Under TVA's federal charter, the TVA Act, TVA is to provide a reliable source of power at the lowest feasible rates for the people of the Tennessee Valley.

TVA has been able to maintain rates that compare favorably with other regions while investing in new generation and transmission assets to meet the future power needs of the Valley. TVA has reduced fixed costs, invested in new environmental controls, and managed the fifth-largest river system in the nation – using no taxpayer dollars for power program operations and with only one rate increase in the past 15 years.

TVA is Well-Positioned to Serve Its Customers

TVA is one of the largest generators of power in the region and the nation. In 2002 alone, TVA generated more than 150 billion kilowatt-hours of electricity. TVA has constructed its power system portfolio to meet the needs of the Valley, and TVA has a higher annual load factor than the average of utilities in its region.

Annual load factor is average hourly load demand as a percentage of peak demand. A higher load factor helps achieve more efficient system utilization. TVA's annual load factor in 2002 was 63 percent. The comparable average annual load factor in the Southeastern Reliability Council (SERC) region, of which TVA is a part, was 57 percent¹ from 1996-2000.



Annual Load Factor -TVA Compared with National and Regional Averages

[1] Note: Five -year average from 1996 -2000. SERC averages include TVA.



TVA has a higher annual load factor, in part because TVA's system is dual-peaking, having summer and winter peaks, which allows greater optimization in the use of its assets. It also reflects having a service territory that covers two time zones, which effectively spreads the impact of the peak over a longer period of time and diminishes ts impact during any particular hour.



TVA's Dual-Peaking System -Five-Year Average Monthly Peak System Demand

The natural stability in TVA's demand curve is complemented by a variety of pricing structures with certain large industrial customers to mitigate peak demand and increase load factor. Some customers purchase a market-priced product and have an incentive to reduce demand at certain peak times, while some customers purchase interruptible load from TVA. The use of these pricing structures allows TVA to use less peaking capacity.

The flattened demand curve resulting from the natural advantages of the region in combination with the pricing structures has enabled TVA to use more base-load facilities and fewer peaking units in meeting demand.

TVA also uses a diverse mix of coal, nuclear, hydro, natural gas, fuel oil, and renewable energy sources to generate power. This diversity helps TVA remain competitive because it does not rely on any one source of fuel, which helps minimize the effects of rapid price changes in any one of these commodities.





TVA has located its power-generating facilities and transmission infrastructure in strategic areas, in a way that optimizes its ability to serve the customers within its service territory with a high degree of reliability and efficiency.

The TVA power system continues to set generation records, improve its availability, and achieve milestones in individual unit performance. TVA has added new capacity while continuing to seek ways to maximize the performance of its current plants. TVA's nuclear units consistently rank as some of the most efficient in the nation and the world, boasting a high average capacity factor – a standard industry measure of nuclear-unit efficiency. All three of TVA's nuclear plants have achieved the Institute of Nuclear Power Operations rating of Excellent for plant operations.

Nine generating units at TVA's fossil plants achieved all-time high continuous-run records this past year, and the Bull Run Fossil Plant was ranked by *Electric Light & Power* magazine as the most energy -efficient coal-fired power plant in the nation. For the 10th consecutive year, TVA's fossil system produced more than 90 million megawatt-hours of generation. The 96 million megawatt-hours generated by the fossil system was the fifth-highest fiscal-year level achieved in its history.

TVA's 29 hydro power-production facilities also maintain high efficiency. TVA is modernizing and automating these plants, which continue to have forced-outage rates better than industry averages. Overall, TVA's power system continues to operate more efficiently and costeffectively than at any time in the past three decades.

Cost Comparisons

Before building or contracting for new sources of generation, TVA performs thorough studies to try to ensure that the potential new source would be the lowest ultimate cost option for meeting increased demand in the Valley. Historically, TVA has invested in larger plants, with higher capital costs and lower fuel and operating costs. This low production and transmission cost structure has helped make TVA competitive in the past and helps TVA's prices remain relatively low today.

TVA's transmission and production operating costs compare favorably with other large utilities in the Eastern Interconnection grid. TVA's transmission and production operating costs are 29 percent less than the average of the investor-owned utilities in the Eastern Interconnection grid that generate 50 million megawatt-hours or more annually.

TVA's transmission and production operating costs compare even more favorably with the largest investor-owned utilities in the nation. TVA's costs are more than 30 percent less than both the national average of all investor-owned utilities and the average of the 20 largest investor-owned power generators in the nation.



2001 Average Transmission & Production Operating Costs

Source: Platt's PowerDat, January 2003 release. Note: Large regional IOUs are those operating primarily within the Eastern Interconnection grid with regulated net generation greater than 50 million megawatt-hours in calendar year 2001. TVA cost information is from the TVA 2001 EIA-412 and the TVA 2001 annual report.

Cost & Price Comparisons

Price Comparisons

TVA's prices can be evaluated from several perspectives – from that of end-use electricity customers, distributors of TVA power, or the financial community. End-users of electricity consider retail rates as the most directly observable and important measure of competitiveness.

Retail Price Comparisons

TVA's low production costs contribute to low prices for residential, commercial, and industrial electricity consumers in the Tennessee Valley region. The average residential power price in the area served by TVA and distributors of TVA power is 6.4 cents per kilowatt-hour, 25 percent below the national average and 17 percent below the average of large regional utilities. Large regional utilities are defined here as those that operate primarily in the Eastern Interconnection grid that generated more than 50 million megawatt-hours in 2001. Commercial prices in the area served by TVA were 18 percent below the national average in 2001. Industrial prices in the TVA service area, including sales to TVA's directly served industrial customers, were 23 percent below the national average in 2001.



2001 Average Price Comparison

Source: Platt's PowerDat - January 2003 release. Note: Large regional IOUs are those operating primarily within the Eastern Interconnection with regulated net generation greater than 50 million megawatt-hours in calendar year 2001. *TVA & Distributors average industrial rate includes customers directly served by TVA. The average industrial rate in the TVA region, not including directly served industrial customers of TVA, is 4.57 cents per kWh. National average includes TVA & Distributors of TVA power. Nationwide, the average residential power price increased in 30 states in 2001. Only nine states had a decrease in average residential prices in 2001.



2001 Average Residential Electricity Price Comparison Cents per kWh

Sources: Platt's PowerDat – January 2003 Release

Note: Average price displayed in states partially in the TVA service area reflects average prices outside of the TVA service area.

TVA has had only one general rate increase in 15 years, which has helped keep prices low in the area it serves. However, due to increasing costs associated with environmental compliance, TVA's Board is considering a staff recommendation for a 5.9 percent overall increase in average wholesale rates which would be effective October 1, 2003. TVA staff also recommended a rate adjustment between customer classes that would result in a decrease in firm industrial prices and an increase for residential and commercial users. TVA staff has begun discussions about these recommendations with the distributors of TVA power and will make a final recommendation to the TVA Board this summer. The proposed 5.9 percent rate increase would result in an increase of \$365 million in annual revenues (ignoring the effect of price elasticity).

As the power industry moves toward a restructured marketplace and markets open up that were traditionally closed, it becomes even more relevant to compare prices close to TVA's border. Power rates in the TVA service area do not compare as favorably when matched against utilities operating within the seven states in which TVA has a presence, reflecting the fact that the Southeast is a low-cost region in general. Rates in TVA's service area are lower on average for residential and industrial, when TVA's directly served nonfirm power is included, and slightly higher for commercial customers. TVA service area rates are higher than average rates for all three classes of customers in Kentucky, the lowest cost state in the nation.



Source: Platt's PowerDat - January 2003 release

1 State averages represent prices outside of the TVA service area. TVA service area includes substantially all of Tennessee

2 TVA & Distributors average industrial rate includes customers directly served by TVA . The average industrial rate in the TVA region, not including directly served industrial customers of TVA, is 4.57 cents per kWh.

Wholesale Price Comparisons

TVA and the distributors of TVA power want to offer retail rates that are as low as feasible and that compare favorably to other utilities, regionally and nationally. The largest cost included in the retail price that distributors charge their customers is the cost of delivered wholesale power. Consequently, the rate that distributors pay for wholesale power is critical. TVA's ability to deliver wholesale power at competitive prices defines competitiveness for distributors in the TVA region.



A limited amount of full-requirements wholesale power is sold in the Southeastern region. Most power is currently being sold at the retail level by vertically integrated utilities that generate, transmit, and distribute power directly to retail end-users. The abundance of these vertically integrated sales makes it difficult to directly observe the average wholesale price of a kilowatt-hour sold in the region.

A more relevant basis for comparison to TVA's average wholesale power price can be created by computing an effective wholesale rate for the vertically integrated companies that sell power in the regions surrounding TVA. The effective wholesale rate of these vertically integrated utilities can be calculated by taking the price an end-use power customer pays and subtracting the distribution costs (including return on investment) that are embedded in this price.

When a comparison using this effective wholesale price is performed, the average wholesale price of TVA power is slightly lower than the average wholesale price for a kilowatt-hour sold in the region. This is true even though TVA's wholesale rates include the cost of providing certain services that are not typically included in the effective wholesale rates of other utilities, including:

- Services for Individual Customers of Power Distributors
- Marketing Support for Power Distributors
- Community Development Services
- Energy Supply & Engineering Support for Power Distributors
- Product Development Support for Power Distributors
- General Administrative Corporate Support for Power Distributors
- Environmental Support for Power Distributors

Cost & Price Comparisons

TVA's performance of these services helps to make distributors of TVA power more competitive, as most distribution companies would incur a higher cost in providing these services individually. These services slightly increase the cost of wholesale power, but ultimately the price of retail power in the Tennessee Valley is lower because of the efficiency that is gained from the centralization of these costs.

TVA's wholesale power rates compare favorably with other utilities in the region, even though TVA provides additional services to distributor customers and invests as necessary to maintain a very reliable power system. In 2002, TVA achieved a system reliability rate of 99.999 percent for the third year in a row. The reliability of a power provider is not captured in any rate comparison. Distributors of TVA power measure quality in terms of reliability, and to them quality is an important factor. TVA's ability to meet the needs of its customers by providing reliable, affordable power is ultimately what makes TVA competitive.

Preparing for Competition

The rate and cost data discussed in the preceding sections are seful for benchmarking in today 's environment, where TVA is the sole provider for all but one of the distributors in the Tennessee Valley. Under current law, TVA is not required to permit its competitors to use its transmission system to sell power within the TVA service territory.

In the past two years, market and regulatory developments have increased the uncertainty about the ultimate outcome and timing of electricity market restructuring in the United States. Nevertheless, TVA believes that wholesale competitive markets are likely to continue to evolve. In July 2002, the Federal Energy Regulatory Commission issued its Notice of Proposed Rulemaking (NOPR) on a standard market design (SMD) for nationwide electricity markets. Reactions to the NOPR itself have been mixed, and FERC has indicated its willingness to modify the proposal to respond to regional concerns and is expected to issue a white paper in April 2003 to reflect those changes.

Regardless of the ultimate outcome of the SMD proposal, the markets surrounding TVA already have or soon will have many of the core features proposed in FERC's SMD. TVA will either be integrated into these markets or surrounded by them. Either situation would pose special challenges. In addition, TVA believes it is likely that the current law that serves to limit competition between TVA and its competitors will change.

In July 2002, TVA launched a major strategic planning initiative The purpose of the effort is to develop a plan that will, in the context of larger changes in the market, allow TVA to balance (1) its current mission of providing low-cost power, promoting economic prosperity in the Valley, and stewardship, and (2) its financial goal to continue the trend of debt reduction in order to lower the delivered cost of power relative to the market. In developing its strategic plan, TVA must consider such factors as where it is in the industry today, what is changing in its business environment, what TVA customers want today and tomorrow, and how these changes might affect TVA and the operations it conducts to achieve its mission.

TVA recognizes that comparing cost-based regulated rates – while useful in today's environment – is not sufficient for assessing competitive position in a more open competitive market. More specifically, cost-based regulated rates will not necessarily represent the market prices with which TVA will have to compete if legislation is passed that allows distributors of TVA power to choose other suppliers.

Electricity is a very capital-intensive industry and, thus, is subject to boom-and-bust price cycles. During periods of excess supply, market prices are often below the level needed to recover all costs, including fixed costs. During periods of shortage, market prices can reach levels up to hundreds of times the average all-in-cost-based price during the peak hours of the day.

Another difference is that today TVA provides firm, all-requirements service at system-wide, postage-stamp rates based on the average cost of serving different rate classes (residential, commercial, and industrial). Wholesale market prices in a future restructured, more competitive market are far more likely to vary by location, time of day and season of the year, customer load shape, and risk premium. In addition, some distributors may want other kinds of services such as partial-requirements service or staggered contracts with varying contract lengths. All of these factors could result in a more highly differentiated portfolio of services than TVA offers today and pricing terms that reflect the underlying costs and risks associated with providing them.

TVA is working to develop a better understanding of the risks and opportunities that increased competition will bring, and of the changes that will be necessary to ensure success in the new business environment. The goal is to complete the strategic plan by the end of the year.

Summary

TVA is taking steps to remain competitive in the future by continuing to provide reliable, affordable power while continuously monitoring and adjusting to the environment in which it operates. TVA will provide stability for its customers as uncertainty becomes the standard.