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)

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	