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TENNESSEE VALLEY AUTHORITY

Assessment of the 10-Year Business Plan

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Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to summarize the results of our work analyzing the Tennessee Valley Authority's (TVA) 10-year business plan. My testimony is based on our April 1999 report,[1] which assesses the plan in depth.

Restructuring of the electricity industry has led to wholesale competition, which, combined with other factors, has caused wholesale electricity prices to fall in many parts of the country. This increased competition led TVA management to develop this plan to position TVA to be more competitive by, among other things, reducing its high debt servicing and other fixed costs. Because of concerns about TVA's ability to achieve the 10-year plan's objectives by 2007—when competitive pressures are likely to be greater and when many of TVA's long-term contracts could expire—we were asked to determine whether TVA will be able to reduce debt as envisioned in the plan and whether its goals and assumptions regarding capital expenditures and revenues and expenses are achievable or reasonable.

Specifically, my testimony today will discuss the findings from our April 1999 report concerning

- whether the plan objectives address the key issues confronting TVA,
- major costs that were not included in the plan,
- whether the goals and assumptions in the plan are achievable or reasonable, and

TVA's plans to formally update the plan for significant changes.

In summary, TVA's 10-year plan is moving TVA in the right direction by addressing the most important issues facing TVA: its high fixed financing costs and limited financial flexibility and the large amount of deferred assets that TVA has not recovered through rates. However, because TVA's actual experience and assumptions about certain major costs have varied in significant ways from those envisioned in the 10-year plan, it is unlikely that TVA will generate sufficient cash flow to reduce debt and the corresponding fixed interest costs to the extent stated in the plan through

[1] *Tennessee Valley Authority: Assessment of the 10-Year Business Plan* (GAO/AIMD-99-142, April 30, 1999).

2007. TVA has acknowledged that its debt reduction goal will not be achieved until at least 2009. To the extent it does not sufficiently reduce debt and related fixed costs and increase financial flexibility during the 10-year period, TVA's ultimate strategic objective—to be able to offer competitively priced power by the end of 2007—could be jeopardized.

However, since it is not possible to accurately predict what the market price of power will be in 2007, TVA could still achieve its objective of offering competitively priced power, even if it does not fully achieve the plan's other goals and objectives. Conversely, depending on the market price of power, TVA could fully achieve all of the goals and objectives outlined in the plan and still not be positioned to offer competitively priced power in 2007 and beyond. Nevertheless, any progress it makes toward its goals and objectives will put TVA in a better competitive position.

I would now like to provide a brief background on (1) TVA's role in the electricity industry, (2) current restructuring efforts and their potential impact on TVA, and (3) the general provisions of TVA's plan. I will then provide more details of the findings I just summarized.

Background

As you know, TVA operates as a power generator, producing electricity for sale to entities such as municipal and cooperative power distributors who market power to end users. The Energy Policy Act of 1992 (EPAct) provides TVA with certain protections from competition. Additionally, under the TVA Act of 1933 (TVA Act), as amended, TVA is not subject to most of the regulatory and oversight requirements that must be satisfied by commercial electric utilities; instead, all authority to run and operate TVA is vested in its board of directors. In 1959, the Congress amended the TVA Act by establishing what is commonly referred to as the TVA "fence," which prohibits TVA—with some exceptions—from entering into contracts to sell power outside the service area that TVA and its distributors were serving on July 1, 1957. Under EPAct, TVA is exempt from having to allow other utilities to use its transmission lines to transmit power to customers within TVA's service area. This legislative framework generally insulates TVA from direct wholesale competition and, as a result, TVA remains in a position similar to a regulated utility monopoly.

EPAct's requirement that utilities make their transmission lines accessible to other utilities to transmit (wheel) wholesale electricity has enabled wholesale customers to obtain electricity from a variety of competing suppliers and has resulted in increased wholesale competition in the

electric utility industry across the United States. Because EPAct exempts TVA from having power wheeled to consumers in its territory, TVA has not been directly impacted by the ongoing restructuring of the electric utility industry to the same extent as other utilities. However, if TVA were to lose its exemption from the wheeling provisions of EPAct, its customers would have the option of obtaining their power from other sources after the expiration of their contracts. Under legislation proposed by the administration to promote retail competition in the electric power industry, which TVA supports, TVA's exemption from the wheeling provisions of EPAct would be eliminated after January 1, 2003. If the legislation is enacted, TVA may be required to use its transmission lines to transmit the power of other utilities for consumption within TVA's service territory. In addition, the proposed legislation would remove the statutory restrictions that prevent TVA from selling power outside its service territory. Other bills on electricity restructuring have also been introduced that could also impact TVA's operations, but as of September 17, 1999, none have been passed.

Most of TVA's power is sold to municipal and cooperative power distributors who would be directly affected in the future by retail competition through their customers' ability to choose alternate power suppliers. Further, industry restructuring and the possibility of TVA losing its legislative protections have made many of TVA's customers more aware of price differences among utilities, raised expectations of lower prices, and increased demands for more competitive pricing.

Because of these ongoing industry restructuring efforts, TVA management, like many industry experts, anticipates that TVA may lose its legislative protections in the future. Even if TVA does not lose its legislative protections, TVA's management has recognized the need to take action to better position TVA to be competitive in an era of increasing competition and customer choice and, in July 1997, issued a 10-year business plan with that goal in mind. TVA established a 10-year horizon for implementing the key changes outlined in the plan largely because TVA officials expect to be facing greater competitive pressures within that time frame and many of its long-term contracts with customers could begin to expire in 2007. The published plan, which formed the basis of our evaluation, contains three strategic objectives:

- ·reducing TVA's cost of power in order to be in a position to offer competitively priced power in 2007,
- ·increasing financial flexibility by reducing fixed costs, and

- ·building customer allegiance.

In developing the 10-year plan, TVA set several goals and made certain assumptions about the future. These goals and assumptions, and our analysis of whether they are achievable or reasonable, are discussed in detail in our April 1999 report. I will provide a summary of this analysis today, with particular emphasis on the goals or assumptions that we did not find achievable or reasonable.

Plan Objectives Address Key Issues Confronting TVA

Implementation of the 10-year plan is moving TVA in the right direction and addresses important issues facing TVA: its high fixed financing costs and limited financial flexibility to respond to competitive pressure and the large amount of deferred assets that have not been recovered through rates. These deferred assets, which totaled about $8.5 billion as of the beginning of the plan period, are primarily the result of investments made since the 1970s in nuclear generating plants that were never put into production. This helped contribute to TVA's large debt, which totaled about $27 billion as of September 30, 1998, and resultant high fixed financing costs.

TVA's ability to meet its strategic objective of being in a position to offer competitively priced power by 2007 and to improve its financial flexibility hinges largely on its being able to meet its goal of reducing debt to about $14 billion by 2007. While not specifically stated in the plan, TVA also plans to recover through rates all but $500 million of its deferred asset costs by the end of the period covered by the plan.[2] The year 2007 is key for TVA because it expects to face greater competitive pressures by then and because many long-term contracts with customers could expire at about that time. As a result, the plan emphasizes changes designed to enable TVA to offer competitive rates by the end of 2007. The more progress TVA makes toward addressing the key issues it faces while it maintains its legislative protections and before its customer contracts could begin to expire, the better positioned it will be to successfully operate in a competitive market.

These issues were highlighted in reports[3] we issued in 1995 and 1997, in which we stated that TVA's annual financing costs and deferred assets were substantially greater than those of the utilities with which TVA would most

[2]The remaining $500 million is TVA's estimate of the net realizable value of its deferred assets at the end of 2007.

likely have to compete. We also reported that these high fixed costs and deferred assets would limit TVA's flexibility to adjust its rates in a competitive environment. TVA, through its 10-year plan, is taking steps to address these issues. Other utilities are taking similar actions to prepare for competition. For example, utilities we previously identified in 1995 as those most likely to compete with TVA are also taking steps to refinance debt at lower interest rates and accelerate recovery of the costs of their regulatory assets. However, as we reported in 1995 and 1997, these other utilities generally have fewer financing costs and deferred assets than TVA, giving them more flexibility to respond to changing market conditions. To the extent TVA recovers the costs of its deferred assets and increases its financial flexibility, it will increase its ability to adjust rates as necessary to meet changing market conditions. TVA's focus on these areas before the full advent of competition is key to its chances of being competitive without legislative protections.

Plan Does Not Include Certain Major Costs

While focusing on the right issues, TVA's plan does not fully address certain costs. Not addressing these costs could jeopardize full achievement of the plan's objectives. Specifically, the plan does not include the following:

The capital costs of additional generating capacity that may be acquired to meet growth in demand for power. The plan assumes that TVA would meet the increasing demand for power over the plan period by purchasing power from other utilities. The costs of the power purchases are reflected as operating costs in the 10-year plan. However, since the plan was finalized, TVA officials have told us that they plan to evaluate other power supply options and to invest in new capacity if the resulting long-term increase in costs to produce power (interest and operating expense) would ultimately be less than the cost of purchased power. TVA has already decided to invest in new capacity rather than purchasing power in at least one case—in 1998, TVA announced plans to purchase eight gas-fired combustion turbine units that will be used to replace a like amount of purchased peaking power that was assumed in the original plan. According to TVA officials, while they expect this decision to result in a positive cash flow by 2010, the decision to invest in new generating capacity will require about $65 million more in

[3] *Tennessee Valley Authority: Financial Problems Raise Questions About Long-term Viability* (GAO/AIMD/RCED-95-134, August 17, 1995) and *Federal Electricity Activities*: *The Federal Government's Net Cost and Potential for Future* Losses, volumes 1 and 2, GAO/AIMD-97-110 and 110A, September 19, 1997).

cash disbursements through 2007 than would have been necessary to purchase a comparable amount of power from other utilities.

- ·The costs of complying with new environmental regulations. Known environmental costs alone total an estimated $500 million to $600 million. In addition, costs for complying with a proposed environmental regulation that is likely to be implemented before 2007 could amount to another $450 million to $500 million, some of which would be incurred before 2007.
- ·The cost of nonpower programs that, to date, have been funded primarily through appropriations. The plan assumes that TVA will continue to receive appropriations for its nonpower programs, such as flood control and navigation. While this assumption was reasonable when the plan was developed, these appropriations, which amounted to $70 million in fiscal year 1998, have been steadily declining since 1994 and are expected to be substantially reduced or discontinued beginning in fiscal year 2000.

TVA estimates that these additional costs will total at least $1 billion over the remaining life of the plan and will likely be higher.

Most Goals and Assumptions of the Plan Are Achievable or Reasonable, but Debt Reduction and Some Others Are Not

We assessed 10 goals and assumptions TVA made about the future in developing the 10-year plan. Based on economic forecasts, comparisons with TVA's results of past operations, and the opinions of industry experts, we concluded that seven of the goals and assumptions were achievable or reasonable, two were unachievable, and one was uncertain. The goals and assumptions we assessed, and our conclusions about each, are summarized in table 1 and are discussed in our April 1999 report. A discussion of the two goals we found unachievable and the assumption we found uncertain is included below.

Table 1: GAO Conclusions About 10-Year Plan's Goals and Assumptions

Goal or assumption assessed	GAO conclusion
Future market price of power[a]	Reasonable
Increase in demand for power	Reasonable
Increase in fuel costs	Reasonable
Supply chain savings	Achievable
Capital expenditure limitation	Unachievable
Increased revenues	Uncertain
Debt reduction and recovery of deferred assets	Unachievable
Cost improvement initiatives	Achievable
Labor force reductions	Reasonable
Customer relations improvements	Achievable

[a]At the time our report was issued, TVA officials told us that if they were to prepare the 10-year plan today, they would increase the projection for the future market price of wholesale power in 2007, due primarily to new environmental regulations; however, they have not formally updated their projections. Both their original projection and any proposed revisions still fall within a reasonable range compared to other projections of market prices we obtained.

Capital Expenditure Limitation Goal is Unachievable

The plan assumes that capital expenditures will be limited to about $600 million per year and excludes any capital costs for increasing generating capacity and complying with new environmental regulations. However, as discussed previously, known environmental costs alone total an estimated $500 million to $600 million. In addition, costs for complying with a proposed environmental regulation that is likely to be implemented within the plan period could amount to another $450 million to $500 million, some of which would be incurred before 2007. Also, the costs for meeting growth in demand for power with additional generating capacity, which are not fully estimable at this time, could further increase TVA's required capital expenditures within the period covered by the 10-year plan.[4] Even though upward revisions in TVA's projected market price of wholesale power could offset some of these additional costs, TVA is likely to exceed its annual $600 million planned capital expenditures limit, thus making this goal unachievable.

[4]TVA believes any capital investments for generating capacity will lower its cost of power relative to the estimate contained in the plan.

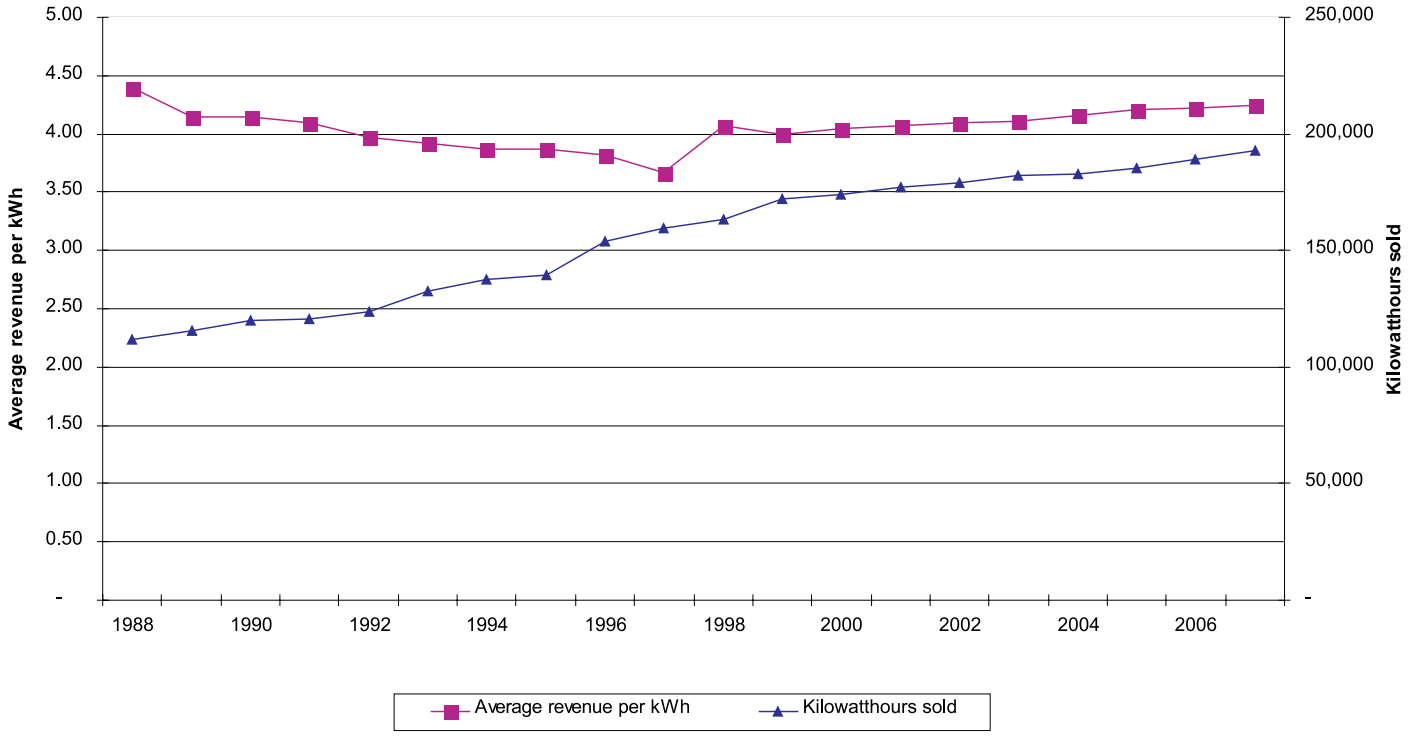
Assumption About Increased Revenues Is Uncertain

TVA's revenues increased significantly in fiscal year 1998 due to a rate increase and to increased energy sales. TVA's fiscal year 1998 revenues totaled about $6.7 billion, compared to $5.9 billion in fiscal year 1997—an increase of about $800 million. According to TVA, about $350 million of the increase is attributed to the rate increase; the balance is attributable to increased sales volume that resulted from extreme weather in the summer months and other factors.

The 10-year plan assumes that this rate increase is sustainable and will generate additional revenues of about $325 million annually through 2007. However, based on the decline in TVA's average revenue per kilowatthour (kWh) over the past 10 years, and expectations of increasing competition in the electricity industry, we agree with some industry experts who question TVA's ability to meet the plan's assumption about future revenue. Specifically, an analyst from the Congressional Budget Office (CBO) with expertise in issues related to TVA and consultants from ICF Kaiser Consulting Group (which was hired by the Edison Electric Institute, an industry group for investor-owned utilities, to analyze TVA's 10-year plan) questioned TVA's ability to meet its future revenue projections given the decline in its average revenue per kWh over the last several years.

As shown in figure 1, from 1988 through 1997, TVA's average revenues per kWh declined steadily, despite a steady increase in the amount of kilowatthours of energy sold. This decline in average revenues per kWh was attributable to the credits given to large industrial customers. The actual decline in average revenues per kWh over the past 10 years contrasts sharply with the increase projected in the 10-year plan for 1998 through 2007.

Figure 1: Comparison of Average Revenue per kWh to Kilowatthours Sold



Source: GAO analysis based on data from TVA.

In order to offer competitive rates to its industrial customers, TVA offers price breaks to its larger industrial customers. In fact, to offset the impact of the last rate increase, TVA expanded its existing credit program to include companies with commitments to purchase firm loads of more than one megawatt. (Previously this credit had been limited to industrial customers with firm load commitments of more than five megawatts.) Although restructuring of the electric utility industry is expected to put downward pressure on rates, the 10-year plan assumes that TVA will not have to offer any additional price breaks to its large industrial customers through 2007. This assumption is questionable given that TVA has offered new credits to reduce the rates of its larger industrial customers for the past 10 years and competition in the industry is increasing.

Because restructuring of the electric utility industry is expected to continue to cause future wholesale and retail electricity prices to fall, TVA will likely feel pressure to continue to reduce rates. In addition, recent

media coverage about competition has made many utility customers more aware of price differences among utilities and raised expectations of lower prices. All of these factors combined make it uncertain whether TVA can generate an additional $325 million in annual revenues on a sustained basis through 2007.

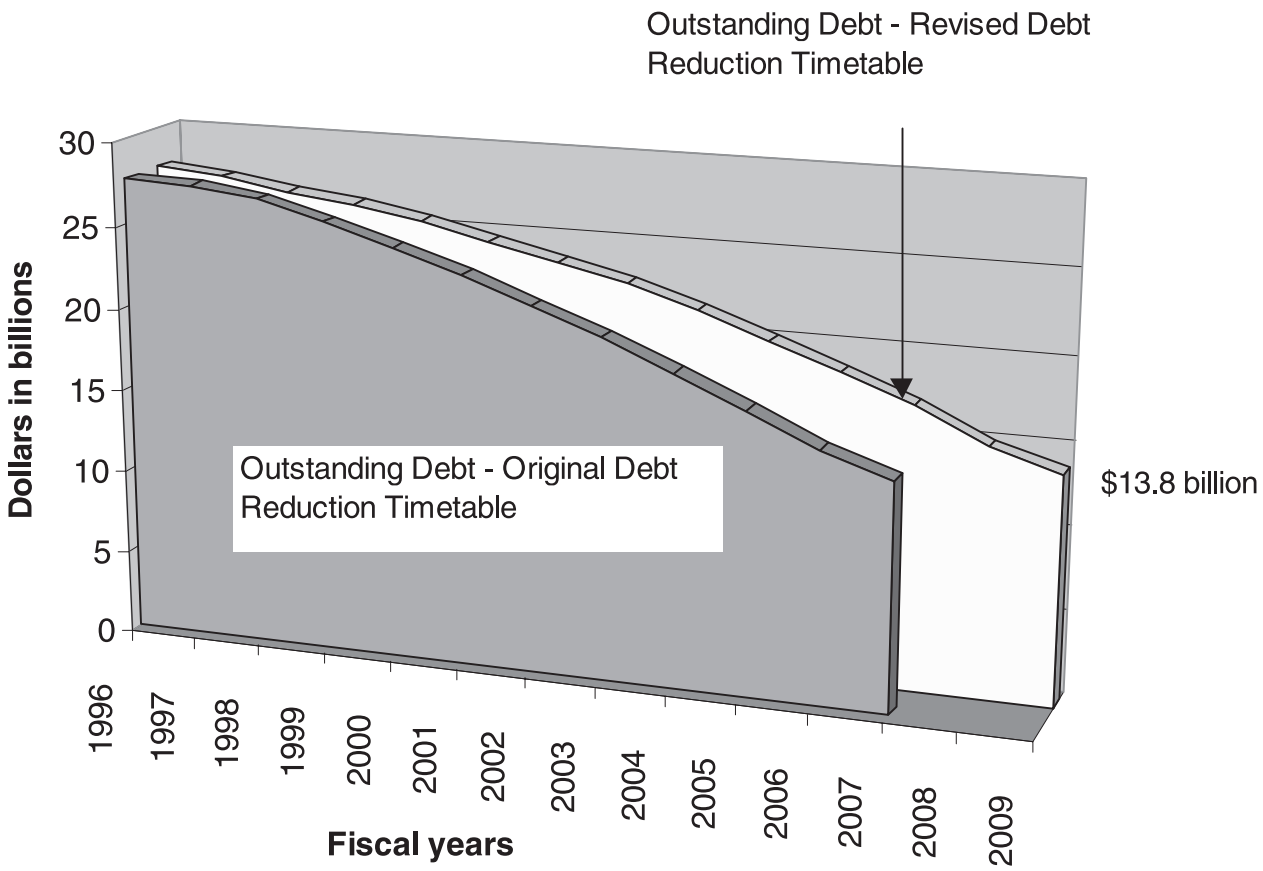
Debt Reduction and Deferred Assets Recovery Goals Are Unachievable

The 10-year plan calls for reducing debt to about $14 billion by 2007. This reduction, in turn, would lower TVA's annual interest costs by half—from about $2 billion in 1997 to about $1 billion in 2007. The additional cash that is made available as debt is paid down and interest costs are reduced can be used to further reduce debt. This interrelationship is integral to meeting the debt reduction goal. In addition to reducing interest costs by reducing debt, TVA is pursuing other interest savings by refinancing outstanding debt, as discussed in our April 1999 report.

TVA's ability to meet its strategic objective of being in a position to offer competitively priced power by 2007 depends, to a large extent, on meeting its debt reduction goal. The plan calls for the cash flow needed to achieve this debt reduction to be provided by a combination of planned revenue enhancements, cost savings initiatives, and capital expenditure limitations. However, as discussed previously, the plan excluded additional capital costs related to investing in new generating capacity to meet growth in demand for power, complying with new environmental regulations, and funding nonpower programs that were previously funded through appropriations. TVA exceeded its debt reduction goals for the first 2 years of the plan but does not expect to meet its original estimates for the remaining years due to the additional capital expenditures for new generating capacity and environmental regulations discussed previously.

As a result of the changes in certain of its cost estimates, TVA now does not expect to reduce debt by one-half until fiscal year 2009, about 2 years after the plan's original target date. This revised goal is reflected in TVA's fiscal year 2000 federal budget request and has been acknowledged publicly by TVA officials. TVA's original and revised debt reduction timetable is shown in figure 2.

Figure 2: Original and Revised Debt Reduction Timetables



Source: GAO analysis based on data from TVA.

TVA's planned revenue enhancements and cost savings were also intended to provide TVA with the opportunity to recover a portion of the cost of deferred assets. As noted previously, TVA expects to recover all but about $500 million—the estimated net realizable value—of its deferred assets. However, TVA's ability to include the costs of these assets in its rates without further rate increases is directly related to its ability to meet the plan's revenue and cost savings targets. To the extent TVA does not recover the cost of its deferred assets while it is legislatively protected from competition, competitive pressures could prevent it from selling power at rates sufficient to recover the cost of these assets indefinitely.

Achieving its debt reduction goals and minimizing its deferred assets is key to TVA meeting its strategic objective of increasing financial flexibility. This in turn is key to its ability to offer competitively priced power in 2007 and beyond—TVA's ultimate objective.

Plan Has Not Yet Been Updated to Reflect Significant Changes

As previously mentioned, since the 10-year plan was issued in July 1997, actual experience related to certain key goals and assumptions has differed from that projected in the plan, and certain expectations about the future have changed. For example, at the time our report was issued, TVA officials indicated that if they were to update the 10-year plan, they would increase their projection for the future market price of power and would include costs for new environmental regulations. However, TVA has not formally updated the plan to reflect these and other changes.

Changes in individual goals or assumptions or actual experience that differs from that projected when the plan was developed can affect the entire plan. For example, the unplanned purchase of additional generating capacity results in a decrease in projected cash flow through 2007. This affects the availability of cash to pay down debt, which further impacts interest costs. The result of these and other unplanned expenditures, such as for new environmental regulations, is that TVA's time frame to meet its debt reduction goal has been extended from 2007 to 2009. In contrast, the change in TVA's assumption for the future market price of power increases TVA's target price for power in 2007. This means that even if TVA does not achieve all of its other cost reductions and/or revenue enhancements planned through 2007, it could still be in a position to offer competitively priced power at that time.

TVA officials told us that they have internally analyzed the combined impact of the upward revision in the projected market price of wholesale power in 2007 and lower-than-planned debt reduction on TVA's ultimate objective, which is to be in a position to offer competitively priced power in 2007. While TVA officials acknowledge that they will not meet the debt reduction goal by 2007, they believe, based on their internal analyses, that TVA will still be in a position to offer competitively priced power in 2007. However, these analyses have not been formalized, nor have the results been communicated to users of the plan.

Although TVA views the plan as a living document and recognizes that projections in the plan will change over time, there is no formal mechanism for communicating changes to those who use the plan. In addition, there is

no mechanism available to plan users to gauge TVA's progress toward achieving the plan's goals and objectives. Therefore, while variances in results, changes in goals and assumptions, and progress toward plan objectives may be known to TVA, they are generally not known by the plan's users. These users include public policymakers considering legislation that might impact TVA's future, analysts and investors who use information in the plan when assessing the desirability of TVA's debt offerings, and customers who are considering alternative sources of electricity in the future. As a result, those who rely on the plan to make investment and policy decisions cannot fully assess the impact of the variances and changes in assumptions on TVA's ability to meet its strategic objectives as set forth in the plan.

The legislation proposed by the administration to promote retail competition in the electric power industry, which was mentioned previously, would require that TVA annually report several types of information to the Congress. If enacted, the legislation would require that TVA annually report, among other things, its progress toward its goal of competitively priced power, its prospects for meeting the objectives of the 10-year plan, any changes in assumptions that may have a material effect on TVA's long-range financial plans, the amount by which its debt has been reduced, and the projected amount by which its debt will be reduced. This type of reporting to the Congress would help provide the information needed to monitor TVA's readiness for a competitive environment.

Since we published our report, TVA officials have indicated that they do plan to revise and reissue an updated 10-year plan. However, they also stated that they anticipate the appointment of two new board members soon, and expect that they will want to be involved in such an action. Notwithstanding this, until the plan is formally updated, the Congress and other external users of the plan will not have the current information needed to make policy, oversight, and investment decisions related to TVA. Therefore, we reaffirm the recommendation we made in our report in April to move quickly to improve reporting by reissuing the plan to reflect evolving conditions.

Mr. Chairman, that concludes my statement. I would be happy to answer any questions you or other Members of the Subcommittee may have.

Contact and Acknowledgment

For further information regarding this testimony, please contact Linda Calbom at (202) 512-9508. Individuals making key contributions to this testimony include Rob Martin, Don Neff, Pat Petersen, Jack Warner, and Meg Mills.

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