

Tennessee Valley Authority
Form 10-K
November 25, 2009

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(MARK ONE)

ANNUAL REPORT PURSUANT TO SECTION 13, 15(d), OR 37 OF THE
SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended September 30, 2009

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF
THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from _____ to _____

Commission file number 000-52313

TENNESSEE VALLEY AUTHORITY
(Exact name of registrant as specified in its charter)

A corporate agency of the United States
created by an act of Congress
(State or other jurisdiction of incorporation
or organization)

62-0474417
(IRS Employer Identification No.)

400 W. Summit Hill Drive
Knoxville, Tennessee

37902
(Zip Code)

(Address of principal executive offices)

(865) 632-2101

Registrant's telephone number, including area code

Securities registered pursuant to Section 12(b) of the Act: None

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13, Section 15(d), or Section 37 of the Securities Exchange Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13, 15(d), or 37 of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant

Edgar Filing: Tennessee Valley Authority - Form 10-K

was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer," and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

(Do not check if a smaller reporting company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Securities Exchange Act). Yes No

Table of Contents

| | |
|---|----|
| <u>FORWARD-LOOKING INFORMATION</u> | 5 |
| <u>GENERAL INFORMATION</u> | 6 |
| <u>PART I</u> | |
| <u>ITEM 1. BUSINESS</u> | 7 |
| <u>The Corporation</u> | 7 |
| <u>Service Area</u> | 7 |
| <u>Customers</u> | 8 |
| <u>Rate Authority</u> | 10 |
| <u>Rate Actions</u> | 11 |
| <u>Current Power Supply</u> | 12 |
| <u>Future Power Supply</u> | 17 |
| <u>Fuel Supply</u> | 20 |
| <u>Transmission</u> | 22 |
| <u>Weather and Seasonality</u> | 22 |
| <u>Competition</u> | 22 |
| <u>Research and Development</u> | 23 |
| <u>Governance</u> | 23 |
| <u>Regulation</u> | 23 |
| <u>Taxation and Tax Equivalents</u> | 25 |
| <u>Environmental Matters</u> | 25 |
| <u>Employee Relations</u> | 34 |
| <u>ITEM 1A. RISK FACTORS</u> | 34 |
| <u>ITEM 1B. UNRESOLVED STAFF COMMENTS</u> | 41 |
| <u>ITEM 2. PROPERTIES</u> | 41 |
| <u>Generating Properties</u> | 41 |
| <u>Transmission Properties</u> | 42 |
| <u>Natural Resource Stewardship Properties</u> | 42 |
| <u>Buildings</u> | 42 |
| <u>Disposal of Property</u> | 42 |
| <u>ITEM 3. LEGAL PROCEEDINGS</u> | 43 |
| <u>ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS</u> | 43 |
| <u>PART II</u> | |
| <u>ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES</u> | 44 |

| | |
|--|-----|
| <u>ITEM 6. SELECTED FINANCIAL DATA</u> | 44 |
| <u>ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS</u> | 45 |
| <u>Business Overview</u> | 45 |
| <u>Executive Summary</u> | 46 |
| <u>Challenges During 2009</u> | 47 |
| <u>Future Challenges</u> | 49 |
| <u>Liquidity and Capital Resources</u> | 51 |
| <u>Summary Cash Flows</u> | 55 |
| <u>Results of Operations</u> | 58 |
| <u>Off-Balance Sheet Arrangements</u> | 63 |
| <u>Critical Accounting Policies and Estimates</u> | 64 |
| <u>Changes in Ratemaking Impacting Accounting</u> | 69 |
| <u>Fair Value Measurements</u> | 70 |
| <u>New Accounting Standards and Interpretations</u> | 72 |
| <u>Legislative and Regulatory Matters</u> | 74 |
| <u>Environmental Matters</u> | 75 |
| <u>Legal Proceedings</u> | 75 |
| <u>Risk Management Activities</u> | 76 |
| <u>Subsequent Events</u> | 80 |
| <u>ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK</u> | 80 |
| <u>ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA</u> | 81 |
| <u>Statements of Income</u> | 81 |
| <u>Balance Sheets</u> | 82 |
| <u>Statements of Cash Flows</u> | 83 |
| <u>Statements of Changes in Proprietary Capital</u> | 84 |
| <u>Notes to Financial Statements</u> | 85 |
| <u>Reports of Independent Registered Public Accounting Firm</u> | 140 |
| <u>ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE</u> | 142 |
| <u>ITEM 9A. CONTROLS AND PROCEDURES</u> | 142 |

| | |
|--|-----|
| <u>ITEM 9B. OTHER INFORMATION</u> | 144 |
| <u>PART III</u> | |
| <u>ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE</u> | 145 |
| <u>Directors</u> | 145 |
| <u>Executive Officers</u> | 146 |
| <u>Disclosure and Financial Code of Ethics</u> | 149 |
| <u>Committees of the TVA Board</u> | 149 |
| <u>ITEM 11. EXECUTIVE COMPENSATION</u> | 150 |
| <u>Compensation Discussion and Analysis</u> | 150 |
| <u>Executive Compensation Tables and Narrative Disclosures</u> | 160 |
| <u>Termination Compensation and Other Arrangements</u> | 167 |
| <u>Other Agreements</u> | 168 |
| <u>Director Compensation</u> | 168 |
| <u>Compensation Committee Interlocks and Insider Participation</u> | 170 |
| <u>Compensation Committee Report</u> | 170 |
| <u>ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS</u> | 170 |
| <u>ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE</u> | 170 |
| <u>Director Independence</u> | 170 |
| <u>Related Party Transactions</u> | 170 |
| <u>ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES</u> | 172 |
| <u>PART IV</u> | |
| <u>ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES</u> | 174 |
| <u>Signatures</u> | 178 |
| <u>Exhibit Index</u> | 179 |

GLOSSARY OF COMMON ACRONYMS

The following terms or acronyms frequently used in this Annual Report on Form 10-K (the “Annual Report”) are defined below:

| Term or Acronym | Definition |
|-----------------|--|
| ADEM | Alabama Department of Environmental Management |
| AFUDC | Allowance for funds used during construction |
| ART | Asset Retirement Trust |
| ARO | Asset retirement obligation |
| CAA | Clean Air Act |
| CAIR | Clean Air Interstate Rule |
| CCP | Coal combustion products |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CERES | Combined Efficiency and Renewable Electricity Standard |
| CO ₂ | Carbon dioxide |
| COLA | Cost of living adjustment |
| CVA | Credit valuation adjustment |
| CY | Calendar year |
| DOE | Department of Energy |
| EPA | Environmental Protection Agency |
| EIS | Environmental Impact Statement |
| FASB | Financial Accounting Standards Board |
| FCA | Fuel cost adjustment |
| FERC | Federal Energy Regulatory Commission |
| FPA | Federal Power Act |
| FTP | Financial Trading Program |
| FWS | Fish and Wildlife Service |
| GAAP | Accounting principles generally accepted in the United States of America |
| GHG | Greenhouse gas |
| GWh | Gigawatt hour(s) |
| kWh | Kilowatt hour(s) |
| LIBOR | London Interbank Offered Rate |

Edgar Filing: Tennessee Valley Authority - Form 10-K

| | |
|---------|--|
| MACT | Maximum achievable control technology |
| MtM | Mark-to-market |
| MW | Megawatt |
| Moody's | Moody's Investors Service, Inc. |
| mmBtu | Million British thermal unit(s) |
| NDT | Nuclear Decommissioning Trust |
| NEPA | National Environmental Policy Act |
| NOx | Nitrogen oxides |
| NRC | Nuclear Regulatory Commission |
| NYMEX | New York Mercantile Exchange |
| PCB | Polychlorinated biphenyls |
| REIT | Real estate investment trust |
| RFP | Request for proposal |
| SCR | Selective catalytic reduction systems |
| SERP | Supplemental executive retirement plan |
| SO2 | Sulfur dioxide |
| S&P | Standard & Poor's Rating Services |
| SSPL | Seven States Power Corporation |
| SSSL | Seven States Southaven, LLC |
| TDEC | Tennessee Department of Environment and Conservation |
| TVARs | Tennessee Valley Authority Retirement System |

Table of Contents

FORWARD-LOOKING INFORMATION

This Annual Report contains forward-looking statements relating to future events and future performance. All statements other than those that are purely historical may be forward-looking statements. In certain cases, forward-looking statements can be identified by the use of words such as “may,” “will,” “should,” “expect,” “anticipate,” “believe,” “intend,” “project,” “plan,” “predict,” “assume,” “forecast,” “estimate,” “objective,” “possible,” “probably,” “likely,” “potential,” and similar expressions.

Although the Tennessee Valley Authority (“TVA”) believes that the assumptions underlying the forward-looking statements are reasonable, TVA does not guarantee the accuracy of these statements. Numerous factors could cause actual results to differ materially from those in the forward-looking statements. These factors include, among other things:

- New or changed laws, regulations, and administrative orders, including those related to environmental matters, and the costs of complying with these new or changed, as well as existing, laws, regulations, and administrative orders;
- Unplanned contributions to TVA’s pension or other post-retirement benefit plans or to TVA’s nuclear decommissioning trust (“NDT”);
- Significant delays or cost overruns associated with the cleanup and recovery activities associated with the ash spill at TVA’s Kingston Fossil Plant (“Kingston”) or in construction of generation and transmission assets;
 - Fines, penalties, and settlements associated with the Kingston ash spill;
- The outcome of legal and administrative proceedings, including, but not limited to, proceedings involving the Kingston ash spill and the North Carolina public nuisance case;
 - Significant changes in demand for electricity;
 - Loss of customers;
- The performance or failure of TVA’s generation, transmission, and related assets (including facilities such as coal combustion product facilities);
- Disruption of fuel supplies, which may result from, among other things, weather conditions, production or transportation difficulties, labor challenges, or environmental regulations affecting TVA’s fuel suppliers;
 - Purchased power price volatility and disruption of purchased power supplies;
- Events at transmission lines and other facilities not operated by TVA, including those that affect the supply of water to TVA’s generation facilities;
 - Inability to obtain regulatory approval for the construction of assets;
 - Weather conditions;
 - Events at a nuclear facility, even one that is not operated by or licensed to TVA;
- Catastrophic events such as fires, earthquakes, solar events, floods, tornadoes, pandemics, wars, terrorist activities, and other similar events, especially if these events occur in or near TVA’s service area;
 - Reliability and creditworthiness of counterparties;
- Changes in the market price of commodities such as coal, uranium, natural gas, fuel oil, crude oil, construction materials, electricity, and emission allowances;
 - Changes in the market price of equity securities, debt securities, and other investments;
 - Changes in interest rates, currency exchange rates, and inflation rates;
- Rising pension and health care costs;
 - Increases in TVA’s financial liability for decommissioning its nuclear facilities and retiring other assets;
- Changes in the market for TVA’s debt, changes in TVA’s credit rating, or limitations on TVA’s ability to borrow money;
 - Changes and volatility in the economy and financial markets;
 - Inability to eliminate identified deficiencies in TVA’s systems, standards, controls, and corporate culture;
 - Ineffectiveness of TVA’s disclosure controls and procedures and its internal control over financial reporting;

Edgar Filing: Tennessee Valley Authority - Form 10-K

Changes in accounting standards including any change that would eliminate TVA's ability to use regulatory accounting;

- Problems attracting and retaining a qualified workforce;
- Changes in technology;
- Differences between estimates of revenues and expenses and actual revenues and expenses incurred; and
- Unforeseeable events.

See also Item 1A, Risk Factors, and Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations. New factors emerge from time to time, and it is not possible for management to predict all such factors or to assess the extent to which any factor or combination of factors may impact TVA's business or cause results to differ materially from those contained in any forward-looking statement.

Table of Contents

TVA undertakes no obligation to update any forward-looking statement to reflect developments that occur after the statement is made.

GENERAL INFORMATION

Fiscal Year

Unless otherwise indicated, years (2009, 2008, etc.) in this Annual Report refer to TVA's fiscal years ended September 30. References to years in the biographical information about directors and executive officers in Item 10, Directors, Executive Officers and Corporate Governance, as well as to years that are preceded by "CY", are to calendar years.

Notes

References to "Notes" are to the Notes to Financial Statements contained in Item 8, Financial Statements and Supplementary Data in this Annual Report.

Available Information

TVA's Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and all amendments to those reports are available on TVA's web site, free of charge, as soon as reasonably practicable after such material is electronically filed with or furnished to the Securities and Exchange Commission ("SEC"). TVA's web site is www.tva.gov. Information contained on TVA's web site shall not be deemed to be incorporated into, or to be a part of, this Annual Report. TVA's SEC reports are also available to the public without charge from the web site maintained by the SEC at www.sec.gov. In addition, the public may read and copy any reports or other information that TVA files with or furnishes to the SEC at the SEC's Public Reference Room at 100 F Street N.E., Washington, D.C. 20549. The public may obtain information about the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330.

Table of Contents

PART I

ITEM 1. BUSINESS

The Corporation

In response to a proposal by President Franklin D. Roosevelt, in 1933, the U.S. Congress created TVA, a government corporation. TVA was created, among other things, to improve navigation on the Tennessee River, reduce the damage from destructive flood waters within the Tennessee River System and downstream on the lower Ohio and Mississippi Rivers, further the economic development of TVA's service area in the southeastern United States, and sell the electricity generated at the facilities TVA operates.

Today, TVA operates the nation's largest public power system and supplies power in most of Tennessee, northern Alabama, northeastern Mississippi, and southwestern Kentucky and in portions of northern Georgia, western North Carolina, and southwestern Virginia to a population of nearly nine million people. In 2009, the revenues generated from TVA's electricity sales were \$11.1 billion and accounted for virtually all of TVA's revenues.

TVA also manages the Tennessee River and its tributaries — the fifth largest river system in the United States — to provide, among other things, year-round navigation, flood damage reduction, and affordable and reliable electricity. Consistent with these primary purposes, TVA also manages the river system to provide recreational opportunities, adequate water supply, improved water quality, and economic development. TVA's management of the Tennessee River and its tributaries will sometimes be referred to as TVA's "stewardship" program in this Annual Report.

Initially, all TVA operations were funded by federal appropriations. Direct appropriations for the TVA power program ended in 1959, and appropriations for TVA's stewardship, economic development, and multipurpose activities ended in 1999. Since 1999, TVA has funded all of its operations almost entirely from the sale of electricity and power system financings. TVA's power system financings consist primarily of the sale of debt securities. TVA is owned by the United States and is not authorized to issue equity securities.

Service Area

The area in which TVA sells power, its service area, is defined by two federal statutes: the Tennessee Valley Authority Act of 1933, as amended, 16 U.S.C. §§ 831-831ee (as amended, the "TVA Act") and an amendment to the Federal Power Act ("FPA") known as the "anti-cherry-picking" provision.

Under the TVA Act, subject to certain minor exceptions, TVA may not, without specific authorization from the U.S. Congress, enter into contracts which would have the effect of making it, or the distributor customers of its power, a source of power supply outside the area for which TVA or its distributor customers were the primary source of power supply on July 1, 1957. This provision is referred to as the "fence" because it bounds TVA's sales activities, essentially limiting TVA to power sales within a defined service area.

Correspondingly, the FPA, primarily through the anti-cherry-picking provision, prevents the Federal Energy Regulatory Commission ("FERC") from ordering TVA to provide access to its transmission lines to others for the purpose of using TVA's transmission lines to deliver power to customers within substantially all of TVA's defined service area. As a result, the anti-cherry-picking provision reduces TVA's exposure to loss of customers.

Table of Contents

Sales of electricity account for substantially all of TVA's operating revenues. TVA's revenues by state are detailed in the table below.

| Operating Revenues | | | |
|----------------------------------|-----------|-----------|----------|
| For the years ended September 30 | | | |
| (in millions) | | | |
| | 2009 | 2008 | 2007 |
| Electricity sales by state | | | |
| Alabama | \$ 1,526 | \$ 1,410 | \$ 1,264 |
| Georgia | 264 | 238 | 206 |
| Kentucky | 1,252 | 1,192 | 1,084 |
| Mississippi | 1,017 | 923 | 804 |
| North Carolina | 58 | 50 | 58 |
| Tennessee | 6,970 | 6,389 | 5,740 |
| Virginia | 51 | 37 | 7 |
| Subtotal | 11,138 | 10,239 | 9,163 |
| Sale for resale | 4 | 13 | 17 |
| Subtotal | 11,142 | 10,252 | 9,180 |
| Other revenues | 113 | 130 | 146 |
| Operating revenues | \$ 11,255 | \$ 10,382 | \$ 9,326 |

TVA SERVICE AREA

Customers

TVA is primarily a wholesaler of power. It sells power to distributor customers, consisting of municipalities and cooperatives that then resell the power to their customers at a retail rate. TVA also sells power to directly served customers, consisting primarily of federal agencies and customers with large or unusual loads. In addition, power that is excess to the needs of the TVA system may, where consistent with the provisions of the TVA Act, be sold under exchange power arrangements with other electric systems.

Table of Contents

Operating revenues by customer type for each of the last three years are set forth in the table below. In this table, sales to industries directly served are included in Industries directly served, and sales to federal agencies directly served and to exchange power customers are included in Federal agencies and other.

Operating Revenues by Customer Type
For the years ended September 30
(in millions)

| | 2009 | 2008 | 2007 |
|----------------------------------|-----------|-----------|----------|
| Municipalities and cooperatives | \$ 9,644 | \$ 8,659 | \$ 7,847 |
| Industries directly served | 1,367 | 1,472 | 1,221 |
| Federal agencies and other | | | |
| Federal agencies directly served | 127 | 108 | 95 |
| Off-system sales | 4 | 13 | 17 |
| Subtotal | 11,142 | 10,252 | 9,180 |
| Other revenues | 113 | 130 | 146 |
| Operating revenues | \$ 11,255 | \$ 10,382 | \$ 9,326 |

Municipalities and Cooperatives

Revenues from distributor customers accounted for 86 percent of TVA's total operating revenues in 2009. At September 30, 2009, TVA had wholesale power contracts with 158 municipalities and cooperatives. Each of these contracts requires distributor customers to purchase all of their electric power and energy requirements from TVA.

All distributor customers purchase power under one of three basic termination notice arrangements:

- Contracts that require five years' notice to terminate;
- Contracts that require 10 years' notice to terminate; and
- Contracts that require 15 years' notice to terminate.

The number of distributor customers with the contract arrangements described above, the revenues derived from such arrangements in 2009, and the percentage of TVA's 2009 total operating revenues represented by these revenues are summarized in the table below.

TVA Distributor Customer Contracts
As of September 30, 2009

Edgar Filing: Tennessee Valley Authority - Form 10-K

| Contract Arrangements* | Number of Distributor Customers | Sales to Distributor Customers in 2009 (in millions) | Percentage of Total Operating Revenues in 2009 |
|----------------------------|---------------------------------|--|--|
| 15-year termination notice | 5 | \$ 105 | 0.9 % |
| 10-year termination notice | 48 | 3,174 | 28.2 % |
| 5-year termination notice | 103 | 6,310 | 56.1 % |
| Termination notice given** | 2 | 55 | 0.5 % |
| Total | 158 | \$ 9,644 | 85.7 % |

Notes

*Ordinarily the distributor customer and TVA have the same termination notice period; however, in contracts with six of the distributor customers with five-year termination notices, TVA has a 10-year termination notice (which becomes a five-year termination notice if TVA loses its discretionary wholesale rate-setting authority). Also, under TVA's contract with Bristol Virginia Utilities, a five-year termination notice may not be given until January 2018.

**One contract is due to terminate in December 2009, and the second is due to terminate in January 2010.

TVA's two largest distributor customers — Memphis Light, Gas and Water Division ("MLGW") and Nashville Electric Service ("NES") — have contracts with five-year and 10-year termination notice periods, respectively. Although no single customer accounted for 10 percent or more of TVA's total operating revenues in 2009, sales to MLGW and NES accounted for 9 percent and 8 percent, respectively.

Table of Contents

The power contracts between TVA and the distributor customers provide for purchase of power by the distributor customers at the wholesale rates established by the TVA Board. Beginning with 2007, rates were automatically adjusted quarterly pursuant to a formula reflecting changing costs of fuel, purchased power, and emissions allowances. Effective October 1, 2009, rates will be so adjusted on a monthly basis rather than a quarterly basis. The periodic adjustment to reflect the changing costs of fuel, purchased power, and emission allowances is called the fuel cost adjustment (“FCA”). TVA and distributor customers are also discussing a rate change proposal that would revise the wholesale rate structure to implement wholesale demand and energy rates in place of the end-use rates currently in effect. See Item 1, Business — Rate Actions.

Under section 10 of the TVA Act, the TVA Board is authorized to regulate the municipal and cooperative distributors of TVA power to carry out the purposes of the TVA Act through contract terms and conditions as well as through rules and regulations. The TVA Board regulates distributor customers primarily through the provisions of TVA’s wholesale power contracts. All of the power contracts between TVA and the distributor customers require that power purchased from TVA be sold and distributed to the ultimate consumer without discrimination among consumers of the same class, and prohibit direct or indirect discriminatory rates, rebates, or other special concessions. In addition, there are a number of wholesale power contract provisions through which TVA seeks to ensure that the electric system revenues of the distributor customers are used only for electric system purposes. Furthermore, almost all of these contracts specify the specific resale rates and charges at which the distributor customers must resell TVA power to their customers. These rates are revised from time to time, subject to TVA approval, to reflect changes in costs, including changes in the wholesale cost of power. The regulatory provisions in TVA’s wholesale power contracts help carry out the TVA Act’s objective of providing for an adequate supply of power at the lowest feasible rates.

Other Customers

Revenues from industrial customers directly served accounted for 12 percent of TVA’s total operating revenues in 2009. In 2009, contracts for customers directly served were generally for terms ranging from five to 10 years. These contracts are subject to termination by TVA or the customer upon a minimum notice period that varies according to the customer’s contract demand and the period of time service has been provided.

The United States Enrichment Corporation (“USEC”) is TVA’s largest industrial customer directly served. Sales to USEC for its Paducah, Kentucky facility represented 5 percent of TVA’s total operating revenues in 2009. TVA’s current contract with USEC expires on May 31, 2012. See Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations — Risk Management Activities — Credit Risk. In January 2004, USEC announced its decision to construct a new commercial centrifuge facility in Piketon, Ohio, which is outside TVA’s service area. TVA believes that if the facility is constructed, USEC would reduce its electricity purchases at the Paducah, Kentucky facility from about 2,000 megawatts (“MW”) at its peak to less than 50 MW. On August 4, 2009, the U.S. Department of Energy (“DOE”) and USEC announced a decision to delay DOE’s final review of a USEC loan guarantee application for the Piketon, Ohio facility. In light of this event, it is possible that the Paducah, Kentucky facility may continue to operate until CY 2017 or CY 2018.

Rate Authority

TVA is self-regulated with respect to rates, and the TVA Act gives the TVA Board sole responsibility for establishing the rates TVA charges for power. These rates are not subject to judicial review or to review or approval by any state or federal regulatory body.

Under the TVA Act, TVA is required to charge rates for power which will produce gross revenues sufficient to provide funds for:

Edgar Filing: Tennessee Valley Authority - Form 10-K

- Operation, maintenance, and administration of its power system;
 - Payments to states and counties in lieu of taxes (“tax equivalents”);
 - Debt service on outstanding indebtedness;
- Payments to the U.S. Treasury in repayment of and as a return on the government’s appropriation investment in TVA’s power facilities (the “Power Facility Appropriation Investment”); and
- Such additional margin as the TVA Board may consider desirable for investment in power system assets, retirement of outstanding bonds, notes, or other evidences of indebtedness (“Bonds”) in advance of maturity, additional reduction of the Power Facility Appropriation Investment, and other purposes connected with TVA’s power business.

In setting TVA’s rates, the TVA Board is charged by the TVA Act to have due regard for the primary objectives of the TVA Act, including the objective that power shall be sold at rates as low as are feasible.

Table of Contents

In setting rates to cover the costs set out in the TVA Act, TVA uses a debt-service coverage (“DSC”) methodology to derive annual revenue requirements in a manner similar to that used by other public power entities that also use the DSC rate methodology. The DSC method ensures that an organization will be able to cover its operating costs and to satisfy its obligations to pay principal and interest on debt. This ratemaking approach is particularly suitable for use by enterprises financed primarily, if not entirely, by debt capital, such as TVA.

TVA’s rate requirements (or projected costs) are calculated under the DSC method as the sum of the following components:

- Fuel and purchased power costs;
- Operating and maintenance costs;
- Tax equivalents; and
- Debt service coverage.

This methodology reflects the cause-and-effect relationship between a regulated entity’s costs and the corresponding rates the entity charges for its regulated products and services. Once the revenue requirements (or projected costs) are determined, this amount is compared to the projected revenues for the year in question, at existing rates, to arrive at the shortfall or surplus of revenues as compared to the projected costs. Subject to TVA Board approval, power rates would be adjusted to a level sufficient to produce revenues approximately equal to projected costs. In addition, as discussed above, the rates established under the DSC method are adjusted by the FCA.

Under accounting principles generally accepted in the United States of America (“GAAP”), TVA is entitled to use regulatory accounting. TVA’s Board is authorized by the TVA Act to set rates for power sold to its customers. Additionally, TVA’s regulated rates are designed to recover its costs of providing electricity. In view of demand for electricity and the level of competition, it is reasonable to assume that the rates, set at levels that will recover TVA’s costs, can be charged and collected. Further, TVA’s Board has the discretion to determine when costs will be recovered in rates. As a result of these factors, TVA records certain assets and liabilities that result from the regulated ratemaking process that would not be recorded under GAAP for non-regulated entities. Regulatory assets generally represent incurred costs that have been deferred because such costs are probable of future recovery in customer rates. Regulatory liabilities generally represent obligations to make refunds to customers for previous collections for costs that are not likely to be incurred or deferral of gains that will be credited to customers in future periods. TVA assesses whether the regulatory assets are probable of future recovery by considering factors such as applicable regulatory changes, potential legislation, and changes in technology. This determination reflects the current regulatory and political environment and is subject to change in the future. If future recovery of regulatory assets ceases to be probable or any of the other factors described above cease to be applicable, TVA would be required to write off these regulatory assets or liabilities. Most regulatory asset or liability write-offs would be required to be recognized in earnings in the period in which future recovery ceases to be probable.

Rate Actions

2009 Rate Adjustment

On August 20, 2008, the TVA Board approved a 3 percent increase in the base portion of TVA’s firm wholesale rates effective October 1, 2008. A quarterly FCA increase of 17 percent also became effective on October 1, 2008. This FCA increase was followed by quarterly FCA reductions of 6 percent, 7 percent, and 4 percent, respectively, on January 1, 2009, April 1, 2009, and July 1, 2009. In addition, pursuant to a revised FCA formula approved by the TVA Board at its August 20, 2009 meeting to convert the FCA to monthly rather than quarterly operation, TVA reduced its FCA for the billing month beginning October 1, 2009, by an average of 11 percent on the average firm

wholesale rate. The combined FCA reductions more than offset the 17 percent FCA increase on October 1, 2008, and resulted primarily from lower than forecasted fuel and purchased power costs and lower sales. On August 20, 2009, the TVA Board also approved a nine percent increase to the base rate portion of TVA's firm wholesale electric rates, effective October 1, 2009. The 9 percent increase in base wholesale rates results in an 8 percent increase on the average firm wholesale rate for end-use customers when the FCA component is considered in the total rate.

Current Rate Structure

TVA's existing rate structure with its distributors is based on end-use customer demand and/or energy consumption. Under this rate structure, wholesale charges are specified for each customer classification, and each distributor's wholesale bill reflects the application of these charges to its actual end-use consumers' volumes within each classification. A demand and energy rate structure applies to TVA's directly served customers.

Table of Contents

Proposed Rate Change

On July 8, 2009, in accordance with the rate change provisions of its wholesale power contracts, TVA issued a letter to its distributor customers proposing the implementation of a new rate structure in 2010. This letter initiated a required negotiation period during which TVA is seeking to reach agreement with distributors on the proposed changes to wholesale and retail rates. The proposed changes are not intended to provide additional revenue for TVA; however, individual distributors and end-use customers may see some effects on their bills. The proposed rate structures would provide price signals intended to incentivize distributors and end-use customers to shift energy usage from high cost periods to less expensive periods. For distributors, the wholesale rates would initially be a demand and energy rate with an option for a time-of-use rate. TVA is proposing to have all distributors on a time-of-use wholesale rate structure by no later than April 2012. For directly served customers and distributor-served customers with loads in excess of 5 MW, TVA is proposing a time-of-use rate structure. Under the power contract rate change provisions, if agreement is not reached by January 4, 2010, the TVA Board may thereafter, upon not less than 30 days' notice, place into effect the changes that it determines to be appropriate.

Current Power Supply

General

Power generating facilities operated by TVA at September 30, 2009, included 29 conventional hydroelectric sites, one pumped storage hydroelectric site, 11 coal-fired sites, three nuclear sites, 11 combustion turbine sites, two diesel generator sites, one wind energy site, one digester gas site, one biomass cofiring site, and 15 solar energy sites. In addition, TVA acquires power under power purchase agreements of varying duration as well as short-term contracts of less than 24-hours in duration.

On average, TVA's generation fleet is among the oldest of any utility in the southeastern United States. As of September 30, 2009, the weighted average age of TVA's coal-fired generation assets was 47 years. During recent years, TVA has invested substantially less in maintaining its generation assets than surrounding utilities. Although TVA is planning to increase its maintenance expenditures on its generating assets in 2010, some assets may not operate as planned in the future in light of their age.

The following table summarizes TVA's net generation in millions of kilowatt-hours ("kWh") by generating source and the percentage of all electric power generated by TVA for the years indicated:

Power Supply from TVA-Operated Generation Facilities
For the years ended September 30
(millions of kWh)

| | 2009 | | 2008 | | 2007 | | 2006 | | 2005 | |
|--|--------|------|--------|------|---------|------|--------|------|--------|------|
| Coal-fired | 76,794 | 53 % | 98,752 | 62 % | 100,169 | 64 % | 99,598 | 64 % | 98,361 | 62 % |
| Nuclear | 53,047 | 37 % | 51,371 | 33 % | 46,441 | 30 % | 45,313 | 29 % | 45,156 | 28 % |
| Hydroelectric | 11,421 | 8 % | 6,685 | 4 % | 9,047 | 6 % | 9,961 | 6 % | 15,723 | 10 % |
| Combustion turbine and diesel generators | 3,481 | 2 % | 1,386 | 1 % | 705 | <1 % | 613 | <1 % | 595 | <1 % |
| Renewable resources | 29 | <1 % | 39 | <1 % | 27 | <1 % | 36 | <1 % | 47 | <1 % |

Edgar Filing: Tennessee Valley Authority - Form 10-K

(non-hydro)

| | | | | | | | | | | |
|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|
| Total | 144,772 | 100 % | 158,233 | 100 % | 156,389 | 100 % | 155,521 | 100 % | 159,882 | 100 % |
|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|

Table of Contents

Net Capability

The following table summarizes the summer net capability in MW TVA had available as of September 30, 2009:

SUMMER NET CAPABILITY¹

As of September 30, 2009

| Source of Capability | Location | Number of Units | Summer Net Capability (MW) | Date First Unit Placed in Service | Date Last Unit Placed in Service |
|--|----------------|-----------------|----------------------------|-----------------------------------|----------------------------------|
| TVA-OPERATED GENERATING FACILITIES | | | | | |
| Coal-Fired | | | | | |
| Allen | Tennessee | 3 | 741 | 1959 | 1959 |
| Bull Run | Tennessee | 1 | 870 | 1967 | 1967 |
| Colbert | Alabama | 5 | 1,184 | 1955 | 1965 |
| Cumberland | Tennessee | 2 | 2,470 | 1973 | 1973 |
| Gallatin | Tennessee | 4 | 976 | 1956 | 1959 |
| John Sevier | Tennessee | 4 | 704 | 1955 | 1957 |
| Johnsonville | Tennessee | 10 | 1,206 | 1951 | 1959 |
| Kingston | Tennessee | 9 | 1,425 | 1954 | 1955 |
| Paradise | Kentucky | 3 | 2,201 | 1963 | 1970 |
| Shawnee | Kentucky | 10 | 1,330 | 1953 | 1956 |
| Widows Creek | Alabama | 8 | 1,604 | 1952 | 1965 |
| Total Coal-Fired | | 59 | 14,711 | | |
| Nuclear | | | | | |
| Browns Ferry | Alabama | 3 | 3,242 | 1974 | 1977 |
| Sequoyah | Tennessee | 2 | 2,282 | 1981 | 1982 |
| Watts Bar | Tennessee | 1 | 1,100 | 1996 | 1996 |
| Total Nuclear | | 6 | 6,624 | | |
| Hydroelectric | | | | | |
| Conventional | | | | | |
| Plants | Alabama | 36 | 1,188 | 1925 | 1962 |
| | Georgia | 2 | 35 | 1931 | 1956 |
| | Kentucky | 5 | 225 | 1944 | 1948 |
| | North Carolina | 6 | 495 | 1940 | 1956 |
| | Tennessee | 60 | 1,898 | 1912 | 1972 |
| Pumped Storage | Tennessee | 4 | 1,653 | 1978 | 1979 |
| Total Hydroelectric | | 113 | 5,494 | | |
| Natural Gas & Oil-Fired² | | | | | |
| Allen | Tennessee | 20 | 452 | 1971 | 1972 |
| Brownsville | Tennessee | 4 | 460 | 2008 | 2008 |

Edgar Filing: Tennessee Valley Authority - Form 10-K

| | | | | | |
|--|-------------|----|--------|------|------|
| Caledonia | Mississippi | 3 | 768 | 2007 | 2007 |
| Colbert | Alabama | 8 | 384 | 1972 | 1972 |
| Gallatin | Tennessee | 8 | 588 | 1975 | 2000 |
| Gleason | Tennessee | 3 | 494 | 2007 | 2007 |
| Johnsonville | Tennessee | 20 | 1,104 | 1975 | 2000 |
| Kemper | Mississippi | 4 | 304 | 2001 | 2001 |
| Lagoon Creek | Tennessee | 12 | 932 | 2002 | 2002 |
| Marshall County | Kentucky | 8 | 608 | 2007 | 2007 |
| Southaven | Mississippi | 3 | 777 | 2008 | 2008 |
| Total Natural Gas & Oil-Fired | | 93 | 6,871 | | |
| Diesel Generator | | | | | |
| Meridian | Mississippi | 5 | 9 | 1998 | 1998 |
| Albertville | Alabama | 4 | 4 | 2000 | 2000 |
| Total Diesel Generators | | 9 | 13 | | |
| Renewable Resources (non-hydro) | | | 3 | | |
| Total TVA Generating Facilities | | | 33,716 | | |
| POWER PURCHASE AND OTHER AGREEMENTS | | | 2,774 | | |
| Total Summer Net Capability | | | 36,490 | | |

Notes

(1) Net capability is defined as the ability of an electric system, generating unit, or other system component to carry or generate power for a specified time period.

(2) See Item 1, Business — Current Power Supply — Combustion Turbine Facilities for a discussion of the natural gas and oil-fired facilities operated by TVA.

Table of Contents

Coal

TVA has 11 coal-fired power sites consisting of 59 units. At September 30, 2009, these facilities accounted for 14,711 MW of summer net capability. TVA began its fossil-plant construction program in the 1940s and its coal-fired units were placed in service between 1951 and 1973.

TVA anticipates that clean air regulations will require that all coal-fired plants eventually have clean air controls, consisting of scrubbers and selective catalytic reduction systems (“SCRs”) for sulfur dioxide (“SO₂”), nitrogen oxide (“NO_x”), and mercury control. Also, TVA expects that legislation will eventually require it to reduce carbon dioxide (“CO₂”) emissions or purchase CO₂ allowances. Although TVA uses scrubbers on its largest generating units and low sulfur coal on other units to remove SO₂, and SCRs and other controls to reduce NO_x emissions, several of TVA’s older coal-fired plants do not have clean air controls, and their lower efficiency leads to higher CO₂ emission rates. These less efficient units have been less economical in recent periods. Due to the age, lower capacity, and lower efficiency of some plants, it may not be economical to install new clean air controls; accordingly, TVA may choose to retire some coal-fired units.

See Item 7, Management’s Discussion and Analysis of Financial Condition and Results of Operations — Challenges During 2009 for a discussion of the challenges of dealing with coal combustion byproducts, and Note 7 for a discussion of the Kingston ash spill.

Nuclear

TVA has three nuclear sites consisting of six units in operation. The units at Browns Ferry Nuclear Plant are boiling water reactor units and the units at the Sequoyah and Watts Bar Nuclear Plants are pressurized water reactor units. At September 30, 2009, these facilities accounted for 6,624 MW of summer net capability. In addition, construction has resumed on Watts Bar Unit 2, and that unit is scheduled to be placed in service in the fall of CY 2012. Statistics for each of these units are included in the table below.

TVA Nuclear Power
As of September 30, 2009

| Nuclear Unit | Status | Installed Capacity (MW) | Net Capacity Factor for 2009 | Date of Expiration of Operating License | Date of Expiration of Construction Permit |
|---------------------|-----------|-------------------------|------------------------------|---|---|
| Sequoyah Unit 1 | Operating | 1,221 | 87.3 | 2020 | — |
| Sequoyah Unit 2 | Operating | 1,221 | 93.6 | 2021 | — |
| Browns Ferry Unit 1 | Operating | 1,150 | 80.6 | 2033 | — |
| Browns Ferry Unit 2 | Operating | 1,190 | 79.2 | 2034 | — |
| Browns Ferry Unit 3 | Operating | 1,190 | 95.1 | 2036 | — |
| | Operating | 1,230 | 96.0 | 2035 | — |

Watts Bar Unit

1

| | | | | | |
|----------------|-------------------------|---|---|---|------|
| Watts Bar Unit | Construction resumed in | | | | |
| 2 | December 2007 | — | — | — | 2013 |

On August 5, 2009, TVA notified the NRC of its intent to submit license renewal applications for both Sequoyah Nuclear Plant units in the third quarter of 2013. If approved, the licenses for both units would be extended by an additional 20 years. Prior to the 2013 submittal date, TVA will prepare a detailed application and perform the necessary environmental reviews. After submittal, the NRC reviews are expected to take up to three years.

See Item 1, Business — Environmental Matters — Spent Nuclear Fuel for a discussion of spent nuclear fuel, Item 1, Business — Environmental Matters — Low-Level Radioactive Waste for a discussion of low-level radioactive waste, Note 20 — Contingencies — Decommissioning Costs for a discussion of TVA’s nuclear decommissioning liabilities and related trust, and Note 20 — Contingencies — Nuclear Insurance for a discussion of nuclear insurance, which discussions are incorporated herein by reference.

Table of Contents

Hydroelectric

TVA maintains 29 conventional hydroelectric dams throughout the Tennessee River system and one pumped-storage facility for the production of electricity. At September 30, 2009, these facilities accounted for 5,494 MW of summer net capability. The amount of electricity that TVA is able to generate from its hydroelectric plants depends on a number of factors outside TVA's control, including the amount of precipitation, runoff, initial water levels, and the need for water for competing water management objectives. The amount of electricity generation is also dependent upon the availability of its hydroelectric generation plants, which is in TVA's control. When these factors are unfavorable, TVA must increase its reliance on more expensive generation plants and purchased power. In addition, four hydroelectric dams owned by Alcoa Power Generating, Inc. on the Little Tennessee River and eight U.S. Army Corps of Engineers dams on the Cumberland River contribute to the TVA power system. With drought conditions easing in TVA's service area in 2009, TVA realized increased conventional hydroelectric generation. See Item 1, Business — Weather and Seasonality.

TVA's Hydro Modernization Program ("HMOD") began in 1992 to address reliability issues on a majority of its conventional hydroelectric units and on its Raccoon Mountain pumped storage facility. As currently planned, the HMOD program is scheduled to be completed in 2030. As of September 30, 2009, updates to 57 hydroelectric units had been completed. The capacity gain has been 564 MW, and the average efficiency gain has been 5.0 percent. There are 38 units remaining to be updated for reliability and/or capacity increases.

A preliminary analysis that was part of TVA's update to its hydrology model indicated that dam overtopping would occur at four TVA dams under the model's assumptions that define "probable maximum flood" levels. While the "probable maximum flood" is an extremely unlikely event, TVA is taking actions with the aim of ensuring that overtopping would not occur even under these conditions. TVA plans to implement interim dam modifications by January 1, 2010. Permanent dam modifications are being planned to prevent the "probable maximum flood" from overtopping these dams, and cost estimates, which could reach several tens of millions of dollars per dam, are being prepared.

As a result of the update, TVA is performing additional hydrologic assessments at most of its other dams to determine how many of these dams may also be susceptible to unacceptable overtopping during the "probable maximum flood." The total financial impact of permanent modifications to any additional dams which may be identified as a result of the ongoing assessment will be determined as these assessments are completed in 2010.

Combustion Turbine Facilities

As of September 30, 2009, TVA operated 93 combustion turbine units, 87 of which are simple cycle and six of which are combined cycle. The simple cycle units provide a maximum of 5,326 MW of summer net capability. The six combined cycle units provide a maximum of 1,545 MW of summer net capability. Eighty of the simple cycle units are fueled by either natural gas or diesel fuel. The remaining seven simple cycle units as well as the six combined cycle units were fueled by natural gas only. Seventy-six of the simple cycle units are capable of quick-start response allowing full generation capability in approximately 10 minutes. TVA uses combustion turbines as peaking or backup units. Their relatively low capital requirement and quick start-up capabilities make them favorable for intermittent operation to generate power at periods of high demand or to provide ancillary services. Additionally, low natural gas prices during 2009 have made these units more economical to operate. As of September 30, 2009, 24 of the simple cycle combustion turbine units were leased by private entities and leased back to TVA under long-term leases, and TVA leases the three Caledonia combined cycle units under a long term lease. In addition, as of September 30, 2009, Seven States Southaven, LLC ("SSSL") owned an undivided 90 percent interest in the three Southaven combined cycle units, and TVA has entered into an agreement under which TVA leases SSSL's undivided 90 percent interest in

Southaven and operates the entire facility through April 30, 2010. For additional details, see Note 11.

Diesel Generators

TVA has two diesel generator plants consisting of nine units. At September 30, 2009, these facilities provided 13 MW of summer net capability.

Renewable Resources

TVA has one wind energy site with three wind turbines, one biomass cofiring site, one digester gas cofiring site, and 15 solar energy sites. At September 30, 2009, the digester gas cofiring site provided TVA with about three MW of renewable summer net capability. In addition, the wind energy site, the solar energy sites, and the biomass cofiring site provided additional capability, but because of the nature of this capability, it is not considered to be summer net capability.

Table of Contents

Purchased Power and Other Agreements

Prices for purchased power were 36 percent lower in 2009 than in 2008, and at times during 2009 it was cheaper for TVA to purchase power than to operate some of its less efficient generation plants. As a result, TVA purchased 5.7 percent more power in 2009 than in 2008.

TVA acquires power from a variety of power producers through long-term and short-term power purchase agreements as well as through power spot market purchases. During 2009, TVA acquired 27 percent of the power that it purchased on the power spot market, 4 percent through short-term power purchase agreements, and 69 percent through long-term power purchase agreements that expire more than one year after September 30, 2009.

A portion of TVA's capability provided by power purchase agreements is provided under contracts that expire between 2010 and 2032, and the most significant of these contracts are discussed below.

♣**Calpine Energy Services, L.P.** TVA has contracted with Calpine Energy Services, L.P. ("Calpine") for 720 MW of summer net capability from a natural gas-fired generating plant located at Decatur, Alabama. This contract expires on August 31, 2012. In addition, TVA has contracted with Calpine for 500 MW of summer net capability from a natural gas-fired generating plant located in Morgan County, Alabama. This contract expires on December 31, 2011.

♣**Suez Energy Marketing NA, Inc.** TVA has contracted with Suez Energy Marketing NA, Inc. ("Suez") for 690 MW of summer net capability from a natural gas-fired generating plant located near Ackerman, Mississippi. TVA's contract with Suez expires on December 31, 2012.

♣**Choctaw Generation, L.P.** TVA has contracted with Choctaw Generation, L.P. ("Choctaw") for 440 MW of summer net capability from a lignite-fired generating plant in Chester, Mississippi. TVA's contract with Choctaw expires on March 31, 2032. See Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations — Risk Management Activities — Credit Risk.

♣**Alcoa Power Generating, Inc.** Four hydroelectric plants owned by Alcoa Power Generating, Inc. ("APGI") are operated in coordination with the TVA system. Under contractual arrangements with APGI, which terminate on June 20, 2010, TVA currently purchases and dispatches all electricity generated at these facilities and uses the power to supply Alcoa's energy needs. TVA may be the net purchaser or net supplier under these arrangements.

♣**Invenergy TN LLC.** TVA has contracted with Invenergy TN LLC for 27 MW of wind energy generation from 15 wind turbine generators located on Buffalo Mountain near Oak Ridge, Tennessee. Because of the nature of intermittent wind conditions in the TVA service area, these generators provide energy benefits but are not included in TVA's summer net capability total. TVA's contract with Invenergy TN LLC expires on December 31, 2024.

♣**Southeastern Power Administration.** TVA, along with others, has contracted with the Southeastern Power Administration ("SEPA") to obtain power from eight U.S. Army Corps of Engineers ("USACE") hydroelectric facilities on the Cumberland River system. The agreement with SEPA can be terminated upon three years' notice, but this notice of termination may not become effective prior to June 30, 2017. The contract requires SEPA to provide TVA an annual minimum of 1,500 hours of power for each megawatt of TVA's 405 MW allocation, and all surplus power from the Cumberland River system. Because hydroelectric production has been reduced at two of the hydroelectric facilities on the Cumberland River system due to repair work being performed by USACE at those two facilities and because of reductions in the summer stream flow on the Cumberland River, SEPA declared "force majeure" on February 25, 2007. SEPA then instituted an emergency operating plan that, among other things, eliminates SEPA's obligation to provide TVA and other affected customers with a minimum amount of power. It is unclear how long

the emergency operating plan will remain in effect.

In addition, under federal law, TVA is required to purchase energy from qualifying facilities, cogenerators, and small power producers at TVA's avoided cost of self-generating or purchasing this energy from another source. At September 30, 2009, there were seven suppliers, with a combined capacity of 914 MW, whose power is purchased by TVA under this law.

Table of Contents

During the past five years, TVA supplemented its power generation through power purchases as follows:

| | | Purchased Power* | | | | |
|-------------------------------------|--|----------------------------------|--------|--------|--------|--------|
| | | For the years ended September 30 | | | | |
| | | 2009 | 2008 | 2007 | 2006 | 2005 |
| Millions of kWh | | 22,088 | 20,887 | 22,141 | 19,019 | 14,892 |
| Percent of TVA's Total Power Supply | | 13.1 % | 11.6 % | 12.4 % | 10.9 % | 8.5 % |

Note

* Purchased power amounts for years 2005 and 2006 have been adjusted to remove APGI purchases and include them as a credit to power sales. Purchased power amounts include generation from Caledonia, which is currently a leased facility operated by TVA.

For more information regarding TVA's power purchase obligations, see Note 20 — Contingencies — Power Purchase Obligations.

Future Power Supply

TVA produces a range of forecasts of future load and energy requirements. Although numerous factors, such as weather conditions and the health of the regional economy, could cause actual results to differ materially from TVA's forecasts, TVA believes that new generation sources will be needed to meet load growth under most likely scenarios. To meet increased future demand, TVA plans to build new generation facilities and purchase power from other suppliers. See Forward-Looking Information and Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations — Future Challenges.

On June 15, 2009, TVA began the preparation of a new Integrated Resource Plan ("IRP") entitled TVA's Environmental and Energy Future. The purpose of the IRP is to analyze alternative ways of addressing the Tennessee Valley's electricity needs for the next 20 years. The IRP builds on the energy resource portfolio that resulted from TVA's 1995 IRP. The alternative portfolios developed for this effort will be evaluated using several criteria including capital and fuel costs, reliability, possible environmental impacts including climate change, compliance with existing and anticipated future regulations, and other factors. TVA expects to issue a final IRP in early CY 2011.

Combustion Turbines

Lagoon Creek Combined Cycle. TVA is constructing a gas-fired combined cycle facility, the Lagoon Creek Combined Cycle Facility, which is currently scheduled to be in service in July 2010 and have a summer net capability of 540 MW. The gas-fired combined cycle plant will consist of two combustion turbines that supply steam to a single steam turbine.

John Sevier Combined Cycle. On June 4, 2009, the TVA Board approved deferring certain upgrades planned for TVA's Gleason combustion turbine plant and the newly planned New Caledonia combustion turbine plant in order to construct John Sevier Combined Cycle Facility, in northeast Tennessee, using, in part, funds and certain equipment originally allocated for the deferred projects. By the end of December 2011, TVA plans to have operational the three

combustion turbines of the John Sevier Combined Cycle Facility, which are expected to supply over 500 MW of power. TVA expects to complete the combined cycle portion of the facility by mid-CY 2012. The completed facility is expected to add approximately 880 MW of summer capability to the TVA system at a cost of approximately \$820 million. Also, the new combined cycle facility is expected to provide TVA the flexibility to build the scrubbers and SCRs for the John Sevier Fossil Plant on a more reasonable schedule than required by the court in the North Carolina public nuisance litigation. See Note 20 — Legal Proceedings — Case Brought by North Carolina Alleging Public Nuisance.

Nuclear

Watts Bar Unit 2. On August 1, 2007, the TVA Board approved the completion of Watts Bar Nuclear Plant Unit 2 (“Watts Bar Unit 2”), construction of which was halted in 1985. The project is scheduled to be completed in the fall of CY 2012. TVA has applied for an NRC operating license, and this process includes opportunity for a public hearing. Contentions against the licensing request have been filed. See Note 20 — Legal Proceedings — Administrative Proceeding Regarding Watts Bar Nuclear Plant Unit 2. Completing Watts Bar Unit 2 is expected to cost approximately \$2.5 billion, excluding an allowance for funds used during construction (“AFUDC”) and the cost of the initial fuel load. Watts Bar Unit 2 is expected to provide 1,150 MW of summer net capability.

Table of Contents

Extended Power Uprate. TVA is undertaking an Extended Power Uprate (“EPU”) project at Browns Ferry Nuclear Plant which is expected to increase the amount of electrical generation by increasing the amount of steam produced by the reactors. Additional fuel would be added to the reactor during each refueling outage to support the increased steam production. The NRC license for operating the reactor must be modified to allow reactor operation at the higher power level. TVA has submitted a license amendment request and is currently in discussions with the NRC on selected technical issues affecting EPU licensing. The result of these discussions may impact the amount of power level increase realized by the EPU. Completion of the licensing process will determine the final implementation schedule.

Bellefonte Units 1 and 2. TVA’s construction of Units 1 and 2 at Bellefonte Nuclear Plant had been undertaken pursuant to construction permits issued by the NRC, but in November 2005 TVA cancelled the construction of these units and asked the NRC to withdraw the permits. Subsequently, TVA began to consider the feasibility of completing these units, and in August 2008, TVA asked the NRC to reinstate the construction permits for both units. On March 9, 2009, the NRC issued an order reinstating the construction permits for Bellefonte Units 1 and 2. Reinstatement of the construction permits, however, does not mean TVA can re-commence construction of these units. Further action by the NRC, the resolution of the contentions that have been filed, reviews by TVA, and approval by the TVA Board are required before construction activities can resume. See Note 20 — Legal Proceedings — Proceedings Regarding Bellefonte Nuclear Plant Units 1 and 2.

Bellefonte Units 3 and 4. TVA is developing other options for future nuclear generation at its Bellefonte site. In October 2007, TVA submitted a Combined Construction and Operating License Application to the NRC for two new Westinghouse Electric Co. designed Advanced Passive 1000 reactors to be located at the Bellefonte site and designated as Bellefonte Units 3 and 4. TVA’s application was being supported, in part, by NuStart, an industry consortium comprised of 10 utilities and two reactor vendors whose purpose is to satisfactorily demonstrate the new NRC licensing process for new nuclear plants. The Bellefonte Combined Construction and Operating License Application is one of several Advanced Passive 1000 Westinghouse standardized plant applications, and other applicants have announced construction schedules that call for their license reviews to be completed prior to Bellefonte’s. As a result, NuStart, with TVA’s agreement, is transitioning its reference plant to the Combined Construction and Operating License Application of another utility. TVA intends to continue to support the review of the Bellefonte application and does not expect this transition, by itself, to impact the issuance of a license for Bellefonte Units 3 and 4. Contentions have been filed with respect to the Bellefonte Combined Construction and Operating License Application. See Note 20 — Legal Proceedings — Administrative Proceeding Regarding Bellefonte Nuclear Plant Units 3 and 4.

Hydroelectric

TVA plans to update 38 of its conventional hydroelectric units for reliability and/or capacity increases by 2030.

Renewable and Clean Energy

On May 19, 2008, the TVA Board approved guiding principles for a Renewable and Clean Energy Assessment, to review TVA’s generation mix and identify a road map for pursuing additional renewable and clean energy supply in the region, including consideration of different sources of renewable energy and a reduction in carbon intensity in TVA’s generation mix, along with additional energy conservation by everyone who uses electricity.

In accordance with TVA’s 2008 Environmental Policy (“Environmental Policy”), TVA is working towards obtaining 50 percent of its power supply from clean (low or zero carbon-emitting) or renewable sources by 2020. TVA defines its clean energy portfolio as energy that has a zero or near-zero CO₂ emission rate, such as nuclear and renewables

(energy production that is sustainable and often naturally replenished), or energy efficiency improvements including demand reduction, or waste heat recovery. In 2009, about 45 percent of TVA's total generation came from non-CO2-emitting sources (nuclear, hydroelectric, and renewable energy) as defined by TVA. TVA's plans to add clean and renewable power are consistent with increasing expectations that Congress will pass legislation in the near-term that requires utilities to supply a certain percentage of energy from renewable sources and, possibly, to participate in an economy-wide program to cap and reduce emissions of greenhouse gases ("GHGs"), including CO2. To comply, TVA may be required to reduce or offset emissions, or to purchase emission allowances under a cap-and-trade program, and may be required to contract for or generate an increasing percentage of energy from renewable sources. Since the final outcome of any such legislation is not now known, TVA presently is unable to accurately estimate the cost of future renewable and GHG requirements. The current process for the development of TVA's IRP will help to inform future decisions on investment in new renewable and clean generation.

Table of Contents

In December 2008, TVA issued requests for proposals (“RFPs”) for both dispatchable capacity and as-available energy from renewable energy sources of up to a total of 2,000 MW of generation. TVA received over 60 responses to the RFPs which included wind (most coming from the Midwest and Great Plains states), biomass, and solar to be delivered by 2011. Bringing power from distant locations raises transmission issues and costs, and the intermittent nature of wind, solar, and other renewable sources can result in TVA needing backups for those sources or mechanisms. In October 2009, TVA entered into two 20-year contracts for the purchase of up to 450 MW of renewable wind energy from wind farms located in North Dakota and South Dakota. Power under these contracts is scheduled to be delivered beginning in CY 2012.

In June 2009, the U.S. Senate Committee on Energy and Natural Resources reported S. 1462, the American Clean Energy Leadership Act of 2009, which would require electric suppliers to meet 15 percent of their electricity sales through renewable sources of energy or energy efficiency by CY 2021. The legislation, which is yet to be considered by the full Senate, would also set interim minimum annual percentage requirements for renewable generation of 3 percent by CY 2011, 6 percent by CY 2014, 9 percent by CY 2016, and 12 percent by CY 2019. The legislation would allow demonstrated electricity savings from energy efficiency measures to meet up to 26.67 percent of the annual renewable generation requirements.

Also, in June 2009, the U.S. House of Representatives passed H.R. 2454, the American Clean Energy and Security Act of 2009, which, in addition to mandated GHG reductions, would require electric suppliers to meet 20 percent of their electricity sales through renewable sources of energy or energy efficiency by CY 2020. This bill defines eligible renewable energy resources as wind, solar, geothermal, renewable biomass, biogas and biofuels derived exclusively from renewable biomass, marine and hydrokinetic and qualified hydropower, and other qualifying energy resources, including landfill and wastewater treatment gas, coal mine methane, and qualified waste-to-energy. The bill would also set interim minimum annual percentage requirements for renewable generation of 6 percent by CY 2012, 9.5 percent by CY 2014, 13 percent by CY 2016, and 16.5 percent by CY 2018. The bill would allow demonstrated electricity savings from energy efficiency measures to meet up to 25 percent of the annual renewable generation requirements, or up to 40 percent upon FERC’s approval of a governor’s petition to allow a higher percentage through energy efficiency.

In May 2009, TVA began offering new incentives for homes and businesses to encourage the installation of renewable, distributed generation sources below 1 MW of capacity. Under this program, TVA purchases all of the energy output at a premium price, and the distributor credits the customers for the generation received through a credit on their monthly electric bills. All new participants receive a one-time incentive of \$1,000 to help offset the startup costs for installing qualifying renewable resources, such as wind, solar, biomass, and low-impact hydropower. The price that TVA pays for solar generation is now 12 cents per kWh above the rates charged by TVA’s distributor customers, and the price that TVA pays for wind, low impact hydro, and biomass generation is currently 3 cents per kWh above the rates charged by TVA’s distributor customers. TVA anticipates that these projects will qualify for renewable energy credits under any future legislation establishing requirements for renewable electricity.

On September 16, 2009, the U.S. Department of Energy confirmed funding to support the State of Tennessee’s Volunteer State Solar Initiative. Upon completion of applicable environmental reviews, the proposed initiative will include a five MW solar power generation facility to be located in west Tennessee. As proposed, TVA would purchase the power generated from the facility.

Energy Efficiency and Demand Response Initiatives

On May 27, 2009, TVA announced additional energy efficiency programs designed to promote energy efficiency to residential and commercial customers. This initiative supports the TVA Board directive to reduce energy use during

times when demand and cost for power is highest.

Tests for the new residential program, called the In-Home Energy Evaluation Program, have begun in 22 markets including Nashville, Chattanooga, and the Tri-Cities area (Bristol, Johnson City, and Kingsport) in Tennessee as well as Hopkinsville, Kentucky, and Huntsville, Alabama. The program will offer comprehensive in-home energy audits as well as financing options and incentives to help homeowners who choose to make investments in significant energy efficiency improvements.

The Commercial Efficiency Advice and Incentives Program, a new initiative targeting businesses and institutions, began testing in Mississippi and Nashville. This program will offer businesses in these areas an opportunity to receive an energy assessment of their facilities to help them identify energy-saving opportunities. Financial incentives are also available for projects that help reduce power consumption during TVA's peak period.

Table of Contents

The Major Industrial Program targets very large industrial customers with contract demand greater than 5 MW and offers technical assistance and incentives for energy efficiency projects that lower the customer's demand for power during peak usage periods on the TVA system.

These three programs are part of an effort which involved input from TVA power distributors and the public regarding the best options for encouraging electricity users in the Tennessee Valley to save energy. System-wide expansion of these programs is expected to take place in 2010.

In August 2009, TVA announced it will test building techniques, technologies, and household appliances at three experimental houses in Knoxville over a three-year period to learn more about how cutting-edge residential construction affects energy efficiency in homes in the Tennessee Valley region. The three houses include a newly built home that meets ENERGY STAR performance standards, a second home modified with improvements that could easily be made to existing homes for increased efficiency, and a third home built from the ground up to be a "near-Zero Energy Home." TVA will use data collected from the houses to develop information and programs to help the public choose energy efficiency packages for their homes and to help builders provide affordable, near-Zero Energy Homes in the future. TVA also intends to test technologies that enable consumers to better manage the energy they use and save money on their electric bills.

Purchased Power and Other Agreements

Purchasing power from others will likely remain a component of how TVA addresses the power needs of its service area. TVA has established a goal of balancing production capabilities with power supply requirements by promoting the conservation and efficient use of electricity and, when necessary, buying, building, and/or leasing assets or entering into purchased power agreements. Achieving this goal will allow TVA to reduce its reliance on purchased power.

Fuel Supply

General

TVA's consumption of various types of fuel depends largely on the demand for electricity by TVA's customers, the availability of various generating units, and the availability and cost of fuel. The following table indicates TVA's costs for various fuels for the years indicated:

| | 2009 | 2008 | 2007 | 2006 | 2005 |
|-------------|----------|----------|----------|----------|----------|
| Coal | \$ 2,019 | \$ 2,110 | \$ 1,922 | \$ 1,835 | \$ 1,495 |
| Natural gas | 133 | 131 | 62 | 60 | 63 |
| Fuel oil | 38 | 61 | 22 | 46 | 28 |
| Uranium | 162 | 71 | 121 | 71 | 44 |
| Total | \$ 2,352 | \$ 2,373 | \$ 2,127 | \$ 2,012 | \$ 1,630 |

Edgar Filing: Tennessee Valley Authority - Form 10-K

The following table indicates TVA's average fuel expense by generation-type for the years indicated:

| Fuel Expense Per kWh* | | | | | |
|---|------|------|------|-------|-------|
| For the years ended September 30 | | | | | |
| (cents/kWh) | | | | | |
| | 2009 | 2008 | 2007 | 2006 | 2005 |
| Coal | 2.75 | 2.31 | 2.09 | 2.02 | 1.65 |
| Natural gas and fuel oil | 3.91 | 9.73 | 9.62 | 10.65 | 11.44 |
| Nuclear | 0.50 | 0.50 | 0.39 | 0.38 | 0.39 |
| Average fuel cost per kWh net thermal generation from all sources | 1.92 | 1.76 | 1.59 | 1.54 | 1.30 |

Note

* Excludes amounts related to the fuel cost adjustment deferrals.

Table of Contents

TVA also has tolling agreements under which it buys power production from outside suppliers. Under these tolling agreements, TVA supplies the fuel to the outside supplier, and the outsider supplier converts the fuel into electricity. The following table indicates the cost of fuel supplied by TVA under these agreements and also the average fuel expense per kilowatt-hour for the years indicated:

| Natural Gas Purchases for Tolling Plants For the years ended September 30 | | | | | |
|--|--------|--------|--------|--------|--------|
| | 2009 | 2008 | 2007 | 2006 | 2005 |
| Cost of Fuel (in millions) | \$ 255 | \$ 457 | \$ 430 | \$ 288 | \$ 159 |
| Average Fuel Expense (cents/kWh) | 6.54 | 12.26 | 5.51 | 6.07 | 6.21 |

Coal

Coal consumption at TVA's coal-fired generating facilities during 2009 was approximately 37 million tons. As of September 30, 2009, and 2008, TVA had 36 days and 26 days of system-wide coal supply at full burn, respectively, with a net book value of \$460 million and \$303 million, respectively.

TVA utilizes both short-term and long-term coal contracts. Long-term coal contracts generally last longer than one year, while short-term contracts are usually for one year or less. During 2009, long-term contracts made up 92 percent of coal purchases and short-term contracts accounted for the remaining 8 percent. TVA plans to continue using contracts of various lengths, terms, and coal quality to meet its expected consumption and inventory requirements. During 2009, TVA purchased coal by basin as follows:

- 40 percent from the Illinois Basin;
- 28 percent from the Powder River Basin in Wyoming;
- 18 percent from the Uinta Basin of Utah and Colorado; and
- 14 percent from the Appalachian Basin of Kentucky, Pennsylvania, Tennessee, Virginia, and West Virginia.

Total system coal inventories were at or above target levels for most of 2009. During 2009, 41 percent of TVA's coal supply was delivered by rail, 23 percent was delivered by barge, and 35 percent was delivered by a combination of barge and rail. The remainder was delivered by truck.

Natural Gas and Fuel Oil

During 2009, TVA purchased substantially all of its natural gas requirements from a variety of suppliers under contracts with terms of one year or less. TVA purchases substantially all of its natural gas to operate combustion turbine peaking units and to supply fuel under tolling agreements in which TVA is the fuel supplier. At September 30, 2009, all but two of TVA's combustion turbine plants were dual fuel capable, and TVA has fuel oil stored on each site for its dual fuel combustion turbines as a backup to natural gas.

During 2009, TVA purchased substantially all of its fuel oil on the spot market. At September 30, 2009, and 2008, the net book value of TVA's natural gas in inventory was \$3 million and \$12 million, respectively, and the net book value of TVA's fuel oil in inventory was \$71 million and \$66 million, respectively.

Nuclear Fuel

Converting uranium to nuclear fuel generally involves four stages: the mining and milling of uranium ore to produce uranium concentrates; the conversion of uranium concentrates to uranium hexafluoride gas; enrichment of uranium hexafluoride; and the fabrication of the enriched uranium hexafluoride into usable fuel assemblies. TVA currently has 100 percent of its forward five-year (2010 through 2014) uranium mining and milling requirements either in inventory or under contract. In addition, TVA has 100 percent of its conversion, enrichment, and fabrication needs under contract through 2014. Beyond 2014, TVA anticipates being able to fill its needs by normal contracting processes for fuel cycle components as market forecasts indicate that the fuel cycle components will be readily available.

TVA, DOE, and certain nuclear fuel contractors have entered into agreements that provide for the blending down of surplus DOE highly enriched uranium (uranium that is too highly enriched for use in a nuclear power plant) with other uranium. Under these agreements, the enriched uranium that results from this blending process, which is called blended low enriched uranium ("BLEU"), is fabricated into fuel that can be used in a nuclear power plant. This blended nuclear fuel was first loaded in a Browns Ferry reactor in 2005 and is expected to continue to be used to reload the Browns Ferry reactors through 2016. BLEU fuel was first loaded into Sequoyah Unit 2 in May 2008 and is expected to be loaded again in CY 2010 and CY 2011.

Table of Contents

Under the terms of an interagency agreement between DOE and TVA, in exchange for supplying highly enriched uranium materials for processing into usable BLEU fuel for TVA, DOE participates to a degree in the savings generated by TVA's use of this blended nuclear fuel. TVA anticipates these future payments could begin in 2010 and last until 2016. See Note 1 — Blended Low Enriched Uranium Program for a more detailed discussion of the BLEU project.

TVA owns all nuclear fuel held for its nuclear plants. As of September 30, 2009, and 2008, the net book value of this nuclear fuel was \$898 million and \$722 million, respectively.

Transmission

The TVA transmission system is one of the largest in North America. TVA's transmission system has 66 interconnections with 14 neighboring electric systems, and delivered more than 164 billion kilowatt-hours of electricity to Tennessee Valley customers in 2009. In carrying out its responsibility for grid reliability in the TVA service area, TVA has operated with 99.999 percent reliability over the last ten years in delivering electricity to customers. Any changes to federal law altering TVA's authority to operate and control the transmission system could negatively impact reliability in the region. See Item 1A, Risk Factors.

TVA's transmission system interconnects with systems of surrounding utilities and consists primarily of the following assets:

- Approximately 15,954 circuit miles of transmission lines (primarily 500 kilovolt and 161 kilovolt lines);
 - 487 transmission substations, power switchyards, and switching stations; and
 - 66 individual interconnection points and 1,020 customer connection points.

To the extent that federal law requires access to the TVA transmission system, the TVA transmission organization offers transmission services to others to transmit power at wholesale in a manner that is comparable to TVA's own use of the transmission system. TVA has also adopted and operates in accordance with a published Standards of Conduct for Transmission Providers and appropriately separates its transmission functions from its marketing functions.

Weather and Seasonality

Weather affects both the demand for and the market prices of electricity. TVA uses weather degree days to measure the impact of weather on TVA's power operations. Weather degree days measure the extent to which average temperatures in the five largest cities in TVA's service area vary from 65 degrees Fahrenheit. During 2009, TVA had 294, or 9.5 percent, more heating degree days and 161, or 8.1 percent, less cooling degree days than in 2008. An increase in heating degree days does not produce the same increase in revenues as an increase in cooling degree days because alternative heating sources are typically available.

TVA's power system is generally a dual-peaking system where the demand for electricity peaks during the summer and winter months to meet cooling and heating needs. TVA met a new all time winter peak demand of 32,572 MW on January 16, 2009 at 9 degrees Fahrenheit.

The drought conditions in TVA's service area began to ease in 2009, and rainfall in the eastern Tennessee Valley was 103 percent of normal. Runoff has not yet reached normal conditions and was at 85 percent of normal for 2009; accordingly, a period of above average rain will be necessary to offset the dry ground conditions and improve the total runoff amount. Runoff is the amount of rainfall that is not absorbed by vegetation or the ground which actually reaches the rivers and reservoirs that TVA manages. As a result, TVA's conventional hydroelectric generation

increased 64 percent in 2009 over 2008, although it was still only 85 percent of normal. See Item 1A, Risk Factors, for a discussion of the potential impact of weather on TVA.

Competition

TVA sells electricity in a service area that is largely free of competition from other electric power providers. This service area is defined primarily by two provisions of law: one called the “fence” and one called the “anti-cherrypicking” provision. The fence limits the region in which TVA or distributors of TVA power may provide power. The anti-cherrypicking provision limits the ability of others to use the TVA transmission system for the purpose of serving customers within TVA’s service area. Bristol, Virginia, was exempted from the anti-cherrypicking provision.

Table of Contents

There have been efforts to erode the protection of the anti-cherry-picking provision. FERC issued an order that would have required TVA to interconnect its transmission system with the transmission system of East Kentucky Power Cooperative, Inc. (“East Kentucky”) in what TVA believed was a violation of the anti-cherry-picking provision. While the FERC action involving East Kentucky is moot, the event illustrates how the protection to TVA’s service area provided by the anti-cherry-picking provision could be called into question and perhaps eliminated at some time in the future.

Research and Development

TVA makes investments in science and technological innovation to help enable TVA to meet future challenges in the development and testing of infrastructure and technologies to enable consumer awareness and access to demand response and energy efficiency tools; evaluation of technologies and development of a utility plan for the integration of electric vehicles onto the distribution and transmission system; and evaluation, demonstration, and implementation of clean energy technologies that reduce TVA’s environmental footprint including its CO₂ emissions. TVA seeks to leverage research and development activities through partnerships with distributors of TVA power, the Electric Power Research Institute, DOE, Oak Ridge National Laboratory, other utilities, and universities. Examples of ongoing work include TVA’s energy efficiency demonstration and testing center for the evaluation of energy efficiency technologies, building techniques, and demand response programs; demonstration of solar charging stations for electric vehicles; participation in several technology evaluations for carbon capture and sequestration; development and demonstration of coal ash utilization technologies; and development of smart grid infrastructure for both transmission and distribution systems. See Note 1 — Research and Development Costs.

Governance

TVA is governed by the TVA Board. The Consolidated Appropriations Act, 2005, amended the TVA Act by restructuring the TVA Board from three full-time members to nine part-time members, no more than two of whom may be legal residents outside of TVA’s service area. TVA Board members are appointed by the President of the United States with the advice and consent of the U.S. Senate. After an initial phase-in period, TVA Board members serve five-year terms, and at least one member’s term ends each year. The TVA Board, among other things, establishes broad goals, objectives, and policies for TVA; establishes long-range plans to carry out these goals, objectives, and policies; approves annual budgets; and establishes a compensation plan for employees. Information about members of the TVA Board and TVA’s executive officers is discussed in Item 10, Directors, Executive Officers and Corporate Governance.

On May 31, 2007, the TVA Board approved a high-level plan that identifies critical aspects of TVA’s business that need to be addressed to strengthen the ability of TVA to carry out its mission (the “Strategic Plan”). The Strategic Plan emphasizes TVA’s obligation to provide reliable, competitively priced power, establishes sound financial principles for TVA to follow, and directs TVA to improve its relationships with customers and develop partnerships with them in energy efficiency, power supply, and economic development. A significant priority of the plan is for the TVA power system to have the right balance of generating capacity and energy supply to meet the growth in customer demand and reduce TVA’s exposure to the price volatility of the energy markets. Specific actions to carry out the provisions of the Strategic Plan are reflected in TVA’s annual business and performance plans and budgets.

Regulation

Congress

TVA exists pursuant to legislation enacted by Congress and carries on its operations in accordance with this legislation. Congress can enact legislation expanding or reducing TVA's activities, change TVA's structure, and even eliminate TVA. Congress can also enact legislation requiring the sale of some or all of the assets TVA operates or reduce the United States' ownership in TVA. To allow TVA to operate more flexibly than a traditional government agency, Congress exempted TVA from certain general federal laws that govern other agencies, such as federal labor relations laws and the civil service laws related to the hiring of federal employees, the procurement of supplies and services, and the acquisition of land. Other federal laws enacted since the creation of TVA have been made applicable to TVA, including those related to paying employees overtime and the protection of the environment, cultural resources, and civil rights.

Securities and Exchange Commission

Section 37 of the Securities Exchange Act of 1934 requires TVA to file with the SEC such periodic, current, and supplementary information, documents, and reports as would be required pursuant to section 13 of the Exchange Act if TVA were an issuer of a security registered pursuant to section 12 of the Exchange Act. Section 37 of the Exchange Act exempts TVA from complying with section 10A(m)(3) of the Exchange Act, which requires each member of a listed issuer's audit committee to be an independent member of the board of directors of the issuer. Since TVA is an agency and instrumentality of the United States, securities issued or guaranteed by TVA are "exempted securities" under the Securities Act of 1933, as amended (the "Securities Act"), and may be offered and sold without registration under the Securities Act. In addition, securities issued or guaranteed by TVA are "exempted securities" and "government securities" under the Exchange Act. TVA is also exempt from sections 14(a)-(d) and 14(f)-(h) of the Exchange Act (which address proxy solicitations) insofar as those sections relate to securities issued by TVA, and transactions in TVA securities are exempt from rules governing tender offers under Regulation 14E of the Exchange Act. Also, since TVA securities are exempted securities under the Securities Act, TVA is exempt from the Trust Indenture Act of 1939 insofar as it relates to securities issued by TVA, and no independent trustee is required for these securities.

Table of Contents

Federal Energy Regulatory Commission

Under the FPA, TVA is not a “public utility,” a term which generally includes investor-owned utilities. Therefore, TVA is not subject to the full jurisdiction that FERC exercises over public utilities under the FPA. TVA is, however, an “electric utility” and a “transmitting utility” as defined in the FPA and thus, is directly subject to certain aspects of FERC’s jurisdiction.

Under section 210 of the FPA, TVA can be ordered to interconnect its transmission facilities with the electrical facilities of qualified generators and other electric utilities that meet certain requirements. It must be found that the requested interconnection is in the public interest and would encourage conservation of energy or capital, optimize efficiency of facilities or resources, or improve reliability. The requirements of section 212 concerning the terms and conditions of interconnection, including reimbursement of costs, must also be met.

Under section 211 of the FPA, TVA can be ordered to transmit power at wholesale provided that the order does not impair the reliability of the TVA or surrounding systems and likewise meets the applicable requirements of section 212 concerning terms, conditions, and rates for service. Under section 211A of the FPA, TVA is subject to FERC review of the transmission rates and the terms and conditions of service that TVA provides others to ensure comparability of treatment of such service with TVA’s own use of its transmission system and that the terms and conditions of service are not unduly discriminatory or preferential. The anti-cherry-picking provision of the FPA precludes TVA from being ordered to wheel another supplier’s power to a customer if the power would be consumed within TVA’s defined service territory.

Sections 221 and 222 of the FPA, applicable to all market participants, including TVA, prohibit (i) using manipulative or deceptive devices or contrivances in connection with the purchase or sale of power or transmission services subject to FERC’s jurisdiction and (ii) reporting false information on the price of electricity sold at wholesale or the availability of transmission capacity to a federal agency with intent to fraudulently affect the data being compiled by the agency.

Under Section 215 of the FPA, TVA must comply with certain standards designed to maintain transmission system reliability. These standards are approved by FERC and enforced by the Electric Reliability Organization.

Section 206(e) of the FPA provides FERC with authority to order refunds of excessive prices on short-term sales (transactions lasting 31 days or less) by all market participants, including TVA, in market manipulation and price gouging situations if such sales are under a FERC-approved tariff.

Section 220 of the FPA provides FERC with authority to issue regulations requiring the reporting, on a timely basis, of information about the availability and prices of wholesale power and transmission service by all market participants, including TVA.

Under sections 306 and 307 of the FPA, FERC may investigate electric industry practices, including TVA’s operations previously mentioned that are subject to FERC’s jurisdiction.

Under sections 316 and 316A of the FPA, FERC has authority to impose criminal penalties and civil penalties of up to \$1 million a day for each violation on entities subject to the provisions of Part II of the FPA, which includes the above provisions applicable to TVA.

Table of Contents

Finally, while not required to do so, TVA has elected to implement various FERC orders and regulations pertaining to public utilities on a voluntary basis to the extent that these are consistent with TVA's obligations under the TVA Act.

Nuclear Regulatory Commission

TVA operates its nuclear facilities in a highly regulated environment and is subject to the oversight of the NRC, an independent agency which sets the rules that users of radioactive materials must follow. The NRC has broad authority to impose requirements relating to the licensing, operation, and decommissioning of nuclear generating facilities. In addition, if TVA fails to comply with requirements promulgated by the NRC, the NRC has the authority to impose fines, shut down units, or modify, suspend, or revoke TVA's operating licenses.

Environmental Protection Agency

TVA is subject to regulation by the Environmental Protection Agency ("EPA") in a variety of areas, including air quality control, water quality control, and management and disposal of hazardous wastes. See Item 1, Business — Environmental Matters.

States

The Supremacy Clause of the U.S. Constitution prohibits states, without congressional consent, from regulating the manner in which the federal government conducts its activities. As a federal agency, TVA is exempt from regulation, control, and taxation by states except in certain areas such as air and water quality where Congress has given the states limited powers to regulate federal activities.

Other Federal Entities

TVA's activities and records are also subject to review to varying degrees by other federal entities, including the Government Accountability Office and the Office of Management and Budget. There is also an Office of Inspector General which reviews TVA's activities and records.

Taxation and Tax Equivalents

TVA is not subject to federal income taxes. In addition, neither TVA nor its property, franchises, or income is subject to taxation by states or their subdivisions. Section 13 of the TVA Act does, however, require TVA to make tax equivalent payments to states and counties in which TVA conducts power operations or in which TVA has acquired power-producing properties previously subject to state and local taxation. The total amount of these payments is 5 percent of gross revenues from the sale of power during the preceding year excluding sales or deliveries to other federal agencies and off-system sales with other utilities, with a provision for minimum payments under certain circumstances. Except for certain direct payments TVA is required to make to counties, distribution of tax equivalent payments within a state is determined by individual state legislation.

Environmental Matters

TVA's power generation activities, like those across the utility industry and in other industrial sectors, are subject to most federal, state, and local environmental laws and regulations. Major areas of regulation affecting TVA's activities include air quality control, water quality control, and management and disposal of solid and hazardous wastes. In the future, regulations in all of these areas are expected to become more stringent and apply to new emissions and sources with the increased emphasis on dealing with climate change, expanding renewable generation alternatives, and

encouraging efficient use of electricity.

Due to the increasing level and complexity of environmental requirements and expectations, TVA completed a new high-level environmental policy to align with and execute the direction in the Strategic Plan. The Environmental Policy was approved by the TVA Board on May 19, 2008, and is intended to be an integrated framework which provides policy-level guidance to carry out TVA's objectives of providing cleaner, affordable energy, sustainable economic development, and environmental stewardship. The Environmental Policy sets out environmental objectives and critical success factors in six environmental dimensions: climate change mitigation, air quality improvement, water resource protection and improvement, waste minimization, sustainable land use, and natural resource management.

TVA has incurred, and expects to continue to incur, substantial capital and operating and maintenance costs to comply with evolving environmental requirements primarily associated with, but not limited to, the operation of TVA's 59 coal-fired generating units. It is virtually certain that environmental requirements placed on the operation of coal-fired and other generating units will continue to become more restrictive and will affect new emissions and sources. Litigation over emissions from coal-fired generating units is also occurring, including litigation against TVA. Failure to comply with environmental and safety laws can result in being subject to enforcement actions which can lead to the imposition of significant civil liability, including fines and penalties, criminal sanctions, and/or the shutting down of non-compliant facilities. See Note 20 — Legal Proceedings.

Table of Contents

Air Quality Control Developments

Air quality in the United States and in the Tennessee Valley has significantly improved since the enactment of the Clean Air Act (“CAA”) in 1970. These air quality improvements are expected to continue as the CAA continues to be implemented and evolve as a result of legislative and regulatory changes. Three substances emitted from coal-fired units — SO₂, NO_x, and particulates — have historically been the focus of CAA emission reduction regulatory programs, and these are discussed in more detail below.

Expenditures related to clean air projects aimed at controlling emissions of these substances during 2009 and 2008 were approximately \$172 million and \$274 million, respectively. These figures include expenditures in 2009 of \$12 million to continue to reduce NO_x emissions through the installation of selective non-catalytic reduction (“SNCR”) systems, and \$131 million for the installation of flue gas desulfurization systems (“scrubbers”) to continue to reduce SO₂ emissions. TVA had previously estimated its total capital cost for reducing emissions from its power plants from 1977 through CY 2010 would reach \$5.5 billion, \$5.3 billion of which had already been spent as of September 30, 2009. TVA estimates that compliance with future CAA requirements and potential mercury regulations, but not including CO₂, as discussed below could lead to additional costs of \$4.2 billion in the decade beginning in CY 2011. There could be additional costs for complying with particulate collection requirements associated with a utility maximum achievable control technology (“MACT”) rule. There could be additional material costs if reductions of GHGs, including CO₂, are mandated under the CAA or by legislation, or if future legislative, regulatory, or judicial actions lead to more stringent emission reduction requirements for conventional pollutants. These costs cannot reasonably be predicted at this time because of the uncertainty of such potential actions.

On July 11, 2008, the U.S. Court of Appeals for the D.C. Circuit (“D.C. Circuit”) issued a decision in *State of North Carolina vs. EPA* that remanded the Clean Air Interstate Rule (“CAIR”) and directed the EPA to promulgate a new rule that is consistent with the D.C. Circuit opinion. The EPA promulgated CAIR in 2005, and the rule required significant additional utility SO₂ and NO_x emission reductions to address ozone and fine particulate matter attainment issues in 28 eastern states, including all of TVA’s service area, and the District of Columbia. Based on the court’s decision, the EPA may not be able to use emissions trading or the surrender of Title IV SO₂ allowances to achieve compliance, and may require sources to install new pollution control systems. The court did not set a deadline for EPA to issue the revised regulations, but the EPA has announced that it plans to publish a proposed replacement rule in early CY 2010 and publish a final rule in early CY 2011. The requirements of CAIR formed the primary basis for TVA’s (and much of the utility industry’s) planning with regard to air emission controls beginning in 2009 and continuing well into the next decade. With the potential redirection of CAIR, the uncertainty regarding compliance requirements, methods, and timelines may result in increased capital expenditures and operating expenses. Although remanded, CAIR currently remains in effect and TVA plans to continue its previously announced emissions reduction program.

Other requirements of the CAA, such as achievement of ozone and fine particulate ambient air quality standards, requirements relating to regional haze, and control of interstate transport of air pollution (Section 126 petitions), will continue to drive installation of additional controls on electric generating units across the industry, including at TVA. As discussed in more detail below, TVA expects to continue its previously announced emissions reduction program, including completion of scrubber installations for SO₂ control at Kingston and evaluation of John Sevier Fossil Plants, and annual operation of the 21 SCR and other NO_x controls that began in October 2008.

On February 8, 2008, the D.C. Circuit vacated the EPA’s decision to remove coal and oil-fired electric generating units from the list of stationary sources whose hazardous air pollutant (“HAP”) emissions are subject to MACT standards under section 112 of the CAA. The D.C. Circuit also vacated and remanded the Clean Air Mercury Rule (“CAMR”), which set mercury limits via a cap-and-trade program. The EPA now plans to regulate mercury emissions from

utilities under section 112(d) of the CAA, setting MACT standards for emissions based on command and control type requirements. The cost to comply with the MACT standards is not known, but is expected to be higher than the cost would have been to comply with CAMR. Regardless of the status of the EPA's regulatory program for mercury, TVA intends to continue to reduce mercury emissions from its coal-fired power plants. Over the next five years, mercury emissions from its coal-fired plants are expected to continue to decline, primarily as a result of the co-benefits received from the controls TVA is installing to reduce SO₂ and NO_x emissions.

Table of Contents

The D.C. Circuit's recent decisions with regard to CAIR and CAMR may also have the effect of reviving interest in Congress in adopting multi-pollutant control legislation focused on the electric power sector. Among other things, such an approach could seek to establish coordinated caps for power plant emissions of mercury, SO₂, NO_x, and CO₂. The legislative and regulatory landscape is continuing to change for these and other issues and the outcome cannot be predicted accurately at this time.

Sulfur Dioxide. Utility SO₂ emissions are currently regulated under the Federal Acid Rain Program and state programs designed to meet the National Ambient Air Quality Standards ("NAAQS") for SO₂ and PM_{2.5}. Looking forward, these programs, as well as implementation of the regional haze program, will result in additional regulation of SO₂ emissions. The regional haze program establishes timelines for states to improve visibility in national parks and wilderness areas throughout the United States. The regional haze program will require certain types of older sources to install best available retrofit technology to control NO_x, SO₂, and particulate matter emissions.

Through CY 2008, TVA had reduced its SO₂ emissions by 84 percent from the peak 1977 level by switching to lower-sulfur coals, continuing to operate an Atmospheric Fluidized Bed Combustion ("AFBC") unit at its Shawnee Fossil Plant, and operating scrubbers on seven larger units. TVA constructed a scrubber at Bull Run Fossil Plant ("Bull Run"), which began operation in December 2008, and is constructing two scrubbers at its Kingston Fossil Plant ("Kingston"), which are scheduled to begin operation in 2010. In April 2008, the TVA Board approved construction of additional scrubber equipment at the four-unit John Sevier Fossil Plant in east Tennessee ("John Sevier"). Additionally, TVA has switched, or plans to switch, to lower-sulfur coal at several additional units in the next few years. It is likely that additional emission reduction measures will have to be undertaken in addition to these announced actions to achieve compliance with requirements yet to be adopted. Such measures will also help to meet the goal identified in TVA's Environmental Policy to reduce emissions by continuing to install emission reduction equipment and new technology with the aim of controlling over 80 percent of fossil generation in the next 10 years.

Nitrogen Oxides. Utility NO_x emissions continue to be regulated under state programs to achieve and maintain the EPA's NAAQS for ozone and fine particles, the Federal Acid Rain Program, and the regional haze program. On March 12, 2008, the EPA issued final rules adopting new, more stringent NAAQS for ozone. The EPA lowered the primary standard, created to protect public health with an adequate margin of safety, from 0.084 parts per million ("ppm") to 0.075 ppm. The EPA also promulgated a new secondary standard, mainly created to protect vegetation. The form and level of the secondary standard are the same as the primary standard. The EPA is now reconsidering its March 2008 decision respecting the level of this standard.

In CY 2009, states will have to recommend to the EPA those counties proposed to be designated as "non-attainment" counties under the new standards, and in CY 2010, the EPA is expected to finalize attainment designations using CY 2006 to CY 2008 monitoring data. States must submit plans to the EPA no later than CY 2013 that demonstrate attainment with the standard. Areas must reach attainment by deadlines that vary (CY 2013 to CY 2030) depending on the severity of the ozone problem.

Based on CY 2005 to CY 2007 monitoring data, virtually all of the larger cities in the Tennessee Valley area and their associated Metropolitan Statistical Areas, as well as those rural counties where ozone monitors are present, will likely be designated as non-attainment areas under the new standard.

Non-attainment designation can impact industrial development and expansion since new businesses tend to avoid non-attainment areas, and expansion of existing businesses becomes more difficult. Non-attainment can have serious repercussions for counties by increasing costs to industry, delaying the air permitting process, and restricting expansion of existing sources. Consumers are also likely to be affected as a result of the institution of vehicle inspection and fuel restriction programs. Non-attainment can also impact transportation planning since loss of federal

highway funds can occur unless projects demonstrate “conformity” with the new standards.

TVA contributes to ambient ozone levels primarily as a result of NOx emissions from fossil-fired power plants. As a result of its emission reduction program, TVA’s summertime NOx emissions have declined substantially. Since 1995, TVA has reduced its NOx emissions during the summer (when ozone levels increase) by 82 percent by installing various controls, including low-NOx burners and/or combustion controls on 58 of its 59 coal-fired units and installing SCRs on 21 of the largest units.

In 2005, TVA installed SNCR systems, which generally have lower NOx removal capabilities than SCRs, on two units, Johnsonville Unit 1 and Shawnee Unit 1, to demonstrate long-term technology capability, and continues to operate the SNCR at Johnsonville Unit 1 in west Tennessee. TVA also is operating High Energy Reagent Technology (“HERT”) systems on the four units at John Sevier, and on Units 2 and 4 at Johnsonville Fossil Plant (“Johnsonville”). HERT is similar to SNCR technology but has higher removal capabilities. Similar HERT equipment is planned for installation on Johnsonville Unit 3 by the fall of 2009, and TVA is evaluating plans to install SCRs at John Sevier by 2015.

Table of Contents

TVA's NO_x emission reduction program is expected to continue to depend primarily on SCRs, but these plans may change depending on the timing and severity of future regulatory developments affecting power plant emissions. In October 2008, TVA began operating this NO_x control equipment year round (except for maintenance outages).

An increase in the number of counties in the Tennessee Valley designated as non-attainment areas is likely to focus additional regulatory attention on all NO_x emission sources, including TVA sources.

Particulates/Opacity. Coarse particulates (defined as particles of 10 micrometers or larger), which include fly ash, have long been regulated by states to meet the EPA's NAAQS for particulate matter. All of TVA's coal-fired units have been equipped with mechanical collectors, electrostatic precipitators, scrubbers, or baghouses, which have reduced particulate emissions from the TVA system by more than 99 percent compared to uncontrolled units. In 1997, the EPA issued separate NAAQS for even smaller particles with a size of up to 2.5 micrometers ("fine particles" or "PM_{2.5}"). Counties and parts of counties in the Knoxville and Chattanooga, Tennessee, metropolitan areas have been designated as non-attainment areas under the 1997 standard.

In September 2006, the EPA revised the 1997 standards. The 2006 revisions tighten the 24-hour fine particle standard and retain the 1997 annual fine particle standard. The EPA also decided to retain the existing 24-hour standard for coarse particles, but revoked the related annual standard. On October 8, 2009, the EPA issued non-attainment designations for areas not meeting the 24-hour national ambient air quality standards for PM_{2.5}. Several counties in the Knoxville, Tennessee area that include the Bull Run and Kingston Fossil Plants are included in this designation. Flue gas desulfurization has been installed on Bull Run, and is expected to be installed on Kingston in 2010. TVA will continue efforts to reduce emissions and engage regional and national stakeholders to further understand and improve regional air quality. TVA's continued installations of scrubbers for SO₂ control and SCRs and other technologies for NO_x control as described above are expected to continue to reduce fine particle levels.

Issues regarding utility compliance with state opacity requirements are also increasing. Opacity measures the denseness (or color) of power plant plumes and has traditionally been used by states as a means of monitoring good maintenance and operation of particulate control equipment. Under some conditions, retrofitting a unit with additional equipment to better control SO₂ and NO_x emissions can adversely affect opacity performance, and TVA and other utilities are addressing this issue. There are also disputes and lawsuits over the role of continuous opacity monitors in determining compliance with opacity limitations.

Climate Change. TVA produces about 100 million tons of CO₂ per year. In 1995, TVA was the first utility in the nation to participate in "Climate Challenge," a DOE-sponsored voluntary GHG reduction program. Over the past decade, TVA has reduced, avoided, or sequestered over 305 million tons of CO₂ under this program. TVA also participates in DOE's Climate VISION program, a public-private partnership, which calls on the electric utility sector, along with other industry sectors, to help meet a national goal of reducing the GHG intensity of the U.S. economy by 18 percent from CY 2002 to CY 2012.

TVA has taken and is continuing to take significant voluntary steps that will reduce the CO₂ emissions intensity of its electric generation, including the recovery of Browns Ferry Unit 1, planned power up-rates of certain nuclear units (which are expected to increase the generating capability of the units and thereby result in additional avoided emissions of CO₂), the completion of Watts Bar Unit 2, and the completion of the hydroelectric modernization program. TVA has also filed with the NRC a combined operating license application for two advanced nuclear reactors at the Bellefonte Nuclear Plant near Hollywood, Alabama, and the reactivation of the construction permits for the existing Bellefonte Nuclear Units 1 and 2, although no decision has been made to complete those units or to build the new reactors.

In addition, TVA is a member of the Southeast Regional Carbon Sequestration Partnership and is working with the Electric Power Research Institute and other electric utilities on projects investigating technologies for CO₂ capture and geologic storage, as well as carbon sequestration via reforestation. Legislation currently under consideration by the U.S. Congress would require reductions of GHG emissions, including CO₂, and, if enacted into law, could result in significant additional costs for TVA and other utilities with fossil fuel-based power generation. On June 26, 2009, the House of Representatives passed H.R. 2454, the “American Clean Energy and Security Act of 2009,” also referred to as the Waxman-Markey bill. This bill is a comprehensive energy and climate change bill that, if enacted, would impose a cap on emissions of GHGs from covered sources, including electric utilities, to 3 percent below CY 2005 emission levels in CY 2012, 17 percent below CY 2005 levels in CY 2020, 40 percent below CY 2005 levels by CY 2030, and 83 percent below CY 2005 levels in CY 2050. On September 30, 2009, U.S. Senators Kerry and Boxer introduced S.1733, “The Clean Energy Jobs & American Power Act.” On October 23, 2009, the Senate Environment and Public Works Committee released a Chairman’s Mark of S.1733, and on November 5, 2009, the Committee ordered

Table of Contents

the bill to be reported to the Senate. The bill, which is expected to be further revised before being considered by the Senate as a whole, includes provisions to reduce U.S. GHG emissions, fund research, expand “green” jobs, promote both domestic and international deployment of clean energy technology, establish GHG emission performance standards for mobile and stationary sources, and invest in numerous programs to transition to a low-carbon and energy efficient economy and fund programs for adaptation to climate change. The GHG cap-and-trade provisions in the bill are slightly more stringent than those in H.R. 2454, requiring reductions in emissions of GHGs from covered sources, including electric utilities, to 3 percent below CY 2005 emission levels in CY 2012, 20 percent below CY 2005 levels in CY 2020, 40 percent below CY 2005 levels by CY 2030, and 83 percent below CY 2005 levels in CY 2050. If H.R. 2454, S.1733, or a similar law is enacted, it would result in significant additional costs for TVA and other utilities with fossil fuel-fired generation. In general, any legislation requiring reductions in emissions of GHGs, is expected to result in some level of increase in the price of electricity to consumers, regardless of form, severity, and timing of the legislation, and TVA's analyses of several proposed climate bills indicate that the price increases could be substantial. These analyses also show that most of TVA's existing coal-fired generating assets will continue to play an important role in meeting the energy needs of the Tennessee Valley. TVA anticipates future legislation and regulations requiring reductions in emissions of GHGs and TVA is incorporating the possibility of mandatory carbon reductions and a renewable portfolio standard into its long-range planning. TVA will continue to monitor legislative and regulatory developments related to CO₂ and a renewable portfolio standard to assess any potential financial and operational impacts as information becomes available. Looking ahead, TVA's Environmental Policy contains a Climate Change Mitigation objective to stop the growth in volume of emissions and reduce the rate of carbon emissions by CY 2020.

In addition to legislative activity, climate change issues are the subject of a number of lawsuits, including lawsuits against TVA. See Note 20 — Legal Proceedings. On April 2, 2007, in *Massachusetts v. EPA*, the U.S. Supreme Court found that the EPA has authority to regulate GHGs under the CAA. The Court held that the statutory definition of "air pollutant" unambiguously includes GHGs, and disagreed with the EPA that there is evidence that Congress intended to curtail the EPA's power to treat GHGs as air pollutants. The Court also concluded that the EPA's refusal to regulate these pollutants was based on impermissible reasons, and concluded that the EPA can avoid taking further action under the CAA only if it determines that GHGs do not contribute to climate change or if it provides some reasonable explanation as to why it cannot or will not exercise its discretion to determine whether they do. The Court remanded the case to the EPA to make a judgment regarding endangerment (either that GHGs do, or do not, pose a threat to health and welfare) with respect to certain mobile sources. While this case focused on CO₂ emissions from motor vehicles, it sets a precedent for regulation in other industrial sectors, such as the electric utility industry.

On April 24, 2009, the EPA published a proposal to make a determination under section 202 of the CAA that GHG emissions may endanger public health or welfare. The EPA proposed that concentrations of six gases – CO₂, methane, NO_x, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride – increase average temperatures and impact human health by contributing to increased likelihood of higher concentrations of ground-level ozone; increased drought; more heavy downpours and flooding; more frequent and intense heat waves and wildfires; greater sea level rise; more intense storms; and harm to water resources, agriculture, wildlife, and ecosystems. The EPA is also proposing to find that the combined emissions of carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons from new motor vehicles and new motor vehicle engines are contributing to air pollution that is endangering public health and welfare. The EPA's proposal responds to the remand from the Supreme Court, based on its April 2007 ruling in *Massachusetts v. EPA*, directing the EPA to determine whether GHGs “may reasonably be anticipated to endanger public health or welfare” and to clarify a prior decision by the EPA to deny a petition from states to regulate GHGs from new motor vehicles or engines under section 202(a)(1) of the CAA.

TVA anticipates that the EPA will finalize its proposed endangerment finding in CY 2010. Such a ruling has broad implications for future potential regulation of GHGs under the CAA. The EPA's proposed treatment of GHGs as “air

pollutants” and the establishment of emission standards for vehicles means that the EPA could regulate GHGs under many CAA programs, including the NAAQS, the new source performance standards, New Source Review (“NSR”), Prevention of Significant Deterioration (“PSD”), and stratospheric ozone (CAA Title VI), in addition to mobile sources and fuels programs. On September 30, 2009, the EPA issued a proposed regulation that would establish GHG emission thresholds for stationary sources under the PSD and Title V programs.

On September 22, 2009, the EPA released for publication a final rule that requires monitoring and annual reporting of GHG emissions in the United States by dozens of industries, including the electricity generating industry. The rule targets fossil fuel combustion sources emitting more than the equivalent of 25,000 metric tons of GHGs per year, which includes virtually all fossil fuel-fired electric generating units. Reporting will be required for individual facilities (and, if applicable, equipment or units falling into different source categories at a larger facility). The EPA does not state that it intends to regulate GHG emissions, but instead explains that the purpose of the monitoring system would be to support the discussion of options for such regulation. However, reporting and recordkeeping are the foundation for many potential new programs, including cap-and-trade systems, permitting requirements, or GHG capture technologies.

Table of Contents

States are also becoming more active in the regulation of GHG emissions that are believed to be contributing to global climate change. Ten states in the Northeast and Mid-Atlantic participate in the Regional Greenhouse Gas Initiative, a mandatory cap-and-trade program designed to reduce CO₂ emissions from electric power generation by 10 percent below CY 2009 levels by CY 2018. Seven states (and four Canadian provinces) participate in the Western Climate Initiative (“WCI”), a mandatory cap-and-trade program (beginning in CY 2012) for the electric utility and industrial sectors. The state of California, a participant in the WCI, passed a law that requires the state to reduce GHG emissions to 1990 levels by CY 2020. Six states (and one Canadian province) are participating in the Midwestern Greenhouse Gas Reduction Accord, which designed a regional cap-and-trade program to reduce emissions 18-20 percent below CY 2005 levels by CY 2020, and 80 percent below CY 2005 levels by CY 2050. In May 2009, the Governors’ Energy and Climate Coalition, representing 30 states and territories, including three states in TVA’s service territory - Tennessee, North Carolina, and Virginia - pledged to work with Congress to pass legislation that will address climate change and provide the nation with a comprehensive energy strategy. North Carolina is studying initiatives aimed at climate change. Under the provisions of the state’s Clean Smokestacks Act of 2002, the North Carolina Department of Environment and Natural Resources’ Division of Air Quality studied options for reducing CO₂ emissions from coal-burning power plants and other sources. The final Clean Smokestacks Act report, submitted to the North Carolina General Assembly in September of 2005, contained a recommendation that the state continue GHG mitigation planning and consider a public stakeholder process. Thus, the North Carolina Climate Action Plan Advisory Group issued recommendations in an October 2008 report to further identify and assess mitigation options that state policy makers should consider for a state climate action plan.

Water Quality Control Developments

In the second phase of a three-part rulemaking to minimize the adverse impacts from cooling water intake structures on fish and shellfish, as required under Section 316(b) of the Clean Water Act (“CWA”), the EPA promulgated a final rule for existing power producing facilities (“Phase II Rule”) that became effective on September 7, 2004. On January 25, 2007, the U.S. Court of Appeals for the Second Circuit (the “Second Circuit”) remanded the Phase II Rule, holding, among other things, that costs cannot be compared to benefits in picking the best technology available (“BTA”) to minimize the adverse environmental impacts of intake structures. The Utility Water Act Group, Entergy Corporation, and PSEG Fossil LLC filed a petition seeking review of the decision by the U.S. Supreme Court. On April 1, 2009, the Supreme Court in *Entergy Corp. v. Riverkeeper, Inc.*, agreed with the industry petitioners and ruled that the EPA can compare costs with benefits to determine the technology that must be used at cooling water intake structures. This decision overturns the Second Circuit ruling that federal clean water law does not permit the EPA to consider the cost-benefit relationship in deciding the best technology available to minimize adverse environmental impact. On July 9, 2007, the EPA suspended all but one provision of the Phase II Rule until the agency resolves the issues raised by the Second Circuit's remand. The provision that was retained requires permitting authorities to apply, in the interim, Best Professional Judgment (“BPJ”) controls for existing facilities. BPJ controls are those that reflect the best technology available for minimizing the adverse environmental impacts of intake structures. The use of BPJ controls reflects a return to the regulatory process that was used by permitting authorities to regulate the impact of intake structures prior to the promulgation of the Phase II Rule.

All of the intakes at TVA's existing coal and nuclear generating facilities were subject to the Phase II Rule. Given the uncertainty over the changes the EPA will make to the rule, the impacts of the eventual rulemaking are uncertain at this time.

Section 303d of the CWA requires states to develop and report to the EPA on a two-year cycle a list of waters that are “impaired” or are expected to not meet water quality standards in the next two years and need additional pollution controls. The Tennessee Department of Environment and Conservation (“TDEC”) placed a portion of Barkley

Reservoir downstream of TVA's Cumberland Fossil Plant ("Cumberland") on its 2008 list of impaired streams (the "303d List"). This section of Barkley Reservoir had not been listed previously. The reservoir conditions in 2007, especially for temperature and dissolved oxygen, changed significantly due primarily to reduced flows in the Cumberland River resulting from emergency dam repairs performed by the U.S. Army Corps of Engineers on the Wolf Creek and Center Hill Dams coupled with the most severe drought on record in the region. The lower flows made less water available to dissipate the heated discharge from Cumberland and resulted in increased river temperatures. The prospect of continued reduced flows through the Cumberland River system during the period required to complete the necessary repairs to Wolf Creek and Center Hill Dams may impact the generation of electricity from TVA's Cumberland and Gallatin Fossil Plants. Placing this section of Barkley Reservoir on the 303d List could also impact the thermal limits imposed by the State of Tennessee when the discharge permit for Cumberland is renewed in 2010, or earlier if the state or the EPA determines that additional actions are required to protect the aquatic

Table of Contents

environment downstream from the plant. TVA is working with the U.S. Army Corps of Engineers and TDEC to minimize the impacts to TVA's generating plants and improve the conditions observed in the river in 2007. TVA began operating temporary cooling towers at Cumberland to reduce the temperature of the water discharged to the river. On May 28, 2009, TVA met with TDEC to discuss TVA's planned actions in 2009 to mitigate the impacts of the low river flow conditions. While the official state-issued permit limit for Cumberland remains unchanged, TVA agreed at the TDEC meeting to take some additional mitigating steps with regard to plant operations, and perform additional monitoring to assess the impacts to fish and wildlife during the summer months. TDEC was also informed that de-rating the plant was the best option for limiting the heat discharged to the river, that the temporary cooling towers installed in 2008 would not be restarted, and that TVA was initiating an engineering study for permanent cooling towers.

The EPA and many states are taking increased interest in evaluating the potential effects of thermal discharges from steam-electric generating facilities. TVA is working with states and the EPA Region IV to demonstrate that the data collected by TVA in the vicinity of its facilities is sufficient to meet the requirements for assessing the impacts of thermal discharges on the aquatic environment.

In March 2007, TDEC adopted a lower, more conservative threshold (0.3 ppm) for issuing precautionary advisories for fish consumption due to mercury. Adoption of the lower threshold resulted in the issuance of several new precautionary fish consumption advisories in April 2007 for all or parts of five TVA reservoirs (Norris, Cherokee, South Holston, Watauga, and Tellico) and parts of four rivers in the Tennessee Valley (Buffalo, Emory, Hiwassee, and Holston) as well as the Loosahatchie, Wolf, and Mississippi Rivers in Tennessee that are not in the Tennessee River watershed.

As part of the 2007 advisory determinations, TDEC also identified several water bodies where more data were needed to determine if advisories were necessary. State agencies have since collected fish from those water bodies and decided several of them needed advisories to protect public health. The new Precautionary Advisory list for 2008 includes one additional TVA reservoir (Beech) and three additional river segments in the Tennessee River watershed (French Broad, Sequatchie, and Duck). Also, existing advisories for several reservoirs and rivers were expanded to include mercury as a chemical of concern and/or to include more kinds of fish.

TDEC's announcement of additional precautionary advisories for several Tennessee water bodies does not mean that mercury levels in fish are increasing, but is more reflective of the effect of the lowered threshold values for issuing a precautionary consumption advisory. TVA has been monitoring mercury levels in fish and sediments in TVA reservoirs for the last 35 years, and TVA's data were provided to TDEC as a part of its review process. TVA's data show significant reductions in mercury concentrations in fish from the reservoirs with known industrial discharges that have now ceased. Other than those areas historically impacted by industrial discharges, mercury concentrations in fish have tended to fluctuate through time with no discernible trend in fish from most reservoirs. Despite increased burning of coal for electricity generation, current and historic records indicate that mercury concentrations in reservoir sediments have remained stable or declined.

One of the results of the major reductions in atmospheric emissions resulting from the clean air expenditures discussed above is that wastewaters at TVA coal-fired facilities and across the utility industry may be changing because of waste streams from air quality control technologies. Varying amounts of ammonia or similar compounds used as a necessary component of SCR and SNCR operations may end up in facility wastewater ponds that may discharge through outfalls regulated under the CWA. Operation of scrubbers for SO₂ control also results in additional amounts of pollutants being introduced into facility wastewater treatment ponds. The EPA is currently collecting information to determine if the national Steam Electric Point Source Effluent Guidelines ("Effluent Guidelines") under the CWA need to be revised. If the Effluent Guidelines are revised, potentially more restrictive discharge limitations for

existing parameters or the addition of new parameters could result in additional wastewater treatment expenses to meet requirements of the CWA. These costs cannot be accurately predicted at this time, but TVA is involved in and monitoring the EPA's data collection activities and the progress of the Effluent Guidelines review process. On the state level, new numeric nutrient criteria development and implementation (an EPA requirement) may require additional treatment costs to reduce nitrogen concentrations being added to the waste treatment ponds as a result of the operation of air pollution control equipment. TVA is monitoring the development and implementation of numeric nutrient criteria, particularly by the states in TVA's service area, and is encouraging regulatory agencies in the Tennessee Valley states to incorporate water quality trading regulations into their water quality standards.

As is the case across the utility industry and in other industrial sectors, TVA is also facing more stringent requirements related to protection of wetlands, reductions in storm water impacts from construction activities, water quality degradation, new water quality criteria, and laboratory analytical methods. TVA is also following litigation related to the use of herbicides, water transfers, and releases from dams. TVA is not facing any substantive requirements related to non-compliance with existing CWA regulations.

Table of Contents

Hazardous Substance Response and Oil Cleanup

Liability for releases and cleanup of hazardous substances is primarily regulated under the federal Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”), and other federal and parallel state statutes. In a manner similar to many other industries and power systems, TVA has generated or used hazardous substances over the years. TVA is aware of alleged hazardous-substance releases at 11 non-TVA areas for which it may have some liability. TVA has reached agreements with the EPA to settle its liability at two of these non-TVA areas for a total of less than \$23,000. There is little or no known evidence that TVA contributed any significant quantity of hazardous substances to six of the non-TVA areas, and there has been no recent assertion of potential TVA liability for five of these six areas. There is evidence that TVA sent some materials to the remaining three non-TVA sites: the David Witherspoon site in Knoxville, Tennessee, the Ward Transformer site in Raleigh, North Carolina, and the General Waste Products site in Evansville, Indiana.

The David Witherspoon site was contaminated with radionuclides, polychlorinated biphenyls (“PCBs”), and metals. DOE admitted to being the main contributor of materials to the site and cleaned the site up at a reported cost of about \$35 million. While DOE asked TVA to “cooperate” in completing the cleanup; TVA believes it sent only a relatively small amount of equipment and that none of it was radioactive.

The Ward Transformer site in Raleigh, North Carolina, is contaminated by PCBs from electrical equipment. There is documentation showing that TVA sent a limited amount of electrical equipment containing PCBs to the site in 1974. A working group of potentially responsible parties (the “PRP Work Group”) is cleaning up on-site contamination in accordance with an agreement with the EPA. The cleanup effort has been divided into four areas: two phases of soil cleanup; cleanup of off-site contamination in the downstream drainage basin; and supplemental groundwater remediation. The cost estimate for the first phase of soil cleanup is approximately \$55 million. The cost estimate for the second phase of soil cleanup is \$10 million. Estimates for cleanup of off-site contamination in the downstream drainage basin range from \$6 million to \$25 million. There are no reliable estimates for the supplemental groundwater remediation phase. On April 30, 2009, the PRP Work Group filed an amended complaint in federal court against potentially responsible parties who had not yet settled, including TVA, regarding the two phases of soil cleanup. TVA settled this lawsuit and its potential liability for the two phases of soil cleanup for \$300,000 and has been dismissed as a party. Although the settlement with respect to the first two phases does not prohibit TVA from having liability in connection with the other two phases or any natural resource damages, the U.S. Department of Justice is attempting to negotiate a government-wide settlement of all federal agencies’ liability for cleanup of offsite contamination in the downstream drainage basin and the investigative portion of the supplemental groundwater remediation.

General Waste Products, located in Evansville, Indiana, operated scrap metal salvage yards from the 1930s until 1998 that contain contamination from lead batteries and PCB transformers. The original defendants in a CERCLA action for the sites have filed a third-party complaint in the U.S. District Court for the Southern District of Indiana against TVA and others seeking cost contribution for cleanup of the yards. There is evidence that TVA sent scrap metal to General Waste Products, but TVA has not found any records indicating that it sent batteries or PCB equipment. Counsel for the original plaintiffs has informed TVA that the first yard has been cleaned up at a cost of \$3.2 million, and cleanup estimates for the second yard range from \$2 million to \$7 million. TVA’s allocated share of the cleanup costs, if any, is expected to be relatively small.

TVA operations at some TVA facilities have resulted in oil spills and other contamination that TVA is addressing, and TVA expects to incur costs of about \$17 million for environmental work related to decommissioning of the Watts Bar Fossil Plant.

As of September 30, 2009, TVA's estimated liability for cleanup and similar environmental work for those sites for which sufficient information is available to develop a cost estimate (primarily the TVA sites) is approximately \$20 million on a non-discounted basis, including the Watts Bar Fossil Plant work, and is included in Other liabilities on the Balance Sheet.

Coal-Combustion Wastes

In accordance with a regulatory determination by the EPA in May 2000, coal-combustion and certain related wastes disposed of in landfills and surface impoundments are not regulated as hazardous waste. In conjunction with this determination, the EPA committed to developing non-hazardous management standards for these wastes. These existing waste-management facilities not meeting minimum standards. On August 29, 2007, the EPA issued a Notice of Data Availability ("NODA") in which it requested public comment on whether the additional information mentioned in the notice should affect the EPA's decisions as it continues to follow up on its commitment to develop management standards for coal-combustion wastes. After the Kingston coal ash release, both Congress and the EPA are considering taking action to increase the regulation of coal combustion waste surface impoundments, including regulation of coal ash as a hazardous waste under the Resource Conservation and Recovery Act and surface impoundment integrity requirements modeled after coal slurry management under the Surface Mining Control and Reclamation Act of 1977. The EPA has announced that it plans to issue new regulations for the management of coal combustion wastes by December 31, 2009. Tennessee enacted a law providing that any new coal ash disposal facility or any expansion of existing facilities used for coal ash disposal have a liner and a final cap. Additional proposals to regulate coal ash and related impoundments are currently being developed by the EPA. In August 2009 TVA announced plans to convert remaining wet ash and gypsum facilities to dry storage and disposal. These projects are expected to be completed over an eight to 10 year period with a projected cost of \$1.5 billion to \$2.0 billion.

Table of Contents

Low-Level Radioactive Waste

Low-level radioactive waste (“radwaste”) results from the normal operation of nuclear units and includes such materials as disposable protective clothing, mops, and filters. TVA contracted to dispose of such waste at a Barnwell, South Carolina disposal facility through June 2008. That facility closed to TVA and radwaste generators located in states that are not members of the Atlantic Interstate Low-Level Radioactive Waste Management Compact. Since June 2008, TVA has continued its practice of having certain types of radwaste processed and shipped to a disposal facility in Clive, Utah, and TVA is also storing some radwaste at its own facilities. TVA is capable of storing radwaste at its facilities for an extended period of time.

Spent Nuclear Fuel

Under the Nuclear Waste Policy Act of 1982, TVA (and other domestic nuclear utility licensees) entered into a contract with DOE for the disposal of spent nuclear fuel. Payments to DOE are based upon TVA’s nuclear generation and charged to nuclear fuel expense. Although the contracts called for DOE to begin accepting spent nuclear fuel from the utilities by January 31, 1998, DOE announced that it would not begin receiving spent nuclear fuel from any domestic nuclear utility. TVA, like other nuclear utilities, stores spent nuclear fuel in pools of borated water at its nuclear sites. TVA would have had sufficient space to continue to store spent nuclear fuel in those storage pools at its Sequoyah and Browns Ferry Nuclear Plants indefinitely had DOE begun accepting spent nuclear fuel. DOE’s failure to do so in a timely manner required TVA to construct dry cask storage facilities at its Sequoyah and Browns Ferry Nuclear Plants and to purchase special storage containers for the spent nuclear fuel. The Sequoyah and Browns Ferry dry cask storage facilities have been constructed and approved by the NRC and have been in use since 2004 and 2005, respectively, providing storage capacity through 2030 at Sequoyah and 2019 at Browns Ferry. Watts Bar has sufficient storage capacity in its spent fuel pool to last until approximately 2015.

To recover the cost of providing long-term, on-site storage for spent nuclear fuel, TVA filed a breach of contract suit against the United States in the Court of Federal Claims in 2001. In August 2006, the United States paid TVA almost \$35 million in damages awarded by the Court of Federal Claims, which partially offset the construction costs of the dry cask storage facilities that TVA incurred through 2004. In September 2008, the United States paid TVA about \$10 million for on-site spent nuclear fuel storage costs incurred during 2005. TVA and DOE are considering entering into an agreement to facilitate the resolution of additional claims on a timely basis. TVA anticipates submitting additional claims to DOE periodically.

Reportable Events

Kingston Ash Spill. See Note 7 for a discussion of the Kingston ash spill, which discussion is incorporated herein by reference.

Widows Creek Gypsum Pond. On January 9, 2009, a discharge from a gypsum containment pond at Widows Creek Fossil Plant was discovered. The released material contained water and a mixture of predominantly gypsum and some fly ash. Testing of water samples from the Tennessee River and Widows Creek reflected levels of metals, solids, and nutrients below the national primary drinking water standards that apply to public water systems for treated water. Dredging of Widows Creek began on April 18, 2009, as part of the response to the release. Current estimates of the costs of remediating the Widows Creek spill are approximately \$9 million. The Alabama Department of Environmental Management (“ADEM”) issued a Notice of Violation and a Consent Order for several alleged violations of the Alabama Water Pollution Control Act at Widows Creek, including the January 9, 2009 gypsum pond discharge. The Consent Order requires payment of a \$25,000 civil penalty and submission of engineering reports related to storage impoundments at both Widows Creek Fossil Plant and Colbert Fossil Plant in Alabama on a

schedule defined in the Consent Order.

33

Table of Contents

Ocoee Hydro Plant. On January 3, 2009, TVA opened the Ocoee No. 3 sluice gates to lower the reservoir elevation to prepare for work on the Ocoee No. 2 Dam. On January 4, 2009, large amounts of sediment were released downstream, and a number of fish were killed. TDEC issued a Notice of Violation and a Director's Order for the release of sediments, instructing TVA to cease sluicing operations from the Ocoee No. 3 Dam and to restore the affected area of the Ocoee River to pre-event status. On April 3, 2009, TDEC approved the operation of the sluice gates at the Ocoee No. 3 Dam for flood risk management and recreational releases for the 2009 recreational season provided certain conditions are met regarding minimum pool elevation during sluicing, upstream operations, duration of releases, and onsite observation of the first two releases. After the recreation season ended, TVA obtained TDEC approval for use of the Ocoee 3 sluice gates.

Employee Relations

On September 30, 2009, TVA had 12,219 employees, of whom 4,912 were trades and labor employees. Under the TVA Act, TVA is required to pay trades and labor workers hired by TVA or certain of its contractors the rate of wages for work of a similar nature prevailing in the vicinity where the work is being performed. Neither the federal labor relations laws covering most private sector employers nor those covering most federal agencies apply to TVA. However, the TVA Board has a long-standing policy of acknowledging and dealing with recognized representatives of its employees, and that policy is reflected in long-term agreements to recognize the unions (or their successors) that represent TVA employees. Federal law prohibits TVA employees from engaging in strikes against TVA.

ITEM 1A. RISK FACTORS

The risk factors described below, as well as the other information included in this Annual Report, should be carefully considered. Risks and uncertainties described in these risk factors could cause future results to differ materially from historical results as well as from the results predicted in forward-looking statements. Although the risk factors described below are the ones that TVA management considers significant, additional risk factors that are not presently known to TVA management or that TVA management presently considers insignificant may also impact TVA's business operations. Although TVA has the authority to set its own rates and thus mitigate some risks by increasing rates, it is possible that partially or completely eliminating one or more of these risks through rate increases might adversely affect TVA commercially or politically. Accordingly, the occurrence of any of the following could have a material adverse effect on TVA's cash flows, results of operations, and financial condition.

New laws, regulations, and administrative orders may negatively affect TVA's cash flows, results of operations, and financial condition, as well as the way TVA conducts its business.

Because TVA is a corporate agency and instrumentality established by an act of Congress, TVA may be affected by a variety of laws, regulations, and administrative orders that do not affect other electric utilities. In fact, the very nature of TVA may be changed by legislation. Although it is difficult to predict exactly how new laws, regulations, and administrative orders would impact TVA, some of the possible effects are described below.

- TVA could lose its protected service territory.

TVA's service area is primarily defined by the fence and the anti-cherry-picking provision. If Congress were to eliminate or reduce the coverage of the anti-cherry-picking provision but retain the fence, TVA could more easily lose customers that it could not replace within its specified service area. The loss of these customers could adversely affect TVA's cash flows, results of operations, and financial condition.

Edgar Filing: Tennessee Valley Authority - Form 10-K

- The TVA Board could lose its sole authority to set rates for electricity.

Under the TVA Act, the TVA Board has the sole authority to set the rates that TVA charges for electricity, and these rates are not subject to further review. If TVA loses this authority or if the rates become subject to outside review, there could be material adverse effects on TVA including, but not limited to, the following:

TVA might be unable to set rates at a level sufficient to generate adequate revenues to service its financial obligations, properly operate and maintain its power assets, and provide for reinvestment in its power program; and

TVA might become subject to additional regulatory oversight that could impede TVA's ability to manage its business.

Table of Contents

- TVA could lose responsibility for managing the Tennessee Valley River System.

TVA's management of the Tennessee River system is important to effective operation of the power system. TVA's ability to integrate management of the Tennessee River system with power system operations increases power system reliability and reduces costs. Restrictions on how TVA manages the Tennessee River system could negatively affect TVA's operations.

- Congress could take actions that lead to a downgrade of TVA's credit rating.

TVA's rated securities are currently rated "Aaa" by Moody's Investors Service and "AAA" by Standard and Poor's and Fitch Ratings, which are the highest ratings assigned by these rating agencies. TVA's credit ratings are not based solely on its underlying business or financial condition, which by themselves may not be commensurate with a triple-A rating. TVA's current ratings are based to a large extent on the legislation that defines TVA's business structure. Key characteristics of TVA's business defined by legislation include (1) the TVA Board's ratemaking authority, (2) the current competitive environment, which is defined by the fence and the anti-cherry-picking provision, and (3) TVA's status as a corporate agency and instrumentality of the United States. Accordingly, if Congress takes any action that effectively alters any of these characteristics, TVA's credit ratings could be downgraded.

Existing and future environmental laws, regulations, and orders may negatively affect TVA's cash flows, results of operations, and financial condition, as well as the way TVA conducts its business.

Existing environmental laws, regulations, and orders could affect TVA in several ways.

- Compliance costs. The cost of compliance with existing environmental laws, regulations, and orders is expected to be substantial, and costs could be significantly more than TVA anticipates. In connection with the remediation of the Kingston ash spill, for example, actual costs could substantially exceed estimated costs if, among other things, TVA has to remove more ash than it anticipates, additional environmentally sensitive material is uncovered in the river sediment, delays of the ash removal process occur, or the methods of final remediation change.
- Closure of facilities. At some of TVA's older facilities, it may be uneconomical for TVA to install the necessary equipment to comply with existing environmental laws, regulations, and orders, which may cause TVA to shut down those facilities.
- On-site liabilities. TVA may be responsible for on-site liabilities associated with the environmental condition of facilities or property that it has acquired or developed or operates regardless of when the liabilities arose, whether they are known or unknown, and whether they were caused by TVA or a third party.
- Failure to obtain regulatory approvals. TVA may be unable to obtain or maintain all required environmental regulatory approvals. If there is a delay in obtaining required environmental regulatory approvals or if TVA fails to obtain, maintain, or comply with any such approval, TVA may be unable to operate its facilities or may have to pay fines or penalties.

In addition, new environmental laws, regulations, and orders could become applicable to TVA or the facilities it operates, and existing environmental regulations could be revised or reinterpreted in a way that adversely affects TVA. Possible areas of future regulation include, but are not limited to, the following:

- Greenhouse gases. Costs to comply with future regulation of CO₂ and other GHGs may reduce TVA's cash flows and negatively impact its financial position and results of operations. The cost impact of legislation or regulation

cannot be determined at this time.

- Coal combustion by-products. Federal and state governments may regulate coal combustion by-products. The EPA plans to issue new federal regulations governing the management of coal combustion by-products, including fly ash, by December 31, 2009. These regulations may require TVA to make additional capital expenditures, increase TVA's operating and maintenance costs, or lead to TVA shutting down certain facilities.
- Renewable energy portfolio standards. TVA is not currently obligated to provide a percentage of the power it sells from renewable sources but may be required to do so in the future. In such a case, TVA would either have to build additional facilities that use renewable resources to produce the power itself, purchase renewable power from other companies, or offset some of its renewable requirements through energy efficiency. Such developments could require TVA to make significant capital expenditures, increase its purchased power costs, or make changes in how it operates its facilities.

Table of Contents

Demand for electricity could be significantly reduced, negatively affecting TVA's cash flows, results of operations, and financial condition.

Some of the factors that could reduce the demand for electricity include the following:

- Economic downturns. Sustained economic downturns in TVA's service area or other parts of the United States could reduce overall demand for power and thus reduce TVA's power sales and cash flows, especially as TVA's industrial customers reduce their operations and thus their consumption of power.
- Loss of customers. As of September 30, 2009, two distributor customers had notices in effect terminating their power contracts with TVA. The loss of additional customers could have a material adverse effect on TVA's cash flows, results of operations, and financial condition.
- Change in technology. Research and development activities are ongoing to improve existing and alternative technologies to produce electricity, including gas turbines, wind turbines, fuel cells, microturbines, solar cells, and distributed generation devices. It is possible that advances in these or other alternative technologies could reduce the costs of electricity production from alternative technologies to a level that will enable these technologies to compete effectively with traditional power plants like TVA's. To the extent these technologies become a more cost-effective option for certain customers, TVA's sales to these customers could be reduced, thereby negatively affecting TVA's cash flows, results of operations, and financial condition.

Catastrophic events could affect TVA's ability to supply electricity or reduce demand for electricity.

TVA could be adversely affected by catastrophic events such as fires, earthquakes, solar events, floods, tornados, wars, terrorist activities, pandemics, and other similar events. These events, the frequency and severity of which are unpredictable, could negatively affect TVA's cash flows, results of operations, and financial condition by, among other things, limiting TVA's ability to generate and transmit power, reducing the demand for power, disrupting fuel or other supplies, leading to an economic downturn, or creating instability in the financial markets.

Weather conditions could influence TVA's ability to supply power and its customers' demands for power.

Extreme temperatures may increase the demand for power and require TVA to purchase power at high prices to meet the demand from customers, while unusually mild weather may result in decreased demand for power and lead to reduced electricity sales. In addition, in periods of low rainfall or drought, TVA's low-cost hydroelectric generation may be reduced, requiring TVA to purchase power or use more costly means of producing power. Furthermore, high river water temperatures in the summer may limit TVA's ability to use water from the Tennessee or Cumberland River systems for cooling at its generating facilities, thereby limiting TVA's ability to operate its generating facilities.

TVA is the sole power provider for customers within its service area, and if demand for power in TVA's service area increases, TVA is contractually obligated to take steps to meet this increased demand.

If demand for power in TVA's service area increases, TVA may need to meet this increased demand by purchasing additional power from other sources, building new generation and transmission facilities, or purchasing existing generation and transmission facilities. Purchasing power from external sources, as well as acquiring or building new generation and transmission facilities, could negatively affect TVA's cash flows, results of operations, and financial condition.

Owning and operating nuclear units may subject TVA to nuclear incidents and significant costs that adversely affect its cash flows, results of operations, and financial conditions.

TVA has six operating nuclear units and has resumed construction of one nuclear unit that is scheduled to be placed in service in the fall of CY 2012. Risks associated with these units include the following:

- Nuclear incidents. A nuclear incident at a TVA facility could have significant consequences including loss of life, damage to the environment, damage to or loss of the facility, and damage to non-TVA property. Although TVA carries certain types of nuclear insurance, the amount that TVA is required to pay in connection with a nuclear incident could significantly exceed the amount of coverage provided by insurance. Any nuclear incident, even at a facility that is not operated by or licensed to TVA, has the potential to impact TVA adversely by obligating TVA to pay up to \$105 million per year and a total of \$671 million per nuclear incident under the Price-Anderson Act. In addition, a nuclear incident could negatively affect TVA by, among other things, obligating TVA to pay retrospective insurance premiums, reducing the availability and affordability of insurance, increasing the costs of operating nuclear units, or leading to increased regulation or restriction on the construction, operation, and decommissioning of nuclear facilities. Moreover, Congress could impose revenue-raising measures on the nuclear industry to pay claims exceeding the limit for a single incident under the Price-Anderson Act.

Table of Contents

- Decommissioning costs. TVA maintains a nuclear decommissioning trust for the purpose of providing funds to decommission its nuclear facilities. The decommissioning trust is invested in securities generally designed to achieve a return in line with overall equity market performance. TVA might have to make unplanned contributions to the trust if, among other things;
 - The value of the investments in the trust declines significantly;
 - The decommissioning funding requirements are changed by law or regulation;
 - The assumed real rate of return on plan assets, which is currently 5 percent, is lowered by the TVA Board;
 - The actual costs of decommissioning are more than planned;
- Changes in technology and experience related to decommissioning cause decommissioning cost estimates to increase significantly; or
 - TVA is required to decommission a nuclear plant sooner than it anticipates.

If TVA makes unplanned contributions to the trust, the contributions would negatively affect TVA's cash flows, results of operations, and financial condition.

- Increased regulation. The NRC has broad authority to adopt requirements related to the licensing, operation, and decommissioning of nuclear generation facilities that can result in significant restrictions or requirements on TVA. If the NRC modifies existing requirements or adopts new requirements, TVA could be required to make substantial capital expenditures at its nuclear plants or make substantial contributions to its nuclear decommissioning trust. In addition, if TVA fails to comply with requirements promulgated by the NRC, the NRC has the authority to impose fines, shut down units, or modify, suspend, or revoke TVA's operating licenses.

TVA's assets may not operate as planned.

Many of TVA's assets, including generation and transmissions assets and supporting infrastructure, have been operating since the 1950s or earlier and have been in nearly constant service since they were completed. If these assets fail to operate as planned, TVA, among other things:

- Might have to invest a significant amount of resources to repair or replace the assets;
 - Might be unable to operate the assets for a significant period of time;
 - Might have to purchase replacement power on the open market;
 - Might not be able to meet its contractual obligations to deliver power; and
 - Might have to remediate collateral damage caused by a failure of the assets.

In addition, the failure of TVA's assets to perform as planned could cause health, safety, and environmental problems and even result in such events as the failure of a dam, the failure of a containment pond, or a nuclear incident. Any of these potential outcomes could negatively affect TVA's cash flows, results of operations, and financial condition.

TVA's organizational transformation efforts could fail.

Two recent reports have concluded that deficiencies in TVA's systems, standards, controls, and corporate culture found at TVA's coal-fired plants may have contributed to the Kingston ash spill. The TVA Board in a July 21, 2009 resolution directed TVA to develop a remediation plan to eliminate the identified deficiencies in these areas. The failure to eliminate the deficiencies could contribute to other incidents that could adversely affect TVA's reputation, cash flow, results of operations, and financial condition.

37

Table of Contents

TVA's transmission reliability could be affected by problems at other utilities or at TVA facilities.

TVA's transmission facilities are directly interconnected with the transmission facilities of neighboring utilities and are thus part of an interstate power transmission grid. Accordingly, problems at other utilities, or at TVA's own facilities, may cause interruptions in TVA's transmission service. If TVA were to suffer a transmission service interruption, TVA's cash flows, results of operations, and financial condition could be negatively affected.

Events which affect the supply of water in the Tennessee River system may interfere with TVA's ability to generate power.

An inadequate supply of water in the Tennessee River system could negatively impact TVA's cash flows, results of operations, and financial condition by reducing generation not only at TVA's hydroelectric plants but also at its coal-fired and nuclear plants, which depend on water from the river systems near which they are located for cooling and for use in boilers where water is converted into steam to drive turbines. An inadequate supply of water could result, among other things, from periods of low rainfall or drought, the withdrawal of water from the Tennessee River system by governmental entities, and events in bodies of water not managed by TVA. While TVA manages the Tennessee River and large portions of its tributary system in order to provide much of the water necessary for the operation of its power plants, the U.S. Army Corps of Engineers operates and manages other bodies of water upon which some TVA facilities rely. Events at these non-TVA managed bodies of water or their associated hydroelectric facilities may interfere with the flow of water and may result in TVA having insufficient water to meet the needs of its plants. If TVA has insufficient water to meet the needs of its plants, TVA may be required to reduce generation at its affected facilities to levels compatible with the available supply of water.

TVA's fuel and purchased power supplies might be disrupted.

TVA purchases coal, uranium, natural gas, fuel oil, and electricity from a number of suppliers. Disruption in the acquisition or delivery of fuel or purchased power may result from a variety of physical and commercial events, political developments, or environmental regulations affecting TVA's fuel and purchased power suppliers. If one of TVA's fuel or purchased power suppliers fails to perform under the terms of its contract with TVA, TVA might have to purchase replacement fuel or power, perhaps at a significantly higher price than TVA was entitled to pay under the contract. In some circumstances, TVA may not be able to recover this difference from the supplier. In addition, any disruption of TVA's fuel and purchased power supplies could require TVA to operate higher cost plants, thereby adversely affecting TVA's cash flows, results of operations, and financial condition. Moreover, if TVA is unable to acquire enough replacement power or fuel and does not have enough reserve generation capacity available to offset the loss of power or fuel, TVA might not be able to supply enough power to meet demand, resulting in power curtailments or even blackouts.

TVA may incur delays and additional costs in power plant construction and may be unable to obtain necessary regulatory approval.

TVA is completing the construction of Watts Bar Nuclear Unit 2, planning major upgrades to and modernization of current generating plants, and evaluating construction of more generating facilities in the future. These activities involve some risks of schedule delays and overruns in the cost of labor and materials. In addition, if TVA does not obtain the necessary regulatory approvals, is otherwise unable to complete the development or construction of a facility, decides to cancel construction of a facility, or incurs delays or cost overruns in connection with constructing a facility, TVA's cash flows, financial condition, and results of operations could be negatively affected. In addition, if construction projects are not completed according to specifications, TVA may suffer, among other things, reduced plant efficiency and higher operating costs.

Failure to attract and retain an appropriately qualified workforce may negatively affect TVA's results of operations.

TVA's business depends on its ability to recruit and retain key executive officers as well as skilled professional and technical employees. The inability to attract and retain an appropriately qualified workforce could adversely affect TVA's ability to, among other things, operate and maintain generation and transmission facilities, complete large construction projects such as Watts Bar Nuclear Unit 2, and successfully implement its organizational transformation efforts.

TVA is involved in various legal and administrative proceedings whose outcomes may affect TVA's finances and operations.

38

Table of Contents

TVA is involved in various legal and administrative proceedings and is likely to become involved in other legal proceedings in the future in the ordinary course of business, as a result of catastrophic events or otherwise. Although TVA cannot predict the outcome of the individual matters in which TVA is involved or will become involved, the resolution of these matters could require TVA to make expenditures in excess of established reserves and in amounts that could have a material adverse effect on TVA's cash flows, results of operations, and financial condition. Similarly, resolution of any such proceedings could require TVA to change its business practices or procedures, which could also have a material adverse effect on TVA's cash flows, results of operations, and financial condition.

TVA is subject to a variety of market risks that could negatively affect TVA's cash flows, results of operations, and financial position.

TVA is subject to a variety of market risks, including, but not limited to, commodity price risk, investment price risk, interest rate risk, credit and counterparty risk, and currency exchange rate risk.

- **Commodity price risk.** Prices of commodities critical to TVA's operations, including coal, uranium, natural gas, fuel oil, crude oil, construction materials, emission allowances, and electricity, have been extremely volatile in recent years. If prices of these commodities increase, TVA's rates may increase.
- **Investment price risk.** TVA is exposed to investment price risk in its nuclear decommissioning trust, its asset retirement trust, and its pension fund. If the value of the investments held in the nuclear decommissioning trust or the pension fund decreases significantly, TVA could be required to make substantial unplanned contributions to these funds.
- **Interest rate risk.** Changes in interest rates could increase the amount of interest that TVA pays on new bonds that it issues, decrease the return that TVA receives on its short-term investments, decrease the value of the investments in TVA's pension fund and trusts, and increase the losses on the mark-to-market valuation of certain derivative transactions into which TVA has entered.
- **Credit and counterparty risk.** TVA is exposed to the risk that its counterparties will not be able to perform their contractual obligations. If TVA's counterparties fail to perform their obligations, TVA's cash flows, results of operations, and financial condition could be adversely affected. In addition, the failure of a counterparty to perform could make it difficult for TVA to perform its obligations, particularly if the counterparty is a supplier of electricity or fuel to TVA.
- **Currency exchange rate risk.** Over the next three years, TVA plans to spend a significant amount of capital on clean air projects, capacity expansion, and other projects. A portion of this amount may be spent on contracts that are denominated in a foreign currency. The value of the U.S. Dollar compared with other currencies has fluctuated widely in recent years, and, if not effectively managed, foreign currency exposure could negatively impact TVA's cash flows, results of operations, and financial position.

TVA may have to make significant unplanned contributions to fund its pension and other post-retirement benefit plans.

TVA's costs of providing pension benefits and other post-retirement benefits depend upon a number of factors, including, but not limited to:

- Provisions of the pension and post-retirement benefits plan;

Edgar Filing: Tennessee Valley Authority - Form 10-K

- Changing employee demographics;
- Rates of increase in compensation levels;
 - Rates of return on plan assets;
- Discount rates used in determining future benefit obligations;
 - Rates of increase in health care costs;
- Levels of interest rates used to measure the required minimum funding levels of the plans;
 - Future government regulation; and
 - Contributions made to the plans.

Any of these factors or any number of these factors could increase TVA's costs of providing pension and other post-retirement benefits and require TVA to make significant unplanned contributions to the plans. Such contributions would negatively affect TVA's cash flows, results of operations, and financial condition.

Table of Contents

Approaching or reaching its debt ceiling could limit TVA's ability to carry out its business. Additionally, TVA's debt ceiling could be made more restrictive.

The TVA Act provides that TVA can issue Bonds in an amount not to exceed \$30 billion outstanding at any time. At September 30, 2009, TVA had \$22.8 billion of Bonds outstanding (not including noncash items of foreign currency valuation loss of \$30 million and net discount on sale of Bonds of \$224 million).

Approaching or reaching the debt ceiling could adversely affect TVA's business by limiting TVA's ability to borrow money and increasing the amount of debt needing to be serviced. Also, Congress could lower the debt ceiling or broaden the types of financial instruments that are covered by the ceiling. Either of these scenarios could also restrict TVA's ability to further raise capital to maintain power program assets, to construct additional generation facilities, or to meet regulatory requirements. In addition, approaching or reaching the debt ceiling could lead to increased legislative or regulatory oversight of TVA's activities.

TVA may be unable to meet its current cash requirements if its access to the debt markets is limited.

TVA uses cash provided by operations together with proceeds from power program financings to fund TVA's current cash requirements. It is critical that TVA continue to have access to the debt markets in order to meet its cash requirements. The importance of having access to the debt markets is underscored by the fact that TVA, unlike many utilities, relies almost entirely on debt capital since it is not authorized to issue equity securities.

TVA and owners of TVA securities could be impacted by a downgrade of TVA's credit rating.

A downgrade in TVA's credit rating could have material adverse effects on TVA's cash flows, results of operations, and financial condition as well as on investors in TVA securities. Among other things, a downgrade could have the following effects:

- A downgrade would increase TVA's interest expense by increasing the interest rates that TVA pays on new Bonds that it issues. An increase in TVA's interest expense would reduce the amount of cash available for other purposes, which could result in the need to increase borrowings, to reduce other expenses or capital investments, or to increase power rates.
- A downgrade could result in TVA's having to post collateral under certain physical and financial contracts that contain rating triggers.
- A downgrade below a contractual threshold could prevent TVA from borrowing under two credit facilities totaling \$2.0 billion.
 - A downgrade could lower the price of TVA securities in the secondary market.

TVA could lose the ability to use regulatory accounting and be required to write off a significant amount of regulatory assets.

Under current accounting standards, TVA is permitted to use regulatory accounting. Accordingly, TVA records as assets certain costs that would not be recorded as assets under GAAP for non-regulated entities. As of September 30, 2009, TVA had \$9.6 billion of regulatory assets. If TVA loses its ability to use regulatory accounting, TVA could be required to write-off its regulatory assets and liabilities.

TVA's financial control system cannot guarantee that all control issues and instances of fraud or errors will be detected.

No financial control system, no matter how well designed and operated, can provide absolute assurance that the objectives of the control system are met, and no evaluation of financial controls can provide absolute assurance that all control issues and instances of fraud or errors can be detected. The design of any system of financial controls is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions, regardless of how remote.

Payment of principal and interest on TVA securities is not guaranteed by the United States.

Table of Contents

Although TVA is a corporate agency and instrumentality of the United States government, TVA securities are not backed by the full faith and credit of the United States. If TVA were to experience extreme financial difficulty and were unable to make payments of principal or interest on its Bonds, the federal government would not be legally obligated to prevent TVA from defaulting on its obligations. Principal and interest on TVA securities are payable solely from TVA's net power proceeds. Net power proceeds are the remainder of TVA's gross power revenues after deducting the costs of operating, maintaining, and administering its power properties and payments to states and counties in lieu of taxes, but before deducting depreciation accruals or other charges representing the amortization of capital expenditures, plus the net proceeds from the sale or other disposition of any power facility or interest therein.

The market for TVA securities might be limited.

All of TVA's Bonds are listed on the New York Stock Exchange except for TVA's discount notes, which have maturities of less than one year, the 2009 Series A and B power bonds, and the power bonds issued under TVA's electronotes® program, which is TVA's medium-term retail notes program. In addition, some of TVA's Bonds are listed on foreign stock exchanges.

Although many of TVA's Bonds are listed on stock exchanges, there can be no assurances that any market will develop or continue to exist for any Bonds. Additionally, no assurances can be made as to the ability of the holders to sell their Bonds or as to the price at which holders will be able to sell their Bonds. Future trading prices of Bonds will depend on many factors, including prevailing interest rates, the then-current ratings assigned to the Bonds, the amount of Bonds outstanding, the time remaining until the maturity of the Bonds, the redemption features of the Bonds, the market for similar securities, and the level, direction, and volatility of interest rates generally, as well as the liquidity of the market for those securities.

If a particular series of Bonds is offered through underwriters, those underwriters may attempt to make a market in the Bonds. Dealers other than underwriters may also make a market in TVA securities. However, the underwriters and dealers are not obligated to make a market in any TVA securities and may terminate any market-making activities at any time without notice.

In addition, legal limitations may affect the ability of banks and others to invest in Bonds. For example, national banks may purchase TVA Bonds for their own accounts in an amount not to exceed 10 percent of unimpaired capital and surplus. Also, TVA Bonds are "obligations of a corporation which is an instrumentality of the United States" within the meaning of section 7701(a)(19)(C)(ii) of the Internal Revenue Code for purposes of the 60 percent of assets limitation applicable to U.S. building and loan associations.

ITEM 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 2. PROPERTIES

TVA holds personal property in its own name but holds real property as agent for the United States of America. TVA may acquire real property by negotiated purchase or by eminent domain.

Generating Properties

At September 30, 2009, generating assets operated by TVA consisted of 59 coal-fired units, six nuclear units, 109 conventional hydroelectric units, four pumped storage units, 93 combustion turbine units, six combined cycle units,

nine diesel generator units, one digester gas site, one biomass cofiring site, one wind energy site, and 15 solar energy sites. See Item 1, Business — Power Supply for a chart that indicates the location, capability, and in-service dates for each of these properties, which chart is incorporated into this Item 2, Properties. As of September 30, 2009, 24 of the simple cycle combustion turbine units are leased by private entities and leased back to TVA under long-term leases, and TVA leases the three Caledonia combined cycle units under a long-term lease. In addition, as of September 30, 2009, SSSL owned an undivided 90 percent interest in the three Southaven combined cycle units, and TVA has entered into a lease with SSSL under which TVA leases SSSL's undivided 90 percent interest in the facility and operates the entire facility through April 30, 2010. For additional details, see Note 11. TVA is also in the process of constructing additional generating assets. For a discussion of these assets, see Item 1, Business — Future Power Supply.

Table of Contents

Transmission Properties

TVA's transmission system interconnects with systems of surrounding utilities and consists primarily of the following assets:

- Approximately 15,954 circuit miles of transmission lines (primarily 500 kilovolt and 161 kilovolt lines);
 - 487 transmission substations, power switchyards, and switching stations; and
 - 66 individual interconnection points and 1,020 customer connection points.

As of September 30, 2009, certain qualified technological equipment and other software related to TVA's transmission system is leased by private entities and leased back to TVA under long-term leases.

Natural Resource Stewardship Properties

TVA operates and maintains 49 dams, and TVA manages the following natural resource stewardship properties:

- 11,000 miles of reservoir shoreline;
- 293,000 acres of reservoir land;
- 650,000 surface acres of water; and
- Over 100 public recreation facilities.

As part of its stewardship responsibilities, TVA approval is required to be obtained before construction of any obstruction affecting navigation, flood control, or public lands can be constructed in or along the Tennessee River and its tributaries.

Buildings

TVA has a variety of buildings throughout its service area in addition to the buildings located at its generation and transmission facilities, including office buildings, customer service centers, power service centers, warehouses, visitor centers, and crew quarters. The most significant of these buildings is the Knoxville Office Complex. TVA also leases buildings, including its Chattanooga Office Complex, which consists of approximately 1.2 million square feet of office space. The initial term of TVA's lease of approximately 1.05 million square feet of the Chattanooga Office Complex expires on January 1, 2011. On February 8, 2008, TVA finalized an agreement to purchase this portion of the Chattanooga Office Complex upon the expiration of the existing lease term on January 1, 2011. The lease on the Monteagle Place, the remaining portion of the Chattanooga Office Complex (approximately 131,979 square feet), expires on September 30, 2012. On May 18, 2009, TVA finalized a purchase agreement for the Monteagle Place portion of the Chattanooga Office Complex with closing to occur October 1, 2012, upon the expiration of the existing lease term. TVA also owns a significant number of buildings in Muscle Shoals, Alabama, and is currently evaluating strategies for long-term solutions to further reduce its Muscle Shoals portfolio.

Disposal of Property

Under the TVA Act, TVA has broad authority to dispose of personal property but only limited authority to dispose of real property. TVA's primary sources of authority to dispose of real property are briefly described below:

- Under Section 31 of the TVA Act, TVA has authority to dispose of surplus real property at a public auction.
- Under Section 4(k) of the TVA Act, TVA can dispose of real property for certain specified purposes, including providing replacement lands for certain entities whose lands were flooded or destroyed by dam or reservoir

Edgar Filing: Tennessee Valley Authority - Form 10-K

construction and to grant easements and rights-of-way upon which are located transmission or distribution lines. Under Section 15d(g) of the TVA Act, TVA can dispose of real property in connection with the construction of generating plants or other facilities under certain circumstances.

- Under 40 U.S.C. § 1314, TVA has authority to grant easements for rights-of-way and other purposes.

In addition, the Basic Tennessee Valley Authority Power Bond Resolution adopted by the TVA Board on October 6, 1960, as amended on September 28, 1976, October 17, 1989, and March 25, 1992, prohibits TVA from mortgaging any part of its power properties and from disposing of all or any substantial portion of these properties unless TVA provides for a continuance of the interest, principal, and sinking fund payments due and to become due on all outstanding Bonds, or for the retirement of such Bonds.

Table of Contents

ITEM 3. LEGAL PROCEEDINGS

From time to time, TVA is party to or otherwise involved in lawsuits, claims, proceedings, investigations, and other legal matters (“Legal Proceedings”) that have arisen in the ordinary course of conducting TVA’s activities, as a result of catastrophic events or otherwise. While the outcome of the Legal Proceedings to which TVA is a party cannot be predicted with certainty, any adverse outcome to a Legal Proceeding involving TVA may have a material adverse effect on TVA’s cash flows, results of operations, and financial condition.

For a discussion of Legal Proceedings involving TVA, see Note 20 — Legal Proceedings and Note 23, which discussions are incorporated into this Item 3 by reference.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

Not applicable.

Table of Contents

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Not applicable.

ITEM 6. SELECTED FINANCIAL DATA

The following selected financial data for the years 2005 through 2009 should be read in conjunction with the audited financial statements and notes thereto (collectively, the "Financial Statements") presented in Item 8, Financial Statements and Supplementary Data. Certain reclassifications have been made to the 2005, 2006, 2007, and 2008 financial statement presentation to conform to the 2009 presentation.

| | Selected Financial Data ^{1, 2} For the years ended September 30 (in millions) | | | | |
|--|--|-----------|-----------|-----------|-----------|
| | 2009 | 2008 | 2007 | 2006 | 2005 |
| Operating revenues ³ | \$ 11,255 | \$ 10,382 | \$ 9,326 | \$ 8,983 | \$ 7,792 |
| Net income | \$ 726 | \$ 817 | \$ 423 | \$ 113 | \$ 85 |
| Total assets | \$ 40,017 | \$ 37,137 | \$ 33,732 | \$ 34,308 | \$ 34,473 |
| Financial Obligations | | | | | |
| Net long-term debt, excluding current maturities | \$ 21,788 | \$ 20,404 | \$ 21,099 | \$ 19,544 | \$ 17,751 |
| Capital leases ⁴ | 77 | 95 | 104 | 128 | 150 |
| Leaseback obligations | 1,403 | 1,353 | 1,072 | 1,108 | 1,143 |
| Energy prepayment obligations | 927 | 1,033 | 1,138 | 1,244 | 1,350 |
| Total long-term obligations | 24,195 | 22,885 | 23,413 | 22,024 | 20,394 |
| Discount notes | 844 | 185 | 1,422 | 2,376 | 2,469 |
| Current maturities of long-term debt, net | 8 | 2,030 | 90 | 985 | 2,693 |
| Total short-term obligations | 852 | 2,215 | 1,512 | 3,361 | 5,162 |
| | \$ 25,047 | \$ 25,100 | \$ 24,925 | \$ 25,385 | \$ 25,556 |

Total financial obligations

Notes

(1) TVA's financial results for each year were affected by several special items that TVA considers significant. See Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations for a description of special items in 2009, 2008, and 2007. In addition, during 2006, TVA adopted a new accounting methodology for conditional asset retirement obligations that resulted in a cumulative effect charge to income of \$109 million and an increase in accumulated depreciation of \$20 million.

(2) See Item 1A, Risk Factors and Note 20 for a discussion of risks and contingencies that could affect TVA's future financial results.

(3) Prior to 2007, TVA reported certain revenue not directly associated with revenue derived from electric operations as Operating revenues. This income of \$10 million and \$17 million for 2006 and 2005, respectively, has been reclassified from Operating revenues to Other income. Additionally, certain Operating revenues related to income derived from electric operations were recorded net of related expenses. Expenses of \$15 million for 2005 have been reclassified from Operating revenues to Operating expenses.

(4) Included in Accrued Liabilities and Other liabilities on the Balance Sheets.

Table of Contents

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

(Dollars in millions except where noted)

Business Overview

Distinguishing Features of TVA's Business

TVA operates the nation's largest public power system. In 2009, TVA provided electricity to 52 large industrial customers, six federal customers, and 158 distributor customers that serve nearly nine million people in seven southeastern states. TVA generates almost all of its revenues from the sale of electricity, and in 2009 revenues from the sale of electricity totaled \$11.1 billion. As a wholly-owned agency and instrumentality of the United States, however, TVA differs from other electric utilities in a number of ways. Some of the more distinguishing features are discussed below.

Federally Defined Service Area. TVA has a defined service area established by federal law. Subject to certain minor exceptions, TVA may not, without an act of Congress, enter into contracts which would have the effect of making it or the distributor customers of its power a source of power supply outside the area for which TVA or its distributor customers were the primary source of power supply on July 1, 1957. This statutory provision is referred to as the "fence" because it bounds TVA's sales activities, essentially limiting TVA to power sales within a defined service area. The Federal Power Act, primarily through its anti-cherry-picking provision, prevents FERC from ordering TVA to provide access to its transmission lines to others for the purpose of delivering power to customers within its service area except for customers in Bristol, Virginia.

Rate Authority. Typically, a utility is regulated by a public utility commission, which approves the rates the utility may charge. TVA, however, is self-regulated with respect to rates. The TVA Act gives the TVA Board sole responsibility for establishing the rates TVA charges for power. These rates are not subject to judicial review or review or approval by any state or federal regulatory body. In setting TVA's rates, however, the TVA Board is charged by the TVA Act to have due regard for the objective that power be sold at rates as low as are feasible.

Funding. TVA's operations were originally funded primarily with appropriations from Congress. In 1959, however, Congress passed legislation that required TVA's power program to be self-financing from power revenues and proceeds from power program financings. Until 1999, TVA continued to receive some appropriations for certain multipurpose activities and for its stewardship activities. Since 1999, however, TVA has not received any appropriations from Congress for any activities and, as directed by Congress, has funded essential stewardship activities primarily with power revenues.

TVA, unlike investor-owned power companies, is not authorized to raise capital by issuing equity securities. TVA relies primarily on cash from operations and proceeds from power program borrowings to fund its operations. The TVA Act authorizes TVA to issue Bonds in an amount not to exceed \$30 billion outstanding at any given time. From time to time, legislation is proposed that would expand the types of financial obligations that count towards TVA's \$30 billion debt ceiling. If Congress were to broaden the type of financial instruments that are covered by the debt ceiling or to lower the debt ceiling, TVA might not be able to raise enough capital to, among other things, service its then-existing financial obligations, properly operate and maintain its power assets, and provide for reinvestment in its power program. At September 30, 2009, TVA had \$22.8 billion of Bonds outstanding (not including noncash items of foreign currency valuation loss of \$30 million and net discount on sale of Bonds of \$224 million). Additionally, at September 30, 2009, TVA had \$2.3 billion of leaseback arrangements and power prepayment obligations

outstanding. For additional information regarding TVA's sources of funding, see Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources — Sources of Liquidity.

Environmental Stewardship Activities. TVA's mission includes managing the United States' fifth largest river system — the Tennessee River, its tributaries, and public lands along the shoreline — to provide, among other things, year-round navigation, flood damage reduction, affordable and reliable electricity, and, consistent with these primary purposes, recreational opportunities, adequate water supply, improved water quality, and economic development. There are 49 dams that comprise TVA's integrated reservoir system. The reservoir system provides 800 miles of commercially navigable waterway and also provides significant flood reduction benefits both within the Tennessee River system and downstream on the lower Ohio and Mississippi Rivers. The reservoir system also provides a water supply for residential and industrial customers, as well as cooling water for some of TVA's coal-fired and nuclear power plants. TVA's Environmental Policy provides objectives for an integrated approach related to providing cleaner, reliable, and affordable energy, supporting sustainable economic growth, and engaging in proactive environmental stewardship. The Environmental Policy provides additional direction in several environmental stewardship areas, including water resource protection and improvements, sustainable land use, and natural resource management. TVA also manages 293,000 acres of reservoir lands for natural resource protection, recreation, and other purposes.

Table of Contents

Economic Development Activities. Since its beginnings in 1933, TVA has promoted the development of the Tennessee Valley. TVA works with its distributor customers, regional, state and local agencies, and communities to showcase the advantages available to businesses locating or expanding in TVA's seven-state service area. At its October 30, 2008 meeting, the TVA Board approved a new economic development initiative, the Valley Investment Initiative. Under the Valley Investment Initiative, TVA and distributors of TVA power will provide an incentive award to existing companies in TVA's seven-state service area that demonstrate a multi-year commitment to sustained capital investment, the creation of quality jobs, compatible and efficient power use, and a commitment to remain in the TVA service area. Other incentives for development include manufacturing rates for qualifying data centers, waiver of the Enhanced Growth Credit twelve-month shutdown provision, and realignment of recruitment targets to match the current economic and operational needs. Continued recruitment of desirable companies and retention of the current industrial and manufacturing base continue to be critical to TVA's economic development mission.

Executive Summary

TVA faced several significant challenges in 2009. Economic weakness in the TVA service area, together with milder summer weather, contributed to a seven percent reduction in power sales as compared to 2008. The year was also marked by the continuation of a global financial crisis which led to periods of extreme volatility in world markets and impacted TVA's investment funds. In addition, the December 2008 ash spill at the Kingston Fossil Plant and the January 2009 court decision ordering the installation of certain emission controls on four coal-fired plants present significant financial challenges for TVA.

TVA also faces large capital requirements to maintain its power system infrastructure and invest in new power assets, including cleaner energy sources. TVA believes it is likely that laws or regulations will be passed in the near future that will require electric utilities to reduce GHG emissions and obtain a specified portion of their power supply from renewable resources. TVA's generating plants are among the oldest in the nation, and it may not be economical to continue to operate some plants in the future, particularly if new environmental laws or regulations are passed. TVA is also planning to end the wet storage of fly ash and gypsum at its coal-fired plants, an effort that will involve significant investment.

Despite these challenges, TVA experienced some positive business developments in 2009, including the following items that contributed to TVA's ability to accomplish its mission:

• Drought conditions in TVA's service area began to ease in 2009, and rainfall in the eastern Tennessee Valley was 103 percent of normal for the year. As a result, TVA was able to increase lower cost conventional hydroelectric generation by 64 percent in 2009 over 2008 levels.

• Average prices for purchased power and natural gas declined by 36 percent and 61 percent, respectively, in 2009 as compared to 2008.

• For the tenth straight year, TVA's transmission system operated with 99.999 percent reliability in delivering electricity to customers.

- TVA experienced improvements in safety in 2009 and performed in the top decile in the utility industry.

• TVA helped recruit Hemlock Semiconductor and Wacker Chemie to the TVA service area. These companies announced capital investments of over \$2.2 billion and the expected creation of an estimated 1,000 jobs.

Edgar Filing: Tennessee Valley Authority - Form 10-K

TVA had net income of \$726 million in 2009. Operating revenues increased approximately 8 percent for 2009 as compared to 2008, although sales decreased approximately 7 percent during 2009. The increases in revenues were primarily due to an increase in the FCA resulting from higher fuel and purchased power costs and base rate increases that were effective October 1, 2008. Operating expenses increased approximately 13 percent due primarily to an increase in depreciation, amortization, and accretion, while interest expense decreased approximately 8 percent due to the decline in interest rates.

Following is a more detailed discussion of developments impacting TVA during 2009, as well as long-term challenges that TVA is facing and initiatives it is undertaking.

Table of Contents

Challenges During 2009

TVA faced several challenges during 2009 that impacted its cash flows, results of operations, and financial condition. The most significant of these challenges are related to the Kingston ash spill, coal combustion product facilities, and a court ruling in a lawsuit filed by the State of North Carolina requiring TVA to restrict emissions from its coal-fired plants.

Kingston Ash Spill

The Event. On December 22, 2008, approximately five million cubic yards of water and coal fly ash flowed out of the Kingston ash pond onto approximately 300 acres, primarily Watts Bar Reservoir and shoreline property owned by the United States and managed by TVA, but also structurally damaged three homes, interrupted utility service, and blocked a local road. Fly ash is a coal combustion product of a coal-fired plant. Kingston used wet ash containment impoundments for fly ash.

TVA is conducting cleanup and recovery efforts in conjunction with federal and state agencies. Under the May 11, 2009, Administrative Order and Agreement of Consent (“Order and Agreement”) entered into by TVA and the EPA under CERCLA, TVA retains its status as a lead federal agency, but TVA’s work is subject to review and approval by the EPA, in consultation with TDEC. Under the Order and Agreement, response actions are classified into three categories: time-critical removal; non-time-critical removal; and remedial actions. Generally, removal of the ash from the Emory River is time-critical. TVA estimates that this work will be completed in 2010. Removal of the remaining ash is considered to be non-time-critical. TVA estimates that this work will be completed in 2013. Once the removal actions are completed, TVA will be required to assess the site and determine whether any additional actions may be needed at Kingston or the surrounding impacted area. This assessment and any additional activities found to be necessary are considered the remedial actions.

Insurance. TVA has property and excess liability insurance programs in place which may cover some of the Kingston ash spill costs. The insurers for each of these programs have been notified of the event. Although three of the insurers that provide liability insurance have denied coverage, TVA is working with its insurers to provide information, as it becomes available, on the event and its cause to determine applicable coverage. As a result, no estimate for potential insurance recovery has been accrued at this time.

Claims and Litigation. Fourteen lawsuits based on the Kingston ash spill have been filed, all of which are pending in the United States District Court for the Eastern District of Tennessee. See Note 20 — Legal Proceedings and Note 23.

Financial Impact. TVA has recorded an estimate in the amount of \$933 million for the cost of cleanup related to this event. This amount had been charged to expense during the nine month period ended June 30, 2009. However, due to actions of the TVA Board in August 2009, the amount was reclassified as a regulatory asset during the fourth quarter and will be charged to expense as it is collected in future rates over 15 years. Costs incurred through September 30, 2009, totaled \$231 million. The \$933 million estimate currently includes, among other things, a reasonable estimate of costs related to ash dredging and processing, ash disposition, infrastructure repair, dredge cell repair, root cause analysis, certain legal and settlement costs, environmental impact studies and remediation, human health assessments, community outreach and support, regulatory oversight, cenosphere recovery, skimmer wall installation, construction of temporary ash storage areas, dike reinforcement, project management, and certain other remediation costs associated with the clean up. If the actual amount of ash removed is more or less than the estimate, the expense could change significantly as this affects the largest cost components of the estimate. The cost of the removal of the ash is in large part dependent on the final disposal plan, which is still in development by TVA and regulatory authorities.

TVA has revised the estimated cost of the cleanup over the course of the year consistent with receipt of better information as the remediation work has progressed. As work progresses and more information is available, TVA will review its estimates and revise as appropriate. TVA currently estimates the recovery process will be completed in 2013. As such, TVA has accrued a portion of the estimate in current liabilities, with the remaining portion shown as a long-term liability on TVA's September 30, 2009 Balance Sheet.

Due to the uncertainty at this time of the final methods of remediation, a range of reasonable estimates has been developed by cost category and either the known amounts, most likely scenarios, or the low end of the range for each category has been accumulated and evaluated to determine the total estimate. The costs related to ash loading, transport, and disposal of all time critical ash and final disposition of dredge cell closures are the ones most subject to change. It is not currently known exactly how much ash will need to be removed. The range of estimated costs varies from approximately \$933 million to approximately \$1.2 billion.

Table of Contents

TVA has not included the following categories of costs in the above estimate since it has determined that these costs are currently either not probable, not reasonably estimable, or not appropriately accounted for as part of the estimate accrual: fines or regulatory directive actions, outcome of lawsuits, future claims, long-term environmental impact costs, final long-term disposition of ash processing area, associated capital asset purchases, ash handling and disposition from current plant operations, costs of remediating any discovered mixed waste during ash removal process, and other costs not meeting the recognition criteria. As ash removal continues, it is possible that other environmentally sensitive material potentially in the river sediment before the ash spill may be uncovered. If other materials are identified, additional remediation not included in the above estimates may be required.

Coal Combustion Product Facilities

Six of the eleven coal-fired plants operated by TVA use wet methods to collect fly ash. The other five plants use a dry collection method. TVA's coal combustion products ("CCP") collection sites follow the permit requirements of the states in which they are located. These 11 sites have CCP collection facilities that have engineering dike systems that undergo daily visual inspections, quarterly state inspections, and annual detailed engineering inspections.

TVA performed a preliminary reassessment of the potential hazard classifications of the impoundments at each of its CCP facilities at the 11 coal-fired plants, as well as at the now closed Watts Bar Fossil Plant. The preliminary reassessment resulted in each of the CCP facilities being assigned a classification. The classifications do not measure the structural integrity of the facility or the possibility of whether a failure could occur. Rather, they are designed to identify where loss of life or significant economic or environmental damage could occur in the event of a failure. Based on the Federal Guidelines for Dam Safety criteria, impoundments at four of the 12 TVA sites are rated in the "High" classification (These four sites are Bull Run, Colbert, Cumberland, and Widows Creek.) TVA submitted the results of the preliminary reassessment to the EPA on July 14, 2009.

Additionally, TVA retained an independent third-party engineering firm to perform a multi-phased evaluation of the overall stability and safety of all existing embankments associated with TVA's wet CCP facilities. The first phase of the evaluation, which is finished, involved a detailed inspection of all wet CCP facilities, a detailed documentation review, and a determination of any immediate actions necessary to reduce risks. The second phase of the program, which is ongoing, includes geotechnical explorations, stability analysis, studies, and risk mitigation steps such as performance monitoring, designing repairs, developing planning documents, obtaining permits, and implementing the lessons learned from the Kingston ash spill at TVA's other wet CCP facilities. As a part of this effort, an ongoing monitoring program with third-party oversight is being implemented, and TVA employees are receiving additional training in dam safety and monitoring.

At its July 21, 2009 meeting, the TVA Board directed TVA to develop a remediation plan covering TVA's CCP facilities. At the August 20, 2009 TVA Board meeting, TVA reported:

- A new organization has been put into place to improve the management of CCP and establish accountability for decisions involving CCP, and

• TVA is converting and eliminating its wet fly ash, bottom ash, and gypsum facilities to dry storage facilities and remediating the CCP facilities that were classified as "High" during the preliminary reassessment, such that they would no longer need to be classified as "High."

The expected cost of the CCP work is between \$1.5 billion and \$2.0 billion, and the work is expected to take between eight and 10 years.

Case Brought by North Carolina Alleging Public Nuisance

TVA is involved in a lawsuit filed by the State of North Carolina in connection with emissions from TVA's coal-fired power plants. TVA already has made capital expenditures to decrease emissions from some of the facilities, but the U.S. District Court for Eastern District of North Carolina has ordered significant additional investments and compliance in a time frame that is shorter than TVA had originally planned. TVA's current estimate of costs to comply with the court order is \$1.7 billion, of which \$1.1 billion would be for unplanned investment. Management is evaluating alternatives which could change these amounts in the future. Additionally, TVA has appealed the court's decision. See Item 1, Business — Environmental Matters and Note 20 — Legal Proceedings.

Table of Contents

Future Challenges

TVA faces several challenges that may impact its cash flows, results of operations, and financial condition in the future. The most significant of these challenges are discussed below.

Meeting the Power Needs in TVA's Service Area

Power sales in TVA's service area grew at an average of 2 percent per year from 2001 to 2008. During 2009, power sales decreased about 7 percent from 2008 levels. For 2010, TVA has forecasted an additional 2 percent decline in load and sales growth from 2009. This decline is due principally to the recession. Although there are many additional drivers that contribute to lower sales growth and lower load, such as the loss of two distributors, energy efficiency, and more efficient industrial and mechanical equipment, loads remain highly dependent on the economic conditions in TVA's service area. TVA is not expecting economic conditions to improve quickly, but does expect stabilization and a gradual increase from current levels of electricity usage.

In addition to the forecasted increased longer-term demand, TVA faces challenges in providing reliable and economic power supply due to the age of its coal-fired generation fleet. On average, TVA's coal-fired generation fleet is among the oldest of any utility in the southeastern United States. As of September 30, 2009, the weighted average age of TVA's coal-fired generation assets was 47 years. During recent years, TVA has on average, invested less in maintaining its generation assets than surrounding utilities. Although TVA is planning to increase its maintenance expenditures on its generating assets in 2010, it may not be economical to improve the reliability of some units in light of their age and current condition.

TVA anticipates that clean air regulations will require that all coal-fired plants eventually have clean air controls, consisting of scrubbers and SCRs for SO₂, NO_x, and mercury control. Also, TVA expects that legislation will eventually require it to reduce CO₂ emissions or purchase CO₂ allowances. Although TVA uses scrubbers on its largest generating units and low sulfur coal on other units to remove SO₂, and SCRs and other controls to reduce NO_x emissions, several of TVA's older coal-fired plants do not have clean air controls, and their lower efficiency leads to higher CO₂ emission rates. Some of these less efficient units have been less economical to use in recent periods. Due to the age, lower capacity, and lower efficiency of some plants, it may not be economical to install new clean air controls; accordingly, TVA may choose to retire some coal-fired units.

TVA plans to meet future power needs primarily through:

• **New Generation.** TVA intends to add new generation assets. This intention is reflected in TVA's decision to complete the construction of Watts Bar Unit 2 and to complete combined cycle facilities at Lagoon Creek and John Sevier. TVA plans to consider other opportunities to add new generation from time to time. Market conditions, including the volatility of the price of construction materials and the potential shortage of skilled craft labor, may add uncertainties to the cost and schedule of new construction.

• **Power Purchases.** Purchasing power from others will likely remain a component of how TVA addresses the power needs of its service area. The Strategic Plan establishes a goal of balancing production capabilities with power supply requirements by promoting the conservation and efficient use of electricity and, when necessary, buying, building, and/or leasing assets or entering into purchased power agreements. Achieving this goal will allow TVA to reduce its reliance on purchased power.

Future Contributions to TVA Investment Funds

TVA's NDT and pension funds have been adversely affected by the turmoil in the financial markets during 2008 and 2009. The NDT portfolio decreased in value by \$241 million in 2008, and an additional \$7 million in 2009. As of September 30, 2009, the NDT was 95 percent funded. TVA submitted a NDT funding assurance plan to the NRC during 2009 utilizing the external sinking fund method as described in the NRC's regulations. The plan is based on estimated positive long-term investment performance above an anticipated increase in the decommissioning liability over the remaining lives of TVA's nuclear units. The funding assurance plan provides mechanisms to address this shortfall under a schedule with the goal of ensuring sufficient funds are available when the nuclear plants are eventually decommissioned.

TVA plans to make a contribution of \$21 million to the NDT in 2010. If market conditions improve, this and future contributions could be less. If market conditions in the future do not improve or continue to deteriorate, TVA may be required to make additional contributions to the NDT. TVA may also utilize any other financial assurance method or combination of methods described in the NRC's regulations to provide funding assurance for decommissioning.

Table of Contents

The pension plan experienced dramatic declines in assets values over the past two years due to much lower than expected asset returns, which have affected the funded status. In 2008, asset values declined \$1.8 billion. While financial markets improved in 2009, the plan remains below 100 percent funded. This is due in part to the approximately \$600 million of benefits that are being paid out each year. To help improve the funded status of the plan, TVA made a discretionary pension contribution of \$1.0 billion in September 2009. If investment asset returns are at or above expectations, no further contributions will be made from 2010 through 2013. However, if actual returns continue to be flat or lower than expectations or benefit payments rise significantly, additional contributions to the plan over the next few years may be necessary.

TVA's investment policies are based on the objective of meeting long-term obligations, and the allocation of investments is based on the assumption of encountering distressed market conditions from time to time. TVA does not anticipate making significant changes in its basic investment policies as a result of market conditions over the last 18 months. See Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations — Risk Management Activities — Investment Price Risk.

Debt Ceiling

The TVA Act specifies that TVA's Bonds may not exceed \$30 billion outstanding at one time. As of September 30, 2009, TVA had \$22.8 billion of Bonds outstanding (not including noncash items of foreign currency valuation loss of \$30 million and net discount on sale of Bonds of \$224 million). Increased future capital expenditures along with a restrictive debt ceiling may pose a challenge to TVA's ability to maintain low and competitive power rates.

Environmental Regulation

TVA expects increased environmental regulation in the future, including but not limited to the regulation of mercury and the emission of GHGs such as CO₂. TVA has considered, and intends to continue considering, fuel mix in making decisions about additional generation. The restart of Browns Ferry Unit 1, construction to complete Watts Bar Unit 2, the filing of a Combined Construction and Operating License Application for two new units at the Bellefonte Nuclear Plant ("Bellefonte"), and the reactivation of the construction permits for existing Bellefonte units are examples of TVA's activities to pursue or consider generation sources that do not emit GHGs. The nature or level of future regulation of GHGs is unclear at this time. Accordingly, the costs associated with such regulation are currently unknown but could be substantial. TVA would have to recover such costs in rates or pursue some other action which, among other options, might include removing some coal-fired units from service.

Renewable Portfolio

There is currently pending federal legislation involving renewable energy and energy efficiency. Depending on the bill that gets enacted, TVA might have to ensure that, over the CY 2011 to CY 2039 timeframe, anywhere from 3 percent to 20 percent of the electricity it sells is produced by renewable sources (as defined by Congress), or make alternative compliance payments for any deficiencies. In addition, H.R. 2454, American Clean Energy and Security Act of 2009, which was passed by the House of Representatives, would cut U.S. GHG emissions 17 percent by CY 2020 from CY 2005 levels and 83 percent by CY 2050. Utilities are a source of GHG emissions and would likely be impacted by such legislation. Under most proposed legislation, renewable power generation resources include solar, wind, incremental hydroelectric, biomass, and landfill gas. Generating power with renewable sources instead of coal-fired plants could help reduce the CO₂ intensity of TVA's generation. Power generated using renewable sources, with current technologies, may not be economically competitive compared to existing power generation assets. Technology advancements will be needed to address some of the operational issues associated with renewable energy, such as energy storage to address intermittency and interconnection technologies to address onsite, non-grid

connected renewables and efficiencies.

Most renewable energy resources are geographically specific. Some regions of the United States have an abundance of wind and solar resources, whereas other regions have hydroelectric resources. Regional differences and limitations play a primary role in the types and amount of renewable and clean energy developed across the country. Within the area served by TVA, two of the most abundant renewable resources are hydroelectric and biomass. Feasible wind energy in this region is primarily associated with mountain top and ridgeline installations, and the total potential capacity is limited when compared to other parts of the nation where wind energy is more abundant. If TVA is required to increase its use of renewable resources and the cost of doing so is greater than the costs of other sources of generation, TVA's costs may increase significantly.

Table of Contents

Organizational Transformation

Following the Kingston ash spill on December 22, 2008, the TVA Board directed management to develop an extensive remediation plan to address deficiencies in TVA's control systems, operating standards, and corporate culture. In response to these concerns, TVA has embarked on an agency-wide organization effectiveness initiative ("OEI") to transform TVA into a more effective and accountable operation. TVA began by creating a new Corporate Governance and Compliance organization and a new senior vice president position, reporting directly to the Chief Financial Officer, to lead TVA's organizational effectiveness efforts. The diagnostic phase of the OEI, supported by TVA staff and industry experts, was launched in early September 2009 and began with a thorough and deliberate review of six key areas: governance and accountability, organizational structure, operating policies and procedures, skills and capabilities, rewards and recognition, and change effectiveness. The design and implementation planning phases of the initiative will continue throughout the first quarter of 2010 with specific improvement programs anticipated to begin in the second quarter of 2010.

Inflation

The economy has been experiencing a very deep recession which has led to unemployment and low capacity usage. Given the current level of idle resources, inflationary pressures remain low. However, a strong, sustained recovery with increasing labor, construction, and commodity costs, as well as high interest rates, could result in higher costs for TVA and pressure to increase power rates. Periods of robust growth might also increase the need for TVA to add generation assets, even as the cost of construction is rising. However, TVA expects that the impact of rising costs could be mitigated to some extent by increasing electricity sales. Additionally, if growth is less robust, costs might increase more slowly and TVA may not have to add as much new generating capacity.

Electric Vehicles

TVA could be impacted from increased manufacture and eventual adoption of Plug-in Hybrid Electric Vehicles ("PHEV") and full battery electric vehicles. Potential impacts include overall faster growth in energy demand, unintended increased peak hour demand due to urban center parking/charging station design and daytime use, and additional impact on the transmission and distribution infrastructure such as increased congestion or load limits. There is the potential to improve system load factor if most PHEV charging activity occurs off-peak. However, technology adoption rates for electric transportation may be difficult to predict and introduce a new source of forecast uncertainty.

Liquidity and Capital Resources

Sources of Liquidity

To meet cash needs and contingencies, TVA depends on various sources of liquidity. TVA's primary sources of liquidity are cash from operations and proceeds from the issuance of short-term and long-term debt. TVA's current liabilities exceed current assets because accounts payable significantly exceed accounts receivable, and because of the use of short-term debt to fund short-term cash needs and scheduled maturities of long-term debt. The daily balance of cash and cash equivalents maintained is based on near-term expectations for cash expenditures and funding needs.

Financial markets experienced extreme volatility in 2008, and continued to experience extreme volatility in 2009 amid negative developments in housing and mortgage-related activities, weakness of major financial institutions, government actions, and negative economic developments. These conditions have resulted in disruptions in credit and lending activities, particularly in the short-term credit markets through which corporate institutions borrow and lend to

each other. Disruptions in the short-term credit markets have the potential to impact TVA because TVA uses short-term debt to meet working capital needs, and because it typically invests its cash holdings in the short-term debt securities of other institutions.

TVA has not experienced difficulty in issuing short-term debt, or in refunding maturing debt, despite the disruptions in the credit markets. Throughout the period of market volatility, TVA has experienced strong demand for its short-term discount notes, and has been able to issue discount notes at competitive rates. TVA expects continued demand for TVA's short-term debt securities.

Table of Contents

Despite the conditions in the credit markets, TVA issued \$377 million of electronotes® and almost \$2.0 billion of other power bonds in 2009. TVA believes it would be able to issue additional long-term debt if needed.

In addition to cash from operations and proceeds from the issuance of short-term and long-term debt, TVA's sources of liquidity include a \$150 million credit facility with the U.S. Treasury, two credit facilities totaling \$2.0 billion with a national bank, and occasional proceeds from other financing arrangements including call monetization transactions, sales of assets, and sales of receivables and loans. Management expects these sources to provide more than adequate liquidity to TVA for the foreseeable future.

Issuance of Debt. The TVA Act authorizes TVA to issue Bonds in an amount not to exceed \$30 billion outstanding at any time. At September 30, 2009, TVA had only two types of Bonds outstanding: power bonds and discount notes. Power bonds have maturities of between one and 50 years, and discount notes have maturities of less than one year. Power bonds and discount notes rank on parity and have first priority of payment out of net power proceeds. Net power proceeds are defined as the remainder of TVA's gross power revenues after deducting the costs of operating, maintaining, and administering its power properties and payments to states and counties in lieu of taxes, but before deducting depreciation accruals or other charges representing the amortization of capital expenditures, plus the net proceeds from the sale or other disposition of any power facility or interest therein. See Note 1 — General.

Power bonds and discount notes are both issued pursuant to section 15d of the TVA Act and pursuant to the Basic Tennessee Valley Authority Power Bond Resolution adopted by the TVA Board on October 6, 1960, as amended on September 28, 1976, October 17, 1989, and March 25, 1992 (the "Basic Resolution"). The TVA Act and the Basic Resolution each contain two bond tests: the rate test and the bondholder protection test.

Under the rate test, TVA must charge rates for power which will produce gross revenues sufficient to provide funds for:

- Operation, maintenance, and administration of its power system;
 - Payments to states and counties in lieu of taxes;
 - Debt service on outstanding Bonds;
- Payments to the U.S. Treasury as a repayment of and a return on the Power Facilities Appropriation Investment; and
- Such additional margin as the TVA Board may consider desirable for investment in power system assets, retirement of outstanding Bonds in advance of maturity, additional reduction of the Power Facility Appropriation Investment, and other purposes connected with TVA's power business, having due regard for the primary objectives of the TVA Act, including the objective that power shall be sold at rates as low as are feasible.

Under the bondholder protection test, TVA must, in successive five-year periods, use an amount of net power proceeds at least equal to the sum of:

- The depreciation accruals and other charges representing the amortization of capital expenditures, and
 - The net proceeds from any disposition of power facilities,

for either

- The reduction of its capital obligations (including Bonds and the Power Facility Appropriation Investment), or
 - Investment in power assets.

TVA must next meet the bondholder protection test for the five-year period ending September 30, 2010.

Edgar Filing: Tennessee Valley Authority - Form 10-K

As discussed above, TVA uses proceeds from the issuance of discount notes, in addition to other sources of liquidity, to fund working capital requirements. During 2009, 2008, and 2007, the average outstanding balance of discount notes was \$1.7 billion, \$767 million, and \$2.3 billion, respectively, and the weighted average interest rate on discount notes was 0.32 percent, 3.71 percent, and 5.17 percent, respectively. At September 30, 2009, \$844 million of discount notes were outstanding with a weighted average interest rate of 0.06 percent. The discount notes are not listed on any stock exchange.

Table of Contents

TVA issues power bonds primarily to refinance previously-issued power bonds as they mature. During 2009 and 2008, TVA issued \$2.4 billion and \$2.1 billion of power bonds, respectively, and redeemed \$2.9 billion and \$689 million of power bonds, respectively. At September 30, 2009, outstanding power bonds (including current maturities of long-term debt) consisted of the following:

| Outstanding Power Bonds As of September 30, 2009 | | | | | |
|---|----------------------------|---------------------------------|-----------------------|---|--|
| CUSIP or Other Identifier | Maturity | Coupon Rate | Principal Amount 1 | Stock Exchange Listings | |
| electronotes® | 03/15/2018 - 01/15/2029 | 2.650% - 5.500% ² | \$ 479 | None | |
| 880591DN9 | 01/18/2011 | 5.625 % | 1,000 | New York, Luxembourg | |
| 880591DL3 | 05/23/2012 | 7.140 % | 29 | New York | |
| 880591DT6 | 05/23/2012 | 6.790 % | 1,486 | New York | |
| 880591CW0 | 03/15/2013 | 6.000 % | 1,359 | New York, Hong Kong, Luxembourg, Singapore | |
| 880591DW9 | 08/01/2013 | 4.750 % | 940 | New York, Luxembourg | |
| 880591DY5 | 06/15/2015 | 4.375 % | 1,000 | New York, Luxembourg | |
| 880591EE8 | 11/15/2015 | 2.250 % | 21 | None | |
| 880591DS8 | 12/15/2016 | 4.875 % | 524 | New York | |
| 880591EA6 | 07/18/2017 | 5.500 % | 1,000 | New York, Luxembourg | |
| 880591CU4 | 12/15/2017 | 6.250 % | 650 | New York | |
| 880591EC2 | 04/01/2018 | 4.500 % | 1,000 | New York, Luxembourg | |
| 880591DC3 | 06/07/2021 | 5.805 % ³ | 320 | New York, Luxembourg | |
| 880591CJ9 | 11/01/2025 | 6.750 % | 1,350 | New York, Hong Kong, Luxembourg, Singapore | |
| 880591300 | 06/01/2028 | 4.728 % | 330 | New York | |
| 880591409 | 05/01/2029 | 4.500 % | 274 | New York | |
| 880591DM1 | 05/01/2030 | 7.125 % | 1,000 | New York, Luxembourg | |
| 880591DP4 | 06/07/2032 | 6.587 % ³ | 399 | New York, Luxembourg | |
| 880591DV1 | 07/15/2033 | 4.700 % | 472 | New York, Luxembourg | |
| 880591EF5 | 06/15/2034 | 3.770 % | 450 | None | |
| 880591DX7 | 06/15/2035 | 4.650 % | 436 | New York | |
| 880591CK6 | 04/01/2036 | 5.980 % | 121 | New York | |

Edgar Filing: Tennessee Valley Authority - Form 10-K

| | | | | | |
|--|------------|-------|----------------|-----------|------------|
| 880591CS9 | 04/01/2036 | 5.880 | % | 1,500 | New York |
| 880591CP5 | 01/15/2038 | 6.150 | % | 1,000 | New York |
| 880591ED0 | 06/15/2038 | 5.500 | % | 500 | New York |
| 880591EH1 | 09/15/2039 | 5.250 | % | 1,500 | New York |
| 880591BL5 | 04/15/2042 | 8.250 | % | 1,000 | New York |
| | | | | | New York, |
| 880591DU3 | 06/07/2043 | 4.962 | % ³ | 240 | Luxembourg |
| 88059CF7 | 07/15/2045 | 6.235 | % | 140 | New York |
| | | | | | New York, |
| 880591EB4 | 01/15/2048 | 4.875 | % | 500 | Luxembourg |
| 880591DZ2 | 04/01/2056 | 5.375 | % | 1,000 | New York |
| Subtotal | | | | 22,020 | |
| Unamortized discounts, premiums, and other | | | | (224) | |
| Total outstanding power bonds, net | | | | \$ 21,796 | |

Notes

- (1) The above table includes net exchange losses from currency transactions of \$30 million at September 30, 2009.
- (2) The weighted average interest rate of TVA's outstanding electronotes® was 4.58 percent at September 30, 2009.
- (3) The coupon rate represents TVA's effective interest rate.

Table of Contents

As of September 30, 2009, all of TVA's Bonds were rated by at least one rating agency except for two issues of power bonds and TVA's discount notes. TVA's rated Bonds are currently rated "Aaa" by Moody's Investors Service and/or "AAA" by Standard & Poor's and/or Fitch Ratings, which are the highest ratings assigned by these agencies. The ratings are not recommendations to buy, sell, or hold any TVA securities and may be subject to revision or withdrawal at any time by the rating agencies. Ratings are assigned independently, and each should be evaluated as such.

For additional information about TVA debt issuance activity and debt instruments issued and outstanding as of September 30, 2009 and 2008, including identifiers, rates, maturities, outstanding principal amounts, and redemption features, see Note 10.

Credit Facility Agreements. TVA and the U.S. Treasury have entered into a memorandum of understanding under which the U.S. Treasury provides TVA with a \$150 million credit facility. This credit facility matures on September 30, 2010, and is expected to be renewed. This arrangement is pursuant to the TVA Act. Access to this credit facility or other similar financing arrangements has been available to TVA since 1959. TVA plans to use the U.S. Treasury credit facility as a secondary source of liquidity. The interest rate on any borrowing under this facility is based on the average rate on outstanding marketable obligations of the United States with maturities from date of issue of one year or less. There were no outstanding borrowings under the facility at September 30, 2009.

TVA also has short-term funding available in the form of two short-term revolving credit facilities, one of which is a \$1.0 billion facility that matures on May 12, 2010, and the other of which is a \$1.0 billion facility that matures on November 8, 2010. The credit facilities accommodate the issuance of letters of credit. The interest rate on any borrowing and the fees on any letter of credit under these facilities are variable based on market factors and the rating of TVA's senior unsecured long-term non-credit enhanced debt. TVA is required to pay an unused facility fee on the portion of the total \$2.0 billion which TVA has not borrowed or committed under letters of credit. The fee may fluctuate depending on the non-enhanced credit ratings on TVA's senior unsecured long-term debt. At September 30, 2009, there were \$103 million of letters of credit outstanding under the facilities and there were no outstanding borrowings. TVA anticipates renewing each credit facility as it matures. See Note 10 — Short-Term Debt.

Call Monetization Transactions. TVA has entered into swaption transactions to monetize the value of call provisions on certain of its Bond issues. A swaption essentially grants a third party the right to enter into a swap agreement with TVA under which TVA receives a floating rate of interest and pays the third party a fixed rate of interest equal to the interest rate on the Bond issue whose call provision TVA monetized. Through September 30, 2009, TVA has entered into four swaption transactions that generated proceeds of \$261 million.

- In 2003, TVA monetized the call provisions on a \$1.0 billion Bond issue and a \$476 million Bond issue by entering into swaption agreements with a third party in exchange for \$175 million and \$81 million, respectively.
- In 2005, TVA monetized the call provisions on two Bond issues (\$42 million total par value) by entering into swaption agreements with a third party in exchange for \$5 million.

For more information regarding TVA's call monetization transactions, see Note 12 — Derivatives Not Receiving Hedge Accounting Treatment — Swaption and Interest Rate Swaps.

Sale of Interest in TVA Generating Facility. Seven States Power Corporation ("SSPC"), through its subsidiary, SSSL, purchased an undivided 90 percent interest from TVA in a three-unit, 792-MW summer net capability combined cycle combustion turbine facility in Southaven, Mississippi. SSSL paid TVA approximately \$420 million for its interest in the facility. SSSL and TVA have entered into an agreement under which TVA leases SSSL's undivided 90 percent

interest in the facility and operates the entire facility through April 30, 2010. The current agreement also requires TVA to buy back SSSL's interest in the facility if long-term operational and power sales arrangements for the facility among TVA, SSSL, and SSPC are not in place by April 30, 2010. Because of TVA's continued ownership interest in the facility as well as buy-back provisions, the transaction did not qualify as a sale and accordingly has been recorded as a leaseback obligation. As of November 25, 2009, long-term arrangements have not been agreed upon. Management is unable to predict at this time whether such arrangements will be finalized by April 30, 2010. See Note 11.

Table of Contents

Summary Cash Flows

A major source of TVA's liquidity is operating cash flows resulting from the generation and sales of electricity. A summary of cash flow components for the years ended September 30 follows:

| | Summary Cash Flows | | |
|--|----------------------------------|----------|-----------|
| | For the years ended September 30 | | |
| | 2009 | 2008 | 2007 |
| Cash provided by | | | |
| (used in): | | | |
| Operating activities | \$ 2,141 | \$ 1,957 | \$ 1,788 |
| Investing activities | (2,265) | (2,299) | (1,686) |
| Financing activities | 112 | 390 | (473) |
| Net (decrease) increase in cash and cash equivalents | \$ (12) | \$ 48 | \$ (371) |

Operating Activities

2009 Compared to 2008

Net cash flows from operating activities increased \$184 million in 2009 compared to 2008. This increase resulted primarily from an increase in operating revenues as a result of higher base rates and FCA revenues as well as from lower cash fuel costs. See Results of Operations. This increase was partially offset by a \$1.0 billion contribution in 2009 to TVA's pension fund as an advance on contributions for 2010 through 2013.

2008 Compared to 2007

Net cash flows from operating activities increased \$169 million in 2008 compared to 2007. This increase was primarily due to higher operating revenues as a result of higher base rates and FCA revenues. See Results of Operations. This increase in revenues was partially offset by an increase in cash paid for fuel and purchased power, an increase in cash paid for interest, an increase in cash used by working capital, an increase in pension contributions due to the prepayment of 2009 pension contributions in September 2008, and a decrease in cash provided by deferred items primarily due to funds collected in rates in 2007 that were used to fund future generation. See Note 1 — Reserve for Future Generation.

Investing Activities

The majority of TVA's investing cash flows are related to investments in property, plant, and equipment for new generating assets as well as additions and upgrades to existing facilities. A summary of changes in investing cash flows is provided below.

2009 Compared to 2008

Edgar Filing: Tennessee Valley Authority - Form 10-K

Net cash flows used in investing activities in 2009 decreased \$34 million compared to 2008. The decrease primarily reflects the absence of the acquisition of new generating assets in 2009 compared to the \$466 million purchase in 2008 of the Southaven combined-cycle facility. This absence was partially offset by a \$263 million increase in investments to existing facilities, a \$110 million increase in expenditures for the enrichment and fabrication of nuclear fuel related to higher prices paid for enriched uranium and the normal year to year variability resulting from the timing of refueling outages at the nuclear plants, and a \$17 million decrease during 2009 in collateral held by TVA in connection with a swap agreement as compared to a \$25 million increase in collateral held in 2008.

2008 Compared to 2007

Net cash flows used in investing activities in 2008 increased \$613 million compared to 2007. The increase resulted primarily from a \$355 million increase in combustion turbine acquisitions, a \$129 million increase in investments to existing facilities, and a \$119 million increase in expenditures for the enrichment and fabrication of nuclear fuel related to a buildup of fuel for strategic inventory purposes.

Table of Contents

Financing Activities

2009 Compared to 2008

Net cash flows provided by financing activities decreased \$278 million in 2009 compared to 2008. The decrease resulted primarily from a \$2.2 billion increase in redemptions and repurchases of long-term debt, with long-term debt of \$2.9 billion retired in 2009, and a \$221 million reduction in proceeds primarily from the sale/leaseback of the Southaven combined-cycle facility. These items were partially offset by a \$264 million increase in long-term debt issues, reflecting the issuance of \$2.4 billion of long-term debt in 2009, and net issuance of \$659 million of short-term debt in 2009 as compared to the net redemption of \$1.2 billion of short-term debt in 2008.

2008 Compared to 2007

Net cash flows provided by financing activities were \$390 million in 2008 compared to net cash used by financing activities of \$473 million in 2007. The \$863 million change was primarily the result of a \$1.1 billion increase in long-term debt issuances in 2008 as compared to 2007 and proceeds in 2008 of \$325 million from the sale/leaseback of the Southaven combined-cycle facility. These items were partially offset by a \$282 million increase in the net redemption of short-term debt and a \$219 million increase in redemptions and repurchases of long-term debt, with long-term debt of \$689 million retired in 2008.

Cash Requirements and Contractual Obligations

The future planned construction expenditures for property, plant, and equipment additions, including clean air projects and new generation, are estimated to be as follows:

Future Planned Construction Expenditures¹
As of September 30

| | Actual | | Estimated Construction Expenditures | | | |
|---|-----------------------|----------|-------------------------------------|--------|-------|-------|
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
| Watts Bar Unit 2 | \$ 477 | \$ 681 | \$ 635 | \$ 416 | \$ — | \$ — |
| Other capacity expansion expenditures | 348 | 484 | 727 | 1,195 | 1,695 | 1,867 |
| Environmental expenditures | 171 | 145 | 297 | 530 | 1,475 | 1,286 |
| Ash pond remediation | 5 | 181 | 216 | 228 | 114 | 127 |
| Transmission expenditures | 230 | 234 | 228 | 283 | 284 | 345 |
| Other capital expenditures ² | 534 | 527 | 611 | 612 | 627 | 641 |
| Total capital projects requirements | \$ 1,765 ³ | \$ 2,252 | \$ 2,714 | | | |