report in this series, and TVA has the authority to set its own rates and thus mitigate some risks by increasing rates, it is possible that partially or completely eliminating one or more of these risks through rate increases might adversely affect TVA commercially or

²⁷ According to TVA's 2008 Form 10K.

politically. In addition to managing the risks noted above, we believe capital requirement risk, taking into consideration the debt ceiling established by Congress, is a management challenge. TVA management also reports that a financial risk consideration is maintaining TVA's AAA credit rating.

Rising Fuel and Other Commodity Prices

As discussed in the first report in this series, prices of commodities critical to TVA's operations including coal, uranium, natural gas, fuel oil, emission allowances, and electricity have been extremely volatile in recent years. If TVA fails to effectively manage its commodity price risk, TVA's rates could increase and thereby cause customers to look for alternative power suppliers. Obviously, any further increase in these prices will have a negative effect on TVA's financial performance.

Investment Price Risk

TVA is exposed to investment price risk in its nuclear decommissioning trust, its asset retirement trust, and its pension fund. With regard to the nuclear decommissioning trust and the pension fund, a significant decrease in the value of these assets could require TVA to make substantial unplanned contributions to these funds. Unplanned contributions would impact cash flows and financial condition.

Interest Rate

Changes in interest rates could negatively impact TVA cash flows and financial condition. Today's historically low interest rates could rise in the future. As with other entities, higher interest rates could:

- Increase the amount of interest that TVA pays on new bonds that it issues.
- Decrease the value of the investments in the pension fund and trusts.
- Increase the loss on mark-to-market valuation of certain derivative transactions.

According to management, TVA has taken several steps to address this risk. For example, TVA is working to balance the amount of its debt that matures in any given year, spreading maturities over time in order to reduce exposure to interest rate volatility. In addition, since interest rates are at historical lows, TVA is keeping a relatively high percentage of its debt in fixed rate securities. TVA also seeks opportune times to refinance debt, in some cases doing so before the due dates at advantageous rates.

Credit Risk

As cited in TVA disclosures, TVA is exposed to the risk that its counterparties will not be able to perform their contractual obligations. Failure of a counterparty to perform its obligations would adversely affect cash flows and financial condition. For example, we have noted that management is currently addressing the failure of a distributor to make timely payments in accordance with power contract terms.

Capital Requirement Risk

According to TVA management, the nature of the power industry requires large multi-year capital investments, and using trends and multi-year forecasts is important in assessing the effectiveness of management's decisions related to capital expenditures, pricing, and accessing capital markets.

As shown in the "Making Sound Capital Investments" section above, TVA plans large capital investments in the future. It currently projects spending more than \$2 billion per year through 2011 and about \$2.9 billion in 2012 for property, plant, and equipment additions including clean air projects and new generation.

While TVA (1) needs to increase generating capacity to meet demand taking into consideration the risks associated with further dependence on purchased power and (2) faces requirements for increased maintenance on its aging fleet, it is restricted in the amount it may borrow based on the \$30 billion debt ceiling established by Congress. As of September 30, 2008, TVA had approximately \$22.7 billion of bonds. TVA has a statutorily imposed ceiling of \$30 billion on outstanding bonds.

Approaching or reaching this debt ceiling could adversely affect TVA's business by limiting TVA's ability to borrow money and increasing the cost of servicing TVA's debt. TVA's stated cash management policy is to use cash provided by operations together with proceeds from power program borrowings and a \$150 million note with the U.S. Treasury to fund TVA's current cash requirements. In addition, TVA has access to \$2.25 billion of credit facilities with a national bank. In light of TVA's cash management policy, it is critical that TVA continue to have access to the debt markets in order to meet its cash requirements. The importance of having access to the debt markets is underscored by the fact that TVA, unlike many utilities, relies almost entirely on the debt markets to raise capital since it is not authorized to issue equity securities.

Risk of Not Maintaining TVA's AAA Credit Rating

As of September 30, 2008, all of TVA's bonds were rated by at least one rating agency except for two issues of power bonds and TVA's discount notes. TVA's rated bonds are currently rated "Aaa" by Moody's Investors Service and/or "AAA"

by Standard & Poor's and/or Fitch Ratings, which are the highest ratings assigned by these agencies. As noted above, TVA's ratings are not based just on its underlying business or financial condition, but to a large extent on the legislation that designates TVA as a federal entity. A downgrade in TVA's credit rating could have material adverse effects on TVA's cash flows, results of operations, and financial condition as well as on investors in TVA securities. According to TVA management, among other things, a downgrade could have the following effects:

- A downgrade would increase TVA's interest expense by increasing the interest rates that TVA pays on new bonds that it issues. An increase in TVA's interest expense would reduce the amount of cash available for other purposes which could result in the need to (1) increase borrowings, (2) reduce expenses or capital investments, and/or (3) increase power rates.
- A significant downgrade could result in TVA having to post collateral under certain physical and financial contracts that contain rating triggers.
- A downgrade below a contractual threshold could prevent TVA from borrowing under two credit facilities totaling \$2.25 billion.
- A downgrade could lower the price of TVA securities in the secondary market.

In the event of shortfalls in cash resources, TVA has short-term funding available in the form of two short-term revolving credit facilities, one of which is a \$1.25 billion facility maturing May 13, 2009, and the other of which is a \$1 billion facility maturing November 9, 2009. The interest rate on any borrowing under either of these facilities is variable and based on market factors and the rating of TVA's senior unsecured long-term non-credit enhanced debt.

According to TVA management, \$31 million of the \$54 million increase in net income from 2006 to 2007 for TVA was due to a lower net interest expense. This would not have been possible without TVA's excellent credit rating and, according to TVA management, by actively managing its debt portfolio to take advantage of lower average interest rates.

Objectives, Scope, and Methodology

The objectives of our financial performance review were to assess (1) how TVA evaluates and tracks performance (i.e., performance measures), (2) whether TVA's performance indicators correlate to annual performance goals and TVA's Strategic Plan (i.e., alignment of performance measures), and (3) TVA's overall performance (i.e., performance results). The scope of our review included any measures used by TVA to track financial performance and industry best practices regarding financial performance. To achieve our objectives, we:

- Interviewed key TVA personnel to determine:
 - How TVA currently measures financial performance.
 - Whether TVA has implemented initiatives to improve performance.
 - Whether TVA currently benchmarks its financial performance.
- Reviewed TVA's current strategic plan and performance goals to identify TVA's published strategic objectives, goals, and critical success factors.
- Analyzed information obtained through research and from Chief Financial Officer personnel to determine (1) what measures TVA currently uses to track financial performance, (2) whether measures being used align with TVA's current strategic plan, and (3) how TVA is doing compared to the industry and the goals it set for itself.
 - We obtained documentation from key TVA personnel and/or TVA's Web site on TVA's financial performance, including third-party benchmarking data. Other data and information was obtained from various sources, including published documents and competitors' publicly available information.

This review was conducted in accordance with the Quality Standards for Inspections.

June 19, 2009

Robert E. Martin, ET 3C-K

COMMENTS - DRAFT FINANCIAL PERFORMANCE MEASURES REPORT

Thank you for the opportunity to comment on the draft Financial Performance Measures Report dated April 14, 2009. We appreciate the efforts of the Inspector General to examine TVA's financial performance. More than nine million people across seven states rely on TVA each day, and it is crucial that TVA maintain financial health and sound performance.

Transparency and Accountability

TVA is committed to conducting its operations in an open and forthright manner that instills confidence in our customers, business partners, bondholders, and the public. TVA is a profit-neutral enterprise owned by the American people and does not have shareholders. In fact, TVA is the only wholly-owned U.S. Government agency that is required to file financial reports with the Securities and Exchange Commission of the type typically filed by shareholder-owned companies.

We willingly embrace this requirement because of the recognition that providing information about TVA's operations and results is important given the significant role TVA plays in the nation's energy infrastructure. Our reports are consistent with SEC requirements and generally accepted accounting principles. The benefit of SEC reporting is that the information necessary to evaluate and compare TVA to other companies can be readily accessed from these reports in a consistent format.

Financial Performance

TVA management agrees with the Inspector General that financial performance is a prime determinate of sustainable success. The Strategic Plan for TVA set forth by TVA's Board of Directors provides the outline for a strong, sustainable business structure that preserves TVA's ability to provide reliable, competitively priced power for the Tennessee Valley.

TVA is a healthier company today than it was in the past. TVA's ability to carry debt has improved over the last decade as annual cash flow from power operations has increased and interest expense has been significantly reduced. TVA has also made a considerable effort to contain controllable costs. While the prices of fuel, materials and other inputs have escalated dramatically, TVA's non-fuel operating and maintenance costs increased only modestly in the last five years and have actually declined as a percentage of total costs.

We are also managing financial risks in prudent ways. TVA has maintained strong access to capital and low financing costs during the recent global financial crisis;

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however, lines of credit with a national bank are in place as a source of emergency financing should they ever be needed.

Making Sound Investment Choices

We agree with the Inspector General that decisions made in the past impact TVA today. Cancellation of partially finished units and plant shut downs in the 1980's, for example, left TVA with the burden of carrying certain nonproductive assets and the associated debt. However, evaluations of TVA's investment performance should be focused on more recent history.

Results show that TVA's recent performance in making investment decisions, including decisions involving legacy assets left over from prior decades, has been sound. Over 4,000 megawatts of economical power generating capacity have been added to the TVA power system over the past five years. It is estimated that TVA's customers have saved between \$400 million - \$1.2 billion (compared to the cost of power from other sources) due to the restart and operation of Browns Ferry Unit 1 alone. Natural gas-fired facilities added in 2007 and 2008 were purchased below new construction cost and provide strategic value to TVA. Additionally, the completion of the second unit at Watts Bar will further boost TVA's ability to provide low cost, reliable power for the Valley for years to come.

We believe that power demand will continue to grow over the long-term in the Tennessee Valley, and TVA must prepare for that now by continuing to add new sources of clean energy and investing in the power system to keep it reliable. Performance going forward should be measured by how management deals with evolving conditions to achieve the best possible outcomes for TVA's ratepayers.

Containing Costs

We recommend that TVA be evaluated on a total cost basis and not primarily on Operation and Maintenance (O&M) costs. Since TVA's rates are on a cost basis, it is appropriate to utilize TVA's rates to evaluate TVA's performance. As noted on page 28 of the report, recent retail benchmark data shows that retail rates are just below the top quartile, indicating that TVA has done a good job at containing costs.

TVA continues to focus on containing costs, including improving its non-fuel O&M costs. TVA's FY 2009 Winning Performance metrics include net cash flow, of which non-fuel O&M is a component.

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Again, we appreciate the opportunity to comment on this report. If you have any additional questions or need clarification on these issues, please let me know.



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TVA Management Comments on Draft Report and the TVA OIG Response

Comments – Draft Financial Performance Measures Report
Inspector General Report on TVA Financial Performance
June 19, 2009

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We willingly embrace this requirement because of the recognition that providing information about TVA's operations and results is important given the significant role TVA plays in the nation's energy infrastructure. Our reports are consistent with SEC requirements and generally accepted accounting principles. The benefit of SEC reporting is that the information necessary to evaluate and compare TVA to other companies can be readily accessed from these reports in a consistent format.

TVA OIG Response: We did not say in our report that TVA reports are inconsistent with SEC requirements or guidelines or generally accepted accounting principles. We believe our analysis and synthesis of available financial information fills a gap for TVA stakeholders who do not routinely read the information TVA provides to the SEC. As a public entity, TVA has an inherent duty to accurately and plainly inform its stakeholders about its financial condition. This entails more than merely doing what the law requires in the way of disclosures to potential investors. In our view, most members of Congress and the general public do not have the time to decipher TVA's 10Q to the SEC. Our report is intended to make TVA's finances more transparent to the Congress and the general public.

Financial Performance

TVA management agrees with the Inspector General that financial performance is a prime determinate of sustainable success. The Strategic Plan for TVA set forth by TVA's Board of Directors provides the outline for a strong, sustainable business structure that preserves TVA's ability to provide reliable, competitively priced power for the Tennessee Valley.

TVA is a healthier company today than it was in the past. TVA's ability to carry debt has improved over the last decade as annual cash flow from power operations has increased and interest expense has been significantly reduced. TVA has also made a considerable effort to contain controllable costs. While the prices of fuel, materials, and other inputs have escalated dramatically, TVA's non-fuel operating and maintenance costs increased only modestly in the last five years and have actually declined as a percentage of total costs.

We are also managing financial risks in prudent ways. TVA has maintained strong access to capital and low financing costs during the recent global financial crisis; however, lines of credit with a national bank are in place as a source of emergency financing should they ever be needed.

TVA OIG Response: Our report notes the reduction in TVA's interest expense from 25.67 percent of revenues in 2000 to 13.25 percent in 2008. With respect to non-fuel Operation and Maintenance (O&M) costs, the analysis presented in our report, non-fuel O&M costs as a percent of MWh, is the same one used by TVA management in benchmarking other utilities. That analysis shows that TVA is in the bottom quartile on this metric. We also state in the report that TVA's strategy for improving performance in this regard is to reduce the growth in non-fuel O&M costs to less than the growth in sales. To address management's comment, we have added information to the report comparing non-fuel O&M costs to sales over the period 2000 through 2008.

Making Sound Investment Choices

We agree with the Inspector General that decisions made in the past impact TVA today. Cancellation of partially finished units and plant shutdowns in the 1980s, for example, left TVA with the burden of carrying certain nonproductive assets and the associated debt. However, evaluations of TVA's investment performance should be focused on more recent history.

Results show that TVA's recent performance in making investment decisions, including decisions involving legacy assets left over from prior decades, has been sound. Over 4,000 megawatts of economical power generating capacity have been added to the TVA power system over the past five years. It is estimated that TVA's customers have saved between \$400 million – \$1.2 billion (compared to the cost of power from other sources) due to the restart and operation of Browns Ferry Unit 1 alone. Natural gas-fired

facilities added in 2007 and 2008 were purchased below new construction cost and provide strategic value to TVA. Additionally, the completion of the second unit at Watts Bar will further boost TVA's ability to provide low cost, reliable power for the Valley for years to come.

We believe that power demand will continue to grow over the long term in the Tennessee Valley, and TVA must prepare for that now by continuing to add new sources of clean energy and investing in the power system to keep it reliable. Performance going forward should be measured by how management deals with evolving conditions to achieve the best possible outcomes for TVA's ratepayers.

TVA OIG Response: Our report clearly discusses how TVA management is seeking to improve capital investment decisions and asset performance. Specifically, we report that management's approach is intended to ensure that capital investment decisions are economically justified or needed to meet regulatory requirements. Further, we note that current management has implemented a new standardized capital review and approval process.

Moreover, our report states that TVA recently restored Browns Ferry Nuclear Unit 1 to service and, according to TVA management, completing it has added base-load generation at significantly less cost than adding capacity from renewable sources or from adding nuclear capacity from scratch. In addition, our report discusses TVA's decisions to add combined-cycle generation.

We understand management's point that they are trying to make the most of these prior capital projects that were not completed. That does not mean that the original investment decisions were sound. TVA has written off billions of dollars in cost associated with capital expenditures, the latest being the \$3.9 billion related to Bellefonte Nuclear Plant.

Figure 6 in our report delineates planned capital expenditures through the year 2013. Our report notes that the power industry requires large capital investments and that one of TVA's future challenges is to balance the need to make investments to meet the demand for power and maintain an aging fleet of generation assets against TVA's debt ceiling.

Containing Costs

We recommend that TVA be evaluated on a total cost basis and not primarily on O&M costs. Since TVA's rates are on a cost basis, it is appropriate to utilize TVA's rates to evaluate TVA's performance. As noted on page 29 of the report, recent retail benchmark data shows that retail rates are just below the top quartile, indicating that TVA has done a good job at containing costs.

TVA continues to focus on containing costs, including improving its non-fuel O&M costs. TVA's FY 2009 Winning Performance metrics include net cash flow, of which non-fuel O&M is a component.

TVA OIG Response: It is true we do consider non-fuel O&M costs important, as do others. For example, (1) TVA management considered them important enough to launch a major effort to reduce those costs, and (2) Standard & Poor's, in assessing the electric utility industry, considers O&M costs important.

Moreover, our report includes an analysis of TVA's retail rates and how they compare to a selected peer group. While we recognize that TVA fares relatively well in this retail rate comparison, we don't believe this should be weighted as heavily as management's comments seem to suggest. TVA, as a nonprofit entity, does not have to build a profit component into its revenue requirements.