# Tennessee Valley Authority

Government Performance and Results Act (GPRA)

# Annual Performance Report FY 2006

For the Fiscal Year Ending September 30, 2006

Submitted to Congress March 2007





# **Table of Contents**

| Part I – Annual Performance Report   |     |
|--|-----|
| Introduction/Mission   | 2   |
| TVA's Vision, General Goals, and Strategic Objectives                                | 3   |
| Relationship Between Performance Indicators and Goals and Objectives                 | 4   |
| Summary of Changes in Performance Indicators   | 5   |
| Part II – TVA Level Performance Indicators FY 2006                                   |     |
| Financial  |     |
| Financial Strength   |     |
| O&M Costs (Replaced in FY 2006)  | 7   |
| Net Cash Flow  | 8   |
| Productivity   | 9   |
| Customer Stakeholder   |     |
| Customer Impact  |     |
| Economic Development Index   | 11  |
| Operations Process   |     |
| Asset Availability   |     |
| Environmental Impact Index   | 13  |
| People           • Safe Workplace  | 4.4 |
| Sale workplace   | 14  |
| Part III – COO/SBU Level Performance Indicators FY 2006 COO                          |     |
| Net Electric Generation  | 15  |
| TVA Nuclear  | 15  |
| Contribution to Delivered Cost of Power (mills/kWh)                                  | 16  |
| INPO Performance Index   |     |
| Foodil Bower Crown (FDC)   |     |
| Fossil Power Group (FPG)  Contribution to Delivered Cost of Power (mills/kWh)        | 10  |
| Equivalent Forced Outage Rate  |     |
| Equivalent Forced Outage Rate  | 19  |
| Power Systems Operations (PSO)   |     |
| Connection Point Interruptions   |     |
| Load Not Served  |     |
| Contribution to Delivered Cost of Power (mills/kWh) (Replaced in FY 2006)            |     |
| PSO Transmission Expense per Total Energy Delivery                                   | 23  |
| River System Operations & Environment (RSO&E)  |     |
| Hydro Equivalent Forced Outage Rate  | 24  |
| Flood Storage Availability   |     |
| Days Navigable Waterway is Available from Knoxville to Paducah                       |     |
| Land and Water Stewardship   | 27  |
| Appendix A – Description of Means to Verify and Validate Values of Performance Goals | 28  |
| Appendix B – PART Status Update  | 31  |

#### Introduction

The Government Performance and Results Act of 1993 (GPRA) requires federal agencies to establish standards measuring their performance and effectiveness. Federal agencies are required to develop strategic plans describing their overall goals and objectives, annual performance plans containing quantifiable measures of their progress, and performance reports describing their success in meeting those standards and measures. This report documents the Tennessee Valley Authority's (TVA) actual performance and progress in achieving the goals and objectives identified in its annual performance plan for FY 2006. Information is expressed in terms set out by GPRA and the Office of Management and Budget (OMB) Circular A-11.

While TVA is a corporation of the federal government, it receives no federal appropriations and must finance itself entirely through revenues from sales and power financings. In addition to the normal challenges of operating and financing a \$9.2 billion business, TVA is now preparing for a more competitive market. To guide the organization through this transition, TVA has developed a corporate strategic plan consistent with and complementary to the plan required by GPRA.

TVA improves the quality of life for the 8.7 million people of the Tennessee Valley through its work in three major areas: energy, the environment, and economic development. Now operating in an increasingly vigorous and competitive marketplace, TVA fulfills its mission of public service by making prudent business decisions and using the best practices of private enterprise.

#### **Mission**

TVA plays a vital role in improving the quality of life in the Tennessee Valley through the interrelated parts of its mission:

#### Energy

TVA is the largest public power provider in the nation and provides reliable, low-cost power for the residents and businesses in the Tennessee Valley.

#### **Environment**

TVA manages the Tennessee River System, to realize regional benefits for navigation, flood damage reduction, power production, water supply, water quality, recreation and land use.

#### **Economic Development**

TVA's economic development efforts work within existing community infrastructure to help facilitate the efficient and effective utilization of resources to support economic gain for the valley population.

#### **Technology Innovation**

TVA supports technology innovation activities that enable the other three components of TVA's mission to be carried out more effectively and efficiently.

# TVA's Vision, General Goals, and Strategic Objectives

#### Vision

Generating Prosperity in the Valley

#### **General Goals**

TVA's strategic plan was developed to identify courses of action that will preserve its core mission and keep it financially viable in a more competitive market.

TVA's general goals define how the three main components of the mission are achieved.

#### Energy

Supply low-cost, reliable power and provide energy products and services to meet the changing business needs of power distributors and directly served customers for energy products and services in changing markets.

#### **Environment**

Support a thriving river system to minimize flood damage, maintain navigation, support power production, improve water quality, protect public health and the environment, support recreational uses, and manage land to provide multiple public benefits.

#### **Economic Development**

Provide services based on core expertise to solve regional problems, promote environmental quality, attract and retain jobs in the region, and build partnerships for the public benefit.

# Strategic Objectives:

The general goals are supported by the following strategic objectives:

- Meet customers' needs with affordable, reliable electric power;
- Reduce TVA's delivered cost of power relative to the market;
- Improve TVA's financial flexibility by reducing its financial obligations;
- Improve life in the Tennessee Valley through integrated management of the river system and environmental stewardship;
- Demonstrate leadership in sustainable economic development for the Valley; and
- Strengthen working relationships with all of TVA's stakeholders.

In addition to the long-term goals and strategic objectives needed to fulfill TVA's core mission, the Strategic Plan identified four specific areas that are key to preparing for a more competitive market:

1) <u>Pricing, Services and Products</u> - Develop new, more highly differentiated prices, services and contract terms that more closely tie the cost and risk of the product to its terms and pricing.

- 2) <u>Transmission Pricing</u> Address the range of issues related to wholesale market design and transmission pricing, including how TVA will interface with the markets that are expected to surround us, and compete for our customers.
- 3) <u>Improved Financial Flexibility</u> Accelerate reduction in total financing obligations (TFOs) and achieve higher interest coverage ratios to provide the financial flexibility needed to tolerate the higher levels of revenue and cost volatility associated with a more competitive market.
- 4) <u>Maintain Assets</u> Maintain and operate generation and transmission assets to fulfill TVA's its supply obligations in a safe and reliable manner.

# **Relationship Between Performance Indicators and Goals and Objectives**

Performance goals are developed to support attainment of the general goals and strategies and are expressed as performance indicators and annual targets. While each performance indicator is a distinct measurement, each may impact the outcome of multiple goals and objectives as shown in the following table.

|                                       | TVA Level Performance Indicators |                       |                   |                 |                   |                 |                    |                   |
|---------------------------------------|----------------------------------|-----------------------|-------------------|-----------------|-------------------|-----------------|--------------------|-------------------|
| Strategic<br>Objectives/Goals         | O&M<br>Costs                     | Financial<br>Strength | Product-<br>ivity | Cust.<br>Satis. | Econ.<br>Develop. | Asset<br>Avail. | Environ.<br>Impact | Safe<br>Workplace |
| 1. Improve financial flexibility      | ✓                                | ✓                     |                   | <b>✓</b>        |                   |                 |                    |                   |
| 2. Reduce Cost of Power               | ✓                                | ✓                     | ✓                 | ✓               | ✓                 | ✓               |                    | ✓                 |
| 3. Strengthen stakeholder relations   |                                  |                       |                   | <b>✓</b>        | ✓                 | ✓               | ✓                  | <b>✓</b>          |
| 4. Provide affordable, reliable power | ✓                                | ✓                     | ✓                 | ✓               | ✓                 | ✓               |                    | ✓                 |
| 5. Support thriving river system      |                                  |                       |                   | <b>✓</b>        | ✓                 |                 | ✓                  |                   |
| 6. Sustain economic development       |                                  |                       |                   | <b>✓</b>        | ✓                 |                 |                    |                   |
| 7. Develop new pricing                |                                  | ✓                     |                   | <b>✓</b>        | ✓                 |                 |                    |                   |

<sup>✓ =</sup> indicates an interrelationship between the performance target and the goals/objectives, i.e., the performance indicator may measure whether a goal is achieved or failure to achieve a particular goal may affect whether a performance target can be attained.

# **Summary of Changes in Performance Indicators**

As part of its performance management process, TVA periodically assesses its key performance indicators for alignment with goals and objectives. Accordingly, certain indicators are discontinued or replaced as business conditions change and as new indicators are developed that provide for better alignment. The following table summarizes the changes in performance indicators subsequent to submission of TVA's 2006 GPRA Performance Plan.

| Measure   | Status  | Reason   |
|---|---|--|
| O&M Costs   | Discontinued in FY 2006.                          | This indicator was replaced by Net Cash Flow in FY 2006 as Net Cash Flow is a leading indicator of funds available for debt retirement and reinvestment in facilities. |
| PSO Contribution to Delivered Cost of Power (mills/kWh) | Discontinued in FY 2006.                          | This indicator was replaced by Transmission Expense per Total Energy Delivery in FY 2006 to avoid distortion caused by increasing fuel prices.                         |
| Shoreline Management Performance                        | Included in Land and Water Stewardship indicator. | A more comprehensive Land and Water Stewardship indicator was developed for FY 2006.   |

### TVA Level Performance Indicator - Financial

# **Financial Strength**

#### **Goal/Strategic Objective/Critical Success Factor**

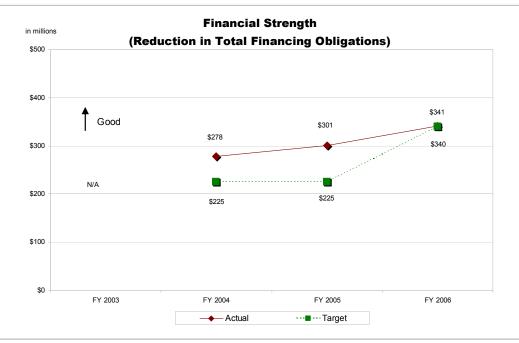
TVA Goal: Supplying low-cost, reliable power.

Strategic Objective: Continue the trend of debt reduction, now referred to as Total Financing Obligations (TFOs).

Critical Success Factor: Invest prudently.

#### **Description**

Financial Strength is a measure of the reduction in TVA's total financing obligations. The electric utility industry has become increasingly competitive over the last decade. Competition is expected to intensify, and restructuring legislation may dramatically change the way electric utilities do business in the future. TVA needs to improve its financial flexibility so that it can weather the greater volatility of revenues that comes with competition. In order to produce a more flexible cost structure, TVA has expanded its resources for capital by entering in lease-leaseback transactions (for both combustion turbine units and certain technological equipment) and arrangements with customers for prepayment of energy. Although these transactions provide favorable financing alternatives for TVA, they are debt-like in nature and are included in this measure of total financing obligations.



FY 2006 Target: \$340 Million FY 2006 Performance: \$341 Million

Targeted performance on this goal was achieved.

Performance Explanation: This favorable result is due primarily to an increase in cash available for the reduction in total financing obligations.

# TVA Level Performance Indicator - Financial **O&M Costs**

#### **Goal/Strategic Objective/Critical Success Factor**

TVA Goal: Supplying low-cost reliable power.

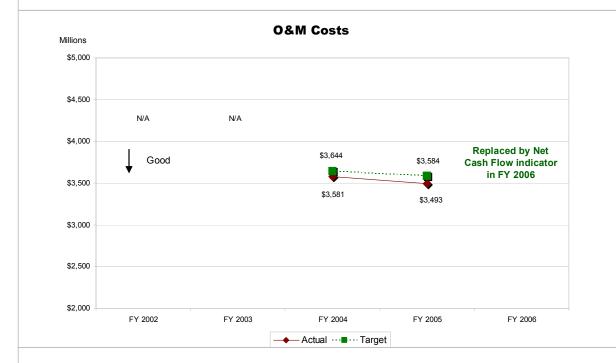
Strategic Objective: Control O&M expenses to allow TVA to focus on competitiveness in a deregulated wholesale

power market.

Critical Success Factor: Generate more for less.

#### **Description**

Customers view price as a deciding factor in whether to switch suppliers. Continued awareness and emphasis on controlling costs allow TVA to focus on competitiveness in the wholesale power market and positioning for future success. TVA calculates O&M expenses as total expenses less fuel, purchased power, interest expense and pension/postretirement financing costs.



FY 2006 Target: N/A FY 2006 Performance: N/A

This indicator was replaced by the Net Cash Flow indicator in FY 2006.

# TVA Level Performance Indicator - Financial

# **Net Cash Flow**

#### **Goal/Strategic Objective/Critical Success Factor**

TVA Goal: Supplying low cost reliable power.

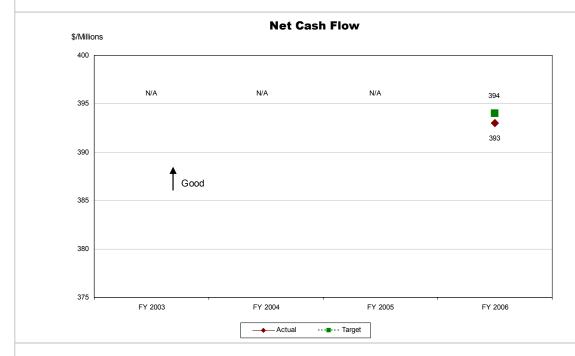
Strategic Objective: Control O&M expenses to allow TVA to focus on competitiveness in a deregulated wholesale

power market.

Critical Success Factor: Generate more for less.

#### **Description**

Generating a favorable cash flow is important to achieving TVA's stated TFO reduction goal. TVA calculates Net Cash Flow as the total cash flows from operating activities (excluding energy prepayments and changes in short-term investments) less investing activities.



FY 2006 Target: \$394 Million FY 2006 Performance: \$393 Million

Targeted performance on this goal was not achieved. Actual performance was 0.3% less than target performance.

Performance Explanation: This unfavorable variance is a result of factors such as increased fuel and purchased power costs, decreased hydro generation, and lower off-system sales, partially offset by revenues from a rate increase and cost reduction initiatives.

Corrective Action: TVA employees can contribute directly to improving net cash flow by lowering costs and conserving cash through reduced material costs, travel, office supplies, contract expenditures, etc. TVA employees responsible for capital investments can ensure that cash returns are adequate for the capital requested and generate sufficient cash to reduce Total Financing Obligations.

# TVA Level Performance Indicator - Financial

# **Productivity**

#### **Goal/Strategic Objective/Critical Success Factor**

TVA Goal: Supplying low-cost, reliable power.

**Strategic Objective**: Control O&M expenses to allow TVA to focus on competitiveness in a deregulated wholesale

power market.

Critical Success Factor: Generate more for less.

#### **Description**

Increasing competitiveness in the electric utility and the energy services sector requires that TVA manage its production costs to effectively compete for and retain its customer base. Productivity measures the total delivered generation (i.e., including combustion turbines, conventional hydro, fossil, nuclear and pumped storage) per operating and maintenance (O&M) and capital labor cost dollar (TVA plus contractor, excluding BFN U1). This measure provides a direct line of sight for all employees by demonstrating their individual contribution and performance in producing TVA's principal source of revenue --- electricity.



FY 2006 Target: 10.72 kWh/\$ FY 2006 Performance: 9.15 kWh/\$

Targeted performance on this goal was not achieved. Actual performance was 14.6% less than target performance.

Performance Explanation: This target was not reached due in part to the following:

- 1) Total generation was less than expected and accounted for half of the variance.
- 2) Higher than planned contractor labor costs accounted for the remainder of the variance.

The formula was revised for FY 2006. The denominator changed from planned to delivered generation in kWhs. All O&M and capital labor costs (excluding Browns Ferry Nuclear Unit 1) were included (only O&M labor costs were included in FY 2005).

# TVA Level Performance Indicator - Customer/Stakeholder Customer Impact

#### **Goal/Strategic Objective/Critical Success Factor**

TVA Goal: Supplying low-cost reliable power.

Strategic Objective: Meet customers' needs with affordable, reliable electric power.

Critical Success Factor: Achieve excellence in the customer value and relationship process.

#### **Description**

Customer Impact is a measure of key TVA performance elements that affect TVA's long-term relationship with its customers. The measure focuses on two elements that are deemed important by customers and TVA: connection point interruptions and the customer satisfaction survey. Connection point interruptions are measured by the rate of connection point interruptions. Customer satisfaction survey is measured by the distributors' satisfaction with TVA as their wholesale supplier, with the performance of local TVA customer service staff, and with TVA's power quality and reliability of transmission service.



FY 2006 Target: 100.0% FY 2006 Performance: 111.2%

Targeted performance on this goal was achieved.

Performance Explanation: FY06 Customer Impact performance was better than target due to improved power reliability performance.

Customer Impact was redefined in FY06.

# TVA Level Performance Indicator - Customer/Stakeholder

# **Economic Development Index**

#### Goal/Strategic Objective/Critical Success Factor

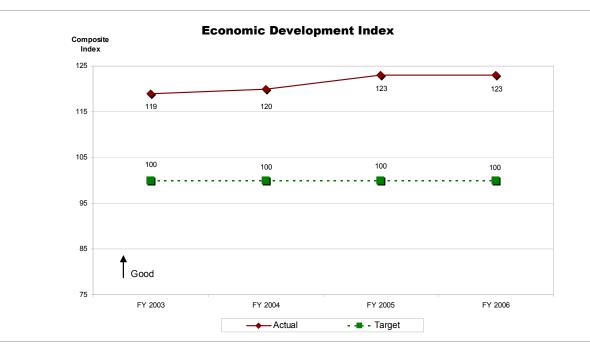
TVA Goal: Stimulating economic growth.

Strategic Objective: Demonstrate leadership in sustainable economic development in the Valley.

Critical Success Factor: Promote development through targeted growth initiatives.

#### **Description**

Since 1933, TVA has played a significant role in economic and community development in the Tennessee Valley. Energy customers are interested in the economic vitality of their communities resulting from projects which focus on business growth and industrial development. In this performance indicator, TVA is measuring the overall impact of employment opportunities, financial investment, and quality of life improvements for Valley residents.



FY 2006 Target: 100 FY 2006 Performance: 123

Targeted performance on this goal was achieved.

Performance Explanation: This indicator, a component measure of jobs created and/or retained, capital investment leveraged and jobs impact, performed above target due in large part to higher than anticipated capital investments made by expanding companies, new company announcements, and larger than expected job growth in targeted sectors.

# TVA Level Performance Indicator – Operations Process

# **Asset Availability**

#### **Goal/Strategic Objective/Critical Success Factor**

TVA Goal: Supplying low-cost, reliable power.

Strategic Objective: Meet customers' needs with affordable, reliable electric power.

Critical Success Factor: Achieve excellence in asset optimization and production processes.

#### **Description**

Asset Availability is a monthly measure of how well TVA's generation system (excluding power purchase contracts) performed compared to availability and price forecasts. It is the ratio of actual to planned availability multiplied by a value factor that reflects market price.



FY 2006 Target: 100% FY 2006 Performance: 99%

Targeted performance on this goal was not achieved. Actual performance was 1.0% less than target performance.

Performance Explanation: TVA total generation asset availability was slightly less than plan. Fossil and Nuclear availability were less than plan due to equipment reliability issues resulting in either unplanned shutdown of units or partial output loss from units. While several TVA generating units did not meet targets, the overall TVA system performance was only slightly adversely affected.

Corrective Action: Continue to focus on equipment reliability issues in operations and maintenance.

### TVA Level Performance Indicator – Operations Process

# **Environmental Impact Index**

#### Goal/Strategic Objective/Critical Success Factor

TVA Goal: Supplying low-cost, reliable power.

Strategic Objective: Meet customers' needs with affordable, reliable electric power.

**Critical Success Factor**: Manage the environmental and safety impacts TVA's operations have on employees and the region.

#### **Description**

TVA has developed and implemented a comprehensive Environmental Management System (EMS) to meet the commitments expressed in its Environmental Policy and Principles (http://www.tva.com.environment/policy.htm). This set of processes and procedures standardizes environmental practices, provides a means for continuous improvement, and is a tool for reducing environmental risk. The EMS, covering all TVA facilities and operations, requires TVA to identify its actual and potential environmental impacts. To track progress, the Environmental Impact Index was created as a measure of the more significant impacts and is a composite of 23 elements in 5 categories in terms of beneficial and detrimental impacts (or precursors) on Air Quality, Water Quality, Land, Waste Production, and Energy Consumption compared to a baseline of FY 2002. The elements allow a greater "line of sight" for more employees and demonstrate the balance between the different types of impacts. Tradeoffs and mitigation are also visible in the index providing a comprehensive view of TVA's overall environmental performance.

### **Environmental Impact Index** Composite Score 100 Formula revised from 26 to 23 98 elements in FY 2006. 80 N/A 70 Good 55 50 40 FY 2003 FY 2004 FY 2006

FY 2006 Target: 66 FY 2006 Performance: 72

Targeted performance on this goal was not achieved. Actual performance was 9.1% less than target performance.

Performance Explanation: Air quality performance was better than target due to burning coal with lower sulfur content than planned. Water quality performance was better than target due to having fewer than expected spills to water, unpermitted discharges, and storm water permit violations. Energy consumption was better than target because of more heat pump installations than expected, less energy consumption at TVA buildings, and more Green Power Switch® blocks sold. However, the overall Environmental Impact Index target was not achieved due to land performance and waste production. Two spills contributed to the worse than target land performance, and waste production performance was worse that target as a result of large hazardous waste generation at two facilities.

Actual --- Target

Corrective Action: Internal teams are continuing their focus on best practices and lessons learned so that further index improvements can be achieved in FY 2007. All organizations are closely monitoring their FY 2007 activities to continue their strong FY 2006 performance in various elements, to reduce hazardous waste generation, and to prevent spills to land in FY 2007.

### TVA Level Performance Indicator - People

# Safe Workplace

#### **Goal/Strategic Objective/Critical Success Factor**

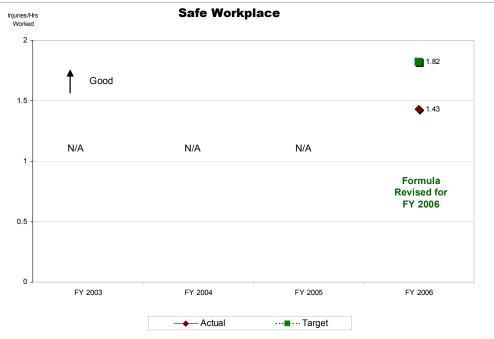
TVA Goal: Supplying low-cost, reliable power.

Strategic Objective: Strengthen working relationships with all of TVA's shareholders.

Critical Success Factor: Develop work force capabilities required to be the supplier and employer of choice.

#### **Description**

Safe Workplace is a rate-based measure of employee safety. It tracks the number and types of work-related injuries reported by employees through TVA's record keeping system for safety statistics.



FY 2006 Target: 1.82 Injuries/Hours Worked FY 2006 Performance: 1.42 Injuries/Hours Worked

Targeted performance on this goal was not achieved.

Performance Explanation: The TVA-wide recordable injury rate for FY 2006 was less than target. However, the Safe Workplace indicator was not achieved due to a fatal accident on December 5, 2005, at the John Sevier Fossil Plant.

Injury recording criteria was revised by OSHA in FY 2006 to implement new recordkeeping requirements for all federal agencies. The regulations changed the criteria for analyzing and recording work-related injuries and also added requirements for recording staff augmented contractors and their associated work hours.

Corrective Action: Establish personal accountability for all employees to maintain a safe workplace, continually update and make improvements in the TVA Safety Manual, and provide supervision/leadership to all staff augmented employees and include them in all job planning opportunities.

#### **Net Electric Generation**

#### Goal/Strategic Objective/Critical Success Factor

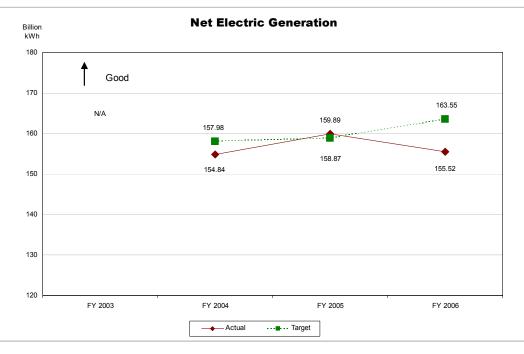
**TVA Goal**: Supplying low-cost, reliable power.

Strategic Objective: Continue the trend of debt reduction, now referred to as Total Financing Obligations (TFOs).

Critical Success Factor: Invest prudently.

#### **Description**

Net Electric Generation is the total electric energy produced by the generating units less energy consumed for the generating units use measured in billions of kWh. This measurement is a composite of the scores from each component of TVA's generation mix: TVA Nuclear (TVAN), the Fossil Power Group (FPG), and Hydro Power.



FY 2006 Target: 163.55 Billion kWh FY 2006 Performance: 155.52 Billion kWh

Targeted performance on this goal was not achieved. Actual performance was 4.9% less than target performance.

Performance Explanation: Net Generation did not meet the FY 06 target due to outages or derates at various FPG plants, forced outages at BFN Unit 3, WBN, and SQN Unit 2, and less Hydropower generation due to low rainfall.

Corrective Actions: TVA is in the process of revising the strategic plan. One initiative associated with this plan is to promote sustainable performance improvement by achieving first-quartile performance in costs, availability and reliability. The strategic plan will be incorporated into the FY 2008 business planning process once approved by the TVA Board.

# **TVAN Contribution to Delivered Cost of Power**

#### Goal/Strategic Objective/Critical Success Factor

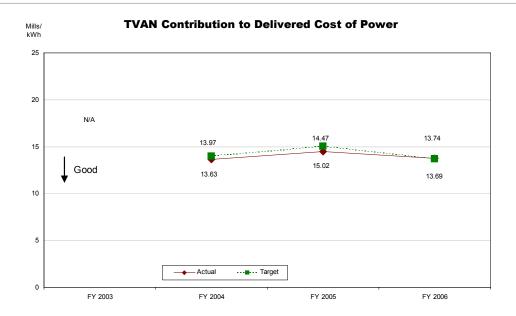
TVA Goal: Supplying low-cost, reliable power.

Strategic Objective: Meet customers' needs by providing affordable, reliable electric power.

Critical Success Factor: Generate more for less.

#### **Description**

TVAN Contribution to Delivered Cost of Power measures the cost of generating nuclear power per unit of output. The purpose is to focus on cost-effective operation of the nuclear plants by minimizing refueling outage durations and reducing unplanned scrams.



FY 2006 Target: 13.69 Mills/kWh FY 2006 Performance: 13.74 Mills/kWh

Targeted performance on this goal was not achieved. Actual performance was 0.4% less than target performance.

Performance Explanation: Generation was less than planned due to a catastrophic main turbine blade failure at the Watts Bar Nuclear Plant and an abnormally high number of equipment failure related outages at the Browns Ferry Nuclear Plant. None of these events challenged nuclear safety.

Corrective Action: TVA Nuclear continues to focus on improving equipment reliability.

# **TVAN INPO Performance Index**

#### **Goal/Strategic Objective/Critical Success Factor**

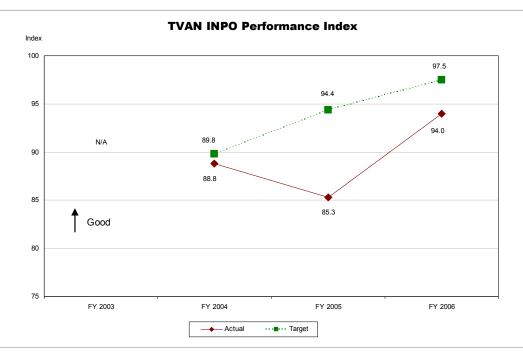
TVA Goal: Supplying low-cost, reliable power.

Strategic Objective: Meet customers' needs by providing affordable, reliable electric power.

Critical Success Factor: Manage the environmental and safety impacts TVA's operations have on employees and the region.

#### **Description**

The Institute of Nuclear Power Operators (INPO) index is TVA's primary nuclear safety index. It is a weighted combination of ten overall performance indicators and is a useful tool for management in trending overall station performance. This measure is the recognized industry standard for trending operations performance based on safety and reliability.



FY 2006 Target: 97.5 FY 2006 Performance: 94.0

Targeted performance on this goal was achieved.

Performance Explanation: INPO Index was better than planned due to nuclear fuel reliability being better than planned.

# **FPG Contribution to Delivered Cost of Power**

#### Goal/Strategic Objective/Critical Success Factor

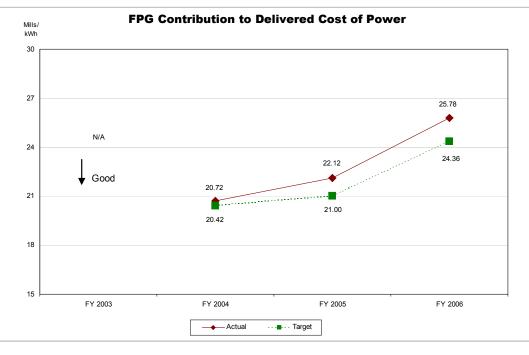
TVA Goal: Supplying low-cost, reliable power.

Strategic Objective: Meet customers' needs by providing affordable, reliable electric power.

Critical Success Factor: Generate more for less.

#### **Description**

This measures the cost of generating fossil power per unit of output. The purpose is to focus on cost-effective operation of the fossil plants. Fossil production expense includes plant base and outage, O&M projects, reagents, yard, and central office. Fuel expense includes coal.



FY 2006 Target: 24.36 Mills/kWh FY 2006 Performance: 25.78 Mills/kWh

Targeted performance on this goal was not achieved. Actual performance was 5.8% less than target performance.

Performance Explanation: Delivered cost of power was higher that target primarily due to lower than planned generation and higher fuel costs

Corrective Actions: TVA is currently examining alternate fuel blends and coals with different combustion burn specifications. Additional corrective actions include investigating and testing different quality, lower priced coals and coal blends at some plants, using a mix of long-term contract and spot market coal purchases to reduce costs, and investigating alternative methods of delivering coal to our plants to increase competition and reduce transportation rates.

# **FPG Equivalent Forced Outage Rate**

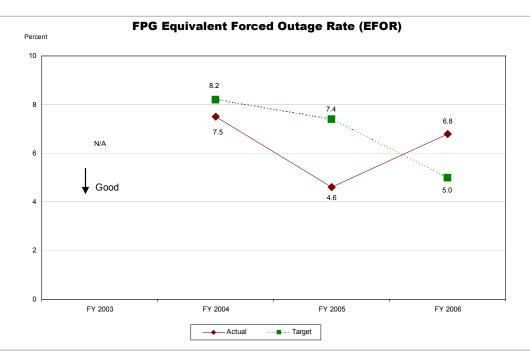
#### Goal/Strategic Objective/Critical Success Factor

TVA Goal: Supplying low-cost, reliable power.

**Strategic Objective**: Meet customers' needs with affordable, reliable electric power. **Critical Success Factor**: Improve power reliability to meet customer requirements.

#### **Description**

This measurement focuses on achieving reliable operation. As an indicator of unit reliability, the percentage of fossil generation lost due to forced outages and forced deratings is measured.



FY 2006 Target: 5.0% FY 2006 Performance: 6.8%

Targeted performance on this goal was not achieved. Actual performance was 36.0% less than target performance.

Performance Explanation: Performance did not meet target due to higher than projected unplanned outages and deratings at some of TVA's larger units.

Corrective Actions: TVA implemented a reliability improvement program to identify major EFOR contributors and drivers at large plants. Specific boiler and turbine EFOR programs were implemented to perform failure prevention assessments. Additionally, TVA implemented actions to reduce the incidence of equipment and material failures.

# **PSO Connection Point Interruptions**

#### Goal/Strategic Objective/Critical Success Factor

TVA Goal: Supplying low-cost, reliable power.

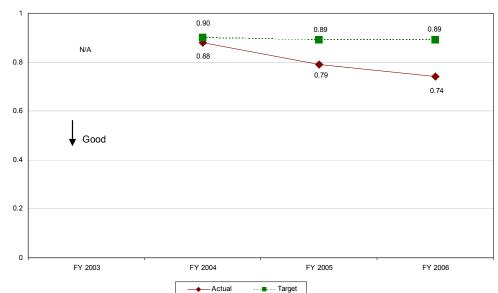
Interruptions

**Strategic Objective**: Meet customers' needs with affordable, reliable electric power. **Critical Success Factor**: Improve power reliability to meet customer requirements.

#### **Description**

Customers rank reliability as most critical in importance and are requesting improved performance in all aspects of reliability, including momentary interruptions. This index measures reliability from our customers' perspective. It tracks interruptions of power, including momentary, at customer connection points that are caused by the transmission system.

# **PSO Connection Point Interruptions**



FY 2006 Target: 0.89 Interruptions FY 2006 Performance: 0.74 Interruptions

Targeted performance on this goal was achieved.

Performance Explanations: Actual connection point interruptions were better than target due to an aggressive system-wide preventative maintenance program and other maintenance efforts directed toward the lower voltage portion of the transmission system.

# **PSO Load Not Served**

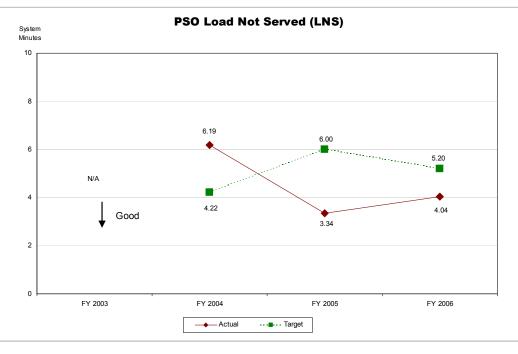
#### **Goal/Strategic Objective/Critical Success Factor**

TVA Goal: Supplying low-cost, reliable power.

**Strategic Objective**: Meet customers' needs with affordable, reliable electric power. **Critical Success Factor**: Improve power reliability to meet customer requirements.

#### **Description**

Load Not Served is a measure of the magnitude and duration of transmission system outages that affect TVA customers expressed in system minutes. Reliability is the number one customer requirement. A customer interruption with an actual duration that exceeds one minute is tracked as a Load Not Served event. This is the primary measure of the magnitude and duration of transmission power outages.



FY 2006 Target: 5.20 System Minutes FY 2006 Performance: 4.04 System Minutes

Targeted performance on this goal was achieved.

Performance Explanation: Performance was better that target due to an aggressive system-wide preventative maintenance program and other maintenance efforts directed toward the lower voltage portion of the transmission system.

# **COO/SBU Level Performance Indicator PSO Contribution to Delivered Cost of Power**

#### Goal/Strategic Objective/Critical Success Factor

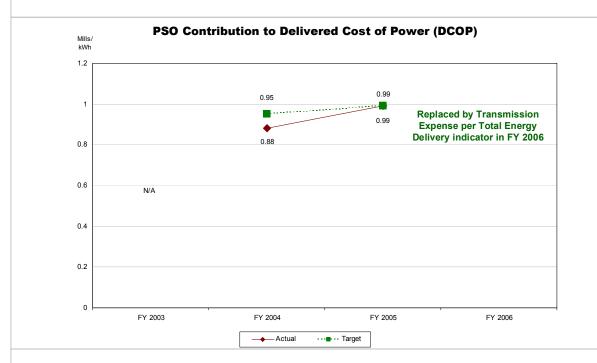
TVA Goal: Supplying low-cost, reliable power.

Strategic Objective 1.C: Meet customers' needs with affordable, reliable electric power.

Critical Success Factor 1.C.1: Improve power reliability to meet customer requirements.

#### **Description**

The PSO Contribution to Delivered Cost of Power indicator measures the operating cost of the transmission system expressed as a year-to-date cost in mills per kWh sold.



FY 2006 Target: N/A FY 2006 Performance: N/A

This indicator was replaced by the Transmission Expense per Total Energy Delivery indicator in FY 2006.

# **PSO Transmission Expense per Total Energy Delivery**

#### **Goal/Strategic Objective/Critical Success Factor**

TVA Goal: Supplying low-cost, reliable power.

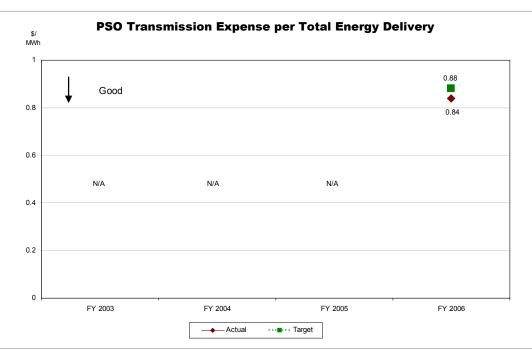
Strategic Objective: Control O&M expenses to allow TVA to focus on competitiveness in a deregulated wholesale power

market

Critical Success Factor: Generate more for less.

#### **Description**

The PSO Transmission Expense per Total Energy Deliver indicator is the ratio of TVA transmission system operating, maintenance and control expenses divided by total energy delivery, which includes electricity sales plus wheeling.



FY 2006 Target: 0.88 \$/MWh
FY 2006 Performance: 0.84 \$/MWh

Targeted performance on this goal was achieved.

Performance Explanation: Performance was better than target as transmission maintenance and operations expenses were less than target while MWh delivered exceeded target.

# **Hydro Equivalent Forced Outage Rate**

#### Goal/Strategic Objective/Critical Success Factor

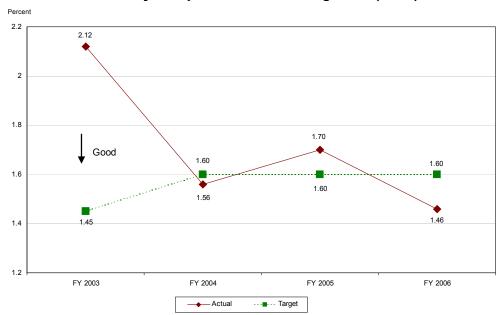
TVA Goal: Supplying low-cost, reliable power.

**Strategic Objective**: Meet customers' needs with affordable, reliable electric power. **Critical Success Factor**: Improve power reliability to meet customer requirements.

#### **Description**

Electricity generation is a major function of the multipurpose assets within TVA's River Operations. The purpose of this measure is to focus on achieving reliable unit operation to meet power demands of the TVA system.

#### RSO&E Hydro Equivalent Forced Outage Rate (EFOR)



FY 2006 Target: 1.60% FY 2006 Performance: 1.46%

Targeted performance on this goal was achieved.

Performance Explanation: Hydro Equivalent Forced Outage Rate was better than target due to effective corrective maintenance and preventive program implementation.

# Flood Storage Availability

# **Goal/Strategic Objective/Critical Success Factor**

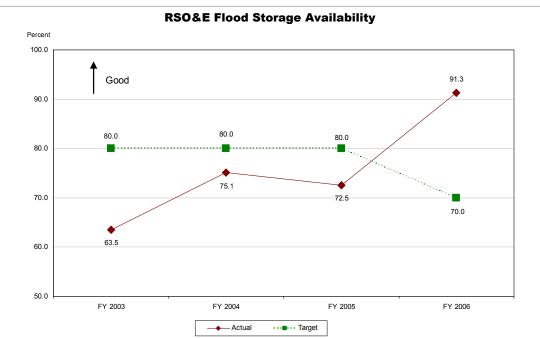
TVA Goal: Supporting a thriving river system.

**Strategic Objective**: Improve life in the Tennessee Valley through integrated management of the river system and environmental stewardship.

**Critical Success Factor**: Minimize flood damage by operating the river system according to best management practices with flood control as a priority.

#### **Description**

Flood storage availability indicates TVA's readiness to control damaging floods. The reservoir system is operated based on mandates of the TVA Act and broad policy last reviewed as part of the Reservoir Operations Study (ROS) in 2004. Based on these guidelines, monthly flood storage availability targets were established. Operation of the system in accordance with these targets helps ensure that the priority placed on flood damage avoidance is maintained.



FY 2006 Target: 70.0% FY 2006 Performance: 91.3%

Targeted performance on this goal was achieved.

Performance Explanation: Flood Storage Availability exceeded the target due to relatively dry conditions across the Tennessee Valley Watershed.

# Days Navigable Waterway is Available from Knoxville to Paducah

#### **Goal/Strategic Objective/Critical Success Factor**

TVA Goal: Supporting a thriving river system.

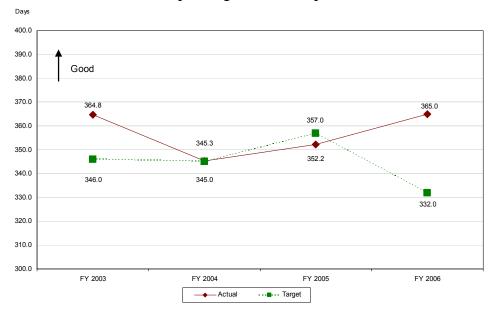
**Strategic Objective**: Improve life in the Tennessee Valley through integrated management of the river system and environmental stewardship.

Critical Success Factor: Maintain a navigable commercial waterway from Knoxville to Paducah.

#### **Description**

Commercial shippers rely on TVA to maintain locks and other navigation system components in operable condition and to operate the river system to minimize disruptions to navigation. This metric monitors TVA's effectiveness in keeping the navigation channel and locks available for use.

#### **RSO&E Days Navigable Waterway is Available**



FY 2006 Target: 332.0 Days FY 2006 Performance: 365.0 Days

Targeted performance on this goal was achieved.

Performance Explanation: Several closures were documented in FY 2006, but circumstances precluded an effect on the indicator, e.g., closed for less than 24 hours, auxiliary lock available, etc.

# **Land and Water Stewardship**

#### **Goal/Strategic Objective/Critical Success Factor**

TVA Goal: Supporting a thriving river system.

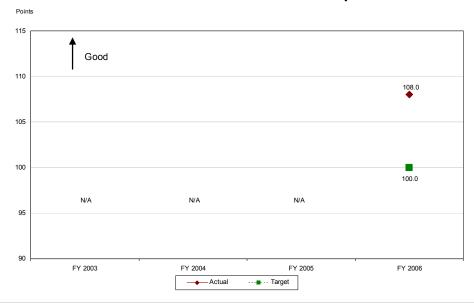
**Strategic Objective**: Improve life in the Tennessee Valley through integrated management of the river system and environmental stewardship.

**Critical Success Factor**: Manage the environmental and safety impacts TVA's operations have on employees and the region..

#### **Description**

TVA developed a Land and Water Stewardship index that tracks the combined monthly performance of four components. Water Quality Objectives Completed tracks the number of major milestones achieved by Watershed Teams in implementing targeted watershed initiatives and by Aquatic Monitoring and Management in evaluating and reporting water resource conditions. Shoreline Restored tracks the actual number of critically impaired shoreline miles which are enhanced or stabilized through shoreline restoration and revegetation activities. Resource Management Projects Completed tracks the number of resource management projects implemented. Recreation Projects Completed tracks the number of reservoirs for which recreation facility data is updated. Data on informal recreation areas is collected and analyzed, and campgrounds are assessed and evaluated.

#### **RSO&E Land and Water Stewardship**



FY 2006 Target: 100.0 Points FY 2006 Performance: 108.0 Points

Targeted performance on this goal was achieved.

Performance Explanation: Performance was better than target due primarily to the restoration of a greater number of miles of shoreline than planned.

#### Appendix A

#### Descriptions of Means to Verify and Validate Values Of Performance Goals

#### **Financial Strength**

Measurement and Validation: This indicator is measured as the change in total financing obligations including statutory debt, combustion turbine lease obligations, prepaid energy obligations, and QTEs (Qualified Technological Equipment).

#### O&M Costs

This indicator was replaced by Net Cash Flow in fiscal year 2006.

#### Net Cash Flow

Measurement and Validation: This indicator is measured as the total cash flows from operating activities (excluding energy prepayments and changes in short-term investments) less cash used in investing activities.

#### **Productivity**

Measurement and Validation: Productivity measures the total delivered generation (i.e., including combustion turbines, conventional hydro, fossil, nuclear and pumped storage) per operating and maintenance (O&M) and capital labor cost dollar (TVA plus contractor, excluding BFN U1). This measure provides a direct line of sight for all employees by demonstrating their individual contribution and performance in producing TVA's principal source of revenue --- electricity.

#### **Customer Impact**

Measurement and Validation: This measure focuses on two elements customers consistently rate as critical: power reliability (number of connection point interruptions) and customer satisfaction survey (distributor satisfaction with TVA as their wholesale supplier, with performance of TVA customer service staff, and with TVA's power quality and reliability of transmission service).

#### **Economic Development Index**

Measurement and Validation: Data is reported based on commitments with strategic partners to support job growth, leverage project investments, and enhance job quality in the region.

#### **Asset Availability**

Measurement and Validation: TVA measures how well its electric generation system, excluding power purchase contracts, performed compared to planned availability and price forecasts. A monthly result is calculated by dividing Actual GWh Available by Plan GWh Available and multiplying the result by 100%. The fiscal-year-to-date Asset Availability result is based on the weighted average of monthly results based on a value factor.

#### **Environmental Impact Index**

Measurement and Validation: The Environmental Impact Index is a composite of environmental performance factors in terms of beneficial and detrimental impacts (or precursors) on Air Quality, Water Quality, Land, Waste Production, and Energy Consumption compared to a baseline of FY 02. The 23 elements forming the index are dispersed throughout the agency, and data is provided by the owners on a quarterly basis. Measurements are made using a variety of methods: monitors, meters, scales, calculation, direct observation, utility bills, number of contracts, project planning, billing, and more.

#### Safe Workplace

Measurement and Validation: This is a rate-based measure of safety. It tracks the number of recordable injuries incurred by TVA employees or staff-augmented employees and types of work-related injuries and illnesses reported by employees through TVA's record keeping system for safety statistics.

#### Recordable Injury Rate x 200,000

Hours worked during time period

NOTE: Hearing events are reported to OSHA as recordable injuries, but will be excluded from the TVA Winning Performance Safe Workplace Indicator. Hearing loss is an occupational illness, not a typical recordable workplace safety event.

200,000 = 100 employees working 40 hours/week for 50 weeks/year

#### **Net Electric Generation**

Measurement and Validation: The total electric energy produced by the generating units measured at the generator terminals less energy consumed for the generating station use.

#### TVAN Contribution to Delivered Cost of Power (mills/kWh)

Measurement and Validation: This measures the cost of generating nuclear power per unit of output (kWh).

#### Institute of Nuclear Power Operations (INPO) Index

Measurement and Validation: The individual parameters measure performance in Unit Capability and Losses, Unplanned Automatic Scrams, Safety System Availability and Reliability, Fuel Reliability, Water Chemistry, and Radiation Exposure. These individual parameters are weighted and combined into a single measurement index. This index provides an indication of overall plant performance, as well as a benchmark measurement to other plants' performance. The INPO index is tracked monthly and the targets are determined based on industry top quartile performance adjusted for history and extraordinary items such as the Watts Bar Steam Generator replacement and Browns Ferry power uprate activities. Each year's September calculation is reported as the annual performance on this measure.

#### FPG Contribution to Delivered Cost of Power (mills/kWh)

Measurement and Validation: TVA's coal-fired plants generate about 60% of the electricity that TVA produces. Their costs impact TVA's ability to provide low cost power to its customers. The FPG Delivered Cost of Power is the cost of generating power from the coal-fired plants. It includes operation and maintenance, fuel, reagent, and other costs. The cost is divided by generation to express it as a unit cost.

#### **FPG Equivalent Forced Outage Rate (EFOR)**

Measurement and Validation: TVA's coal-fired plants generate about 60% of the electricity that TVA produces. The ability of TVA's coal-fired plants to operate when needed impacts TVA's ability to provide low cost, reliable electricity to its customers. This measurement focuses on achieving reliable operation. As an indicator of unit reliability, the percentage of fossil generation lost due to forced outages and forced deratings is measured.

#### **PSO Connection Point Interruptions (CPI)**

Measurement and Validation: The CPI indicator measures reliability from our customers' perspective. It tracks interruptions of power, including momentary, at connection points caused by the transmission system. Customers rank reliability the most critical in importance and are requesting improved performance in all aspects of reliability, including momentary interruptions. TVA recognizes that reliability is a critical customer satisfaction measure. A customer CPI event with a duration that exceeds one minute is also tracked as a Load Not Served event.

#### **PSO Load Not Served (LNS)**

Measurement and Validation: LNS is a measure of the magnitude and duration of transmission system outages that affect TVA customers expressed in system minutes. Reliability is the number one customer requirement. A customer interruption with an actual duration that exceeds one minute is tracked as a Load Not Served (LNS) event. This is the primary measure of the magnitude and duration of transmission power outages.

#### PSO Contribution to Delivered Cost of Power (mills/kWh)

This indicator was replaced by the Transmission Expense per Total Energy Delivery indicator in fiscal year 2006.

#### PSO Transmission Expense per Total Energy Delivery (\$ per MWh)

Measurement and Validation: Ratio of TVA transmission system operating, maintenance and control expenditures divided by total energy delivery, which includes electricity sales plus wheeling. Measured to control O&M expenses in relation to MWhs delivered.

#### **RSO&E Hydro Equivalent Forced Outage Rate**

Measurement and Validation: This indicator measures the ability of a plant to generate when required by Power System Operations.

#### **RSO&E Flood Storage Availability**

Measurement and Validation: This performance measure is defined as the percent of project days when actual storage availability is greater than allocated storage. Eleven tributary storage projects are included in this measure; in addition, a measure of the composite eastern system is also included. TVA measures reservoir levels at midnight each day for each of the projects. In a 30-day month, each storage project has a maximum of 30 project days when actual reservoir storage can be equal to or greater than the allocated storage. TVA sums the days when storage meets or exceeds the guideline. For example, if all 11 projects and the eastern composite had reservoir storage levels above those required for 20 of the 30 days, monthly performance would be 240/360=66.7%. Data is reported monthly and is accumulated over the entire year to determine the annual performance on this measure.

#### RSO&E Days Navigable Waterway is Available from Knoxville to Paducah

Measurement and Validation: This indicator measures instances when any segment of the Tennessee River is closed to navigation traffic. Lock operation and maintenance reports are the source of this information.

#### **RSO&E Land and Water Stewardship**

Measurement and Validation: This measure is defined as an index score which reflects the number of resource management projects completed and the number of recreation projects completed. Water Quality Objectives Completed tracks the number of major milestones achieved by Watershed Teams in implementing targeted watershed initiatives and by Aquatic Monitoring and Management in evaluating and reporting water resource conditions. Shoreline Restored tracks the actual number of critically impaired shoreline miles which are enhanced or stabilized through shoreline restoration and revegetation activities. Resource Management Projects Completed tracks the number of resource management projects implemented. Recreation Projects Completed tracks the number of reservoirs for which recreation facility data is updated. Data on informal recreation areas is collected and analyzed, and campgrounds are assessed and evaluated.

#### **Appendix B**

#### Program Assessment Rating Tool (PART) - Status Update

#### Power Program

TVA's power program is entirely self-financing and does not receive any federal appropriations. The power program budget is, however, included in the consolidated Budget of the United States Government. TVA is the fifth largest electric utility in the country, generating power from a diverse mix of coal-fired, hydro-electric, nuclear, and combustion-turbine plants to meet the electricity needs of 8.7 million people.

In the 2004 PART assessment, TVA received solid ratings for its Operational Performance, Strategic Planning, Program Management, and Program Results. In particular, the Program Management section received a 91 percent rating, with an overall average rating of 74 percent for the entire assessment. Some of the comments in the Program Management section are as follows:

- TVA has an ongoing monthly budget and performance reporting system that includes both TVA organizational
  and contractor performance information. Budgets are reallocated as necessary to address emerging problems
  or opportunity. TVA is implementing Activity Based Management (ABM) as another tool to manage
  performance.
- TVA's financial reporting system includes detailed reports of actual vs. budget expenditures on a monthly (and for some components weekly) basis.
- TVA includes performance requirements in all major procurement and contractor "partner" agreements. Incentives are designed such that the supplier and TVA share in cost savings achieved.
- TVA has developed a highly qualified executive management team, most of which have private sector as well as
  public sector experience. Within the operating groups, functional "peer teams" have been established across all
  major disciplines. They meet regularly to evaluate all business processes, do extensive benchmarking studies,
  and implement "best practices" from other units and other companies.
- TVA develops extensive cost and benefit analysis on all asset acquisitions ranging from computer systems to generating units.

#### Non-Power Program - Water and Land Stewardship

TVA serves the seven-state Tennessee Valley region through its management of the nation's largest public power system and the nation's fifth-largest river system, the Tennessee River. TVA dams and locks are operated as a fully integrated system to deliver multipurpose outputs. Navigation, flood control, and electric power generation are achieved while sustaining a balance between economic progress and protection of the environment. Public lands are managed to provide flood control, wildlife habitat, and recreation benefits.

In FY 2004, OMB gave TVA's stewardship program an average overall 86 percent rating for the entire assessment and stated that, "TVA's Stewardship program continues to meet or exceed performance goals without increasing overall costs. These efficiency improvements come through the use of public/private partnerships and more effective use of internal resources (i.e., managed attrition, realignment of functions)."

TVA is committed to meeting its obligation to operate and maintain its system of dams, reservoirs, and adjacent lands. The Energy and Water Development Appropriations Act of 1998 authorized TVA to fund it's essential water and land stewardship activities with power revenues. TVA last received appropriations for Water and Land Stewardship in FY 1999. TVA funding levels for these activities have continued at about the same level for the past eight years. FY 2006 funding of this program was \$82 million.

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