Tennessee Valley Authority
Form 10-Q
August 03, 2018
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(MARK ONE)
x QUARTERLY REPORT PURSUANT TO SECTION 13, 15(d), OR 37 OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended June 30, 2018
OR
o 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 (Address of principal executive offices)	37902 (Zip Code)

(865) 632-2101
(Registrant's telephone number, including area code)

None
(Former name, former address and former fiscal year, if changed since last report)

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 was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.
Yes x No o

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 x No o

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

Large accelerated filer o Accelerated filer o
Non-accelerated filer x (Do not check if a smaller reporting company) Smaller reporting company o
Emerging growth company o

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. o

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

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GLOSSARY OF COMMON ACRONYMS

Following are definitions of terms or acronyms that may be used in this Quarterly Report on Form 10-Q for the quarter ended June 30, 2018 (the "Quarterly Report"):

Term or Acronym	Definition
AFUDC	Allowance for funds used during construction
AOCI	Accumulated other comprehensive income (loss)
ARO	Asset retirement obligation
ART	Asset Retirement Trust
ASLB	Atomic Safety and Licensing Board
BLEU	Blended low-enriched uranium
CAA	Clean Air Act
CAIR	Clean Air Interstate Rule
CCR	Coal combustion residuals
CME	Chicago Mercantile Exchange
CO_2	Carbon dioxide
COL	Combined construction and operating license
COLA	Cost-of-living adjustment
CSAPR	Cross-State Air Pollution Rule
CTs	Combustion turbine unit(s)
CVA	Credit valuation adjustment
CY	Calendar year
DCP	Deferred Compensation Plan
DOE	Department of Energy
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESPA	Early Site Permit Application
FASB	Financial Accounting Standards Board
FCM	Futures Commission Merchant
FERC	Federal Energy Regulatory Commission
FTP	Financial Trading Program
GAAP	Accounting principles generally accepted in the United States of America
GHG	Greenhouse gas
GWh	Gigawatt hour(s)
IRP	Integrated Resource Plan
JSCCG	John Sevier Combined Cycle Generation LLC
kWh	Kilowatt hour(s)
LPC	Local power company customer of TVA
MATS	Mercury and Air Toxics Standards
MD&A	Management's Discussion and Analysis of Financial Condition and Results of Operations
mmBtu	Million British thermal unit(s)
MtM	Mark-to-market
MW	Megawatt
NAAQS	National Ambient Air Quality Standards
NAV	Net asset value
NDT	Nuclear Decommissioning Trust
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Corporation
NO_x	Nitrogen oxide

NPDES	National Pollutant Discharge Elimination System

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NRC	Nuclear Regulatory Commission
NSR	New Source Review
OCI	Other comprehensive income (loss)
PARRS	Putable Automatic Rate Reset Securities
PM	Particulate matter
QER	Quadrennial Energy Review
QTE	Qualified technological equipment and software
REIT	Real Estate Investment Trust
SCCG	Southaven Combined Cycle Generation LLC
SCRs	Selective catalytic reduction systems
SEC	Securities and Exchange Commission
SERP	Supplemental Executive Retirement Plan
SHLLC	Southaven Holdco LLC
SMR	Small modular reactor(s)
SO_2	Sulfur dioxide
TCWN	Tennessee Clean Water Network
TDEC	Tennessee Department of Environment & Conservation
TOU	Time-of-use
TVA Act	The Tennessee Valley Authority Act of 1933, as amended, 16 U.S.C. §§ 831-831ee
TVARS	Tennessee Valley Authority Retirement System
U.S. Treasury	United States Department of the Treasury
VIE	Variable interest entity
XBRL	eXtensible Business Reporting Language

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FORWARD-LOOKING INFORMATION

This Quarterly 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," "speculate," or other 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, amended, or existing laws, regulations, or administrative orders, including those related to environmental matters, and the costs of complying with these laws, regulations, or administrative orders;
- The cost of complying with known, anticipated, or new emissions reduction requirements, some of which could render continued operation of many of TVA's aging coal-fired generation units not cost-effective and result in their removal from service, perhaps permanently;
- Significant reductions in demand for electricity produced through non-renewable or centrally located generation sources which may result from, among other things, economic downturns, increased energy efficiency and conservation, increased utilization of distributed generation and microgrids, and improvements in alternative generation and energy storage technologies;
- Changes in customer preferences for energy produced from cleaner generation sources;
- Changes in technology;
- Actions taken, or inaction, by the U.S. government relating to the national debt ceiling or automatic spending cuts in government programs;
- Costs and liabilities that are not anticipated in TVA's financial statements for third-party claims, natural resource damages, environmental clean-up activities, or fines or penalties associated with unexpected events such as failures of a facility or infrastructure;
- Addition or loss of customers by TVA or the local power company customers of TVA ("LPCs");
- Significant delays, cost increases, or cost overruns associated with the construction and maintenance of generation, transmission, navigation, flood control, or related assets;
- Changes in the timing or amount of pension and health care obligations and related funding;
- Increases in TVA's financial liabilities for decommissioning its nuclear facilities or retiring other assets;
- Risks associated with the operation of nuclear facilities or coal combustion residual ("CCR") facilities;
- Physical attacks on TVA's assets;
- Cyber attacks on TVA's assets or the assets of third parties upon which TVA relies;
- The outcome of legal or administrative proceedings, including the CCR proceedings involving the Gallatin Fossil Plant as well as any other CCR proceedings that may be brought in the future;
- The failure of TVA's generation, transmission, navigation, flood control, and related assets and infrastructure, including CCR facilities, to operate as anticipated, resulting in lost revenues, damages, and other costs that are not reflected in TVA's financial statements or projections;
- Differences between estimates of revenues and expenses and actual revenues earned and expenses incurred;
- Weather conditions;
- Catastrophic events such as fires, earthquakes, explosions, solar events, electromagnetic pulses, geomagnetic disturbances, droughts, floods, hurricanes, tornadoes, pandemics, wars, national emergencies, terrorist activities, and other similar events, especially if these events occur in or near TVA's service area;
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- Events at a TVA facility, which, among other things, could result in loss of life, damage to the environment, damage to or loss of the facility, and damage to the property of others;
- Events or changes involving transmission lines, dams, and other facilities not operated by TVA, including those that affect the reliability of the interstate transmission grid of which TVA's transmission system is a part and those that increase flows across TVA's transmission grid;
- Disruption of fuel supplies, which may result from, among other things, economic conditions, weather conditions, production or transportation difficulties, labor challenges, or environmental laws or regulations affecting TVA's fuel suppliers or transporters;
- Purchased power price volatility and disruption of purchased power supplies;
- Events which affect the supply of water for TVA's generation facilities;
- Changes in TVA's determinations of the appropriate mix of generation assets;
- Ineffectiveness of TVA's efforts at adapting its organization to an evolving marketplace and remaining cost competitive;
- Inability to obtain, or loss of, regulatory approval for the construction or operation of assets;
- The requirement or decision to make additional contributions to TVA's pension or other post-retirement benefit plans or to TVA's Nuclear Decommissioning Trust ("NDT") or Asset Retirement Trust ("ART");
- Limitations on TVA's ability to borrow money which may result from, among other things, TVA's approaching or substantially reaching the limit on bonds, notes, and other evidences of indebtedness specified in the Tennessee Valley Authority Act of 1933, as amended, 16 U.S.C. §§ 831-831ee (the "TVA Act");

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- An increase in TVA's cost of capital which may result from, among other things, changes in the market for TVA's debt securities, changes in the credit rating of TVA or the U.S. government, or, potentially, an increased reliance by TVA on alternative financing should TVA approach its debt limit;
- Changes in the economy and volatility in financial markets;
- Reliability and creditworthiness of counterparties;
- Changes in the market price of commodities such as coal, uranium, natural gas, fuel oil, crude oil, construction materials, reagents, 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;
- Ineffectiveness of TVA's disclosure controls and procedures or its internal controls over financial reporting;
- Inability to eliminate identified deficiencies in TVA's systems, standards, controls, or corporate culture;
- Inability to attract or retain a skilled workforce;
- Inability to respond quickly enough to current or potential customer demands or needs;
- Events at a nuclear facility, whether or not operated by or licensed to TVA, which, among other things, could lead to increased regulation or restriction on the construction, ownership, operation, and decommissioning of nuclear facilities or on the storage of spent fuel, obligate TVA to pay retrospective insurance premiums, reduce the availability and affordability of insurance, increase the costs of operating TVA's existing nuclear units, and cause TVA to forego future construction at these or other facilities;
- Loss of quorum of the TVA Board of Directors (the "TVA Board");
- Changes in the membership of the TVA Board or TVA senior management; and
- Other unforeseeable events.

See also Item 1A, Risk Factors, and Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations in TVA's Annual Report on Form 10-K for the year ended September 30, 2017 (the "Annual Report"), and
Part I, Item 2, Management's Discussion and Analysis of Financial Condition and Results of Operations in this Quarterly Report for a discussion of factors that could cause actual results to differ materially from those in a forward-looking statement. New factors emerge from time to time, and it is not possible for TVA 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. TVA undertakes no obligation to update any forward-looking statement to reflect developments that occur after the statement is made.

GENERAL INFORMATION

Fiscal Year

References to years (2018, 2017, etc.) in this Quarterly Report are to TVA's fiscal years ending September 30. Years that are preceded by "CY" are references to calendar years.

Notes

References to "Notes" are to the Notes to Consolidated Financial Statements contained in Part I, Item 1, Financial Statements in this Quarterly 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 website, free of charge, as soon as reasonably practicable after such reports are electronically filed with or furnished to the Securities and Exchange Commission ("SEC"). TVA's website is www.tva.gov. Information contained on TVA's website shall not be deemed to be incorporated into, or to be a part of, this Quarterly Report. All TVA SEC reports are available to the public without charge from the website maintained by the SEC at www.sec.gov.

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PART I - FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

TENNESSEE VALLEY AUTHORITY
CONSOLIDATED STATEMENTS OF OPERATIONS (Unaudited)
(in millions)

	Three Months Ended June 30		Nine Months Ended June 30	
	2018	2017	2018	2017
Operating revenues				
Revenue from sales of electricity	$2,669	$2,532	$7,931	$7,548
Other revenue	38	39	117	116
Total operating revenues	2,707	2,571	8,048	7,664
Operating expenses				
Fuel	503	470	1,473	1,541
Purchased power	238	273	731	759
Operating and maintenance	668	719	2,074	2,159
Depreciation and amortization	404	423	1,263	1,298
Tax equivalents	129	125	379	383
Total operating expenses	1,942	2,010	5,920	6,140
Operating income	765	561	2,128	1,524
Other income (expense), net	11	12	34	39
Interest expense	306	340	942	1,017
Net income (loss)	$470	$233	$1,220	$546

The accompanying notes are an integral part of these consolidated financial statements.

TENNESSEE VALLEY AUTHORITY
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS) (Unaudited)
(in millions)

	Three Months Ended June 30		Nine Months Ended June 30	
	2018	2017	2018	2017
Net income (loss)	$470	$233	$1,220	$546
Other comprehensive income (loss)				
Net unrealized gain (loss) on cash flow hedges	(65)	14	17	31
Reclassification to earnings from cash flow hedges	43	(29)	13	(3)
Total other comprehensive income (loss)	(22)	(15)	30	28
Total comprehensive income (loss)	$448	$218	$1,250	$574

The accompanying notes are an integral part of these consolidated financial statements.

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TENNESSEE VALLEY AUTHORITY
CONSOLIDATED BALANCE SHEETS (Unaudited)
(in millions)
ASSETS

	June 30, 2018	September 30, 2017
Current assets		
Cash and cash equivalents	$299	$ 300
Restricted cash	13	—
Accounts receivable, net	1,600	1,569
Inventories, net	1,050	1,065
Regulatory assets	421	447
Other current assets	108	65
Total current assets	3,491	3,446
Property, plant, and equipment		
Completed plant	60,468	58,947
Less accumulated depreciation	(28,724)	(28,404)
Net completed plant	31,744	30,543
Construction in progress	1,838	2,842
Nuclear fuel	1,335	1,401
Capital leases	152	161
Total property, plant, and equipment, net	35,069	34,947
Investment funds	2,724	2,603
Regulatory and other long-term assets		
Regulatory assets	8,006	8,698
Other long-term assets	317	323
Total regulatory and other long-term assets	8,323	9,021
Total assets	$49,607	$ 50,017

The accompanying notes are an integral part of these consolidated financial statements.

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TENNESSEE VALLEY AUTHORITY
CONSOLIDATED BALANCE SHEETS (Unaudited)
(in millions)
LIABILITIES AND PROPRIETARY CAPITAL

	June 30, 2018	September 30, 2017
Current liabilities		
Accounts payable and accrued liabilities	$1,812	$ 1,940
Accrued interest	293	346
Current portion of leaseback obligations	38	37
Current portion of energy prepayment obligations	35	100
Regulatory liabilities	166	163
Short-term debt, net	1,886	1,998
Current maturities of power bonds	1,032	1,728
Current maturities of long-term debt of variable interest entities	37	36
Current maturities of notes payable	47	53
Total current liabilities	5,346	6,401
Other liabilities		
Post-retirement and post-employment benefit obligations	5,251	5,477
Asset retirement obligations	4,249	4,176
Other long-term liabilities	2,766	3,055
Leaseback obligations	264	302
Energy prepayment obligations	—	10
Regulatory liabilities	19	25
Total other liabilities	12,549	13,045
Long-term debt, net		
Long-term power bonds, net	20,164	20,205
Long-term debt of variable interest entities, net	1,146	1,164
Long-term notes payable	23	69
Total long-term debt, net	21,333	21,438
Total liabilities	39,228	40,884
Commitments and contingencies		
Proprietary capital		
Power program appropriation investment	258	258
Power program retained earnings	9,504	8,282
Total power program proprietary capital	9,762	8,540
Nonpower programs appropriation investment, net	566	572
Accumulated other comprehensive income (loss)	51	21
Total proprietary capital	10,379	9,133
Total liabilities and proprietary capital	$49,607	$ 50,017

The accompanying notes are an integral part of these consolidated financial statements.

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TENNESSEE VALLEY AUTHORITY
CONSOLIDATED STATEMENTS OF CASH FLOWS (Unaudited)
For the Nine Months Ended June 30
(in millions)

	2018	2017
Cash flows from operating activities		
Net income (loss)	$1,220	$546
Adjustments to reconcile net income (loss) to net cash provided by operating activities		
Depreciation and amortization (including amortization of debt issuance costs and premiums/discounts)	1,285	1,332
Amortization of nuclear fuel cost	282	243
Non-cash retirement benefit expense	243	253
Prepayment credits applied to revenue	(75)	(75)
Fuel cost adjustment deferral	(6)	76
Fuel cost tax equivalents	(8)	1
Changes in current assets and liabilities		
Accounts receivable, net	(11)	286
Inventories and other current assets, net	5	(93)
Accounts payable and accrued liabilities	(80)	(200)
Accrued interest	(52)	(34)
Regulatory assets costs	(8)	(27)
Pension contributions	(229)	(230)
Other, net	(42)	(99)
Net cash provided by operating activities	2,524	1,979
Cash flows from investing activities		
Construction expenditures	(1,354)	(1,672)
Nuclear fuel expenditures	(181)	(230)
Loans and other receivables		
Advances	(12)	(10)
Repayments	3	3
Other, net	(2)	11
Net cash used in investing activities	(1,546)	(1,898)
Cash flows from financing activities		
Long-term debt		
Issues of power bonds	998	999
Redemptions and repurchases of power bonds	(1,731)	(558)
Redemptions of debt of variable interest entities	(18)	(17)
Redemptions of notes payable	(52)	(26)
Short-term debt issues (redemptions), net	(133)	(407)
Payments on leases and leasebacks	(40)	(61)
Financing costs, net	(3)	(4)
Other, net	—	(6)
Net cash provided by (used in) financing activities	(979)	(80)
Net change in cash and cash equivalents	(1)	1
Cash and cash equivalents at beginning of period	300	300
Cash and cash equivalents at end of period	$299	$301

Supplemental disclosures

Significant non-cash transactions		
Accrued capital and nuclear fuel expenditures	$315	$340
Capital lease obligations incurred	—	10

The accompanying notes are an integral part of these consolidated financial statements.

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TENNESSEE VALLEY AUTHORITY
CONSOLIDATED STATEMENTS OF CHANGES IN PROPRIETARY CAPITAL (Unaudited)
For the Three Months Ended June 30, 2018 and 2017
(in millions)

	Power Program Appropriation Investment	Power Program Retained Earnings	Nonpower Programs Appropriation Investment, Net	Accumulated Other Comprehensive Income (Loss) from Net Gains (Losses) on Cash Flow Hedges	Total
Balance at March 31, 2017	$ 258	$ 7,908	$ 576	$ 31	$ 8,773
Net income (loss)	—	235	(2)	—	233
Total other comprehensive income (loss)	—	—	—	(15)	(15)
Balance at June 30, 2017	$ 258	$ 8,143	$ 574	$ 16	$ 8,991
Balance at March 31, 2018	$ 258	$ 9,033	$ 568	$ 73	$ 9,932
Net income (loss)	—	472	(2)	—	470
Total other comprehensive income (loss)	—	—	—	(22)	(22)
Return on power program appropriation investment	—	(1)	—	—	(1)
Balance at June 30, 2018	$ 258	$ 9,504	$ 566	$ 51	$ 10,379

The accompanying notes are an integral part of these consolidated financial statements.

TENNESSEE VALLEY AUTHORITY
CONSOLIDATED STATEMENTS OF CHANGES IN PROPRIETARY CAPITAL (Unaudited)
For the Nine Months Ended June 30, 2018 and 2017
(in millions)

	Power Program Appropriation Investment	Power Program Retained Earnings	Nonpower Programs Appropriation Investment, Net	Accumulated Other Comprehensive Income (Loss) from Net Gains (Losses) on Cash Flow Hedges	Total
Balance at September 30, 2016	$ 258	$ 7,594	$ 580	$ (12)	$ 8,420
Net income (loss)	—	552	(6)	—	546
Total other comprehensive income (loss)	—	—	—	28	28
Return on power program appropriation investment	—	(3)	—	—	(3)
Balance at June 30, 2017	$ 258	$ 8,143	$ 574	$ 16	$ 8,991
Balance at September 30, 2017	$ 258	$ 8,282	$ 572	$ 21	$ 9,133
Net income (loss)	—	1,226	(6)	—	1,220
Total other comprehensive income (loss)	—	—	—	30	30

Return on power program appropriation investment	—	(4)	—	—	(4)
Balance at June 30, 2018	$ 258	$ 9,504	$ 566	$ 51	$ 10,379

The accompanying notes are an integral part of these consolidated financial statements.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Unaudited)
(Dollars in millions except where noted)

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1. Nature of Operations and Summary of Significant Accounting Policies

General

The Tennessee Valley Authority ("TVA") is a corporate agency and instrumentality of the United States ("U.S.") that was created in 1933 by legislation enacted by the U.S. Congress in response to a request by President Franklin D. Roosevelt. TVA was created to, among other things, 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 U.S., 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 over nine million people.

TVA also manages the Tennessee River, its tributaries, and certain shorelines 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 and public lands to provide recreational opportunities, adequate water supply, improved water quality, cultural and natural resource protection, and economic development.

The power program has historically been separate and distinct from the stewardship programs. It is required to be self-supporting from power revenues and proceeds from power financings, such as proceeds from the issuance of bonds, notes, or other evidences of indebtedness ("Bonds"). Although TVA does not currently receive congressional appropriations, it is required to make annual payments to the United States Department of the Treasury ("U.S. Treasury") as a return on the government's appropriation investment in TVA's power facilities (the "Power Program Appropriation Investment"). In the 1998 Energy and Water Development Appropriations Act, Congress directed TVA to fund essential stewardship activities related to its management of the Tennessee River system and nonpower or stewardship properties with power revenues in the event that there were insufficient appropriations or other available funds to pay for such activities in any fiscal year. Congress has not provided any appropriations to TVA to fund such activities since 1999. Consequently, during 2000, TVA began paying for essential stewardship activities primarily with power revenues, with the remainder funded with user fees and other forms of revenues derived in connection with those activities. The activities related to stewardship properties do not meet the criteria of an operating segment under accounting principles generally accepted in the United States of America ("GAAP"). Accordingly, these assets and properties are included as part of the power program, TVA's only operating segment.

Power rates are established by the TVA Board of Directors (the "TVA Board") as authorized by the Tennessee Valley Authority Act of 1933, as amended, 16 U.S.C. §§ 831-831ee (the "TVA Act"). The TVA Act requires TVA to charge rates for power that 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 ("tax equivalents"); debt service on outstanding indebtedness;

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payments to the U.S. Treasury in repayment of and as a return on the Power Program 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 Program 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. Rates set by the TVA Board are not subject to review or approval by any state or other federal regulatory body.

Fiscal Year

TVA's fiscal year ends September 30. Years (2018, 2017, etc.) refer to TVA's fiscal years unless they are preceded by "CY," in which case the references are to calendar years.

Cost-Based Regulation

Since the TVA Board is authorized by the TVA Act to set rates for power sold to its customers, TVA is self-regulated. Additionally, TVA's regulated rates are designed to recover its costs. Based on current projections, TVA believes that rates, set at levels that will recover TVA's costs, can be charged and collected. 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. Based on these assessments, TVA believes the existing regulatory assets are probable of future recovery. 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 no longer be considered to be a regulated entity and would be required to write off these costs. All regulatory asset write offs would be required to be recognized in earnings in the period in which future recovery ceases to be probable.

Basis of Presentation

TVA prepares its consolidated interim financial statements in conformity with GAAP for consolidated interim financial information. Accordingly, TVA's consolidated interim financial statements do not include all of the information and notes required by GAAP for annual financial statements. As such, they should be read in conjunction with the audited financial statements for the year ended September 30, 2017, and the notes thereto, which are contained in TVA's Annual Report on Form 10-K for the year ended September 30, 2017 (the "Annual Report"). In the opinion of management, all adjustments (consisting of items of a normal recurring nature) considered necessary for fair presentation are included in the consolidated interim financial statements.

The accompanying consolidated interim financial statements, which have been prepared in accordance with GAAP, include the accounts of TVA, wholly-owned direct subsidiaries, and variable interest entities ("VIE") of which TVA is the primary beneficiary. See Note 7. Intercompany balances and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of financial statements requires TVA to estimate the effects of various matters that are inherently uncertain as of the date of the consolidated financial statements. Although the consolidated financial statements are prepared in conformity with GAAP, TVA is required to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities, and the amounts of revenues and expenses reported during the reporting period. Each of these estimates varies in regard to the level of judgment involved and its potential impact on TVA's financial results. Estimates are considered critical either when a different estimate could have reasonably been used, or where changes in the estimate are reasonably likely to occur from period to period, and such use or change would materially impact TVA's financial condition, results of operations, or cash flows.

Restricted Cash

Cash and cash equivalents that are restricted as to withdrawal or use under the terms of certain contractual agreements are recorded in Restricted cash and Other long-term assets in the Consolidated Balance Sheet. Restricted cash includes cash restricted for certain TVA environmental programs in accordance with agreements related to compliance with certain environmental regulations. See Note 17 — Legal Proceedings — Environmental Agreements.

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Allowance for Uncollectible Accounts

The allowance for uncollectible accounts reflects TVA's estimate of probable losses inherent in its accounts and loans receivable balances. TVA determines the allowance based on known accounts, historical experience, and other currently available information including events such as customer bankruptcy and/or a customer failing to fulfill payment arrangements after 90 days. It also reflects TVA's corporate credit department's assessment of the financial condition of customers and the credit quality of the receivables.

The allowance for uncollectible accounts was less than $1 million at June 30, 2018, and $1 million at September 30, 2017. TVA had loans receivable of $155 million and $118 million at June 30, 2018, and September 30, 2017, respectively, and these amounts are reported net of allowances for uncollectible accounts of less than $1 million at June 30, 2018, and less than $1 million at September 30, 2017. The current portions of loans receivable were $34 million at June 30, 2018, and $3 million at September 30, 2017, and are included in Accounts receivable, net. The long-term portions of loans receivable are included in Other long-term assets.

Pre-Commercial Plant Operations

As part of the process of completing the construction of a generating unit, the electricity produced is used to serve the demands of the electric system. TVA estimates revenue from such pre-commercial generation based on the guidance provided by Federal Energy Regulatory Commission ("FERC") regulations. Watts Bar Nuclear Plant ("Watts Bar") Unit 2 commenced pre-commercial plant operations on June 3, 2016, and commercial operations began on October 19, 2016. In addition, the Paradise Combined Cycle Plant commenced pre-commercial plant operations on October 10, 2016, and commercial operations began on April 7, 2017. Furthermore, the Allen Combined Cycle Plant began pre-commercial operations on September 9, 2017, and began commercial operations on April 30, 2018. Johnsonville Combustion Turbine Unit 20 commenced pre-commercial plant operations in September 2017, and was placed in service during the first quarter of 2018. Estimated revenue of less than $1 million related to these projects was capitalized to offset project costs for the three months ended June 30, 2018. No such revenue was capitalized during the three months ended June 30, 2017. Estimated revenue of $11 million and $20 million related to these projects was capitalized to offset project costs for the nine months ended June 30, 2018 and 2017, respectively. TVA also capitalized related fuel costs for these construction projects of approximately $5 million and less than $1 million during the three months ended June 30, 2018 and 2017, respectively. TVA also capitalized related fuel costs for these construction projects of approximately $20 million and $14 million during the nine months ended June 30, 2018 and 2017, respectively.

Depreciation

TVA accounts for depreciation of its properties using the composite depreciation convention of accounting. Accordingly, the original cost of property retired is charged to accumulated depreciation. Depreciation is generally computed on a straight-line basis over the estimated service lives of the various classes of assets. Depreciation rates are determined based on an external depreciation study. TVA concluded and implemented a new depreciation study effective October 1, 2016. This study will be updated at least every five years. Depreciation expense was $301 million and $322 million for the three months ended June 30, 2018 and 2017, respectively. Depreciation expense was $950 million and $994 million for the nine months ended June 30, 2018 and 2017, respectively.

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2. Impact of New Accounting Standards and Interpretations

The following are accounting standard updates issued by the Financial Accounting Standards Board ("FASB") that TVA adopted during 2018.

Derivatives and Hedging - Contingent Put and Call Options in Debt Instruments

Description	This guidance clarifies the requirements for assessing whether contingent call or put options that can accelerate the payment of principal on debt instruments are clearly and closely related to their debt hosts. An entity performing the assessment under the amendments in this update is required to assess the embedded call or put options solely in accordance with a four-step decision sequence. The standard includes interim periods within the fiscal year of adoption and requires a modified retrospective transition.
Effective Date for TVA	October 1, 2017
Effect on the Financial Statements or Other Significant Matters	TVA has two issues of Putable Automatic Rate Reset Securities ("PARRS") outstanding. After a fixed-rate period of five years, the coupon rate on the PARRS may automatically be reset downward under certain market conditions on an annual basis. The coupon rate reset on the PARRS is based on a calculation. If the coupon rate is going to be reset, holders may request, for a limited period of time, redemption of the PARRS at par value, with repayment of principal on the reset date. This put option is otherwise not available. For both series of PARRS, the coupon rate will reset downward on the reset date if the rate calculated is below the then-current coupon rate on the PARRS. TVA has determined under the new guidance that contingent put options that can accelerate the payment of principal on the PARRS are clearly and closely related to their debt hosts. The adoption of this standard did not have a material impact on TVA's financial condition, results of operations, or cash flows.

Inventory Valuation

Description	This guidance changes the model used for the subsequent measurement of inventory from the previous lower of cost or market model to the lower of cost or net realizable value. The guidance applies only to inventory valued using methods other than last-in, first-out or the retail inventory method (for example, first-in, first-out or average cost). This amendment is intended to simplify the subsequent measurement of inventory. The standard includes interim periods within the fiscal year of adoption and requires a prospective transition.
Effective Date for TVA	October 1, 2017
Effect on the Financial Statements or Other Significant Matters	The adoption of this standard did not have a material impact on TVA's financial condition, results of operations, or cash flows.

The following accounting standards have been issued but as of June 30, 2018, were not effective and had not been adopted by TVA.

Defined Benefit Costs

Description	This guidance changes how information about defined benefit costs for pension plans and other post-retirement benefit plans is presented in employer financial statements. The guidance requires employers that present a measure of operating income in their statement of income to include only the service cost component of net periodic pension cost and net periodic postretirement benefit cost in operating expenses (together with other employee

	compensation costs). The other components of net benefit cost, including amortization of prior service cost/credit and settlement and curtailment effects, are to be included in nonoperating expenses. Additionally, the guidance stipulates that only the service cost component of net benefit cost is eligible for capitalization in assets.
Effective Date for TVA	The new standard is effective for TVA's interim and annual reporting periods beginning October 1, 2018. While early adoption is permitted, TVA does not currently plan to adopt the standard early.
Effect on the Financial Statements or Other Significant Matters	TVA has evaluated the impact of adopting this guidance, and if the guidance had been effective for TVA for the nine months ended June 30, 2018 and 2017, TVA would have reclassified $193 million of net periodic benefit costs from Operating and maintenance expense to Other income (expense), net on the consolidated statements of operations for both periods. There will be no impact on the consolidated balance sheets because TVA has historically capitalized only the service cost component, which is consistent with the new guidance.

Financial Instruments	
Description	This guidance applies to the recognition and measurement of financial assets and liabilities. The standard requires all equity investments to be measured at fair value with changes in the fair value recognized through net income (other than those accounted for under the equity method of accounting or those that result in consolidation of the investee). The standard also amends presentation requirements related to certain changes in the fair value of a liability and eliminates certain disclosure requirements of significant assumptions for financial instruments measured at amortized cost on the balance sheet. Public entities must apply the amendments by means of a cumulative-effect adjustment to the balance sheet as of the beginning of the fiscal year of adoption.
Effective Date for TVA	The new standard is effective for TVA's interim and annual reporting periods beginning October 1, 2018. Early adoption is not permitted unless specific early adoption guidance is applied. TVA does not currently plan to adopt the standard early.

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Effect on the Financial Statements or Other Significant Matters	TVA currently measures all of its equity investments (other than those that result in the consolidation of the investee) at fair value, with changes in the fair value recognized through net income. The TVA Board has authorized the use of regulatory accounting for changes in fair value of certain equity investments, and as a result, those changes in fair value are deferred as regulatory assets or liabilities. TVA currently discloses significant assumptions around its estimates of fair value for financial instruments carried at amortized cost on its consolidated balance sheet. The adoption of this standard is not expected to have a material impact on TVA's financial condition, results of operations, or cash flows because TVA holds no available-for-sale securities.

Revenue Recognition

Description	This guidance related to revenue from contracts with customers, including subsequent amendments, replaces the existing accounting standard and industry specific guidance for revenue recognition with a five-step model for recognizing and measuring revenue from contracts with customers. The underlying principle of the guidance is to recognize revenue related to the transfer of goods or services to customers at the amount expected to be collected. The objective of the new standard is to provide a single, comprehensive revenue recognition model for all contracts with customers to improve comparability within and across industries. The new standard also requires enhanced disclosures regarding the nature, amount, timing, and uncertainty of revenue and the related cash flows arising from contracts with customers. At adoption, companies must also select a transition method to be applied either retrospectively to each prior reporting period presented or retrospectively with a cumulative effect adjustment to retained earnings at the date of initial adoption.
Effective Date for TVA	The new standard is effective for TVA's interim and annual reporting periods beginning October 1, 2018. While early adoption is permitted, TVA will not adopt the standard early.
Effect on the Financial Statements or Other Significant Matters	TVA expects most of its revenue to be included in the scope of new guidance. TVA's efforts to date have consisted of evaluating the completeness of customer contracts for revenue and evaluation of contracts with local power companies, directly served industrial customers, and federal customers, which represent the majority of TVA's revenues. TVA is also conducting ongoing evaluations of other revenue streams, the effectiveness of internal control related to revenue recognition, and appropriate financial statement disclosure. TVA continues to evaluate what information would be most useful for users of the financial statements, including information already provided in disclosures outside of the financial statement footnotes. TVA intends to use the modified retrospective method of adoption effective October 1, 2018.

Statement of Cash Flows - Classification of Certain Cash Receipts and Cash Payments

Description	This standard adds or clarifies guidance on the classification of certain cash receipts and payments on the statement of cash flows as follows: debt prepayment or extinguishment costs, settlement of zero-coupon bonds, contingent consideration payments made after a business combination, proceeds from the settlement of insurance claims, proceeds from the settlement of corporate-owned life insurance policies and bank-owned life insurance policies, distributions received from equity method investees, beneficial interest in securitization transactions, and the application of the predominance principle to separately identifiable cash flows.
Effective Date for TVA	This standard is effective for TVA's interim and annual reporting periods beginning October 1, 2018. While early adoption is permitted, TVA does not currently plan to adopt the standard early.
Effect on the Financial Statements or Other Significant Matters	TVA's previous treatment of the classification of certain cash receipts and cash payments is consistent with the new standard and will have no impact on TVA's financial condition, results of operations, or presentation or disclosure of cash flows.

Statement of Cash Flows - Restricted Cash

Description	This guidance requires that a statement of cash flows explain the change during the period in the total of cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. Therefore, amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. This guidance does not provide a definition of restricted cash or restricted cash equivalents.
Effective Date for TVA	The new standard is effective for TVA's interim and annual reporting periods beginning October 1, 2018. While early adoption is permitted, TVA does not currently plan to adopt the standard early. TVA will apply the standard using a retrospective transition method to each period presented.
Effect on the Financial Statements or Other Significant Matters	Adoption of this standard will result in a change to the amount of cash and cash equivalents and restricted cash presented when reconciling the beginning-of-period and end-of-period total amounts shown on the consolidated statement of cash flows. For the nine months ended June 30, 2018, TVA would reflect $13 million in transfers of cash and cash equivalents to restricted cash within cash flows from operating activities in the consolidated statement of cash flows.

Derivatives and Hedging - Improvements to Accounting for Hedging Activities

Description	This guidance better aligns an entity's risk management activities and financial reporting for hedging relationships through changes to both the designation and measurement guidance for qualifying hedging relationships and the presentation of hedge results. To meet that objective, the amendments expand and refine hedge accounting for both nonfinancial and financial risk components and align the recognition and presentation of the effects of the hedging instrument and the hedged item in the financial statements.
Effective Date for TVA	The new standard is effective for TVA's interim and annual reporting periods beginning October 1, 2019. While early adoption is permitted, TVA does not currently plan to adopt the standard early.
Effect on the Financial Statements or Other Significant Matters	TVA does not expect the adoption of this standard to have a material impact on TVA's financial condition, results of operations, or cash flows.

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Lease Accounting	
Description	This guidance changes the provisions of recognition in both the lessee and lessor accounting models. The standard requires entities that lease assets ("lessees") to recognize on the balance sheet the assets and liabilities for the rights and obligations created by leases with terms of more than 12 months. The recognition, measurement, and presentation of expenses and cash flows arising from a lease by a lessee primarily will depend on its classification as a finance (similar to current capital leases) or operating lease. However, unlike current lease accounting rules, which require only capital leases to be recognized on the balance sheet, the new standard will require both types of leases to be recognized on the balance sheet. Operating leases will result in straight-line expense, while finance leases will result in recognition of interest on the lease liability separate from amortization expense. The accounting for the owner of the assets leased by the lessee ("lessor accounting") will remain largely unchanged from current lease accounting rules. The standard allows for certain practical expedients to be elected related to lease term determination, separation of lease and non-lease elements, reassessment of existing leases, and short-term leases. When the standard becomes effective, it will include interim periods within the fiscal year of adoption and will be required to be applied using a modified retrospective transition.
Effective Date for TVA	The new standard is effective for TVA's interim and annual reporting periods beginning October 1, 2019. While early adoption is permitted, TVA does not currently plan to adopt the standard early.
Effect on the Financial Statements or Other Significant Matters	TVA is currently evaluating the potential impact of these changes on its consolidated financial statements and related disclosures. The standard is expected to impact financial position as adoption will increase the amount of assets and liabilities recognized on TVA’s consolidated balance sheets. The standard is not expected to have a material impact on results of operations or cash flows as expense recognition is intended to be substantially the same as the existing standard. TVA plans to elect certain of the practical expedients included in the new standard. Efforts to date have consisted of evaluating the completeness of lease population, the effectiveness of internal control related to leases, appropriate financial statement disclosure, and selection of a lease system solution. TVA is also continuing to monitor unresolved industry implementation issues and will analyze the related impacts to lease accounting.

3. Accounts Receivable, Net

Accounts receivable primarily consist of amounts due from customers for power sales. The table below summarizes the types and amounts of TVA's accounts receivable:

Accounts Receivable, Net

	At June 30, 2018	At September 30, 2017
Power receivables	$1,501	$ 1,441
Other receivables	99	129
Allowance for uncollectible accounts[1]	—	(1)
Accounts receivable, net	$1,600	$ 1,569

Note

(1) Allowance for uncollectible accounts was less than $1 million at June 30, 2018, and therefore is not represented in the table above.

4. Inventories, Net

The table below summarizes the types and amounts of TVA's inventories:
Inventories, Net

	At June 30, 2018	At September 30, 2017
Materials and supplies inventory	$775	$ 734
Fuel inventory	304	355
Renewable energy certificates/emission allowance inventory, net	13	15
Allowance for inventory obsolescence	(42)	(39)
Inventories, net	$1,050	$ 1,065

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5. Other Long-Term Assets

The table below summarizes the types and amounts of TVA's other long-term assets:
Other Long-Term Assets

	At June 30, 2018	At September 30, 2017
Loans and other long-term receivables, net	$ 121	$ 115
EnergyRight® receivables	93	100
Prepaid capacity payments	29	34
Commodity contract derivative assets	6	2
Other	68	72
Other long-term assets	$ 317	$ 323

In association with the EnergyRight® Solutions program, LPCs offer financing to end-use customers for the purchase of energy-efficient equipment. Depending on the nature of the energy-efficiency project, loans may have a maximum term of five years or ten years. TVA purchases the resulting receivables from its LPCs. The receivables are then transferred to a third-party bank with which TVA has agreed to repay in full any receivables that have been in default for 180 days or more or that TVA has determined are uncollectible. Given this continuing involvement, TVA accounts for the transfer of the receivables as secured borrowings. The current and long-term portions of the receivables are reported in Accounts receivable, net and Other long-term assets, respectively, on TVA's consolidated balance sheets. As of June 30, 2018, and September 30, 2017, the carrying amount of the receivables, net of discount, reported in Accounts receivable, net was approximately $22 million and $25 million, respectively. See Note 9 for information regarding the associated financing obligation.

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6. Regulatory Assets and Liabilities

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 deferrals of gains that will be credited to customers in future periods. Components of regulatory assets and regulatory liabilities are summarized in the table below:

Regulatory Assets and Liabilities

	At June 30, 2018	At September 30, 2017
Current regulatory assets		
Deferred nuclear generating units	$237	$ 237
Unrealized losses on interest rate derivatives	77	93
Unrealized losses on commodity derivatives	17	68
Fuel cost adjustment receivable	5	1
Environmental agreements	4	2
Environmental cleanup costs - Kingston ash spill	44	44
Gallatin coal combustion residual facilities	34	—
Other current regulatory assets	3	2
Total current regulatory assets	421	447
Non-current regulatory assets		
Deferred pension costs and other post-retirement benefits costs	3,817	4,009
Unrealized losses on interest rate derivatives	771	982
Gallatin coal combustion residual facilities	865	899
Nuclear decommissioning costs	820	823
Deferred nuclear generating units	586	759
Non-nuclear decommissioning costs	689	703
Environmental cleanup costs - Kingston ash spill	232	263
Unrealized losses on commodity derivatives	14	9
Environmental agreements	11	13
Other non-current regulatory assets	201	238
Total non-current regulatory assets	8,006	8,698
Total regulatory assets	$8,427	$ 9,145
Current regulatory liabilities		
Fuel cost adjustment tax equivalents	$145	$ 153
Fuel cost adjustment	—	2
Unrealized gains on commodity derivatives	21	8
Total current regulatory liabilities	166	163
Non-current regulatory liabilities		
Deferred other post-retirement benefits cost	12	23
Unrealized gains on commodity derivatives	7	2
Total non-current regulatory liabilities	19	25
Total regulatory liabilities	$185	$ 188

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7. Variable Interest Entities

A VIE is an entity that either (i) has insufficient equity to permit the entity to finance its activities without additional subordinated financial support or (ii) has equity investors who lack the characteristics of owning a controlling financial interest.
When TVA determines that it has a variable interest in a VIE, a qualitative evaluation is performed to assess which interest holders have the power to direct the activities that most significantly impact the economic performance of the entity and have the obligation to absorb losses or receive benefits that could be significant to the entity. The evaluation considers the purpose and design of the business, the risks that the business was designed to create and pass along to other entities, the activities of the business that can be directed and which party can direct them, and the expected relative impact of those activities on the economic performance of the business through its life. TVA has the power to direct the activities of an entity when it has the ability to make key operating and financing decisions, including, but not limited to, capital investment and the issuance of debt.
Based on the evaluation of these criteria, TVA has determined it is the primary beneficiary of certain entities and as such is required to account for the VIEs on a consolidated basis.

John Sevier VIEs

In 2012, TVA entered into a $1.0 billion construction management agreement and lease financing arrangement with John Sevier Combined Cycle Generation LLC ("JSCCG") for the completion and lease by TVA of the John Sevier Combined Cycle Facility ("John Sevier CCF"). JSCCG is a special single-purpose limited liability company formed in January 2012 to finance the John Sevier CCF through a $900 million secured note issuance (the "JSCCG notes") and the issuance of $100 million of membership interests subject to mandatory redemption. The membership interests were purchased by John Sevier Holdco LLC ("Holdco"). Holdco is a special single-purpose entity, also formed in January 2012, established to acquire and hold the membership interests in JSCCG. A non-controlling interest in Holdco is held by a third party through nominal membership interests, to which none of the income, expenses, and cash flows are allocated.

The membership interests held by Holdco in JSCCG were purchased with proceeds from the issuance of $100 million of secured notes (the "Holdco notes") and are subject to mandatory redemption pursuant to a schedule of amortizing, semi-annual payments due each January 15 and July 15, with a final payment due in January 2042. The payment dates for the mandatorily redeemable membership interests are the same as those of the Holdco notes. The sale of the JSCCG notes, the membership interests in JSCCG, and the Holdco notes closed in January 2012. The JSCCG notes are secured by TVA's lease payments, and the Holdco notes are secured by Holdco's investment in, and amounts receivable from, JSCCG. TVA's lease payments to JSCCG are equal to and payable on the same dates as JSCCG's and Holdco's semi-annual debt service payments. In addition to the lease payments, TVA pays administrative and miscellaneous expenses incurred by JSCCG and Holdco. Certain agreements related to this transaction contain default and acceleration provisions.

Due to its participation in the design, business conduct, and credit and financial support of JSCCG and Holdco, TVA has determined that it has a variable interest in each of these entities. Based on its analysis, TVA has concluded that it is the

primary beneficiary of JSCCG and Holdco and, as such, is required to account for the VIEs on a consolidated basis. Holdco's
membership interests in JSCCG are eliminated in consolidation.

Southaven VIE

In 2013, TVA entered into a $400 million lease financing arrangement with Southaven Combined Cycle Generation LLC ("SCCG") for the lease by TVA of the Southaven Combined Cycle Facility ("Southaven CCF"). SCCG is a special single-purpose limited liability company formed in June 2013 to finance the Southaven CCF through a $360 million secured notes issuance (the "SCCG notes") and the issuance of $40 million of membership interests subject to mandatory redemption. The membership interests were purchased by Southaven Holdco LLC ("SHLLC"). SHLLC is a special single-purpose entity, also formed in June 2013, established to acquire and hold the membership interests in SCCG. A non-controlling interest in SHLLC is held by a third party through nominal membership interests, to which none of the income, expenses, and cash flows of SHLLC are allocated.

The membership interests held by SHLLC were purchased with proceeds from the issuance of $40 million of secured notes (the "SHLLC notes") and are subject to mandatory redemption pursuant to a schedule of amortizing, semi-annual payments due each February 15 and August 15, with a final payment due on August 15, 2033. The payment dates for the mandatorily redeemable membership interests are the same as those of the SHLLC notes, and the payment amounts are sufficient to provide returns on, as well as returns of, capital until the investment has been repaid to SHLLC in full. The rate of return on investment to SHLLC is 7.0 percent, which is reflected as interest expense in the consolidated statements of operations. SHLLC is required to pay a pre-determined portion of the return on investment to Seven States Southaven, LLC ("SSSL") on each lease payment date as agreed in SHLLC's formation documents (the "Seven States Return"). The current and long-term portions of the Membership interests of VIE subject to mandatory redemption are included in Accounts payable and accrued liabilities and Other long-term liabilities, respectively.

The payment dates for the mandatorily redeemable membership interests are the same as those of the SHLLC notes. The SCCG notes are secured by TVA's lease payments, and the SHLLC notes are secured by SHLLC's investment in, and amounts receivable from, SCCG. TVA's lease payments to SCCG are payable on the same dates as SCCG's and SHLLC's semi-annual debt service payments and are equal to the sum of (i) the amount of SCCG's semi-annual debt service payments,

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(ii) the amount of SHLLC's semi-annual debt service payments, and (iii) the amount of the Seven States Return. In addition to the lease payments, TVA pays administrative and miscellaneous expenses incurred by SCCG and SHLLC. Certain agreements related to this transaction contain default and acceleration provisions.

In the event that TVA were to choose to exercise an early buy out feature of the Southaven facility lease, in part or in whole, TVA must pay to SCCG amounts sufficient for SCCG to repay or partially repay on a pro rata basis the membership interests held by SHLLC, including any outstanding investment amount plus accrued but unpaid return. TVA also has the right, at any time and without any early redemption of the other portions of the Southaven facility lease payments due to SCCG, to fully repay SHLLC's investment, upon which repayment SHLLC will transfer the membership interests to a designee of TVA.

TVA participated in the design, business conduct, and financial support of SCCG and has determined that it has a direct variable interest in SCCG resulting from risk associated with the value of the Southaven CCF at the end of the lease term. Based on its analysis, TVA has determined that it is the primary beneficiary of SCCG and, as such, is required to account for the VIE on a consolidated basis.

Impact on Consolidated Financial Statements

The financial statement items attributable to carrying amounts and classifications of JSCCG, Holdco, and SCCG as of June 30, 2018, and September 30, 2017, as reflected in the Consolidated Balance Sheets are as follows:

Summary of Impact of VIEs on Consolidated Balance Sheets

	At June 30, 2018	At September 30, 2017
Current liabilities		
Accrued interest	$26	$ 11
Accounts payable and accrued liabilities	2	2
Current maturities of long-term debt of variable interest entities	37	36
Total current liabilities	65	49
Other liabilities		
Other long-term liabilities	29	30
Long-term debt, net		
Long-term debt of variable interest entities, net	1,146	1,164
Total liabilities	$1,240	$ 1,243

Interest expense of $14 million and $15 million for the three months ended June 30, 2018 and 2017, respectively, and $43 million and $45 million for the nine months ended June 30, 2018 and 2017, respectively, is included in the Consolidated Statements of Operations related to debt of VIEs and membership interests of VIEs subject to mandatory redemption.

Creditors of the VIEs have no recourse to the general credit of TVA. TVA does not have any obligations to provide financial support to the VIEs other than as prescribed in the terms of the agreements related to these transactions.

8. Gallatin Coal Combustion Residual Facilities

Background

TVA is planning to close wet coal combustion residuals ("CCR") impoundments in accordance with federal and applicable state requirements when (1) coal-fired plants are converted to dry CCR processes and dry storage landfills become operational or (2) the related plant operations cease. Closure project schedules and costs are driven by the selected closure technology. The impoundments at Gallatin are pending additional studies to determine the final closure methodology and schedule. While plans are currently being formulated for the CCR closure methodology for Gallatin, TVA is involved in two lawsuits relating to alleged discharges of pollutants from the CCR facilities at Gallatin.

Lawsuit Brought by TDEC. In January 2015, the Tennessee Department of Environment and Conservation ("TDEC") filed a lawsuit against TVA in the Chancery Court for Davidson County, Tennessee. The lawsuit alleges that pollutants have been discharged into waters of the State from CCR facilities at Gallatin in violation of the Tennessee Water Quality Control Act and the Tennessee Solid Waste Disposal Act. TDEC seeks injunctive relief, which could include an order requiring TVA to relocate the CCR facilities. TDEC also requested civil penalties of up to $17,000 per day for each day TVA is found to have violated the statutes. In February 2015, the court issued an order allowing Tennessee Scenic Rivers Association ("TSRA") and Tennessee Clean Water Network ("TCWN") to intervene in the case, and in January 2016, the court ordered TVA, among other things, to develop and submit to TDEC an environmental investigation plan and an environmental assessment report. On August 4, 2017, TDEC filed an amended complaint adding new facts, claims, and causes of action. Consequently, on August 10, 2017, TVA removed the case from state court to the United States District Court for the Middle District of Tennessee. On May 14, 2018, the

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federal court granted plaintiffs' motions to remand the case back to state court. TVA appealed the federal court's ruling on the motions on May 29, 2018.

Lawsuit Brought by TSRA and TCWN. In April 2015, TSRA and TCWN filed a lawsuit against TVA in the United States District Court for the Middle District of Tennessee alleging that pollutants have been discharged into the Cumberland River from CCR facilities at Gallatin in violation of the Clean Water Act ("CWA"). The plaintiffs are seeking injunctive relief, including an order requiring TVA to relocate the CCR facilities, civil penalties of up to $37,500 per violation per day, and attorneys' fees.

Trial in this action began on January 30, 2017, and concluded February 2, 2017. On August 4, 2017, the court issued a decision largely in favor of the plaintiffs (the "August 2017 Order"), finding that TVA had discharged pollutants into the Cumberland River in the past and that the discharge was likely ongoing. The court ordered TVA to excavate the CCR materials and move them to a lined facility. The court further required TVA to file within 30 days a timetable for excavating and removing the materials. The court did not assess any monetary penalties against TVA for the CWA violations, citing the fact that its order to relocate the CCR materials would cause TVA to incur significant costs.

On September 5, 2017, TVA submitted the required timetable, which assumes that a new lined facility can be permitted and built on the Gallatin site. The process of obtaining the necessary permits, constructing the facility, and moving all of the CCR materials is estimated to take approximately 24 years. Under current regulations, TVA would be required to monitor the existing facilities and the new facility for 30 years after closure. The estimated cost of the potential Gallatin CCR project is approximately $900 million. At June 30, 2018, related liabilities of $875 million and $20 million were recorded in Other long-term liabilities and Accounts payable and accrued liabilities, respectively. Prior to the court's decision, TVA had anticipated spending approximately $200 million to cap and close the existing CCR facilities.

On October 2, 2017, TVA appealed the court's decision to the United States Court of Appeals for the Sixth Circuit ("Sixth Circuit"). On January 30, 2018, TVA filed its appellate brief, and on February 7, 2018, 18 states and numerous other entities who were not parties to the case, including the Tennessee Valley Public Power Association and the U.S. Chamber of Commerce, filed "friends of the court" briefs in support of TVA's appeal. On March 15, 2018, the plaintiffs filed their brief urging that the district court's decision be affirmed, and on March 22, 2018, several other entities (including the State of Tennessee and four other states) filed "friends of the court" briefs in support of the plaintiffs. Briefing was completed on April 12, 2018, with the filing of TVA's reply brief. The parties have requested oral argument, which is scheduled for August 2, 2018.

Financial Impact

In August 2017, TVA began using regulatory accounting treatment to defer expected future costs of compliance with orders or settlements related to lawsuits involving the Gallatin CCR facilities. The TVA Board approved a plan to amortize these costs over the anticipated duration of the Gallatin CCR facilities project (excluding post-closure care), beginning October 1, 2018, as amounts are included in rates or paid out. TVA has estimated these costs to be approximately $900 million. These costs include, among other things, environmental studies concerning the existing and new facilities, the licensing activities for the new facility, design and construction of the new facility, relocating the material from the existing facilities to the new facility, closing the existing facilities, monitoring activities, and an amount of additional costs reflecting the expected impacts of inflation given the anticipated duration of the project. The costs do not include such items as any additional order or penalty arising from the TDEC lawsuit, which cannot be reasonably estimated at this time. TVA has not discounted this environmental obligation to a present value amount. TVA also committed in its timetable to complete capital projects related to construction of a permanent bottom ash dewatering facility and wastewater process ponds. These capital projects, which are not included in the estimate for cleanup costs above, are estimated to cost approximately $91 million and be completed by 2020.

It is reasonably possible that TVA will not be able to obtain the necessary permits to build the facility on the Gallatin site and will be required to move the CCR materials offsite. Offsite relocation would materially increase both the cost and the time to comply with the August 2017 Order. TVA has estimated that if it is required to relocate the materials to a facility off the Gallatin site, TVA may incur up to $2.0 billion in expenses. These costs include, among other things, environmental studies concerning the existing and new facilities, the licensing activities for the new facility, design and construction of the new facility, relocating the material from the existing facilities to the new facility, closing the existing facilities, monitoring activities, and an amount of additional costs reflecting the expected impacts of inflation given the anticipated duration of the project. The process of obtaining the necessary permits for offsite disposal, locating or constructing an offsite facility, and moving all of the CCR materials offsite is estimated to take approximately 40 years. TVA would also be required to monitor the existing facilities and the offsite facility for 30 years after the facilities are closed, based on current regulations.

The ultimate cost of the removal project will depend on actual timing and results of ongoing litigation, environmental studies, licensing, permitting, site subsurface conditions, contractor availability, weather, equipment, available material resources, and other contingency factors. These contingency factors could cause the project cost estimate to change materially in the near term. TVA updates its estimate for project costs as changes in these factors are determined to be probable of occurring.

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9. Other Long-Term Liabilities

Other long-term liabilities consist primarily of liabilities related to certain derivative agreements, liabilities for environmental remediation, and liabilities under agreements related to compliance with certain environmental regulations. See Note 17 — Legal Proceedings — Environmental Agreements. The table below summarizes the types and amounts of Other long-term liabilities:

Other Long-Term Liabilities

	At June 30, 2018	At September 30, 2017
Interest rate swap liabilities	$1,176	$ 1,418
Gallatin coal combustion residual facilities liability	875	880
Capital lease obligations	179	182
EnergyRight® financing obligation	105	115
Currency swap liabilities	73	92
Commodity contract derivative liabilities	14	9
Membership interests of VIE subject to mandatory redemption	29	30
Environmental agreements liability	11	13
Other	304	316
Total other long-term liabilities	$2,766	$ 3,055

Interest Rate Swap Liabilities. TVA uses interest rate swaps to fix variable short-term debt to a fixed rate. The values of these derivatives are included in Accounts payable and accrued liabilities and Other long-term liabilities on the consolidated balance sheets. As of June 30, 2018, and September 30, 2017, the carrying amount of the interest rate swap liabilities reported in Accounts payable and accrued liabilities was approximately $78 million and $93 million, respectively. See Note 13 — Derivatives Not Receiving Hedge Accounting Treatment — Interest Rate Derivatives for information regarding the associated interest rate swap liabilities.

Gallatin Coal Combustion Residual Facilities Liability. The estimated cost of the potential Gallatin CCR project is approximately $900 million. The current and long-term portions of the resulting obligation are reported in Accounts payable and accrued liabilities and Other long-term liabilities, respectively, on TVA's consolidated balance sheets. As of June 30, 2018, and September 30, 2017, related liabilities of $20 million and $19 million, respectively, were recorded in Accounts payable and accrued liabilities. See Note 8 for information regarding the Gallatin CCR facilities.

EnergyRight® Financing Obligation. TVA purchases certain loans receivable from its LPCs in association with the EnergyRight® Solutions program. The current and long-term portions of the resulting financing obligation are reported in Accounts payable and accrued liabilities and Other long-term liabilities, respectively, on TVA's consolidated balance sheets. As of June 30, 2018, and September 30, 2017, the carrying amount of the financing obligation reported in Accounts payable and accrued liabilities was approximately $26 million and $29 million, respectively. See Note 5 for information regarding the associated loans receivable and for details regarding the EnergyRight® Solutions program.

10. Asset Retirement Obligations

During the nine months ended June 30, 2018, TVA's total asset retirement obligation ("ARO") liability increased $98 million as a result of revisions in estimates and periodic accretion, partially offset by settlement projects that were conducted during this period. The revisions in estimate are primarily related to changes in strategy of asset retirements at certain TVA facilities. The nuclear and non-nuclear accretion expenses were deferred as regulatory assets. During the nine months ended June 30, 2018, $108 million of the related non-nuclear regulatory assets were amortized into expense as these amounts were collected in rates. See Note 6. TVA maintains investment trusts to help fund its decommissioning obligations. See Note 14 — Investment Funds and Note 17 — Contingencies — Decommissioning Costs for a discussion of the trusts' objectives and the current balances of the trusts.

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Asset Retirement Obligation Activity[1]

	Nuclear	Non-Nuclear	Total
Balance at September 30, 2017	$2,859	$ 1,445	$4,304
Settlements	—	(69)	(69)
Revisions in estimate	—	44	44
Additional obligations	—	1	1
Accretion (recorded as regulatory asset)	97	25	122
Balance at June 30, 2018	$2,956	$ 1,446	$4,402

Note
(1) The current portion of ARO in the amount of $153 million and $128 million is included in Accounts payable and accrued liabilities at June 30, 2018, and September 30, 2017, respectively.

The 2015 Environmental Protection Agency ("EPA") CCR rule required TVA to conduct additional engineering and analysis, as well as implement a comprehensive groundwater monitoring program. As a result of this groundwater monitoring program, TVA reported to the Tennessee Department of Environment and Conservation ("TDEC") in May 2017 elevated levels of arsenic, lead, and fluoride in water samples taken at a few shallow-aquifer groundwater monitoring wells around the east coal ash impoundment at Allen Fossil Plant. TVA, under the oversight of TDEC, has been conducting a remedial investigation into the nature and extent of the contamination. In July 2017, TVA received a Remedial Site Investigation request from TDEC, outlining the objectives of the investigation and requiring TVA to provide a work plan. A Remedial Investigation Report summarizing the results of the investigation was submitted to TDEC in March 2018, and TDEC provided subsequent comments on the report to be addressed by TVA.

On July 20, 2018, TVA submitted responses to the comments on the Remedial Investigation Report, an initial Remedial Design Report, and a Groundwater Pre-design Work Plan to TDEC. In the aforementioned responses submitted to TDEC, it was stated that TVA is required to complete a National Environmental Policy Act ("NEPA") review that analyzes various alternatives prior to making a final decision on closure. TVA further stated that, as part of the NEPA review process, TVA would identify closure by removal as the preferred alternative for the Allen Fossil Plant east impoundment. Based upon this updated preferred closure methodology, the estimate for the associated asset retirement obligation for the Allen Fossil Plant east impoundment is expected to increase approximately $300 million in the fourth quarter of 2018.

TVA is expected to begin a NEPA review process at Allen Fossil Plant in October 2018 to analyze closure alternatives to support a final TVA decision on the appropriate closure methodology. Further adjustments to TVA’s asset retirement obligation may be required pending the outcome of the NEPA review and as cost estimates are refined.

11. Debt and Other Obligations

Debt Outstanding

Total debt outstanding at June 30, 2018, and September 30, 2017, consisted of the following:
Debt Outstanding

	At June 30, 2018	At September 30, 2017
Short-term debt		
Short-term debt, net	$1,886	$ 1,998
Current maturities of power bonds	1,032	1,728
Current maturities of long-term debt of variable interest entities	37	36
Current maturities of notes payable	47	53

Total current debt outstanding, net	3,002	3,815
Long-term debt		
Long-term power bonds(1)	20,311	20,357
Long-term debt of variable interest entities	1,156	1,175
Long-term notes payable	23	69
Unamortized discounts, premiums, issue costs, and other	(157)	(163)
Total long-term debt, net	21,333	21,438
Total outstanding debt	$24,335	$ 25,253

Note
(1) Includes net exchange gain from currency transactions of $136 million and $125 million at June 30, 2018, and September 30, 2017, respectively.

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Debt Securities Activity

The table below summarizes the long-term debt securities activity for the period from October 1, 2017, to June 30, 2018:

Debt Securities Activity

	Date	Amount	Interest Rate
Issues			
2018 Series A[1]	March 2018	$1,000	2.25 %
Discount on debt issues		(2)	
Total long-term debt issuances		$998	
Redemptions/Maturities[2]			
electronotes®	First Quarter 2018	$47	4.10 %
electronotes®	Second Quarter 2018	2	3.50 %
electronotes®	Third Quarter 2018	3	2.90 %
1997 Series E	First Quarter 2018	650	6.25 %
2009 Series B	First Quarter 2018	1	3.77 %
2008 Series B	Third Quarter 2018	1,000	4.50 %
2009 Series B	Third Quarter 2018	28	3.77 %
Total redemptions/maturities of power bonds		1,731	
Notes payable		52	1.22 %
Debt of variable interest entities		18	4.31 %
Total redemptions/maturities of debt		$1,801	

Notes

(1) The 2018 Series A bonds were issued at 99.8 percent of par.

(2) All redemptions were at 100 percent of par.

Credit Facility Agreements

TVA and the U.S. Treasury, pursuant to the TVA Act, have entered into a memorandum of understanding under which the U.S. Treasury provides TVA with a $150 million credit facility. This credit facility was renewed for 2018 with a maturity date of September 30, 2018. Access to this credit facility or other similar financing arrangements with the U.S. Treasury has been available to TVA since the 1960s. TVA can borrow under the U.S. Treasury credit facility only if it cannot issue Bonds in the market on reasonable terms, and TVA considers the U.S. Treasury credit facility 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 June 30, 2018. The availability of this credit facility may be impacted by how the U.S. government addresses the possibility of approaching its debt limit.

TVA also has funding available under four long-term revolving credit facilities totaling $2.7 billion: a $150 million credit facility that matures on December 12, 2019, a $500 million credit facility that matures on February 1, 2022, a $1.0 billion credit facility that matures on June 2, 2020, and a $1.0 billion credit facility that matures on June 13, 2023. The interest rate on any borrowing under these facilities varies 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 $2.7 billion that TVA has not borrowed or committed under letters of credit. This fee, along with letter of credit fees, may fluctuate depending on the rating of TVA's senior unsecured, long-term, non-credit-enhanced debt. At June 30, 2018, and September 30, 2017, there were approximately $912 million and $1.2 billion, respectively, of letters of credit outstanding under the facilities, and there were no borrowings outstanding. See Note 13 — Other Derivative Instruments — Collateral.

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The following table provides additional information regarding TVA's funding available under the four long-term credit facilities:

Summary of Long-Term Credit Facilities
At June 30, 2018

	Facility Limit	Letters of Credit Outstanding	Cash Borrowings	Availability
Maturity Date				
December 2019	$150	$ 37	$ —	$ 113
February 2022	500	500	—	—
June 2020	1,000	202	—	798
June 2023	1,000	173	—	827
Total	$2,650	$ 912	$ —	$ 1,738

Lease/Leasebacks

TVA previously entered into leasing transactions to obtain third-party financing for 24 peaking combustion turbine units ("CTs") as well as certain qualified technological equipment and software (collectively, "QTE"). Due to TVA's continuing involvement with the combustion turbine facilities and the QTE during the leaseback term, TVA accounted for the lease proceeds as financing obligations. On September 20, 2017, TVA acquired 100 percent of the equity interests in two special purpose entities ("SPEs") created for the purpose of facilitating a portion of the leaseback arrangements. As a result of the acquisition, TVA effectively settled $70 million of its leaseback obligations related to eight CTs. On July 20, 2016, TVA acquired 100 percent of the equity interests in two SPEs created for the purpose of facilitating lease/leaseback arrangements. As a result of the acquisition, TVA effectively settled $70 million of its leaseback obligations related to eight CTs. At June 30, 2018, and September 30, 2017, the outstanding leaseback obligations related to the remaining CTs and QTE were $302 million and $338 million, respectively.

12. Accumulated Other Comprehensive Income (Loss)

Accumulated other comprehensive income (loss) ("AOCI") represents market valuation adjustments related to TVA's currency swaps. The currency swaps are cash flow hedges and are the only derivatives in TVA's portfolio that have been designated and qualify for hedge accounting treatment. TVA records exchange rate gains and losses on its foreign currency-denominated debt in net income and marks its currency swap assets and liabilities to market through other comprehensive income (loss) ("OCI"). TVA then reclassifies an amount out of AOCI into net income, offsetting the exchange gain/loss recorded on the debt. During the three months ended June 30, 2018 and 2017, TVA reclassified $43 million of losses and $29 million of gains, respectively, related to its cash flow hedges from AOCI to Interest expense. During the nine months ended June 30, 2018 and 2017, TVA reclassified $13 million of losses and $3 million of gains, respectively, related to its cash flow hedges from AOCI to Interest expense.

TVA records certain assets and liabilities that result from the regulated ratemaking process that would not be recorded under GAAP for non-regulated entities. As such, certain items that would generally be reported in AOCI or that would impact the statements of operations are recorded as regulatory assets or regulatory liabilities. See Note 6 for a schedule of regulatory assets and liabilities. See Note 13 for a discussion of the recognition in AOCI of gains and losses associated with certain derivative contracts. See Note 14 for a discussion of the recognition of certain investment fund gains and losses as regulatory assets and liabilities. See Note 16 for a discussion of the regulatory accounting related to components of TVA's benefit plans.

13. Risk Management Activities and Derivative Transactions

TVA is exposed to various risks. These include risks related to commodity prices, investment prices, interest rates, currency exchange rates, and inflation as well as counterparty credit and performance risks. To help manage certain of these risks, TVA has entered into various derivative transactions, principally commodity option contracts, forward contracts, swaps, swaptions, futures, and options on futures. Other than certain derivative instruments in its trust investment funds, it is TVA's policy to enter into these derivative transactions solely for hedging purposes and not for speculative purposes. TVA has suspended its Financial Trading Program ("FTP") and no longer uses financial instruments to hedge risks related to commodity prices; however, TVA plans to continue to manage fuel price volatility through other methods and to periodically reevaluate its suspended FTP program for future use of financial instruments.

Overview of Accounting Treatment

TVA recognizes certain of its derivative instruments as either assets or liabilities on its consolidated balance sheets at fair value. The accounting for changes in the fair value of these instruments depends on (1) whether TVA uses regulatory

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accounting to defer the derivative gains and losses, (2) whether the derivative instrument has been designated and qualifies for hedge accounting treatment, and (3) if so, the type of hedge relationship (for example, cash flow hedge).

The following tables summarize the accounting treatment that certain of TVA's financial derivative transactions receive:

Summary of Derivative Instruments That Receive Hedge Accounting Treatment (part 1)
Amount of Mark-to-Market Gain (Loss) Recognized in OCI

Derivatives in Cash Flow Hedging Relationship	Objective of Hedge Transaction	Accounting for Derivative Hedging Instrument	Three Months Ended June 30 2018	2017	Nine Months Ended June 30 2018	2017
Currency swaps	To protect against changes in cash flows caused by changes in foreign currency exchange rates (exchange rate risk)	Unrealized gains and losses are recorded in AOCI and reclassified to interest expense to the extent they are offset by gains and losses on the hedged transaction.	$(65)	$ 14	$17	$ 31

Summary of Derivative Instruments That Receive Hedge Accounting Treatment (part 2)[(1)]
Amount of Gain (Loss) Reclassified from OCI to Interest Expense

Derivatives in Cash Flow Hedging Relationship	Three Months Ended June 30 2018	2017	Nine Months Ended June 30 2018	2017
Currency swaps	$(43)	$ 29	$(13)	$ 3

Note
(1) There were no ineffective portions or amounts excluded from effectiveness testing for any of the periods presented. Based on forecasted foreign currency exchange rates, TVA expects to reclassify approximately $42 million of gains from AOCI to interest expense within the next 12 months to offset amounts anticipated to be recorded in interest expense related to net exchange gain on the debt.

Summary of Derivative Instruments That Do Not Receive Hedge Accounting Treatment[(1)]
Amount of Gain (Loss) Recognized in Income on Derivatives

Derivative Type	Objective of Derivative	Accounting for Derivative Instrument	Three Months Ended June 30 2018	2017	Nine Months Ended June 30 2018	2017
Interest rate swaps	To fix short-term debt variable rate to a fixed rate (interest rate risk)	Mark-to-market gains and losses are recorded as regulatory assets or liabilities. Realized gains and losses are recognized in interest expense when incurred during the settlement period.	$(21)	$(25)	$(68)	~~$~~(77)
			—	(7)	(8)	(28)

Commodity derivatives under FTP	To protect against fluctuations in market prices of purchased commodities (price risk)	Mark-to-market gains and losses are recorded as regulatory assets or liabilities. Realized gains and losses are recognized in fuel expense or purchased power expense when the related commodity is used in production.

Note
(1) All of TVA's derivative instruments that do not receive hedge accounting treatment have unrealized gains (losses) that would otherwise be recognized in income
but instead are deferred as regulatory assets and liabilities. As such, there was no related gain (loss) recognized in income for these unrealized gains (losses) for the three and nine months ended June 30, 2018 and 2017.

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Fair Values of TVA Derivatives

	At June 30, 2018		At September 30, 2017	
Derivatives That Receive Hedge Accounting Treatment	Balance	Balance Sheet Presentation	Balance	Balance Sheet Presentation
Currency swaps				
£200 million Sterling	$(63)	Accounts payable and accrued liabilities $(5); Other long-term liabilities $(58)	$(67)	Accounts payable and accrued liabilities $(5); Other long-term liabilities $(62)
£250 million Sterling	(7)	Accounts payable and accrued liabilities $(4); Other long-term liabilities $(3)	(15)	Accounts payable and accrued liabilities $(4); Other long-term liabilities $(11)
£150 million Sterling	(15)	Accounts payable and accrued liabilities $(3); Other long-term liabilities $(12)	(21)	Accounts payable and accrued liabilities $(2); Other long-term liabilities $(19)

	At June 30, 2018		At September 30, 2017	
Derivatives That Do Not Receive Hedge Accounting Treatment	Balance	Balance Sheet Presentation	Balance	Balance Sheet Presentation
Interest rate swaps				
$1.0 billion notional	(914)	Accounts payable and accrued liabilities $(56); Other long-term liabilities $(858)	(1,093)	Accounts payable and accrued liabilities $(66); Other long-term liabilities $(1,027)
$476 million notional	(334)	Accounts payable and accrued liabilities $(20); Other long-term liabilities $(314)	(410)	Accounts payable and accrued liabilities $(25); Other long-term liabilities $(385)
$42 million notional	(6)	Accounts payable and accrued liabilities $(2); Other long-term liabilities $(4)	(8)	Accounts payable and accrued liabilities $(2); Other long-term liabilities $(6)
Commodity contract derivatives	(4)	Other current assets $21; Other long-term assets $6; Other long-term liabilities $(14); Accounts payable and accrued liabilities $(17)	(60)	Other current assets $8; Other long-term assets $2; Other long-term liabilities $(9); Accounts payable and accrued liabilities $(61)
FTP				
Derivatives under FTP[(1)]	—	N/A	(5)	Other current assets $(4); Accounts payable and accrued liabilities $(1)

Note

(1) Fair values of certain derivatives under the FTP that were in net liability positions totaling $4 million at September 30, 2017, were recorded in TVA's margin cash accounts in Other current assets. These derivatives were transacted with futures commission merchants, and cash deposits were posted to the margin cash accounts held with each futures commission merchant to offset the net liability positions in full. At June 30, 2018, TVA had no derivatives under the FTP in net liability positions.

Cash Flow Hedging Strategy for Currency Swaps

To protect against exchange rate risk related to three British pound sterling denominated Bond transactions, TVA entered into foreign currency hedges at the time the Bond transactions occurred. TVA had three currency swaps outstanding as of June 30, 2018, with total currency exposure of £600 million and expiration dates ranging from 2021 to 2043.

When the dollar strengthens against the British pound sterling, the exchange gain on the Bond liability is offset by an equal amount of loss on the swap contract that is reclassified out of AOCI. Conversely, the exchange loss on the Bond liability is offset by an equal amount of gain on the swap contract that is reclassified out of AOCI. All such exchange gains or losses on the Bond liability are included in Long-term debt, net. The offsetting exchange losses or gains on the swap contracts are recognized in AOCI. If any gain (loss) were to be incurred as a result of the early termination of the foreign currency swap contract, the resulting income (expense) would be amortized over the remaining life of the associated Bond as a component of Interest expense. The values of the currency swap asset and liabilities are included in Other long-term assets, Accounts payable and accrued liabilities, and Other long-term liabilities on the consolidated balance sheets.

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Derivatives Not Receiving Hedge Accounting Treatment

Interest Rate Derivatives. Generally TVA uses interest rate swaps to fix variable short-term debt to a fixed rate, and TVA uses regulatory accounting treatment to defer the mark-to-market ("MtM") gains and losses on its interest rate swaps. The net deferred unrealized gains and losses are classified as regulatory assets or liabilities on TVA's consolidated balance sheets and are included in the ratemaking formula when gains or losses are realized. The values of these derivatives are included in Accounts payable and accrued liabilities and Other long-term liabilities on the consolidated balance sheets, and realized gains and losses, if any, are included in TVA's consolidated statements of operations. For the three months ended June 30, 2018 and 2017, the changes in fair market value of the interest rate swaps resulted in the deferral of unrealized gains of $56 million and unrealized losses of $14 million, respectively. For the nine months ended June 30, 2018 and 2017, the changes in fair market value of the interest rate swaps resulted in deferred unrealized gains of $227 million and $445 million, respectively.

Commodity Derivatives. TVA enters into certain derivative contracts for coal and natural gas that require physical delivery of the contracted quantity of the commodity. TVA marks to market all such contracts and defers the fair market values as regulatory assets or liabilities on a gross basis. At June 30, 2018, TVA's coal contract derivatives had terms of up to three years and natural gas contract derivatives had terms of up to four years.

Commodity Contract Derivatives

	At June 30, 2018			At September 30, 2017		
	Number of Contracts	Notional Amount	Fair Value (MtM)	Number of Contracts	Notional Amount	Fair Value (MtM)
Coal contract derivatives	13	18 million tons	$ 5	20	17 million tons	$ (67)
Natural gas contract derivatives	47	296 million mmBtu	$ (9)	53	271 million mmBtu	$ 7

Derivatives Under FTP. TVA has suspended its FTP and no longer uses financial instruments to hedge risks related to commodity prices. At June 30, 2018, TVA had no open commodity derivatives under the FTP.

Derivatives Under Financial Trading Program(1)

	At June 30, 2018		At September 30, 2017	
	Notional Amount (in mmBtu)	Fair Value (MtM) (in millions)	Notional Amount (in mmBtu)	Fair Value (MtM) (in millions)
Natural gas				
Swap contracts	—	$ —	2,800,000	$ (5)

Note

(1) Fair value amounts presented are based on the net commodity position with the counterparty. Notional amounts disclosed represent the net value of contractual amounts.

Prior to the suspension of the FTP, TVA deferred all FTP unrealized gains (losses) as regulatory liabilities (assets) and recorded only realized gains or losses to match the delivery period of the underlying commodity. TVA experienced the following unrealized and realized gains and losses related to the FTP at the dates and during the periods, as applicable, set forth in the tables below:

Financial Trading Program Unrealized Gains (Losses)

	At June	At September

	30, 2018	30, 2017
FTP unrealized gains (losses) deferred as regulatory liabilities (assets)		
Natural gas	$ —	$ (5)

Financial Trading Program Realized Gains (Losses)

	Three Months Ended June 30 2018	Three Months Ended June 30 2017	Nine Months Ended June 30 2018	Nine Months Ended June 30 2017
Decrease (increase) in fuel expense				
Natural gas	$ —	$ (6)	$ (6)	$ (22)
Decrease (increase) in purchased power expense				
Natural gas	—	(1)	(2)	(6)

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Offsetting of Derivative Assets and Liabilities

The amounts of TVA's derivative instruments as reported in the consolidated balance sheets at June 30, 2018, and September 30, 2017, are shown in the table below:

Derivative Assets and Liabilities

	At June 30, 2018 Gross Amounts of Recognized Assets/Liabilities	Gross Amounts Offset in the Balance Sheet[(1)]	Net Amounts of Assets/Liabilities Presented in the Balance Sheet[(2)]
Assets			
Commodity derivatives not subject to master netting or similar arrangement	$ 27	$ —	$ 27
Liabilities			
Currency swaps[(3)]	$ 85	$ —	$ 85
Interest rate swaps[(3)]	1,254	—	1,254
Total derivatives subject to master netting or similar arrangement	1,339	—	1,339
Commodity derivatives not subject to master netting or similar arrangement	31	—	31
Total liabilities	$ 1,370	$ —	$ 1,370

	At September 30, 2017 Gross Amounts of Recognized Assets/Liabilities	Gross Amounts Offset in the Balance Sheet[(1)]	Net Amounts of Assets/Liabilities Presented in the Balance Sheet[(2)]
Assets			
Commodity derivatives not subject to master netting or similar arrangement	$ 10	$ —	$ 10
Liabilities			
Currency swaps[(3)]	$ 103	$ —	$ 103
Interest rate swaps[(3)]	1,511	—	1,511
	5	(4)	1

Commodity derivatives under FTP			
Total derivatives subject to master netting or similar arrangement	1,619	(4)	1,615
Commodity derivatives not subject to master netting or similar arrangement	70	—	70
Total liabilities	$ 1,689	$ (4)	$ 1,685

Notes

(1) Amounts primarily include counterparty netting of derivative contracts, margin account deposits for futures commission merchants transactions, and cash collateral received or paid in accordance with the accounting guidance for derivatives and hedging transactions.

(2) There are no derivative contracts subject to a master netting arrangement or similar agreement that are not offset in the consolidated balance sheets.

(3) Letters of credit of approximately $0.9 billion and $1.2 billion were posted as collateral at June 30, 2018, and September 30, 2017, respectively, to partially secure the liability positions of one of the currency swaps and one of the interest rate swaps in accordance with the collateral requirements for these derivatives.

Other Derivative Instruments

Investment Fund Derivatives. Investment funds consist primarily of funds held in the Nuclear Decommissioning Trust ("NDT"), the Asset Retirement Trust ("ART"), the Supplemental Executive Retirement Plan ("SERP"), and the TVA Deferred Compensation Plan ("DCP"). All securities in these trusts and plans are classified as trading. See Note 14 — Investment Funds for a discussion of the trusts, plans, and types of investments. The NDT and ART may invest in derivative instruments which may include swaps, futures, options, forwards, and other instruments. At June 30, 2018, and September 30, 2017, the NDT held investments in forward contracts to purchase debt securities. The fair values of these derivatives were in net asset positions totaling $52 million and $19 million at June 30, 2018, and September 30, 2017, respectively.

Collateral. TVA's interest rate swaps and currency swaps contain contract provisions that require a party to post collateral (in a form such as cash or a letter of credit) when the party's liability balance under the agreement exceeds a certain threshold. At June 30, 2018, the aggregate fair value of all derivative instruments with credit-risk related contingent features that were in a liability position was $1.3 billion. TVA's collateral obligations at June 30, 2018, under these arrangements were approximately $900 million, for which TVA had posted approximately $912 million in letters of credit. These letters of credit

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reduce the available balance under the related credit facilities. TVA's assessment of the risk of its nonperformance includes a reduction in its exposure under the contract as a result of this posted collateral.

For all of its derivative instruments with credit-risk related contingent features:

- If TVA remains a majority-owned U.S. government entity but Standard & Poor's Financial Services, LLC ("S&P") or Moody's Investors Service, Inc. ("Moody's") downgrades TVA's credit rating to AA or Aa2, respectively, TVA's collateral obligations would likely increase by $22 million, and

- If TVA ceases to be majority-owned by the U.S. government, TVA's credit rating would likely be downgraded and TVA would be required to post additional collateral.

Counterparty Risk

TVA may be exposed to certain risks when a counterparty has the potential to fail to meet its obligations in accordance with agreed terms. These risks may be related to credit, operational, or nonperformance matters. To mitigate certain counterparty risk, TVA analyzes the counterparty's financial condition prior to entering into an agreement, establishes credit limits, monitors the appropriateness of those limits, as well as any changes in the creditworthiness of the counterparty, on an ongoing basis, and when required, employs credit mitigation measures, such as collateral or prepayment arrangements and master purchase and sale agreements, to mitigate credit risk.

Customers. TVA is exposed to counterparty credit risk associated with trade accounts receivable from delivered power sales to LPCs, and from industries and federal agencies directly served, all located in the Tennessee Valley region. TVA is also exposed to risk from exchange power arrangements with a small number of investor-owned regional utilities related to either delivered power or the replacement of open positions of longer-term purchased power or fuel agreements. See Note 1 — Allowance for Uncollectible Accounts and Note 3.

Suppliers. If one of TVA's fuel or purchased power suppliers fails to perform under the terms of its contract with TVA, TVA might lose the money that it paid to the supplier under the contract and have to purchase replacement fuel or power on the spot market, perhaps at a significantly higher price than TVA was entitled to pay under the contract. In addition, TVA might not be able to acquire replacement fuel or power in a timely manner and thus might be unable to satisfy its own obligations to deliver power. Nuclear fuel requirements, including uranium mining and milling, conversion services, enrichment services, and fabrication services, are met from various suppliers, depending on the type of service. TVA purchases the majority of its natural gas requirements from a variety of suppliers under short-term contracts.

To help ensure a reliable supply of coal, TVA had coal contracts with multiple suppliers at June 30, 2018. The contracted supply of coal is sourced from multiple geographic regions of the United States and is to be delivered via various transportation methods (i.e., barge, rail, and truck). Emerging technologies, environmental regulations, and low natural gas prices have contributed to weak demand for coal. As a result, coal suppliers are facing increased financial pressure, which has led to relatively poor credit ratings and bankruptcies. Continued difficulties by coal suppliers could result in consolidations, additional bankruptcies, restructurings, contract renegotiations, or other scenarios. Under these scenarios and TVA's potential available responses, TVA does not anticipate a significant financial impact in obtaining continued fuel supply for its coal-fired generation.

On March 29, 2017, one of TVA's suppliers, Westinghouse Electric Company ("Westinghouse"), filed for protection under Chapter 11 of the United States Bankruptcy Code. On January 4, 2018, Brookfield Business Partners L.P. ("Brookfield Business Partners"), together with institutional partners, announced that they have entered into an agreement to acquire 100 percent of Westinghouse, which is currently owned by Toshiba Corp. On March 27, 2018, the Bankruptcy Court approved Westinghouse's plan of reorganization. The acquisition is subject to all requirements being met as specified in the reorganization plan.

TVA has a power purchase agreement that expires on March 31, 2032, with a supplier of electricity for 440 megawatts ("MW") of summer net capability from a lignite-fired generating plant. TVA has determined that the supplier has the equivalent of a non-investment grade credit rating; therefore, the supplier has provided credit assurance to TVA under the terms of the agreement.

Derivative Counterparties. TVA has entered into physical and financial contracts that qualify as derivatives for hedging purposes, and TVA's NDT fund has entered into derivative contracts for investment purposes. If a counterparty to one of TVA's hedging transactions defaults, TVA might incur substantial costs in connection with entering into a replacement hedging transaction. If a counterparty to the derivative contracts into which the NDT fund has entered for investment purposes defaults, the value of the investment could decline significantly or perhaps become worthless. TVA has concentrations of credit risk from the banking and coal industries because multiple companies in these industries serve as counterparties to TVA in various derivative transactions. At June 30, 2018, all of TVA's currency swaps and interest rate swaps as well as all of the derivatives in the NDT were with banking counterparties whose Moody's credit ratings were A3 or higher.

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TVA classifies qualified forward coal and natural gas contracts as derivatives. See Derivatives Not Receiving Hedge Accounting Treatment above. At June 30, 2018, the coal derivative contracts were with counterparties whose Moody's credit rating, or TVA's internal analysis when such information was unavailable, ranged from Caa3 to Ba3. At June 30, 2018, the natural gas derivative contracts were with counterparties whose Moody's ratings ranged from B1 to A2. See Suppliers above for discussion of challenges facing the coal industry. The total value for TVA's derivative contracts with coal and natural gas counterparties in an asset position as of June 30, 2018, was approximately $27 million.

TVA previously utilized two futures commission merchants ("FCMs") to clear commodity contracts, including futures, options, and similar financial derivatives. These transactions were executed under the FTP on exchanges by the FCMs on behalf of TVA. TVA maintained margin cash accounts with the FCMs. TVA made deposits to the margin cash accounts to adequately cover any net liability positions on its derivatives transacted with the FCMs. At June 30, 2018, TVA had no positions under the FTP. See the note to the Fair Values of TVA Derivatives table above.

14. Fair Value Measurements

Fair value is determined based on the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the asset or liability's principal market, or in the absence of a principal market, the most advantageous market for the asset or liability in an orderly transaction between market participants. TVA uses market or observable inputs as the preferred source of values, followed by assumptions based on hypothetical transactions in the absence of market inputs.

Valuation Techniques

The measurement of fair value results in classification into a hierarchy by the inputs used to determine the fair value as follows:

Level 1 —	Unadjusted quoted prices in active markets accessible by the reporting entity for identical assets or liabilities. Active markets are those in which transactions for the asset or liability occur with sufficient frequency and volume to provide pricing.
Level 2 —	Pricing inputs other than quoted market prices included in Level 1 that are based on observable market data and that are directly or indirectly observable for substantially the full term of the asset or liability. These include quoted market prices for similar assets or liabilities, quoted market prices for identical or similar assets in markets that are not active, adjusted quoted market prices, inputs from observable data such as interest rate and yield curves, volatilities and default rates observable at commonly quoted intervals, and inputs derived from observable market data by correlation or other means.
Level 3 —	Pricing inputs that are unobservable, or less observable, from objective sources. Unobservable inputs are only to be used to the extent observable inputs are not available. These inputs maintain the concept of an exit price from the perspective of a market participant and should reflect assumptions of other market participants. An entity should consider all market participant assumptions that are available without unreasonable cost and effort. These are given the lowest priority and are generally used in internally developed methodologies to generate management's best estimate of the fair value when no observable market data is available.

A financial instrument's level within the fair value hierarchy (where Level 1 is the highest and Level 3 is the lowest) is based on the lowest level of input significant to the fair value measurement.

The following sections describe the valuation methodologies TVA uses to measure different financial instruments at fair value. Except for gains and losses on SERP and DCP assets, all changes in fair value of these assets and liabilities have been recorded as changes in regulatory assets, regulatory liabilities, or AOCI on TVA's consolidated balance sheets and consolidated statements of comprehensive income (loss). Except for gains and losses on SERP and DCP assets, there has been no impact to the consolidated statements of operations or the consolidated statements of cash flows related to these fair value measurements.

Investment Funds

At June 30, 2018, Investment funds were composed of $2.7 billion of securities classified as trading and measured at fair value. Trading securities are held in the NDT, ART, SERP, and DCP. The NDT holds funds for the ultimate decommissioning of TVA's nuclear power plants. The ART holds funds primarily for the costs related to the future closure and retirement of TVA's other long-lived assets. The balances in the NDT and ART were $2.0 billion and $654 million, respectively, at June 30, 2018.

TVA established a SERP to provide benefits to selected employees of TVA which are comparable to those provided by competing organizations. The DCP is designed to provide participants with the ability to defer compensation until employment with TVA ends. The NDT and SERP funds are invested in portfolios of securities generally designed to achieve a return in line with overall equity market performance, and the ART and DCP funds are invested in portfolios of securities generally designed to achieve a return in line with overall debt and equity market performance.

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The NDT, ART, SERP, and DCP are composed of multiple types of investments and are managed by external institutional investment managers. Most U.S. and international equities, U.S. Treasury inflation-protected securities, real estate investment trust securities, and cash securities and certain derivative instruments are measured based on quoted exchange prices in active markets and are classified as Level 1 valuations. Fixed-income investments, high-yield fixed-income investments, currencies, and most derivative instruments are non-exchange traded and are classified as Level 2 valuations. These measurements are based on market and income approaches with observable market inputs.

Private equity limited partnerships and private real estate investments may include holdings of investments in private real estate, venture capital, buyout, mezzanine or subordinated debt, restructuring or distressed debt, and special situations through funds managed by third-party investment managers. These investments generally involve a three-to-four-year period where the investor contributes capital, followed by a period of distribution, typically over several years. The investment period is generally, at a minimum, 10 years or longer. The NDT had unfunded commitments related to private equity limited partnerships of $83 million and unfunded commitments related to private real estate of $17 million at June 30, 2018. The ART had unfunded commitments related to private equity limited partnerships of $19 million and unfunded commitments related to private real estate of $7 million at June 30, 2018. These investments have no redemption or limited redemption options and may also impose restrictions on the NDT's and ART's ability to liquidate their investments. There are no readily available quoted exchange prices for these investments. The fair value of the investments is based on TVA's ownership percentage of the fair value of the underlying investments as provided by the investment managers. These investments are typically valued on a quarterly basis. TVA's private equity limited partnerships and private real estate investments are valued at net asset values ("NAV") as a practical expedient for fair value. TVA classifies its interest in these types of investments as investments measured at net asset value in the fair value hierarchy.

Commingled funds represent investment funds comprising multiple individual financial instruments. The commingled funds held by the NDT, ART, SERP, and DCP consist of either a single class of securities, such as equity, debt, or foreign currency securities, or multiple classes of securities. All underlying positions in these commingled funds are either exchange traded or measured using observable inputs for similar instruments. The fair value of commingled funds is based on NAV per fund share (the unit of account), derived from the prices of the underlying securities in the funds. These commingled funds can be redeemed at the measurement date NAV and are classified as Commingled funds measured at net asset value in the fair value hierarchy.

Realized and unrealized gains and losses on trading securities are recognized in current earnings and are based on average cost. The gains and losses of the NDT and ART are subsequently reclassified to a regulatory asset or liability account in accordance with TVA's regulatory accounting policy. See Note 1 — Cost-Based Regulation. TVA recorded unrealized gains and losses related to its trading securities held during each period as follows:

Unrealized Investment Gains (Losses)

		Three Months Ended June 30		Nine Months Ended June 30	
Fund	Financial Statement Presentation	2018	2017	2018	2017
SERP	Other income (expense)	$ —	$ 1	$ —	$ 2
DCP	Other income (expense)	—	1	—	1
NDT	Regulatory asset	9	25	(19)	61
ART	Regulatory asset	1	3	7	24

Currency and Interest Rate Derivatives

See Note 13 — Cash Flow Hedging Strategy for Currency Swaps and Derivatives Not Receiving Hedge Accounting Treatment for a discussion of the nature, purpose, and contingent features of TVA's currency swaps and interest rate swaps. These swaps are classified as Level 2 valuations and are valued based on income approaches using observable market inputs for similar instruments.

Commodity Contract Derivatives

Most of these contracts are valued based on market approaches which utilize short- and mid-term market-quoted prices from an external industry brokerage service. A small number of these contracts are valued based on a pricing model using long-term price estimates from TVA's coal price forecast. To value the volume option component of applicable coal contracts, TVA uses a Black-Scholes pricing model which includes inputs from the forecast, contract-specific terms, and other market inputs. These contracts are classified as Level 3 valuations.

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Nonperformance Risk

The assessment of nonperformance risk, which includes credit risk, considers changes in current market conditions, readily available information on nonperformance risk, letters of credit, collateral, other arrangements available, and the nature of master netting arrangements. TVA is a counterparty to currency swaps, interest rate swaps, commodity contracts, and other derivatives which subject TVA to nonperformance risk. Nonperformance risk on the majority of investments and certain exchange-traded instruments held by TVA is incorporated into the exit price that is derived from quoted market data that is used to mark the investment to market.

Nonperformance risk for most of TVA's derivative instruments is an adjustment to the initial asset/liability fair value. TVA adjusts for nonperformance risk, both of TVA (for liabilities) and the counterparty (for assets), by applying credit valuation adjustments ("CVAs"). TVA determines an appropriate CVA for each applicable financial instrument based on the term of the instrument and TVA's or the counterparty's credit rating as obtained from Moody's. For companies that do not have an observable credit rating, TVA uses internal analysis to assign a comparable rating to the counterparty. TVA discounts each financial instrument using the historical default rate (as reported by Moody's for CY 1983 to CY 2017) for companies with a similar credit rating over a time period consistent with the remaining term of the contract. The application of CVAs resulted in a $1 million decrease in the fair value of both assets and liabilities at June 30, 2018.

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Fair Value Measurements

The following tables set forth by level, within the fair value hierarchy, TVA's financial assets and liabilities that were measured at fair value on a recurring basis as of June 30, 2018, and September 30, 2017. Financial assets and liabilities have been classified in their entirety based on the lowest level of input that is significant to the fair value measurement. TVA's assessment of the significance of a particular input to the fair value measurement requires judgment and may affect the determination of the fair value of the assets and liabilities and their classification in the fair value hierarchy levels.

Fair Value Measurements
At June 30, 2018

	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Assets				
Investments				
Equity securities	$ 201	$ —	$ —	$201
Government debt securities	197	47	—	244
Corporate debt securities	—	452	—	452
Mortgage and asset-backed securities	—	48	—	48
Institutional mutual funds	88	—	—	88
Forward debt securities contracts	—	52	—	52
Private equity funds measured at net asset value[1]	—	—	—	131
Private real estate funds measured at net asset value[1]	—	—	—	117
Commingled funds measured at net asset value[1]	—	—	—	1,391
Total investments	486	599	—	2,724
Commodity contract derivatives	—	5	22	27
Total	$ 486	$ 604	$ 22	$2,751

	Quoted Prices in Active Markets for Identical Liabilities (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Liabilities				
Currency swaps[2]	$ —	$ 85	$ —	$85
Interest rate swaps	—	1,254	—	1,254
Commodity contract derivatives	—	14	17	31
Total	$ —	$ 1,353	$ 17	$1,370

Notes

(1) Certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been categorized in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the consolidated balance sheets.
(2) TVA records currency swaps net of cash collateral received from or paid to the counterparty, to the extent such amount is not recorded in Accounts payable and accrued liabilities. See Note 13 — Offsetting of Derivative Assets and Liabilities.

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Fair Value Measurements
At September 30, 2017

	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Assets				
Investments				
Equity securities	$ 226	$ —	$ —	$226
Government debt securities	100	42	—	142
Corporate debt securities	—	373	—	373
Mortgage and asset-backed securities	—	49	—	49
Institutional mutual funds	94	—	—	94
Forward debt securities contracts	—	19	—	19
Private equity funds measured at net asset value(1)	—	—	—	136
Private real estate funds measured at net asset value(1)	—	—	—	113
Commingled funds measured at net asset value(1)	—	—	—	1,451
Total investments	420	483	—	2,603
Commodity contract derivatives	—	8	2	10
Total	$ 420	$ 491	$ 2	$2,613

	Quoted Prices in Active Markets for Identical Liabilities (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Liabilities				
Currency swaps(2)	$ —	$ 103	$ —	$103
Interest rate swaps	—	1,511	—	1,511
Commodity contract derivatives	—	1	69	70
Commodity derivatives under FTP(2)				
Swap contracts	—	1	—	1
Total	$ —	$ 1,616	$ 69	$1,685

Notes
(1) Certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been categorized in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the consolidated balance sheets.
(2) Due to the right of setoff and method of settlement, TVA elects to record commodity derivatives under the FTP based on its net commodity position with the counterparty or FCM. Deposits are made to TVA's margin cash accounts

held with each FCM to offset any net liability positions in full for derivatives that are transacted with FCMs. TVA records currency swaps net of cash collateral received from or paid to the counterparty, to the extent such amount is not recorded in Accounts payable and accrued liabilities. See Note 13 — Offsetting of Derivative Assets and Liabilities.

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TVA uses internal valuation specialists for the calculation of its commodity contract derivatives fair value measurements classified as Level 3. Analytical testing is performed on the change in fair value measurements each period to ensure the valuation is reasonable based on changes in general market assumptions. Significant changes to the estimated data used for unobservable inputs, in isolation or combination, may result in significant variations to the fair value measurement reported.

The following table presents a reconciliation of all commodity contract derivatives measured at fair value on a recurring basis using significant unobservable inputs (Level 3):

Fair Value Measurements Using Significant Unobservable Inputs

	Commodity Contract Derivatives	
	Three Months Ended June 30	Nine Months Ended June 30
Balance at beginning of period	$(112)	$(127)
Change in net unrealized gains (losses) deferred as regulatory assets and liabilities	12	27
Balance at June 30, 2017	$(100)	$(100)
Balance at beginning of period	$(52)	$(67)
Change in net unrealized gains (losses) deferred as regulatory assets and liabilities	57	72
Balance at June 30, 2018	$5	$5

The following table presents quantitative information related to the significant unobservable inputs used in the measurement of fair value of TVA's assets and liabilities classified as Level 3 in the fair value hierarchy:

Quantitative Information about Level 3 Fair Value Measurements

	Fair Value at June 30, 2018	Valuation Technique(s)	Unobservable Inputs	Range
Assets				
Commodity contract derivatives	$ 22	Pricing model	Coal supply and demand	0.7 - 0.8 billion tons/year
			Long-term market prices	$12.35 - $111.61/ton
Liabilities				
Commodity contract derivatives	$ 17	Pricing model	Coal supply and demand	0.7 - 0.8 billion tons/year
			Long-term market prices	$12.35 - $111.61/ton

Quantitative Information about Level 3 Fair Value Measurements

	Fair Value at September 30, 2017	Valuation Technique(s)	Unobservable Inputs	Range
Assets				
	$ 2	Pricing model		0.6 - 0.7 billion tons/year

Commodity contract derivatives			Coal supply and demand	
			Long-term market prices	$11.40 - $112.23/ton
Liabilities				
Commodity contract derivatives	$ 69	Pricing model	Coal supply and demand	0.6 - 0.7 billion tons/year
			Long-term market prices	$11.40 - $112.23/ton

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Other Financial Instruments Not Recorded at Fair Value

TVA uses the methods and assumptions described below to estimate the fair value of each significant class of financial instrument. The fair value of the financial instruments held at June 30, 2018, and September 30, 2017, may not be representative of the actual gains or losses that will be recorded when these instruments mature or are called or presented for early redemption. The estimated values of TVA's financial instruments not recorded at fair value at June 30, 2018, and September 30, 2017, were as follows:

Estimated Values of Financial Instruments Not Recorded at Fair Value

		At June 30, 2018		At September 30, 2017	
	Valuation Classification	Carrying Amount	Fair Value	Carrying Amount	Fair Value
EnergyRight® receivables (including current portion)	Level 2	$115	$114	$125	$127
Loans and other long-term receivables, net (including current portion)	Level 2	$155	$139	$118	$107
EnergyRight® financing obligation (including current portion)	Level 2	$131	$148	$144	$161
Unfunded loan commitments	Level 2	$—	$11	$—	$18
Membership interest of variable interest entities subject to mandatory redemption (including current portion)	Level 2	$31	$38	$32	$41
Long-term outstanding power bonds (including current maturities), net	Level 2	$21,196	$25,013	$21,933	$26,857
Long-term debt of variable interest entities (including current maturities), net	Level 2	$1,183	$1,281	$1,200	$1,356
Long-term notes payable (including current maturities)	Level 2	$70	$68	$122	$121

Due to the short-term maturity of Cash and cash equivalents, Restricted cash and investments, and Short-term debt, net (each considered a Level 1 valuation classification), the carrying amounts of these instruments approximate their fair values.

The fair value for loans and other long-term receivables is estimated by determining the present value of future cash flows using a discount rate equal to lending rates for similar loans made to borrowers with similar credit ratings and for similar remaining maturities, where applicable. The fair value of long-term debt and membership interests of variable interest entities subject to mandatory redemption is estimated by determining the present value of future cash flows using current market rates for similar obligations, giving effect to credit ratings and remaining maturities.

15. Other Income (Expense), Net

Income and expenses not related to TVA's operating activities are summarized in the following table:

Other Income (Expense), Net

	Three Months	Nine Months

	Ended June 30		Ended June 30	
	2018	2017	2018	2017
Interest income	$6	$ 5	$17	$ 17
External services	2	3	10	11
Gains (losses) on investments	1	3	4	6
Miscellaneous	2	1	3	5
Total other income (expense), net	$11	$ 12	$34	$ 39

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16. Benefit Plans

TVA sponsors a qualified defined benefit pension plan ("pension plan") that covers most of its full-time employees hired before July 1, 2014, a qualified defined contribution plan ("401(k) plan") that covers most of its full-time employees, two unfunded post-retirement health care plans that provide for non-vested contributions toward the cost of eligible retirees' medical coverage, other post-employment benefits, such as workers' compensation, and the SERP. The pension plan and the 401(k) plan are administered by a separate legal entity, the TVA Retirement System ("TVARS"), which is governed by its own board of directors (the "TVARS Board").

The components of net periodic benefit cost and other amounts recognized as changes in regulatory assets for the three and nine months ended June 30, 2018 and 2017, were as follows:

Components of TVA's Benefit Plans

	For the Three Months Ended June 30				For the Nine Months Ended June 30			
	Pension Benefits		Other Post-Retirement Benefits		Pension Benefits		Other Post-Retirement Benefits	
	2018	2017	2018	2017	2018	2017	2018	2017
Service cost	$13	$15	$ 4	$ 5	$40	$45	$ 11	$ 14
Interest cost	118	116	5	4	355	348	14	15
Expected return on plan assets	(119)	(114)	—	—	(358)	(342)	—	—
Amortization of prior service credit	(25)	(25)	(5)	(5)	(74)	(74)	(16)	(16)
Recognized net actuarial loss	103	118	1	3	307	354	5	10
Total net periodic benefit cost as actuarially determined	90	110	5	7	270	331	14	23
Amount capitalized due to actions of regulator	(13)	(34)	—	—	(40)	(102)	—	—
Total net periodic benefit cost	$77	$76	$ 5	$ 7	$230	$229	$ 14	$ 23

As of October 1, 2016, TVARS's Rules and Regulations require TVA to contribute to the pension plan the greater of the minimum contribution calculated by TVARS's actuary or $300 million for a period of 20 years or until the plan has reached a fully funded status if sooner than 20 years. The minimum required contribution for 2018 is $300 million. TVA contributes $25 million per month to TVARS and as of June 30, 2018, had contributed $225 million. The remaining $75 million will be contributed by September 30, 2018. TVA contributed $800 million to TVARS in 2017, though the minimum required contribution was $300 million. TVA also contributed $61 million to the 401(k) plan during both the nine months ended June 30, 2018 and 2017. TVA does not separately set aside assets to fund its other post-retirement benefit plans, but rather funds such benefits on an as-paid basis. TVA provided approximately $17 million and $22 million, net of rebates and subsidies, to other post-retirement benefit plans for the nine months ended June 30, 2018 and 2017, respectively. TVA includes its cash contributions to the pension plan in the rate-making formula; accordingly, TVA recognizes pension costs as regulatory assets to the extent that the amount calculated under GAAP as pension expense differs from the amount TVA contributes to the pension plan.

On May 23, 2018, the TVARS Board approved amendments to the pension plan and 401(k) plan. TVARS presented these amendments to TVA for its review and consideration, and the amendments became effective July 8, 2018. The amendments allow TVA employees who are continuing to accrue cash balance benefits in the pension plan to voluntarily elect to switch future participation to the 401(k) plan only. TVA employees with cash balance accounts in the pension plan who have a 401(k) only benefit will have the additional option to waive the right to certain benefits under the pension plan and transfer cash balance accounts to the 401(k) plan account.

Under the plan amendments, the voluntary election options will be offered to eligible TVA employees from July 1, 2018, to August 31, 2018, with changes and transfers becoming effective on October 1, 2018. The effects of any potential curtailment gains are not reasonably estimable at this time, as the measurement is contingent upon the employees' voluntary elections. TVA does not currently anticipate it will exceed the settlement threshold, as certain employees eligible to transfer cash balance accounts would waive the right to certain supplemental benefits.

17. Contingencies and Legal Proceedings

Contingencies

Nuclear Insurance. Section 170 of the Atomic Energy Act, commonly known as the Price-Anderson Act, provides a layered framework of protection to compensate for liability claims of members of the public for personal injury and property
damages arising from a nuclear event in the United States. For the first layer, all of the Nuclear Regulatory Commission ("NRC") nuclear plant licensees, including TVA, purchase $450 million of nuclear liability insurance from American Nuclear Insurers for each plant with an operating license. Funds for the second layer, the Secondary Financial Program, would come from an

assessment of up to $127 million from the licensees of each of the 99 NRC licensed reactors in the United States. The assessment for any nuclear accident would be limited to $19 million per year per unit. American Nuclear Insurers, under a contract with the NRC, administers the Secondary Financial Program. With its seven licensed units, TVA could be required to pay a maximum of $891 million per nuclear incident, but it would have to pay no more than $133 million per incident in any one year. When the contributions of the nuclear plant licensees are added to the insurance proceeds of $450 million, over $13.0 billion, including a five percent surcharge for legal expenses, would be available. Under the Price-Anderson Act, if the first two layers are exhausted, the U.S. Congress is required to take action to provide additional funds to cover the additional losses.

Federal law requires that each NRC power reactor licensee obtain property insurance from private sources to cover the cost of stabilizing or shutting down a reactor after an accident. TVA carries property, decommissioning, and decontamination insurance from Nuclear Electric Insurance Limited ("NEIL"), totaling $5.1 billion for its licensed nuclear plants with up to $2.1 billion available for a loss at any one site. Some of this insurance may require the payment of retrospective premiums up to a maximum of approximately $128 million.

TVA purchases accidental outage (business interruption) insurance for TVA's nuclear sites from NEIL. In the event that an accident covered by this policy takes a nuclear unit offline or keeps a nuclear unit offline, NEIL will pay TVA, after a waiting period, an indemnity (a set dollar amount per week) up to a maximum indemnity of $490 million per unit. This insurance policy may require the payment of retrospective premiums up to a maximum of approximately $44 million.

Decommissioning Costs. TVA recognizes legal obligations associated with the future retirement of certain tangible long-lived assets related primarily to nuclear generating plants, coal-fired generating plants, hydroelectric generating plants/dams, transmission structures, and other property-related assets. See Note 10.

Nuclear Decommissioning. Provision for decommissioning costs of nuclear generating units is based on options prescribed by the NRC procedures to dismantle and decontaminate the facilities to meet the NRC criteria for license termination. At June 30, 2018, the estimated future decommissioning cost of $3.0 billion was included in AROs. The actual decommissioning costs may vary from the derived estimates because of, among other things, changes in current assumptions, such as the assumed dates of decommissioning, changes in regulatory requirements, changes in technology, and changes in the cost of labor, materials, and equipment. Utilities that own and operate nuclear plants are required to use different procedures in calculating nuclear decommissioning costs under GAAP than those that are used in calculating nuclear decommissioning costs when reporting to the NRC. The two sets of procedures produce different estimates for the costs of decommissioning primarily because of differences in the underlying assumptions.

TVA maintains a NDT to provide funding for the ultimate decommissioning of its nuclear power plants. See Note 14 — Investment Funds. TVA monitors the value of its NDT and believes that, over the long term and before cessation of nuclear plant operations and commencement of decommissioning activities, adequate funds from investments and additional contributions, if necessary, will be available to support decommissioning. TVA's operating nuclear power units are licensed through various dates between 2033 - 2055, depending on the unit. It may be possible to extend the operating life of some of the units with approval from the NRC.

Non-Nuclear Decommissioning. The estimated future non-nuclear decommissioning ARO was $1.4 billion at June 30, 2018. This decommissioning cost estimate involves estimating the amount and timing of future expenditures and making judgments concerning whether or not such costs are considered a legal obligation. Estimating the amount and timing of future expenditures includes, among other things, making projections of the timing and duration of the asset retirement process and how costs will escalate with inflation. The actual decommissioning costs may vary from the derived estimates because of changes in current assumptions, such as the assumed dates of decommissioning, changes in regulatory requirements, changes in selected closure methodology, changes in available technology, and changes in the cost of labor, materials, and equipment.

TVA maintains an ART to help fund the ultimate decommissioning of its power assets. See Note 14. Estimates involved in determining if additional funding will be made to the ART include inflation rate, rate of return projections on the fund investments, and the planned use of other sources to fund decommissioning costs.

Environmental Matters. TVA's power generation activities, like those across the utility industry and in other industrial sectors, are subject to 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. Regulations are also expected to apply to new emissions and sources, with a particular emphasis on climate change, renewable generation, and energy efficiency.

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 coal-fired generating units. Environmental requirements placed on the operation of TVA's coal-fired and other generating units will likely continue to become more restrictive over time. Litigation over emissions or discharges from coal-fired generating units is also occurring, including litigation against TVA. Failure to comply with environmental and safety laws can result in TVA 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.

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TVA estimates that compliance with existing and future Clean Air Act ("CAA") requirements (excluding greenhouse gas ("GHG") requirements) could lead to costs of approximately $197 million from 2018 to 2023, which include future clean air controls, existing controls capital projects, and air operations and maintenance projects. TVA also estimates additional expenditures of $1.2 billion from 2018 to 2022 relating to TVA's CCR conversion program, not including costs related to any new requirements related to the Gallatin CCR facilities lawsuits, as well as expenditures of approximately $480 million from 2018 to 2024 relating to compliance with Clean Water Act requirements. Future costs could differ from these estimates if new environmental laws or regulations become applicable to TVA or the facilities it operates, or if existing environmental laws or regulations are revised or reinterpreted. There could also be costs that cannot reasonably be predicted at this time, due to uncertainty of actions, that could increase these estimates.

Liability for releases and cleanup of hazardous substances is primarily regulated by the federal Comprehensive Environmental Response, Compensation, and Liability Act, 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 operations at some facilities have resulted in contamination that TVA is addressing. At June 30, 2018, and September 30, 2017, TVA's estimated liability for cleanup and similar environmental work for those sites for which sufficient information is available to develop a cost estimate was approximately $10 million and $7 million, respectively, on a non-discounted basis, and was included in Accounts payable and accrued liabilities and Other long-term liabilities on the Consolidated Balance Sheets.

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 a catastrophic event or otherwise.

General. At June 30, 2018, TVA had accrued $19 million of probable losses with respect to Legal Proceedings. Of the accrued amount, $11 million is included in Other long-term liabilities and $8 million is included in Accounts payable and accrued liabilities. No assurance can be given that TVA will not be subject to significant additional claims and liabilities. If actual liabilities significantly exceed the estimates made, TVA's results of operations, liquidity, and financial condition could be materially adversely affected.

Environmental Agreements. In April 2011, TVA entered into two substantively similar agreements, one with the Environmental Protection Agency ("EPA") and the other with Alabama, Kentucky, North Carolina, Tennessee, and three environmental advocacy groups: the Sierra Club, the National Parks Conservation Association, and Our Children's Earth Foundation (collectively, the "Environmental Agreements"). They became effective in June 2011. Under the Environmental Agreements, TVA committed to (1) retire on a phased schedule 18 coal-fired units with a combined summer net dependable capability of 2,200 MW, (2) control, convert, or retire additional coal-fired units with a combined summer net dependable capability of 3,500 MW, (3) comply with annual, declining emission caps for sulfur dioxide ("SO_2") and nitrogen oxide, (4) invest $290 million in certain TVA environmental projects, (5) provide $60 million to Alabama, Kentucky, North Carolina, and Tennessee to fund environmental projects, and (6) pay civil penalties of $10 million. In exchange for these commitments, most past claims against TVA based on alleged New Source Review and associated violations were waived and cannot be brought against TVA. Future claims, including those for sulfuric acid mist and GHG emissions, can still be brought against TVA, and claims for increases in particulates can also be pursued at many of TVA's coal-fired units. Additionally, the Environmental Agreements do not address compliance with new laws and regulations or the cost associated with such compliance.

Case Involving Tennessee Valley Authority Retirement System. In March 2010, eight current and former participants in and beneficiaries of TVARS filed suit in the U.S. District Court for the Middle District of Tennessee challenging the TVARS Board's 2009 decision to amend the TVARS Rules and Regulations ("Rules") in exchange for a $1.0 billion contribution from TVA. The changes approved by the TVARS Board (1) suspended the TVA contribution requirements for 2010 through 2013, (2) reduced the calculation for COLAs for CY 2010 through CY 2013, (3) reduced the interest crediting rate for the fixed fund accounts, and (4) increased the eligibility age to receive COLAs from age 55 to 60. The plaintiffs alleged that these changes violated their constitutional rights (due process, equal protection, and property rights), violated the Administrative Procedure Act, and violated the substantive and procedural components of an anti-cutback provision in the Rules. TVA and the plaintiffs filed cross motions for summary judgment. In August 2015, the court granted TVA's motion for summary judgment and dismissed the case with prejudice. In September 2015, the plaintiffs appealed this decision to the Sixth Circuit. On August 12, 2016, the Sixth Circuit held that the plaintiffs' rights were not violated because COLAs are not vested benefits. A few other issues were remanded to the district court for further proceedings. On March 2, 2017, the district court granted TVA's motion for a judgment on the administrative record and dismissed all the remaining claims in this case. The plaintiffs appealed this order, and oral argument before the Sixth Circuit was held on January 31, 2018. On March 16, 2018, the Sixth Circuit ruled in TVA's favor. The case is now concluded.

Cases Involving Gallatin Fossil Plant CCR Facilities. TVA is a party in two lawsuits relating to alleged releases of waste materials from the CCR facilities at Gallatin. See Note 8 — Background — Lawsuit Brought by TDEC and — Lawsuit Brought by TSRA and TCWN.

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Petitions to Intervene in the Proceeding Involving the Early Site Permit Application for Small Modular Reactors at TVA's Clinch River Site. Three environmental groups — the Southern Alliance for Clean Energy ("SACE"), Tennessee Environmental Council ("TEC"), and Blue Ridge Environmental Defense League ("BREDL") — filed petitions to intervene in the proceeding regarding the Early Site Permit Application that TVA submitted for review by the NRC in May 2016 relating to the potential future construction and operation of two or more small modular reactors ("SMRs") units at TVA's Clinch River site in Oak Ridge, Tennessee. On October 10, 2017, the Atomic Safety and Licensing Board issued a decision admitting two contentions proffered jointly by SACE and TEC and dismissing a third. The two admitted contentions challenge the application's environmental report. One of the contentions alleges that the environmental report fails to consider the possibility of a spent fuel pool fire, and the other objects to language in the environmental report regarding the technical advantages of SMRs. The decision also denied admission of BREDL's one proffered contention. On November 6, 2017, TVA appealed the admission of the two contentions to the NRC. One of the contentions was subsequently dismissed. The NRC released a draft environmental impact statement ("EIS") concerning the application in April 2018. SACE and TEC submitted two additional contentions based on the draft EIS in May 2018. TVA and the NRC filed separate briefs opposing the admission of these contentions in June 2018.

Gallatin Fossil Plant Clean Air Act Permit. In August 2016, the Sierra Club filed a petition with the EPA requesting that the EPA object to the CAA renewal permit issued by TDEC to TVA for operations at Gallatin. The petition alleges that the permit (1) contains compliance evaluation requirements for opacity, particulate matter, and fugitive dust that are not as stringent as required, (2) includes allowances for startup, shutdown, and malfunctions that are inconsistent with the CAA, (3) fails to include reporting requirements to ensure compliance with the Environmental Agreements, and (4) contains impermissibly high SO_2 emission limits. On May 15, 2017, the Sierra Club filed a lawsuit in the United States District Court for the District of Columbia seeking to compel the EPA to act on the petition. On November 17, 2017, the District Court ordered the EPA to respond to the petition by January 31, 2018. While proceedings on this petition were ongoing, TDEC modified the CAA renewal permit on November 6, 2017, to address compliance with the 1-hour SO_2 NAAQS. On November 20, 2017, the Sierra Club filed a second petition requesting the EPA to object to the modified permit. On January 31, 2018, the EPA denied both petitions.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

(Dollars in millions except where noted)

Management’s Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") explains the results of operations and general financial condition of the Tennessee Valley Authority ("TVA"). The MD&A should be read in conjunction with the accompanying unaudited consolidated financial statements and TVA's Annual Report on Form 10-K for the fiscal year ended September 30, 2017 (the "Annual Report").

Executive Overview

TVA's net income for the three and nine months ended June 30, 2018, was $470 million and $1.2 billion, respectively, as compared with net income of $233 million and $546 million for the same periods of 2017. As is often the case for electric utilities, weather is a primary driver of TVA's sales. TVA's service territory experienced overall warmer than normal weather during the third quarter of 2018 and record-setting low temperatures during the month of January 2018. Electricity sales to local power company customers (“LPCs”), who are more weather sensitive, were higher for both the three and nine months ended June 30, 2018. These increases were partially offset by a decrease in sales to directly served customers. The increased revenue from higher energy sales, as well as the base rate adjustment that became effective October 1, 2017, was partially offset by lower fuel cost recovery.

Total fuel and purchased power expenses decreased slightly during the three months ended June 30, 2018, compared to the same period of the prior year, primarily due to lower natural gas prices partially offset by increased generation needs to support warmer than normal temperatures. Total fuel and purchased power expenses decreased during the nine months ended June 30, 2018, as compared to the same period of the prior year, primarily due to lower natural gas prices and increased hydroelectric and natural gas generation. Operating and maintenance expense decreased $51 million and $85 million, respectively, during the three and nine months ended June 30, 2018, as compared to the same periods of the prior year. These decreases were primarily due to a decrease in planned outage days and identified operating efficiencies.

In 2011, TVA entered into two substantively similar agreements, one with the Environmental Protection Agency ("EPA") and the other with several states and environmental groups. Consistent with these agreements, during the first six months of 2018, TVA installed two selective catalytic reduction systems ("SCRs") at the Gallatin Fossil Plant ("Gallatin"), installed scrubbers and SCRs for Units 1 and 4 at the Shawnee Fossil Plant ("Shawnee"), and retired Units 1-4 of the Johnsonville Fossil Plant and Units 1-3 of the Allen Fossil Plant. With these actions, TVA has completed the requirements in the environmental agreements relating to retiring or installing controls on coal-fired units.

TVA continued to achieve 99.999 percent reliability in delivering energy to its customers. TVA's reliability and economic development efforts continued to attract and encourage the expansion of business and industries in the Tennessee Valley, with over $10.2 billion in investments and approximately 54,000 jobs created or retained through the third quarter of 2018.

Consistent with national trends, energy demand in the areas served by TVA and the LPCs has been essentially flat over the past five years. TVA anticipates this trend to continue as technological advances and consumer demand for generation and

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energy management technologies and distributed energy increase. To accommodate this trend, TVA began working with its LPCs on its long-term pricing and product development strategies in the fall of 2013. Since that time, TVA has collaborated with its LPCs to refine some of these details. At its May 10, 2018 meeting, the TVA Board approved a change to the structure of its wholesale electric power rates through pricing that better aligns wholesale rates with the underlying cost to serve customers. TVA is continuing to work with LPCs to implement these changes, which will become effective on October 1, 2018. With this proactive rate structure change, TVA expects to provide a stable foundation that gives the flexibility to embrace new trends and to continue delivering more innovative energy options.

Additionally, TVA remains committed to planning its system in a way that ensures evolving resource portfolios remain reliable and provide the most value to all customers. TVA continues to build an enhanced fiber network that will better connect its operational assets and improve the reliability and resiliency of the generation and transmission system. TVA also utilizes an Integrated Resource Plan ("IRP") to provide direction on how to best meet future electricity demand. TVA has begun working on an updated IRP that will consider many views of the future to determine how TVA can continue to provide low-cost, reliable electricity, support environmental stewardship, and spur economic development in the Tennessee Valley over the next 20 years.

Results of Operations

Sales of Electricity

The following chart compares TVA's energy sales statistics for the three and nine months ended June 30, 2018 and 2017:

Sales of Electricity[1]
Three Months Ended
June 30
(millions of kWh)

Sales of Electricity[2]
Nine Months Ended
June 30
(millions of kWh)

Notes
(1) Pre-commercial generation included in the three months ended June 30, 2018, was less than 1 million kilowatt hours ("kWh"). There was no pre-commercial generation for the three months ended June 30, 2017. See Note 1 — Pre-Commercial Plant Operations.
(2) Includes approximately 429 million kWh and 798 million kWh of pre-commercial generation for the nine months ended June 30, 2018 and 2017, respectively. See Note 1 — Pre-Commercial Plant Operations.

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Weather affects both the demand for TVA power and the price for that power. TVA uses degree days to measure the impact of weather on its power operations. Degree days measure the extent to which average temperatures in the five largest cities in TVA's service area vary from 65 degrees Fahrenheit.

Degree Days

	Variation from Normal						Variation from Prior Period
	2018 Actual	Normal	Percent Variation	2017 Actual	Normal	Percent Variation	Percent Change
Heating Degree Days							
Three Months Ended June 30	278	228	21.9 %	107	228	(53.1)%	159.8 %
Nine Months Ended June 30	3,286	3,343	(1.7)%	2,367	3,343	(29.2)%	38.8 %
Cooling Degree Days							
Three Months Ended June 30	797	587	35.8 %	643	587	9.5 %	24.0 %
Nine Months Ended June 30	948	666	42.3 %	842	666	26.4 %	12.6 %
Total Degree Days							
Three Months Ended June 30	1,075	815	31.9 %	750	815	(8.0)%	43.3 %
Nine Months Ended June 30	4,234	4,009	5.6 %	3,209	4,009	(20.0)%	31.9 %

Sales of electricity increased approximately six percent for the three months ended June 30, 2018, as compared to the same period of the prior year, primarily due to increased sales volume for LPCs driven predominantly by a 43 percent increase in total degree days. Partially offsetting the increased sales volume for LPCs was a slight decrease in sales to industries directly served, particularly in the pulp & paper and polysilicon sectors.

Sales of electricity increased approximately six percent for the nine months ended June 30, 2018, as compared to the same period of the prior year, primarily due to increased sales volume for LPCs driven predominantly by a 39 percent increase in heating degree days. Colder than normal weather during January 2018 led to TVA setting an all-time record for energy demand in a 24-hour period, as TVA delivered 706 million kWh of energy to the Tennessee Valley. Additionally in January 2018, TVA set three of its top-12 winter peak demand records. Partially offsetting the increased sales volume for LPCs was a slight decrease in sales to industries directly served, particularly in the pulp & paper and polysilicon sectors.

Financial Results

The following table compares operating results for the three and nine months ended June 30, 2018 and 2017:

Summary Consolidated Statements of Operations

	Three Months Ended June 30			Nine Months Ended June 30		
	2018	2017	Percent Change	2018	2017	Percent Change
Operating revenues	$2,707	$2,571	5.3 %	$8,048	$7,664	5.0 %
Operating expenses	1,942	2,010	(3.4)%	5,920	6,140	(3.6)%
Operating income	765	561	36.4 %	2,128	1,524	39.6 %
Other income, net	11	12	(8.3)%	34	39	(12.8)%
Interest expense, net	306	340	(10.0)%	942	1,017	(7.4)%
Net income (loss)	$470	$233	101.7 %	$1,220	$546	123.4 %

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Operating Revenues. Operating revenues for the three and nine months ended June 30, 2018 and 2017, consisted of the following:

Operating Revenues[1]
Three Months Ended
June 30

Operating Revenues[2]
Nine Months Ended
June 30
Notes
(1) Excludes contra-revenue amounts of less than $1 million representing revenue capitalized during pre-commercial operations for the three months ended June 30, 2018. There were no contra-revenue amounts for the three months ended June 30, 2017. See Note 1 — Pre-Commercial Plant Operations.
(2) Excludes contra-revenue amounts of approximately $11 million and $20 million representing revenue capitalized during pre-commercial operations for the nine months ended June 30, 2018 and 2017, respectively. See Note 1 — Pre-Commercial Plant Operations.

The rate structure in effect provides price signals intended to reflect higher cost periods to serve the LPCs and their end-use customers. Under this structure, weather can positively or negatively impact both volume and effective rates because the wholesale structure includes two components: a demand charge and an energy charge. The demand charge is based on the customer's peak monthly usage and increases as the peak increases. The energy charge is based on the kWh used by the customer. The rate structure also includes a separate fuel rate that includes the costs of natural gas, fuel oil, purchased power,

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coal, emission allowances, nuclear fuel, and other fuel-related commodities; realized gains and losses on derivatives purchased to hedge the costs of such commodities; and tax equivalents associated with the fuel cost adjustments.

The changes in components of operating revenues for the three and nine months ended June 30, 2018, compared to the three and nine months ended June 30, 2017, are as follows:

	Three Months Ended June 30			Nine Months Ended June 30		
	2018	2017	Change	2018	2017	Change
Base revenue	$1,937 (1)	$1,807 (1)	$ 130	$5,777 (2)	$5,298 (2)	$ 479
Fuel cost recovery	730	725	5	2,148	2,248	(100)
Off-system sales	2	—	2	6	2	4
Revenue from sales of electricity	2,669	2,532	137	7,931	7,548	383
Other revenue	38	39	(1)	117	116	1
Total operating revenues	$2,707	$2,571	$ 136	$8,048	$7,664	$ 384

Notes
(1) Includes the impact of revenue capitalized during pre-commercial operations of less than $1 million for the three months ended June 30, 2018. There was no revenue capitalized for the three months ended June 30, 2017. See Note 1 — Pre-Commercial Plant Operations.
(2) Includes the impact of revenue capitalized during pre-commercial operations of approximately $11 million and $20 million for the nine months ended June 30, 2018 and 2017, respectively. See Note 1 — Pre-Commercial Plant Operations.

Operating revenues increased $136 million for the three months ended June 30, 2018, as compared to the same period of the prior year, primarily due to a $130 million increase in base revenue. The $130 million increase in base revenue was driven by an increase of $113 million resulting from higher sales volume during the quarter ended June 30, 2018, as compared to the same period of the prior year. In addition, approximately $17 million of the increase in base revenue was attributable to higher effective rates during the three months ended June 30, 2018, as compared to the same period of the prior year, resulting from the base rate adjustment that became effective October 1, 2017. Further, fuel cost recovery revenues increased $5 million, driven by a $41 million increase attributable to higher energy sales partially offset by a $36 million decrease attributable to lower fuel rates. The lower fuel rates experienced were primarily driven by lower market prices for natural gas and a change in the mix of generation resources, including significantly more nuclear and natural gas generation.

Operating revenues increased $384 million for the nine months ended June 30, 2018, as compared to the same period of the prior year, primarily due to a $479 million increase in base revenue. The $479 million increase in base revenue was driven by an increase of $355 million resulting from higher sales volume during the nine months ended June 30, 2018, as compared to the same period of the prior year. TVA's service territory experienced overall warmer than normal weather during the third quarter of 2018. In addition, colder than normal weather during January 2018 led to TVA setting an all-time record for energy demand in a 24-hour period. Also in January 2018, TVA set three of its top-12 winter peak demand records. Further, approximately $115 million of the increase in base revenue was attributable to higher effective rates during the nine months ended June 30, 2018, as compared to the same period of the prior year, resulting from the base rate adjustment that became effective October 1, 2017. The base revenue increase was also due in part to approximately $9 million less capitalization of revenue resulting from pre-commercial generation during the nine months ended June 30, 2018, as compared to the same period of the prior year. See Note 1 — Pre-Commercial Plant Operations. Partially offsetting these increases was a $100 million decrease in fuel cost recovery revenues, driven by a $227 million decrease attributable to lower fuel rates partially offset by a $127 million increase attributable to higher energy sales. The lower fuel rates experienced were primarily driven by lower market prices for natural gas and a change in the mix of generation resources, including significantly more hydroelectric and natural gas generation.

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Operating Expenses. Operating expenses for the three and nine months ended June 30, 2018 and 2017, consisted of the following:

Three Months Ended June 30, 2018, Compared to Three Months Ended June 30, 2017

The following chart summarizes TVA's net generation and purchased power in millions of kWh by generating source for the periods indicated:

Power Supply from TVA-Operated Generation Facilities and Purchased Power

	Three Months Ended June 30					
	2018		2017			
	kWh (millions)	Percent of Power Supply	kWh (millions)	Percent of Power Supply	Change	Percentage Change
Coal-fired	7,694	19 %	9,049	24 %	(1,355)	(15)%
Nuclear	15,665	40 %	12,368	32 %	3,297	27 %
Hydroelectric	3,499	9 %	3,365	9 %	134	4 %
Natural gas and/or oil-fired(1)	7,574	19 %	6,366	17 %	1,208	19 %
Total TVA-operated generation facilities(2)	34,432	87 %	31,148	82 %	3,284	11 %
Purchased power (non-renewable)(3)	3,322	8 %	4,445	12 %	(1,123)	(25)%
Purchased power (renewable)(4)	1,875	5 %	2,187	6 %	(312)	(14)%
Total purchased power	5,197	13 %	6,632	18 %	(1,435)	(22)%
Total power supply	39,629	100 %	37,780	100 %	1,849	5 %

Notes

(1) The natural gas and/or oil-fired amount includes less than 1 million kWh of pre-commercial generation at the Allen Combined Cycle Plant for the three months ended June 30, 2018. There was no pre-commercial generation for the three months ended June 30, 2017. See Note 1 — Pre-Commercial Plant Operations.

(2) Generation from TVA-owned renewable resources (non-hydro) is less than one percent for all periods shown and therefore is not represented in the table above.

(3) Purchased power (non-renewable) includes generation from Caledonia Combined Cycle Plant, which is currently a leased facility operated by TVA. Generation from Caledonia Combined Cycle Plant was 695 million kWh and 1,141 million kWh for the three months ended June 30, 2018 and 2017, respectively.

(4) Purchased power (renewable) includes power purchased from the following renewable sources: hydroelectric, solar, wind, and cogeneration.

Fuel

Fuel expense increased $33 million for the three months ended June 30, 2018, as compared to the same period of the prior year. An 11 percent increase in generation from TVA-owned resources contributed $51 million to this increase. Partially offsetting this increase was an $18 million decrease in fuel expense from lower effective fuel rates, driven by lower market prices for natural gas and changes in the mix of generation resources, including significantly more nuclear and natural gas generation. As an indication of the general market direction, the average Henry Hub natural gas spot price for the three months ended June 30, 2018, was approximately eight percent lower than the price for the same period of the prior year.

Purchased Power

Purchased power expense decreased $35 million for the three months ended June 30, 2018, as compared to the same period of the prior year. Increased TVA generation reduced the amount of purchased power needed to meet demand by 22 percent. Partially offsetting this decrease was an increase in the price of purchased power, as more expensive resources were utilized to meet the demand peaks during the period.

Operating and Maintenance

Operating and maintenance expense decreased $51 million for the three months ended June 30, 2018, as compared to the same period of the prior year. This was due primarily to a decrease in nuclear refueling outage days which reduced outage expense by $23 million primarily from a decrease in planned outage, a decrease of $14 million in inventory reserves and write-offs due to prior year coal plant closures, and a decrease of $13 million for reductions in workforce related to identified efficiencies and staffing changes needed to support TVA's generating fleet.

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Depreciation and Amortization
Depreciation and amortization expense decreased $19 million for the three months ended June 30, 2018, as compared to the same period of the prior year. This was primarily driven by retirements of $31 million, including units at Allen Fossil Plant, Paradise Fossil Plant, and Johnsonville Fossil Plant. Partially offsetting this decrease was an increase of approximately $12 million from net additions to Completed plant, including the completion of Allen Combined Cycle Plant, which commenced commercial operations in April 2018.
Tax Equivalents
Tax equivalents expense increased $4 million for the three months ended June 30, 2018, as compared to the same period of the prior year. This change primarily reflects an increase in the accrued tax equivalent expense related to the fuel cost adjustment mechanism. The accrued tax equivalent expense is equal to five percent of the fuel cost adjustment mechanism revenues and increased for the three months ended June 30, 2018, as compared to the same period of the prior year.

Nine Months Ended June 30, 2018, Compared to Nine Months Ended June 30, 2017

The following chart summarizes TVA's net generation and purchased power in millions of kWh by generating source for the periods indicated:
Power Supply from TVA-Operated Generation Facilities and Purchased Power

	Nine Months Ended June 30					
	2018		2017			
	kWh (millions)	Percent of Power Supply	kWh (millions)	Percent of Power Supply	Change	Percentage Change
Coal-fired	22,226	19 %	27,313	25 %	(5,087)	(19)%
Nuclear[1]	47,768	41 %	42,553	38 %	5,215	12 %
Hydroelectric	10,444	9 %	8,145	7 %	2,299	28 %
Natural gas and/or oil-fired[2]	21,783	18 %	17,586	16 %	4,197	24 %
Total TVA-operated generation facilities[3]	102,221	87 %	95,597	86 %	6,624	7 %
Purchased power (non-renewable)[4]	9,645	8 %	10,312	9 %	(667)	(6)%
Purchased power (renewable)[5]	5,982	5 %	5,811	5 %	171	3 %
Total purchased power	15,627	13 %	16,123	14 %	(496)	(3)%
Total power supply	117,848	100 %	111,720	100 %	6,128	5 %

Notes
(1) The nuclear amount for the nine months ended June 30, 2017, includes approximately 494 million kWh of pre-commercial generation at Watts Bar Nuclear Plant ("Watts Bar") Unit 2. See Note 1 — Pre-Commercial Plant Operations.
(2) The natural gas and/or oil-fired amount includes approximately 429 million kWh and 304 million kWh of pre-commercial generation at Allen and Paradise Combined Cycle Plants for the nine months ended June 30, 2018 and 2017, respectively. See Note 1 — Pre-Commercial Plant Operations.
(3) Generation from TVA-owned renewable resources (non-hydro) is less than one percent for all periods shown and therefore is not represented in the table above.
(4) Purchased power (non-renewable) includes generation from Caledonia Combined Cycle Plant, which is currently a leased facility operated by TVA. Generation from Caledonia Combined Cycle Plant was 2,762 million kWh and 3,099 million kWh for the nine months ended June 30, 2018 and 2017, respectively.
(5) Purchased power (renewable) includes power purchased from the following renewable sources: hydroelectric, solar, wind, and cogeneration.
Fuel

Fuel expense decreased $68 million for the nine months ended June 30, 2018, as compared to the same period of the prior year. The impact of lower effective fuel rates, driven by lower market prices for natural gas and changes in the mix of generation resources, including significantly more hydroelectric and natural gas generation, contributed $171 million to the decrease. As an indication of the general market direction, the average Henry Hub natural gas spot price for the nine months ended June 30, 2018, was approximately four percent lower than the price for the same period of the prior year. Partially offsetting this decrease was a $103 million increase in fuel expense driven by a seven percent increase in generation from TVA-operated resources.

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Purchased Power
Purchased power expense decreased $28 million for the nine months ended June 30, 2018, as compared to the same period of the prior year. Increased TVA generation reduced the amount of purchased power needed to meet demand by three percent. Partially offsetting this decrease was an increase in the price of the purchased power, as more expensive resources were utilized to meet the demand peaks during the period.
Operating and Maintenance
Operating and maintenance expense decreased $85 million for the nine months ended June 30, 2018, as compared to the same period of the prior year. This change was due primarily to a decrease in nuclear refueling outage days which reduced outage expense by $59 million primarily from a decrease in planned outage and a decrease of $27 million for reductions in workforce related to identified efficiencies and staffing changes needed to support TVA's generating fleet.

Depreciation and Amortization
Depreciation and amortization expense decreased $35 million for the nine months ended June 30, 2018, as compared to the same period of the prior year. This was primarily driven by retirements of $76 million, including certain units at Allen Fossil Plant, Paradise Fossil Plant, and Johnsonville Fossil Plant. Partially offsetting this decrease was an increase of approximately $41 million from net additions to Completed plant, including the completion of Allen Combined Cycle Plant, which commenced commercial operations in April 2018, and Paradise Combined Cycle Plant, which commenced commercial operations in April 2017.
Tax Equivalents
Tax equivalents expense decreased $4 million for the nine months ended June 30, 2018, as compared to the same period of the prior year. This change primarily reflects a decrease in the accrued tax equivalent expense related to the fuel cost adjustment mechanism. The accrued tax equivalent expense is equal to five percent of the fuel cost adjustment mechanism revenues and decreased for the nine months ended June 30, 2018, as compared to the same period of the prior year.

Interest Expense. Interest expense and interest rates for the three and nine months ended June 30, 2018 and 2017, were as follows:
Interest Expense and Rates

	Three Months Ended June 30			Nine Months Ended June 30		
	2018	2017	Percent Change	2018	2017	Percent Change
Interest expense(1)	$306	$340	(10.0)%	$942	$1,017	(7.4)%
Average blended debt balance(2)	24,701	25,294	(2.3)%	25,074	25,368	(1.2)%
Average blended interest rate(3)	4.74 %	5.16 %	(8.1)%	4.81 %	5.12 %	(6.1)%

Note
(1) Total interest expense includes amortization of debt discounts, issuance, and reacquisition costs, net.
(2) Includes average balances of long-term power bonds, debt of VIE, and discount notes.
(3) Includes interest on long-term power bonds, debt of VIE, and discount notes.

Total interest expense decreased $34 million and $75 million for the three and nine months ended June 30, 2018, respectively, as compared to the same periods of the prior year, primarily due to a lower average balance of long-term debt and lower average interest rates on long-term debt. Interest rates were lower for the three months and nine months ended June 30, 2018, due to maturities of higher rate long-term debt and issuance of lower rate long-term debt, partially offset by higher average interest rates on short-term debt and higher average balances of short-term debt.

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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. Current liabilities may exceed current assets from time to time in part because TVA uses short-term debt to fund short-term cash needs, as well as to pay scheduled maturities and other redemptions 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.

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 United States Department of the Treasury ("U.S. Treasury"), four long-term revolving credit facilities totaling $2.7 billion, and proceeds from other financings. See Note 11 — Credit Facility Agreements. Other financing arrangements may include sales of receivables, loans, and other assets.

The TVA Act authorizes TVA to issue bonds, notes, or other evidences of indebtedness ("Bonds") in an amount not to exceed $30.0 billion outstanding at any time. In March 2018, TVA issued $1.0 billion of power bonds maturing in March 2020. See Note 11 — Debt Securities Activity. Bonds outstanding, excluding unamortized discounts and premiums and net exchange losses from foreign currency transactions, at June 30, 2018, were $23.4 billion (including current maturities). The balance of Bonds outstanding directly affects TVA's capacity to meet operational liquidity needs and to strategically use Bonds to fund certain capital investments as management and the TVA Board may deem desirable. Other options for financing not subject to the limit on Bonds, including lease financings (see Lease Financings below and Note 7), could provide supplementary funding if needed. Currently, TVA believes that it has adequate capability to fund its ongoing operational liquidity needs and make planned capital investments over the next decade through a combination of Bonds, additional power revenues through power rate increases, cost reductions, or other ways. See Lease Financings below, Note 7, and Note 11 for additional information.

Debt Securities. TVA's Bonds are not obligations of the United States, and the United States does not guarantee the payments of principal or interest on Bonds. TVA's Bonds consist of power bonds and discount notes. Power bonds have maturities of between one and 50 years. Discount notes have maturities of less than one year. Power bonds and discount notes have a first priority and equal claim 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. In addition to power bonds and discount notes, TVA had long-term debt associated with certain VIEs outstanding at June 30, 2018. See Lease Financings below, Note 7, and Note 11 for additional information.

The following table provides additional information regarding TVA's short-term borrowings.
Short-Term Borrowing Table

	At June 30, 2018	Three Months Ended June 30, 2018	Nine Months Ended June 30, 2018	At June 30, 2017	Three Months Ended June 30, 2017	Nine Months Ended June 30, 2017
Gross Amount Outstanding (at End of Period) or Average Gross Amount Outstanding (During Period)						
Discount Notes	$1,887	$1,990	$2,079	$1,005	$807	$1,182
Weighted Average Interest Rate						

Discount Notes	1.863 %	1.760 %	1.400 %	0.997 %	0.814 %	0.510 %
Maximum Month-End Gross Amount Outstanding (During Period)						
Discount Notes	N/A	$2,144	$2,722	N/A	$1,005	$2,062

Lease Financings. TVA has entered into certain leasing transactions with special purpose entities ("SPEs") to obtain third-party financing for its facilities. These SPEs are sometimes identified as VIEs of which TVA is determined to be the primary beneficiary. TVA is required to account for these VIEs on a consolidated basis. See Note 7 and Note 11 for information about TVA's lease financing activities. During 2017 and 2016, TVA acquired 100 percent of the equity interests in certain special purpose entities created for the purpose of facilitating lease financing. TVA may seek to enter into similar arrangements in the future.

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Summary Cash Flows

A major source of TVA's liquidity is operating cash flows resulting from the generation and sale of electricity. Cash and cash equivalents were $299 million at June 30, 2018, compared to $301 million at June 30, 2017. A summary of cash flow components for the nine months ended June 30, 2018 and 2017, follows:

Cash provided by (used in):

Operating Activities. TVA’s cash flows from operations are primarily driven by sales of electricity, fuel expense, and operating and maintenance expense. The timing and level of cash flows from operations can be affected by the weather, changes in working capital, commodity price fluctuations, outages, and other project expenses.

Net cash flows provided by operating activities increased $545 million for the nine months ended June 30, 2018, as compared to the same period of the prior year, as a result of increases in base revenues, lower operating expenses, and lower interest paid. Increases in base revenue were attributable to the higher energy sales primarily due to warmer than normal weather during the third quarter and colder than normal weather during January 2018 and increases in the effective base rate. The increases in base revenue were partially offset by a decrease in fuel recovery revenues due to lower gas market prices and significant increases in hydroelectric and natural gas generation. Lower operating expenses were due to decreases in nuclear planned outage days and reductions in workforce related to identified efficiencies and staffing changes needed to support the generation fleet.

Investing Activities. The majority of TVA’s investing cash flows are due to investments to acquire, upgrade, or maintain generating and transmission assets, including environmental projects and the purchase of nuclear fuel.

Net cash flows used in investing activities decreased by $352 million for the nine months ended June 30, 2018, as compared to the same period in the prior year, driven by the completion of capacity expansion and clean air projects, including Paradise Combined Cycle Plant, Allen Combined Cycle Plant, and the clean air controls at Gallatin and Shawnee.

Financing Activities. TVA’s cash flows provided by or used in financing activities are primarily driven by the timing and level of cash flows provided by operating activities, cash flows used in investing activities, and net issuance and redemption of debt instruments to maintain a strategic balance of cash on hand.

Net cash flows used in financing activities increased $899 million for the nine months ended June 30, 2018, as compared to the same period of the prior year, driven by long-term power bond maturities. Additional power bond redemptions of $1.2 billion were partially offset by $274 million of decreased short-term debt net redemptions. TVA generally uses short-term debt to meet working capital needs and other cash requirements while seeking to maintain balances of cash and equivalents at a target level.

Contractual Obligations

TVA has obligations and commitments to make future payments under certain contracts. During the three and nine months ended June 30, 2018, there were no material changes in TVA's contractual obligations outside of the ordinary course of business. TVA's contractual obligations are discussed in Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources and Note 21 of the Notes to Consolidated Financial Statements in the Annual Report.

Key Initiatives and Challenges

Distributed Energy Resources

Consumer desire for energy choice is, among other things, driving the expectation for flexible options. TVA and LPCs are working together to leverage the strengths of the Tennessee Valley public power model to provide distributed energy

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solutions that are economic, sustainable, and flexible. TVA will focus on the safety and reliability impact of these resources as they are interconnected to the grid and ensure that the pricing of electricity remains as low as feasible. Additional regulatory considerations and analysis may be required as the distributed energy resources ("DER") market, technologies, and programs evolve. TVA will work to develop pricing and regulatory structures with a deliberate and thoughtful analysis of each current and future program offering. It will require strong partnership to reinforce local control, give customers choices, and give end-use consumers the flexibility they desire.

In May 2017, the TVA Board authorized up to $300 million to be spent over the next 10 years, subject to annual budget availability and necessary environmental reviews, to build an enhanced fiber network that will better connect its operational assets. Fiber is a vital part of TVA’s modern communication infrastructure. The new fiber optic lines will improve the reliability and resiliency of the generation and transmission system while enabling the system to better accommodate distributed energy resources as they enter the market.

Changing Customer Preferences

As more consumers and businesses are demanding cleaner and greener energy, the utility industry is evolving to meet those needs. As TVA also evolves, it will see impacts to the way it does business from the pricing of products, transmission of energy, and development of new products and services for its customers in support of changing customer preferences and its economic development efforts. End-use customers are becoming more technologically sophisticated and want greater control over their energy usage. Larger companies are focusing more on sustainability and requiring more energy efficiency as well as cleaner, greener, renewable energy options. The continuing challenge for TVA and others is finding ways to meet the needs and preferences of customers while successfully developing flexible pricing models to accommodate the evolving markets.

Integrated Resource Planning

TVA has begun the process of updating its IRP, a comprehensive study that provides direction on how to best meet future power demand by identifying the need for generating capacity, determining the best mix of resources, and evaluating the evolving role of DER. The IRP will consider many views of the future to determine how TVA can continue to provide low-cost, reliable electricity, support environmental stewardship, and spur economic development in the Tennessee Valley over the next 20 years. To inform TVA's next long-term financial plan and proactively address the changing utility marketplace, TVA began this work sooner than originally planned.

To ensure TVA best meets projected future needs, TVA will continue its tradition of innovation in each IRP. The 2011 IRP focused on diversifying and modernizing its generation portfolio, part of which included adding cost-effective renewables. The 2015 IRP identified DER as a growing trend in the utility industry and designed a mechanism where energy efficiency could be chosen as a resource. The 2019 IRP will explore various DER scenarios, considering the speed and amount of DER penetration, improve TVA's understanding of the impact and benefit of system flexibility with increasing renewable and distributed resources, and determine the implications to TVA's diverse portfolio mix for the next 20 years.

TVA is primarily a wholesale power provider, and the LPCs are the service provider for most end-use customers. Due to this public power business model, collaboration with customers and stakeholders is a vital part of the IRP. Opportunities for customer and stakeholder engagement and for public comment include public meetings, webinars, the IRP working group, and the Regional Energy Resource Council ("RERC"). The IRP working group and RERC consist of representatives from LPCs, direct-served customers, non-governmental organizations, state and local governments, and academia. As part of the IRP decision-making process, and in alignment with the National Environmental Policy Act, TVA will also analyze potential environmental implications associated with an updated IRP by issuing an environmental impact statement ("EIS").

TVA received over 80 comments during the public scoping period which ended in April 2018. These comments will help TVA identify issues that are important to the public and lay the foundation for development of the IRP and the EIS. Scoping input will be described in a report that TVA will post on its website in August 2018. Additionally during the third quarter of 2018, TVA hosted a quarterly webinar and two IRP Working Group meetings and provided an update on the 2019 IRP to RERC.

Natural Resource Plan

TVA has begun the process of updating its Natural Resource Plan ("NRP"), which was completed in 2011 to guide TVA’s management of the public lands and waters within its seven-state service area. TVA remains committed to a balanced management approach and is considering changes to the NRP that include defined strategies, objectives, and programs for each of the proposed 10 focus areas. The NRP would provide a flexible approach for long-term planning, which would help TVA prioritize funding and support its mission. To guide the development of the updated NRP, TVA will host four public open houses and a webinar to obtain public input on the scope of the project, answer questions, and receive comments. A 30-day public comment period will be open through August 20, 2018. During this process, TVA will also supplement the 2011 NRP EIS to analyze the potential effects of proposed changes.

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Generation Resources

Nuclear Response Capability. Since the events that occurred in 2011 at the Fukushima Daiichi Nuclear Power Plant ("Fukushima Events"), the Nuclear Regulatory Commission ("NRC") adopted additional detailed guidance on the expected response capability to be developed by each U.S. nuclear plant site. The NRC issued orders that modified each plant's license to require implementation of additional external event mitigation capabilities. TVA has implemented these strategies and physical plant modifications to address the actions outlined in this guidance at Sequoyah Nuclear Plant ("Sequoyah") and Watts Bar. Implementation is in progress at Browns Ferry Nuclear Plant ("Browns Ferry") and is scheduled to be completed in 2019. As of June 30, 2018, TVA had spent $272 million on modifications related to these actions at all of its nuclear plants, including Watts Bar Unit 2, and expects to spend an additional $7 million to complete the remaining modifications intended to address this guidance.

Extreme Flooding Preparedness. Updates to the TVA analytical hydrology model completed in 2009 indicated that under "probable maximum flood" conditions, some of TVA's dams might not have been capable of regulating the higher flood waters. A "probable maximum flood" is an extremely unlikely event; however, TVA is obligated to provide protection for its nuclear plants against such events. As a result, TVA installed a series of modifications at three dams, and work on the fourth, Fort Loudoun Dam, was completed during the third quarter of 2018.

Since 2009, TVA has performed further hydrology modeling of portions of the TVA watershed using updated modeling tools. The revised hydrology models were reviewed and approved by the NRC for Watts Bar Units 1 and 2. However, TVA identified an error in the modeling that will require the models for Watts Bar Units 1 and 2 to be resubmitted. TVA plans to resubmit models for Watts Bar Units 1 and 2 during 2018. In addition, TVA plans to submit models for Sequoyah Units 1 and 2 in 2018. TVA will subsequently address conditions at Browns Ferry as needed. TVA has deferred some modifications until the updated Watts Bar and Sequoyah models are completed. As of June 30, 2018, TVA had spent $151 million on the modifications and improvements related to extreme flooding preparedness and expects to spend up to an additional $29 million to complete the modifications.

NRC Seismic Assessments. On May 9, 2014, the NRC notified licensees of nuclear power reactors in the central and eastern United States of the results of seismic hazard screening and prioritization evaluations performed by unit owners and reviewed by the NRC staff. Because the seismic hazards for Browns Ferry, Sequoyah, and Watts Bar had increases in seismic parameters beyond the technical information available when the plants were designed and licensed, TVA must conduct seismic risk evaluations for these plants. TVA completed the risk evaluation for Watts Bar and submitted it to the NRC on June 30, 2017; the evaluation concluded that no additional actions were required. The evaluations for Browns Ferry and Sequoyah are due by December 31, 2019.

Mitigation of Beyond-Design-Basis Events. NRC rulemaking has been developed to codify the requirements promulgated by orders related to beyond-design-basis flooding and seismic events discussed above. The NRC staff submitted the draft final rule — Mitigation of Beyond-Design-Basis Events — to the NRC Commission on December 15, 2016, requesting approval to publish the final rule. The final rule is expected to be issued in 2018. Minimal changes between the orders and final rule requirements are expected. Once issued, TVA will review the final rule to identify any gaps to compliance. Gaps could result in TVA having to make modifications to one or more of its nuclear plants. Cost estimates for any required modifications cannot be developed until after the rule is finalized, but costs for modifications could be substantial. See Extreme Flooding Preparedness and NRC Seismic Assessments above.

Baffle-Former Bolt Degradation. In July 2016, Westinghouse Electric Co., LLC ("Westinghouse") issued a Nuclear Safety Advisory Letter ("NSAL") 16-01 that addresses recently identified degradation of baffle-former bolts in some U.S. pressurized water reactors ("PWRs"). Baffle-former bolts help hold together a structure inside certain reactor vessels. Sequoyah Units 1 and 2, both PWRs, are referenced in the NSAL. Visual inspections of baffle-former bolts in Sequoyah Units 1 and 2 during 2017 refueling outages showed no degradation of baffle-former bolts. TVA performed ultrasonic testing on Unit 1 and results were within acceptable standards, with no bolts requiring replacement. Retesting will not be required until 2028. TVA plans to complete inspections for Unit 2 during the refueling outage in the fall of 2018.

Work Environment at Nuclear Plants. In March 2016, the NRC issued a Chilling Effect Letter ("CEL") to TVA regarding work environment concerns identified at Watts Bar. In subsequent inspections, the NRC found that Watts Bar still faces challenges in maintaining a safety conscious work environment. On April 12, 2017, TVA provided the NRC with an updated letter outlining focus areas and metrics for monitoring performance at Watts Bar. In that letter, TVA made a formal commitment to the NRC to conduct a safety culture assessment at Watts Bar in CY 2017, which it has completed. On November 2, 2017, the NRC held a public meeting where TVA presented the progress in addressing the issues. TVA is working to implement the fleet-wide actions required by the NRC to ensure sustainable improvements. The NRC conducted a CEL follow-up inspection at Watts Bar during the second quarter of 2018, which resulted in no findings.

Watts Bar Unit 2. TVA was a cooperating agency in the February 2016 Department of Energy ("DOE") Final Supplemental Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor. On April 5, 2017, due to an anticipated need for more tritium-producing burnable absorber rods ("TPBARs"), the DOE announced its preferred alternative for irradiation services, which included use of an additional reactor. As a result of TVA's assessment and concurrence with the DOE's alternative, TVA submitted a license amendment to the NRC in December 2017 to authorize the irradiation of TPBARs in Watts Bar Unit 2. The NRC is expected to issue a decision by May 2019. Subject to approval of the license amendment, tritium production in Watts Bar Unit 2 is projected to start in the fall of 2020. The DOE's decision also allows for irradiation of TPBARs at the Sequoyah site in the future; however, TVA does not have plans to employ Sequoyah units for tritium production in the near term.

Extended Power Uprate. TVA is undertaking an extended power uprate ("EPU") project at Browns Ferry that is expected to increase the amount of electrical generation capacity of its reactors. TVA is implementing the EPU project during plant refueling outages. Physical work on Unit 3 was completed, and the unit was synced to the grid in April 2018. On July 13, 2018, Unit 3 reached the new EPU 100% power. Work is expected to begin in the fall of 2018 for Unit 1 and the spring of 2019 for Unit 2. Full EPU power is expected to be achieved following the noted outages for each unit. The project has involved and continues to involve extensive engineering analyses and modification and replacement of certain existing plant components to enable the units to produce the additional power requested by the license amendments. The project is estimated to cost approximately $475 million and add approximately 465 MW of generating capacity.

Performance of Suppliers. On March 29, 2017, Westinghouse, a subsidiary of Toshiba Corporation ("Toshiba"), filed for protection under Chapter 11 of the United States Bankruptcy Code. On January 4, 2018, Brookfield Business Partners L.P. ("Brookfield Business Partners"), together with institutional partners, announced that they have entered into an agreement to acquire 100 percent of Westinghouse. The acquisition is subject to all requirements being met as specified in the reorganization plan approved by the Bankruptcy Court on March 27, 2018. See Note 13 — Counterparty Risk — Suppliers.

TVA currently has several contracts with Westinghouse and Toshiba, including contracts for the enrichment and fabrication of nuclear fuel and the manufacture of a steam generator, as well as several ongoing agreements for maintenance and outage support at its nuclear and coal-fired plants. TVA is assessing potential performance impacts, including procurement of parts and services as well as outage schedules. Westinghouse and Toshiba are currently performing under the TVA contracts; however, if either supplier is unable to perform under TVA's existing contracts and TVA is unable to obtain similar services or required intellectual property at similar terms from other vendors, TVA could experience delays, disruptions, additional costs, or other operational outcomes which TVA cannot predict at this time, but which could be material.

Clean Air Projects. During 2011, the TVA Board approved the addition of emission control equipment at Gallatin. TVA completed the addition of scrubbers on the four Gallatin units during 2016, SCRs on two units in 2017, and SCRs on the other two units in the first quarter of 2018. In addition, at its December 30, 2014, meeting, the TVA Board authorized the installation of SCRs and scrubbers on Units 1 and 4 at Shawnee. These systems were placed in service during the first quarter of 2018. These actions were in compliance with the Environmental Agreements.

Coal Combustion Residual Facilities. TVA has committed to a programmatic approach to the elimination of wet storage of coal combustion residuals ("CCRs") within the TVA service area. Under this program (the "CCR Conversion Program"), TVA has committed to (1) convert all operational coal-fired plants to dry CCR storage, (2) close all wet storage facilities, and (3) meet all applicable state and federal regulations. To carry out its CCR Conversion Program, TVA is undertaking the following actions:

Dry Generation and Dewatering Projects. Conversion of coal plant CCR wet processes to dry generation or dewatering is complete at Bull Run Fossil Plant ("Bull Run"), and construction is underway at Kingston Fossil Plant ("Kingston"), Paradise Fossil Plant ("Paradise"), and Shawnee. Construction of an additional bottom ash dewatering facility at Gallatin was initiated in early 2018.

Landfills. Lined and permitted dry storage facilities have been constructed and are operational at Bull Run, Kingston, and Gallatin. Construction of new lined and permitted dry storage facilities are scheduled to begin at Cumberland Fossil Plant ("Cumberland"), Paradise, and Shawnee in 2019. Construction of another lined facility at Bull Run is also scheduled to begin in 2019.

Wet CCR Impoundment Closures. TVA is planning to close wet CCR impoundments in accordance with federal and state requirements when (1) coal-fired plants are converted to dry CCR processes and dry storage landfills become operational or (2) the related plant operations cease. Closure project schedules and costs are driven by the selected closure methodology (such as cap and close in place or closure by removal). TVA issued an EIS in June 2016 that addresses the closure of CCR impoundments at TVA's coal-fired plants. TVA issued its associated Record of Decision in July 2016. Although the EIS was designed to be programmatic in order to address the mode of impoundment closures, it specifically addressed closure methods at 10 impoundments. TVA subsequently decided to close those impoundments. The method of final closure for each of these facilities will depend on various factors, including the results of studies conducted pursuant to the National Environmental Policy Act (“NEPA”) and approval by appropriate state regulators. Additional NEPA studies will be conducted as other facilities are designated for closure.

Groundwater Monitoring. Compliance with the EPA CCR rule as well as other requirements will require additional engineering and analysis as well as implementation of a comprehensive groundwater monitoring program. As further analyses are performed, including evaluation of monitoring results, there is the potential for additional costs for investigation and/or remediation. TVA expects to continue to evaluate and update these cost estimates.

On March 2, 2018, in accordance with the CCR rule issued by the EPA, TVA published the results of groundwater testing at TVA's active CCR facilities. The initial results showed statistically significant increases in the levels of certain constituents at some facilities. The increases do not necessarily indicate a regulatory or permit violation; rather, they trigger further testing to determine if the increases are attributable only to the CCR facility and, if so, what steps need to be taken. TVA will work with its regulators to carry out the required investigations. TVA's permits remain in effect and operations have not been impacted.

The CCR Conversion Program is scheduled to be completed by 2022 with the exception of the impoundments at Gallatin. The impoundments at Gallatin are pending additional studies to determine the final closure methodology and schedule. While plans are currently being formulated for the CCR closure methodology for Gallatin, TVA is involved in two lawsuits relating to alleged releases of waste materials from the CCR facilities at Gallatin. See Note 8.

Through June 30, 2018, TVA had spent approximately $1.4 billion on its CCR Conversion Program. TVA expects to spend approximately an additional $1.2 billion on the CCR Conversion Program through 2022, excluding new requirements related to the Gallatin CCR facilities lawsuits. These estimates may change depending on the final closure method selected for each facility. Once the CCR Conversion Program is completed, TVA will continue to undertake certain CCR projects, including building new landfill sections under existing permits and closing existing sections once they reach capacity.

Coal and Natural Gas-Fired Units. Pre-commercial operations on Units 1 and 2 of the Allen Combined Cycle Plant began in September 2017, and the plant began commercial operations April 30, 2018. The plant has a generation capacity of approximately 1,100 MW with a cost under $900 million. Units 1 and 2 of the Allen Combined Cycle Plant replaced Units 1-3 of the Allen Fossil Plant, which were retired in March 2018. See Regulatory Compliance — Allen Groundwater Investigation below. The retirements of these units were in compliance with the Environmental Agreements.

Pre-commercial operations on Unit 20 of the Johnsonville Combustion Turbine Plant, which allows for cogeneration capability, began in September 2017, and the unit was placed in service during the first quarter of 2018. Unit 20 replaced Johnsonville Fossil Plant's cogeneration capability formerly provided by Units 1-4, which were retired in December 2017. These units had a summer net capability of 428 megawatts. The retirements of these units were in compliance with the Environmental Agreements.

River Management. The third quarter of 2018 saw above normal rainfall and runoff in the Tennessee Valley. Rainfall during this period was 134 percent of normal while runoff was 126 percent of normal. Above normal runoff that has persisted since February of 2018 has helped TVA meet its river system commitments, including managing minimum river flows for navigation; generating low-cost hydroelectric power; maintaining water quality, water supply, and recreation for the Tennessee Valley; having cool water available to meet thermal compliance and enabling normal operation of TVA's nuclear and fossil-fueled plants; and oxygenating water to help fish species remain healthy. Rainfall and runoff in the Tennessee Valley through the third quarter of 2018 were 115 percent and 116 percent of normal, respectively, which resulted in conventional hydroelectric generation being 26 percent higher during this period as compared to the same period of 2017.

Small Modular Reactors. TVA submitted an Early Site Permit Application ("ESPA") for review by the NRC in May 2016. The NRC completed its acceptance review of the application on December 30, 2016, and began its detailed technical review of the application in January 2017. The ESPA is based on the potential future construction and operation of two or more small modular reactors ("SMR") units at TVA's Clinch River site in Oak Ridge, Tennessee.

TVA's ESPA is based upon information regarding the various SMR potential designs under development in the United States. Because a design has not been selected, the ESPA seeks approval of a Plant Parameter Envelope that encompasses any of the potential designs. TVA and the DOE are working under an interagency agreement to jointly fund licensing activities for the Clinch River site with DOE reimbursement of up to 50 percent of TVA's eligible costs through 2020.

TVA is developing the Clinch River site on a schedule that supports submittal of a combined construction and operating license ("COL") application in 2021, in conjunction with supporting the NRC's review of the ESPA. Submittal of a COL is subject to sufficient progress being made by the SMR vendor(s) with their design certification(s) and a TVA decision to select a specific SMR technology and proceed with development of a COL application in 2018. The project has a great deal of flexibility at this early stage and by moving forward with an ESPA, TVA will be in a position to build a SMR if and when additional power sources are needed. Any decision to construct a SMR would require approval by the TVA Board.

On October 10, 2017, the Atomic Safety and Licensing Board issued a decision admitting two contentions proffered jointly by the Southern Alliance for Clean Energy ("SACE") and Tennessee Environmental Council ("TEC") to intervene in the ESPA proceeding. See Note 17 — Legal Proceedings — Petitions to Intervene in the Proceeding Involving the Early Site Permit Application for Small Modular Reactors at TVA's Clinch River Site.

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Dam Safety and Remediation Initiatives

Assurance Initiatives. TVA has an established dam safety program, which includes procedures based on the Federal Guidelines for Dam Safety, with the objective of reducing the risk of a dam safety event. The program is comprised of various engineering activities for all of TVA's dams including safety reassessments using modern industry criteria and the new probable maximum flood and site-specific seismic load cases. TVA will continue its preventative and ongoing maintenance as a part of this safety program. TVA has spent $97 million on dam safety assurance initiatives since 2012 and expects to spend an additional $194 million through 2021.

Boone Dam Remediation. In October 2014, a sinkhole was discovered near the base of the earthen embankment at Boone Dam, and a small amount of water and sediment was found seeping from the river bank below the dam. TVA identified underground pathways contributing to the seepage and prepared a plan to repair the dam, which consists of the construction of a composite seepage barrier wall in the dam's earthen embankment. TVA has completed the low mobility grouting program and is partially complete with the high mobility grouting. Currently, TVA is in active procurement for a contractor to install the composite seepage barrier wall.

As design and construction plans are finalized, the estimated cost and duration continue to be refined. As of June 30, 2018, TVA had spent $120 million related to this project and expects to spend an additional $337 million through 2022. TVA is continuing to work with the community to help mitigate local impacts of the extended drawdown.

Pickwick South Embankment Remediation. Reassessments of Pickwick found low safety factors for post-earthquake stability indicating that the dam is at significant risk for slope stability failure following a seismic event in portions of the south embankment. Slope stability failure could lead to a breach of the south embankment and loss of the reservoir, resulting in loss of life and damage to property downstream, disruption to navigation, and loss of generation and recreation.

TVA is planning to upgrade the south embankment by constructing berms on the upstream and downstream slopes. The design phase of the project began during the first quarter of 2017, and the project is expected to be in full construction during 2019. The project is currently estimated to be completed in two years. However, the project may take longer than two years depending on successful construction sequencing. As of June 30, 2018, TVA had spent $9 million related to this project and expects to spend an additional $91 million.

Surplus Property

TVA continues to study its real estate portfolio for the purpose of aligning its real estate holdings with TVA's strategic direction. A comprehensive assessment of its real estate holdings has been completed, and TVA is implementing a strategy aimed at reducing cost and right-sizing its portfolio as part of the effort.

Bellefonte Nuclear Plant. On November 14, 2016, following a public auction, TVA entered into a contract to sell substantially all of its Bellefonte site to Nuclear Development, LLC for $111 million. Nuclear Development, LLC paid TVA $22
million on November 14, 2016, and the remaining $89 million is due at closing. Nuclear Development, LLC has up to two years from November 14, 2016, to close on the property, and TVA will maintain the site until then. The closing is subject to, among other conditions, a determination by TVA's Chief Executive Officer that potential environmental impacts have been appropriately addressed or are acceptable. TVA's CEO made this determination in the affirmative on August 10, 2017.

Muscle Shoals Property. In alignment with its strategic direction of right-sizing its real estate portfolio, TVA has drafted a strategy to further reduce a significant number of buildings and property in Muscle Shoals, Alabama,

including the disposition of 900 acres of the 1,000 acres approved by the TVA Board in 2012. On April 20, 2018, following a public auction, TVA entered into a contract to sell the property to Muscle Shoals Holdings, LLC for $5 million. The Alabama Department of Environmental
Management granted the release of an existing environmental permit. The transaction closed on July 23, 2018.

Knoxville Property. In 2016, TVA completed a comprehensive assessment of its real estate holdings in the Knoxville, Tennessee region including the Knoxville Office Complex ("KOC") and adjacent Summer Place Complex ("SPC"). As a result of this study and a subsequent environmental assessment in 2017, TVA is planning to consolidate most of its Knoxville area employees into one location in the West Tower of the KOC and plans to convey the SPC and the East Tower of the KOC.

Regulatory Compliance

Transmission Issues. The North American Electric Reliability Corporation ("NERC") approved revisions to the Transmission Planning ("TPL") Reliability Standards in 2013. The revised standards established more conservative criteria for transmission planning, principally for the severity of contingencies that must be withstood and the conditions under which load may not be lost. As of June 30, 2018, TVA has spent $47 million on existing transmission facilities and expects to spend an additional $155 million. During 2018, TVA reevaluated its approach to ensure compliance with the standards, which resulted in a reduction in estimated project cost. This reduction was driven by the standards being less restrictive than anticipated, declining load forecasts, and more detailed reliability studies reducing the required scope of work.

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Steam-Electric Effluent Guidelines. On November 3, 2015, the EPA published a final rule revising the existing steam electric effluent limitation guidelines ("ELGs"). The ELGs update the existing technology-based water discharge limitations for power plants. The 2015 rule requires compliance in the 2018-2023 timeframe and necessitates major upgrades to wastewater treatment systems at all coal-fired plants. Dry fly ash handling is mandated by the rule. The 2015 rule also requires either dry bottom ash handling systems or "no discharge" recycle of bottom ash transport waters, and new technology-based limits on flue gas desulfurization (scrubber) wastewater require primary physical/chemical treatment and secondary biological treatment to meet extremely low limits for arsenic, mercury, and selenium.

The EPA published a rule on September 18, 2017, postponing certain compliance/applicability dates to provide the EPA time to review and revise, as necessary, the 2015 ELGs for flue gas desulfurization wastewater and bottom ash transport water. The EPA pushed back the compliance dates for these two wastestreams from the 2018-2023 timeframe to 2020-2023. However, requirements and 2018-2023 applicability dates for fly ash transport water, flue gas mercury control wastewater, and gasification wastewater remain in effect. See Item 1, Business — Environmental Matters — Water Quality Control Developments — Steam-Electric Effluent Guidelines in the Annual Report.

TVA currently has four plants with wet scrubbers that will have to comply with the scrubber-related limits, the largest being Cumberland. TVA is working to address future compliance with the ELGs at Cumberland given its unique "once-through" scrubber design. Compliance with the current rule at Cumberland without modification to address the unique design could cause TVA to incur disproportionately high costs at Cumberland or experience other operational outcomes which TVA cannot predict at this time.

Allen Groundwater Investigation. The 2015 EPA Coal Combustion Residual (“CCR”) rule required TVA to conduct additional engineering and analysis, as well as implement a comprehensive groundwater monitoring program. As a result of this groundwater monitoring program, TVA reported to the Tennessee Department of Environment and Conservation ("TDEC") in May 2017 elevated levels of arsenic, lead, and fluoride in water samples taken at a few shallow-aquifer groundwater monitoring wells around the east coal ash impoundment at Allen Fossil Plant. TVA, under the oversight of TDEC, has been conducting a remedial investigation into the nature and extent of the contamination. In July 2017, TVA received a Remedial Site Investigation request from TDEC, outlining the objectives of the investigation and requiring TVA to provide a work plan.

The plan, which was submitted to TDEC in September 2017, included more extensive groundwater monitoring sampling to identify the source and extent of the contamination. The plan also included groundwater modeling to determine the current groundwater flow conditions and likely future conditions that may develop as a result of pumping cooling water from the deeper aquifer to the Allen Combined Cycle Plant, including a pump test involving the cooling water withdrawal wells. While evaluation continues, TVA has suspended plans to obtain cooling water from the deeper aquifer. TVA is constructing water tanks on site and is purchasing cooling water from its LPC, Memphis Light, Gas, and Water. The use of water tanks rather than the wells may impose some operational restrictions on the Allen Combined Cycle Plant due to the lower availability of cooling water.

A Remedial Investigation Report summarizing the results of the investigation was submitted to TDEC in March 2018, and TDEC provided subsequent comments on the report to be addressed by TVA. On July 20, 2018, TVA submitted responses to the comments on the Remedial Investigation Report, an initial Remedial Design Report, and a Groundwater Pre-design Work Plan to TDEC. In the aforementioned responses submitted to TDEC, it was stated that TVA is required to complete a NEPA review that analyzes various alternatives prior to making a final decision on closure. TVA further stated that, as part of the NEPA review process, TVA would identify closure by removal as the preferred alternative for the Allen Fossil Plant east impoundment. TVA is expected to begin a NEPA review process at Allen Fossil Plant in October 2018 to analyze closure alternatives to support a final decision on the appropriate closure methodology. For additional discussion on the impact to TVA’s Asset Retirement Obligations, see Note 10.

Ratemaking

At its August 23, 2017, meeting, the TVA Board approved a base rate adjustment which became effective on October 1, 2017. The base rate adjustment is expected to contribute approximately $195 million to 2018 revenues.

Since the fall of 2013, TVA, local power companies and directly served industries have worked collaboratively to develop changes to TVA's rates that focus on TVA’s long-term pricing efforts. A comprehensive rate restructuring was implemented in October 2015 to improve pricing by better aligning rates with underlying cost drivers and sending improved pricing signals, while maintaining competitive industrial rates and keeping residential rates affordable.

Consistent with the pricing direction and changes implemented in the 2015 rate restructuring, TVA staff recommended, and the TVA Board approved, the proposed 2018 rate change on May 10, 2018. This change will reduce wholesale energy rates for Standard Service and introduce a Grid Access Charge ("GAC") at an offsetting rate to better recover fixed costs. Recognizing the need for flexibility, all LPCs were presented with the option to implement the wholesale changes in October 2018 or defer the implementation of the GAC until October 2019.

The 2018 rate change better reflects the wholesale cost of energy and recognizes the value of the grid’s reliability and associated fixed costs. This modernized approach to pricing provides bill stability while maintaining reliability and fairness for all

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TVA's customers. Concurrent with this process, an Environmental Assessment was completed on May 4, 2018, resulting in a finding of no significant impact.

Safeguarding Assets

Physical Security — Non-Nuclear Asset Protection. TVA utilizes a variety of security technologies, security awareness activities, and security personnel to prevent sabotage, vandalism, and thefts. Any of these activities could negatively impact the ability of TVA to generate, transport, and deliver power to its customers. TVA's Police and Emergency Management personnel are active participants with numerous professional and peer physical security organizations in both the electric industry and law enforcement communities.

Physical attacks on transmission facilities across the country have heightened awareness of the need to physically protect facilities. TVA is working with the NERC, the SERC Reliability Corporation, the North American Transmission Forum, and other utilities to implement industry approved recommendations and standards.

Nuclear Security. Nuclear security is carried out in accordance with federal regulations as set forth by the NRC. These regulations are designed for the protection of TVA's nuclear power plants, the public, and employees from the threat of radiological sabotage and other nuclear-related terrorist threats. TVA has security forces to guard against such threats.

Cybersecurity. TVA operates in a highly regulated environment with respect to cyber security. TVA's cybersecurity program aligns or complies with the Federal Information Security Management Act, the NERC Critical Infrastructure Protection requirements, and the NRC requirements for cybersecurity, as well as industry best practices. As part of the U.S. government, TVA coordinates with and works closely with the Department of Homeland Security and the United States Computer Emergency Readiness Team ("US-CERT"). US-CERT functions as a liaison between the Department of Homeland Security and the public and private sectors to coordinate responses to security threats from the internet.

The risk of these cybersecurity events continues to intensify, and while TVA has been, and will likely continue to be, subjected to such attacks, to date the attacks have not impacted TVA's ability to operate as planned or compromised data which could involve TVA in legal proceedings. See Item 1A, Risk Factors — Operational Risks — TVA's facilities and information infrastructure may not operate as planned due to cyber threats to TVA's assets and operations in the Annual Report.

Transmission Assets. In addition to physical and cybersecurity attacks, TVA's transmission assets are vulnerable to various types of electrically charged energy disruptions such as those from geomagnetic disturbances ("GMD") and electromagnetic pulses ("EMP"). Because the effects of GMD and EMP are similar, they are often considered together. On September 22, 2016, the Federal Energy Regulatory Commission ("FERC") approved the Phase 2 NERC Standard TPL-007-01 to address GMD events and on May 23, 2018, FERC proposed to approve a revised Standard TPL-007-02. TVA has already met the requirements of the original standard and most of the requirements of the revised standard, and has evaluated the effects of solar storms ranging from NERC's reference case to possible extreme levels. TVA continues as an active participant with NERC in this field. The most serious threats from EMP are those caused by high-altitude nuclear explosions. Like others in the industry, TVA is coordinating with federal and state authorities, NERC, Electric Power Research Institute, and other grid owners and operators to address this re-emergent concern.

Environmental Matters

TVA's activities, particularly its power generation activities, are subject to comprehensive regulation under environmental laws and regulations relating to air pollution, water pollution, and management and disposal of solid and hazardous wastes, among other issues. Emissions from all TVA-owned and operated units (including small combustion turbine units of less than 25 MWs) have been reduced from historic peaks. Emissions of nitrogen oxide ("NO_x") have been reduced by 94 percent below peak 1995 levels and emissions of sulfur dioxide ("SO_2") have been reduced by 98 percent below 1977 levels through CY 2017. For CY 2017, TVA's emission of carbon dioxide ("CO_2") from its sources was 56 million tons, a 47 percent reduction from 2005 levels. This includes 3,049 tons from units rated at less than 25 MWs. To remain consistent and provide clear information and to align with the EPA's reporting requirements, TVA intends to continue to report CO_2 emissions on a calendar year basis.

Climate Change

On May 17, 2018, Executive Order ("EO") 13834, Efficient Federal Operations, was signed. EO 13834 revokes EO 13693, Planning for Federal Sustainability in the Next Decade. EO 13834 emphasizes meeting statutory requirements and gives agencies greater flexibility and discretion to decide how best to improve operations in order to "optimize energy and environmental performance, reduce waste, and cut costs." It also calls on the White House Council of Environmental Quality to streamline pre-existing environmental orders by "refocusing agencies on cost-effectively meeting mandates and goals" established by law. The order seeks to consolidate requirements related to energy and water efficiency, high performance buildings, renewable energy consumption, and federal vehicle fleet management. TVA consistently seeks to improve its operations in order to optimize energy and environmental performance and does not anticipate significant changes in its planning or operations as a result of the new Executive Order.

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Clean Air Act

Petition to Expand the Ozone Transport Region. On December 9, 2013, eight of the twelve states that make up the Ozone Transport Region ("OTR") submitted a petition, pursuant to section 176A(a) of the CAA, requesting the EPA to add nine states, including Kentucky and Tennessee, to the OTR. The EPA failed to act on the petition within the 180-day period provided under the CAA. On October 6, 2016, six of the eight states filing the petition sued the EPA in the U.S. District Court for the Southern District of New York, asking the court to require the EPA to act on the petition by a date certain. In response to this lawsuit, the EPA published, on January 19, 2017, a notice in the Federal Register proposing to deny the petition on the basis that the CAA provides other options, such as the use of the “good neighbor provision” in Section 110 and the authority granted states under Section 126 to petition the EPA Administrator to set emission limits, to address the impact of interstate air pollution. The EPA also states that its Cross-State Air Pollution Rule ("CSAPR Update Rule") is a significant step to control states’ emission reduction obligations under Section 110 to meet the 2008 ozone NAAQS. The comment period on this proposal closed on May 15, 2017. On October 27, 2017, the EPA denied the petition. On December 22, 2017, the eight petitioning states filed in the United States Court of Appeals for the District of Columbia Circuit a petition for judicial review of the EPA’s denial of the petition to add states to the OTR. Until the court issues its ruling, it is not possible to determine potential impacts to TVA.

Kentucky Startup/Shutdown Regulations. On April 1, 2018, the Kentucky Division for Air Quality published final revised startup/shutdown regulations for new and existing indirect heat exchangers. Shawnee and Paradise have boilers which will be subject to these rules when incorporated into their air permits. The revised rules do not significantly impact operations at Shawnee or Paradise.

Kentucky Federal Implementation Plan to Address Downwind Ozone Impacts. On June 2, 2016, the EPA missed its deadline to promulgate a federal implementation plan ("FIP") to address Kentucky’s obligation for ozone emissions originating in Kentucky that might be transported to New York and other downwind states, and the EPA was subsequently sued by the Sierra Club for missing the deadline. On May 23, 2017, the U.S. District Court for the Northern District of California ruled that the EPA must promulgate the Kentucky FIP by June 30, 2018, sooner than what the EPA had proposed. Emissions from utility units in Kentucky that contribute to ozone are already limited by the CSAPR Update Rule and are declining. On February 28, 2018, Kentucky submitted a proposed revision to its state implementation plan (“SIP”) to address downwind state ozone impacts that if approved would preempt the EPA’s FIP. The proposed SIP does not require emission reductions beyond current requirements, and on April 18, 2018, the EPA published a proposed rule to approve Kentucky’s revised SIP. If the EPA approves Kentucky’s revised SIP as proposed, no additional emission reduction requirements would be required for TVA’s Kentucky generating units.

New York Petition to Address Impacts from Upwind High Emitting Sources. On March 12, 2018, the State of New York filed a petition with the EPA under Section 126(b) of the Clean Air Act to address ozone impacts on New York from the NO_x emissions from sources emitting at least 400 tons of NO_x in 2017 from nine states including Kentucky. The New York petition requests that the EPA require daily NO_x limits for utility units with SCRs such as Paradise Unit 3 and emission reductions from utility units without SCRs such as Shawnee Units 2, 3 and 5-9. Kentucky utility unit NO_x emissions are already limited by the CSAPR Update Rule and are declining, and current EPA modeling projects no additional requirements to reduce Kentucky NO_x emissions are necessary. Until the EPA responds to New York’s Section 126(b) petition, it is not possible to determine potential impacts on TVA’s Paradise and Shawnee units.

Possible Replacement Rule for Clean Power Plan. On December 28, 2017, the EPA published an advanced notice of proposed rulemaking (“ANPR”) to solicit information for a possible future rule: State Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units. This possible future rule would be a replacement rule for the Clean Power Plan (“CPP”) rule should it be repealed or overturned. The ANPR solicited input on a broad range of issues. It is not possible to determine if a CPP replacement rule will be proposed or what the requirements may be until the EPA proposes a replacement rule.

Maryland Petition to Address Impacts from Upwind Electric Generating Units. On September 27, 2017, the State of Maryland filed a lawsuit against the EPA for failing to act within 60 days on Maryland's petition under Section 126 of the Clean Air Act to address ozone impacts on Maryland from the NO_x emissions of 36 electric generating units, including TVA's Paradise coal-fired Unit 3. On October 4, 2017, a group of seven environmental advocacy groups filed a similar complaint against the EPA. At issue in Maryland's Section 126 petition are alleged excessive NO_x emissions from the 36 electric generating units as a result of SCR units not being operated continuously. Paradise coal-fired Unit 3 is equipped with a SCR that TVA continuously operates to the greatest extent technically practicable in order to minimize NO_x emissions. On June 8, 2018, the EPA proposed to deny Maryland's Section 126 petition. If the EPA finalizes its denial as proposed, no additional emission reductions will be required for TVA's Paradise coal-fired unit 3.

Cleanup of Solid and Hazardous Wastes

Coal Combustion Residuals. In May 2017, industry petitioners asked the EPA to reconsider the CCR rule and to incorporate new flexibility provided by the Water Infrastructure Improvements for the Nation Act — specifically authority to make site-specific, risk-based decisions on implementing the federal criteria and to postpone upcoming regulatory deadlines during the new rulemaking. The EPA had previously agreed through settlement to revisit several elements of the CCR rule, so it will already be re-opening the rule. On September 14, 2017, the EPA announced that it plans to address the request to revisit key

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parts of its 2015 CCR rule. In addition, on September 18, 2017, the EPA filed a motion to hold the CCR litigation in abeyance and to postpone oral argument in the case while it reconsiders the CCR rule. The United States Court of Appeals for the District of Columbia Circuit essentially denied the EPA's motion and directed the EPA to file a status report specifying which provisions of the CCR rule are, or are likely to be, subject to reconsideration and specifying a rulemaking timeline. The EPA filed the court-ordered status report on November 15, 2017, and identified the provisions it intends to reconsider, including the regulation of inactive service impoundments. The EPA intends to take a phased approach. A proposed rule for phase one issues was published in the Federal Register on March 15, 2018. On July 17, 2018, the EPA issued a prepublication copy of the final rule entitled Disposal of Coal Combustion Residuals from Electric Utilities: Amendments to the National Minimum Criteria (Phase 1) which provides some additional flexibilities to the 2015 CCR Rule. The major elements include: (1) an extension to October 2020 of the deadline for initiating mandatory closure for unlined CCR surface impoundments that exceed applicable groundwater protection standards and for CCR surface impoundments that are unable to meet the location restriction for placement of the CCR impoundment above the uppermost aquifer. As a result, the requirement to cease receipt of waste (both CCR and non-CCR wastewater) in CCR impoundments would be extended by approximately 18 months in both of these instances. This additional time will, among other things, better align the CCR rule compliance dates with the Effluent Limitations Guidelines and Standards Rule for the Steam Electric Power Generating Point Source Category (ELG rule). For the impoundments to which it is applicable, this change is anticipated to allow TVA to coordinate the engineering, financial planning, and permitting aspects of these two rules and lower the overall costs associated with CCR Rule implementation. The EPA plans to complete its review and announce any additional proposed revisions for phase two by no later than September 2018 and to take final action on phase two issues no later than December 2019.

Estimated Required Environmental Expenditures

The following table contains information about TVA's current estimates of expenditures for projects related to environmental laws and regulations:

Estimated Potential Environmental Expenditures(1)(2)
At June 30, 2018
(in millions)

	Remaining 2018	2019	Thereafter(3)	Total
Coal combustion residual conversion program(4)	$ 104	$350	$ 703	$1,157
Clean air control projects(5)	34	27	136	197
Clean Water Act requirements(6)	15	46	419	480

Notes
(1) These estimates are subject to change as additional information becomes available and as regulations change.
(2) These estimates include $191 million, $420 million, and $752 million for the remainder of 2018, 2019, and thereafter, respectively, in capital expenditures.
(3) See Note 17 — Contingencies.
(4) Includes costs associated with pond closures, conversion of wet to dry handling, and landfill activities. TVA is continuing to evaluate the rules and their impact on its operations, including the cost and timing estimates of related projects. Includes approximately $157 million for Gallatin projects that are part of the original activities scheduled in TVA's CCR Conversion Program and excludes costs resulting from any new requirements related to the Gallatin lawsuits. See Part I, Item 2, Management's Discussion and Analysis of Financial Condition and Results of Operations — Key Initiatives and Challenges — Coal Combustion Residual Facilities and Note 8.
(5) Includes air quality projects that TVA is currently performing to comply with existing air quality regulations, but does not include any projects that may be required to comply with potential GHG regulations or transmission upgrades.

(6) Includes projects that TVA is currently planning to comply with revised rules under the Clean Water Act (i.e., Section 316(b) and effluent limitation guidelines for steam electric power plants).

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 its activities, as a result of catastrophic events or otherwise. TVA had accrued approximately $19 million with respect to Legal Proceedings as of June 30, 2018. No assurance can be given that TVA will not be subject to significant additional claims and liabilities. If actual liabilities significantly exceed the estimates made, TVA's results of operations, liquidity, and financial condition could be materially adversely affected.

For a discussion of certain current material Legal Proceedings, see Note 8 and Note 17 — Legal Proceedings, which discussions are incorporated into this Part I, Item 2, Management's Discussion and Analysis of Financial Condition and Results of Operations.

Off-Balance Sheet Arrangements

At June 30, 2018, TVA had no off-balance sheet arrangements.

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Critical Accounting Policies and Estimates

The preparation of financial statements requires TVA to estimate the effects of various matters that are inherently uncertain as of the date of the financial statements. Although the financial statements are prepared in conformity with accounting principles generally accepted in the U.S., TVA is required to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities, and the amounts of revenues and expenses reported during the reporting period. Each of these estimates varies in regard to the level of judgment involved and its potential impact on TVA's financial results. Estimates are deemed critical either when a different estimate could have reasonably been used, or where changes in the estimate are reasonably likely to occur from period to period, and such use or change would materially impact TVA's financial condition, results of operations, or cash flows. TVA's critical accounting policies are discussed in Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations — Critical Accounting Policies and Estimates and Note 1 of the Notes to Consolidated Financial Statements in the Annual Report.

New Accounting Standards and Interpretations

For a discussion of new accounting standards and interpretations, see Note 2, which discussion is incorporated into this Part I, Item 2, Management's Discussion and Analysis of Financial Condition and Results of Operations.

Legislative and Regulatory Matters

TVA continues to monitor how regulatory agencies are interpreting and implementing the provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act, which was enacted in July 2010. As a result of this act and its implementing regulations, TVA has become subject to recordkeeping, reporting, and reconciliation requirements related to its derivative transactions. In addition, depending on how regulatory agencies interpret and implement the provisions of this act, TVA's hedging costs may increase, and TVA may have to post additional collateral and margin in connection with its derivative transactions.

TVA does not engage, and does not control any entity that is engaged, in any activity listed under Section 13(r) of the Exchange Act, which requires certain issuers to disclose certain activities relating to Iran involving the issuer and its affiliates. Based on information supplied by each such person, none of TVA's directors and executive officers are involved in any such activities. While TVA is an agency and instrumentality of the United States of America, TVA does not believe its disclosure obligations, if any, under Section 13(r), extend to the activities of any other departments, divisions, or agencies of the United States.

Other Matters

On February 12, 2018, President Trump submitted the Fiscal Year 2019 Budget of the U.S. Government (the “Budget”) to Congress. The Budget contains the following language:

The Budget proposes to sell the transmission assets of the Tennessee Valley Authority (TVA). The private sector is best suited to own and operate electricity transmission assets. Eliminating the Federal Government’s role in owning and operating transmission assets encourages a more efficient allocation of economic resources and mitigates unnecessary risk to taxpayers.

. . .

The vast majority of the Nation’s electricity infrastructure is owned and operated by for-profit investor owned utilities. Ownership of transmission assets is best carried out by the private sector where there are appropriate market and regulatory incentives.

On February 12, 2018, President Trump also submitted his Legislative Outline for Rebuilding Infrastructure in America (“Legislative Outline”) to Congress. The Legislative Outline contains the following language:

- The Federal Government owns and operates certain infrastructure that would be more appropriately owned by State, local, or private entities.

- For example, the vast majority of the Nation's electricity needs are met through for-profit investor-owned utilities. Federal ownership of these assets can result in sub-optimal investment decisions and create risk for taxpayers.

- Providing Federal agencies authority to divest of Federal assets where the agencies can demonstrate an increase in value from the sale would optimize the taxpayer value for Federal assets. To utilize this authority, an agency would delineate how proceeds would be spent and identify appropriate conditions under which sales would be made. An agency also would conduct a study or analysis to show the increase in value from divestiture. Examples of assets for potential divestiture include -

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- Southwestern Power Administration’s transmission assets;
- Western Area Power Administration’s transmission assets;
- Ronald Reagan Washington National and Dulles International Airports;
- George Washington and Baltimore Washington Parkways;
- Tennessee Valley Authority transmission assets;
- Bonneville Power Administration’s transmission assets; and
- Washington Aqueduct.

On June 21, 2018, President Trump's administration released its proposal to reorganize certain elements of the federal government. The proposal, entitled Delivering Government Solutions in the 21st Century: Reform Plan and Reorganization Recommendations, included language related to TVA similar to the language in his budget proposal discussed above.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

There are no material changes related to market risks disclosed under Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations — Risk Management Activities in the Annual Report. See Note 13 for additional information regarding TVA's derivative transactions and risk management activities.

ITEM 4. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

TVA's management, including the President and Chief Executive Officer, the Executive Vice President and Chief Financial Officer, and members of the Disclosure Control Committee, including the Vice President and Controller (Principal Accounting Officer), evaluated the effectiveness of TVA's disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934 (the "Exchange Act")) as of June 30, 2018. Based on this evaluation, TVA's management, including the President and Chief Executive Officer, the Executive Vice President and Chief Financial Officer, and members of the Disclosure Control Committee, including the Vice President and Controller (Principal Accounting Officer), concluded that TVA's disclosure controls and procedures were effective as of June 30, 2018, to ensure that information required to be disclosed by TVA in reports that it files or submits under the Exchange Act, is recorded, processed, summarized, and reported, within the time periods specified in the Securities and Exchange Commission's rules and forms, and include controls and procedures designed to ensure that information required to be disclosed by TVA in such reports is accumulated and communicated to TVA's management, including the President and Chief Executive Officer, the Executive Vice President and Chief Financial Officer, and members of the Disclosure Control Committee, including the Vice President and Controller (Principal Accounting Officer), as appropriate, to allow timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

During the quarter ended June 30, 2018, there were no changes in TVA's internal control over financial reporting that materially affected, or are reasonably likely to materially affect, TVA's internal control over financial reporting.

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PART II - OTHER INFORMATION

ITEM 1. 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 its 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 financial condition, results of operations, and cash flows.

For a discussion of certain current material Legal Proceedings, see Note 8 and Note 17 — Legal Proceedings, which discussions are incorporated by reference into this Part II, Item 1, Legal Proceedings.

ITEM 1A. RISK FACTORS

There are no material changes related to risk factors from the risk factors disclosed in Item 1A, Risk Factors in the Annual Report.

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ITEM 6. EXHIBITS

Exhibit No.	Description
10.1	Second Amendment Dated as of February 21, 2018, to the $500,000,000 February Maturity Credit Agreement Dated as of August 7, 2015, and Amended as of February 28, 2017, among TVA, Bank of America, N.A., as Administrative Agent, Letter of Credit Issuer, and a Lender, and the Other Lenders Party Thereto (Incorporated by reference to Exhibit 10.1 to TVA's Current Report on Form 8-K filed on February 26, 2018, File No. 000-52313)
10.2	Amended and Restated June Maturity Credit Agreement Dated as of June 13, 2018, Among Tennessee Valley Authority, as the Borrower, Royal Bank of Canada, as Administrative Agent, Letter of Credit Issuer, and a Lender, and the Other Lenders Party Thereto (Incorporated by reference to Exhibit 10.1 to TVA's Current Report on Form 8-K filed on June 18, 2018, File No. 000-52313)
31.1	Rule 13a-14(a)/15d-14(a) Certification Executed by the Chief Executive Officer
31.2	Rule 13a-14(a)/15d-14(a) Certification Executed by the Chief Financial Officer
32.1	Section 1350 Certification Executed by the Chief Executive Officer
32.2	Section 1350 Certification Executed by the Chief Financial Officer
101.INS	TVA XBRL Instance Document
101.SCH	TVA XBRL Taxonomy Extension Schema
101.CAL	TVA XBRL Taxonomy Extension Calculation Linkbase
101.DEF	TVA XBRL Taxonomy Extension Definition Linkbase
101.LAB	TVA XBRL Taxonomy Extension Label Linkbase
101.PRE	TVA XBRL Taxonomy Extension Presentation Linkbase

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SIGNATURES

Pursuant to the requirements of Section 13, 15(d), or 37 of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: August 2, 2018 TENNESSEE VALLEY AUTHORITY
(Registrant)

By: _/s/ William D. Johnson______
William D. Johnson
President and Chief Executive Officer
(Principal Executive Officer)

By: _/s/ John M. Thomas, III______
John M. Thomas, III
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)