

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

FORM 10-Q

(MARK ONE)

☒ QUARTERLY REPORT PURSUANT TO SECTION 13, 15(d), OR 37 OF THE
SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended March 31, 2022

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF
THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission file number 000-52313



TENNESSEE VALLEY AUTHORITY

(Exact name of registrant as specified in its charter)

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

62-0474417
(I.R.S. 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)

Securities registered pursuant to Section 12(b) of the Act

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
N/A	N/A	N/A

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 ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted 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 such files).
Yes ☒ No ☐

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 ☐

Accelerated filer ☐

Non-accelerated filer ☒ Smaller reporting company ☐

Emerging growth company ☐

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. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes ☐ No ☒

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GLOSSARY OF COMMON ACRONYMS

Following are definitions of some of the terms or acronyms that may be used in this Quarterly Report on Form 10-Q for the quarter ended March 31, 2022 (the "Quarterly Report"):

Term or Acronym	Definition
ACE	Affordable Clean Energy
ACM	Assessment of Corrective Measures
ACPA	Anti-Cherry picking Amendment
AOCI	Accumulated other comprehensive income (loss)
ARO	Asset retirement obligation
ART	Asset Retirement Trust
Bonds	Bonds, notes, or other evidences of indebtedness
BTA	Best technology available
BVUA	Bristol Virginia Utilities Authority
CAA	Clean Air Act
Caledonia CC	Caledonia Combined Cycle Plant
CCR	Coal combustion residuals
CECL	Current Expected Credit Losses
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CISA	Cybersecurity and Infrastructure Security Agency
CO ₂	Carbon dioxide
COVID-19	Coronavirus Disease 2019
CSAPR	Cross-State Air Pollution Rule
CTs	Combustion turbine unit(s)
CVA	Credit valuation adjustment
CWA	Clean Water Act
CWIS	Cooling Water Intake Structures
CY	Calendar year
DCP	Deferred Compensation Plan
DER	Distributed energy resources
DOE	Department of Energy
EEI ESG	Edison Electric Institute Environmental, Social, Governance
EIS	Environmental Impact Statement
ELGs	Effluent Limitation Guidelines
EMPs	Electromagnetic pulses
EO(s)	Executive Order(s)
EPA	Environmental Protection Agency
ETS	Emergency Temporary Standard
EV	Electric Vehicle
FASB	Financial Accounting Standards Board
FERC	Federal Energy Regulatory Commission
FGD	Flue gas desulfurization
FHP	Financial Hedging Program
FPA	Federal Power Act
GAAP	Accounting principles generally accepted in the United States of America
GAC	Grid access charge
GHG	Greenhouse gas
GMD	Geomagnetic disturbances
HAP	Hazardous Air Pollutants

JSCCG	John Sevier Combined Cycle Generation LLC
kWh	Kilowatt hours
LPCs	Local power company customers
LTA	Long-Term Agreement
MATS	Mercury and Air Toxics Standards
MD&A	Management's Discussion and Analysis of Financial Condition and Results of Operations
MLGW	Memphis Light, Gas and Water Division
mmBtu	Million British thermal unit(s)
MtM	Mark-to-market
MW	Megawatts
NAAQS	National Ambient Air Quality Standards
NAV	Net asset value
NDT	Nuclear Decommissioning Trust
NEIL	Nuclear Electric Insurance Limited
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Corporation
NES	Nashville Electric Service
NO _x	Nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NRC	Nuclear Regulatory Commission
Nuclear Development	Nuclear Development, LLC
NWP	Nationwide Permit
NWPR	Navigable Waters Protection Rule
OMB	Office of Management and Budget
OSHA	Occupational Safety and Health Administration
PPA(s)	Power Purchase Agreement(s)
PV	Photovoltaic
QTE	Qualified technological equipment and software
RAP	Remedial Action Plan
RCRA	Resource Conservation and Recovery Act
RECs	Renewable Energy Certificates
RFP	Request for proposals
SCCG	Southaven Combined Cycle Generation LLC
SCRs	Selective catalytic reduction systems
SEC	Securities and Exchange Commission
SELC	Southern Environmental Law Center
SERP	Supplemental Executive Retirement Plan
SHLLC	Southaven Holdco LLC
SIPs	State implementation plans
SMR	Small modular reactor(s)
SO ₂	Sulfur dioxide
TDEC	Tennessee Department of Environment and Conservation
TVA Act	The Tennessee Valley Authority Act of 1933, as amended, 16 U.S.C. §§ 831-831ee
TVA Board	TVA Board of Directors
TVARs	Tennessee Valley Authority Retirement System
TVPPA	Tennessee Valley Public Power Association
U.S. Treasury	United States Department of the Treasury
USACE	U.S. Army Corps of Engineers
US-CERT	U.S. Computer Emergency Readiness Team

VIE	Variable interest entity
WOTUS	Waters of the United States
XBRL	eXtensible Business Reporting Language

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," the negative of such words, or other similar expressions.

Although the Tennessee Valley Authority ("TVA") believes that the assumptions underlying any 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 any forward-looking statements. These factors include, among other things:

- The continuing impact of the Coronavirus Disease 2019 ("COVID-19") pandemic on TVA's operating results, financial condition, and cash flows, the demand for electricity, TVA's workforce and operations, the availability of fuel and critical parts, supplies, and services, the financial markets, and the business and financial condition of TVA's customers and counterparties;
- The duration and severity of the COVID-19 pandemic, actions taken to contain its spread and mitigate its effects, and broader impacts of the COVID-19 pandemic on economic and market conditions, including impacts on interest rates, commodity prices, investment performance, and foreign currency exchange rates;
- New, amended, or existing laws, regulations, executive orders ("EOs"), or administrative orders or interpretations, including those related to climate change and other environmental matters, and the costs of complying with these laws, regulations, EOs, or administrative orders or interpretations;
- The cost of complying with known, anticipated, or new environmental requirements, some of which could render continued operation of many of TVA's aging coal-fired generation units not cost-effective or result in their removal from service, perhaps permanently;
- Significant reductions in demand for electricity produced through non-renewable or centrally located generation sources that 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 United States ("U.S.") government relating to the national or TVA debt ceiling or automatic spending cuts in government programs;
- Costs or liabilities that are not anticipated in TVA's financial statements for third-party claims, natural resource damages, environmental cleanup 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 TVA's local power company customers ("LPCs");
- Significant delays, cost increases, or cost overruns associated with the construction and maintenance of generation, transmission, navigation, flood control, or related assets;
- Requirements or decisions changing the amount or timing of funding obligations associated with TVA's pension plans, other post-retirement benefit plans, or health care plans;
- Increases in TVA's financial liabilities for decommissioning its nuclear facilities or retiring other assets;
- Risks associated with the operation of nuclear facilities or other generation and related facilities, including coal combustion residuals ("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;
- The failure of TVA's generation, transmission, navigation, flood control, and related assets and infrastructure, including CCR facilities and spent nuclear fuel storage facilities, to operate as anticipated, resulting in lost revenues, damages, or 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 including changing weather patterns, extreme weather conditions, and other events such as flooding, droughts, wildfires, and snow or ice storms that may result from climate change;
- Catastrophic events such as fires, earthquakes, explosions, solar events, electromagnetic pulses ("EMPs"), geomagnetic disturbances, droughts, floods, hurricanes, tornadoes, or other casualty events or pandemics, wars, national emergencies, terrorist activities, or other similar events, especially if these events occur in or near TVA's service area;
- 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, cyber attacks, mine closures or reduced mine production, an increase in fuel exports, 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 use regulatory accounting or loss of regulatory accounting approval for certain costs;
- 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 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 (collectively, "Bonds") specified in the Tennessee Valley Authority Act of 1933, as amended ("TVA Act");
- An increase in TVA's cost of capital that 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 or creditworthiness of counterparties;
- Changes in the market price of commodities such as coal, uranium, natural gas, fuel oil, crude oil, construction materials, reagents, electricity, or emission allowances;
- Changes in the market price of equity securities, debt securities, or other investments;
- Changes in interest rates, currency exchange rates, or inflation rates;
- Ineffectiveness of TVA's disclosure controls and procedures or its internal control 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, including the potential for increased demand for energy resulting from an increase in the population in TVA's service territory;
- 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, or 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, or cause TVA to forego future construction at these or other facilities;
- Loss of quorum of the TVA Board of Directors ("TVA Board");
- Changes in the priorities of the TVA Board or TVA senior management; or
- 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, 2021 (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 any 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, except as required by law.

GENERAL INFORMATION

Fiscal Year

References to years (2022, 2021, 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.com. Information contained on or accessible through TVA's website shall not be deemed to be incorporated into, or to be a part of, this Quarterly Report or any other report or document that TVA files with the SEC. All TVA SEC reports are available to the public without charge from the website maintained by the SEC at www.sec.gov.

PART I - FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

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

ASSETS

	March 31, 2022	September 30, 2021
Current assets		
Cash and cash equivalents	\$ 501	\$ 499
Accounts receivable, net	1,353	1,566
Inventories, net	988	950
Regulatory assets	109	196
Other current assets	304	287
Total current assets	3,255	3,498
Property, plant, and equipment		
Completed plant	67,005	66,411
Less accumulated depreciation	(35,158)	(34,663)
Net completed plant	31,847	31,748
Construction in progress	2,570	2,458
Nuclear fuel	1,490	1,566
Finance leases	661	692
Total property, plant, and equipment, net	36,568	36,464
Investment funds	4,200	4,053
Regulatory and other long-term assets		
Regulatory assets	7,596	7,956
Operating lease assets, net of amortization	178	165
Other long-term assets	359	320
Total regulatory and other long-term assets	8,133	8,441
Total assets	\$ 52,156	\$ 52,456

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

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

LIABILITIES AND PROPRIETARY CAPITAL

	March 31, 2022	September 30, 2021
Current liabilities		
Accounts payable and accrued liabilities	\$ 2,054	\$ 2,215
Accrued interest	294	282
Asset retirement obligations	332	266
Current portion of leaseback obligations	—	25
Regulatory liabilities	357	340
Short-term debt, net	684	780
Current maturities of power bonds	1,028	1,028
Current maturities of long-term debt of variable interest entities	44	43
Total current liabilities	4,793	4,979
Other liabilities		
Post-retirement and post-employment benefit obligations	4,863	5,045
Asset retirement obligations	6,863	6,736
Finance lease liabilities	662	687
Other long-term liabilities	1,801	2,041
Regulatory liabilities	53	40
Total other liabilities	14,242	14,549
Long-term debt, net		
Long-term power bonds, net	17,448	17,457
Long-term debt of variable interest entities, net	984	1,006
Total long-term debt, net	18,432	18,463
Total liabilities	37,467	37,991
Contingencies and legal proceedings (Note 20)		
Proprietary capital		
Power program appropriation investment	258	258
Power program retained earnings	13,910	13,689
Total power program proprietary capital	14,168	13,947
Nonpower programs appropriation investment, net	537	540
Accumulated other comprehensive income (loss)	(16)	(22)
Total proprietary capital	14,689	14,465
Total liabilities and proprietary capital	\$ 52,156	\$ 52,456

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

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

	Three Months Ended March 31		Six Months Ended March 31	
	2022	2021	2022	2021
Operating revenues				
Revenue from sales of electricity	\$ 2,848	\$ 2,533	\$ 5,386	\$ 4,803
Other revenue	36	39	81	73
Total operating revenues	2,884	2,572	5,467	4,876
Operating expenses				
Fuel	558	413	1,024	782
Purchased power	374	225	743	431
Operating and maintenance	767	644	1,547	1,359
Depreciation and amortization	512	381	1,022	759
Tax equivalents	138	124	271	245
Total operating expenses	2,349	1,787	4,607	3,576
Operating income	535	785	860	1,300
Other income (expense), net	3	11	17	26
Other net periodic benefit cost	65	64	130	129
Interest expense	264	276	527	557
Net income	<u>\$ 209</u>	<u>\$ 456</u>	<u>\$ 220</u>	<u>\$ 640</u>

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 March 31		Six Months Ended March 31	
	2022	2021	2022	2021
Net income	\$ 209	\$ 456	\$ 220	\$ 640
Other comprehensive income (loss)				
Net unrealized gain (loss) on cash flow hedges	(15)	22	(10)	123
Net unrealized (gain) loss reclassified to earnings from cash flow hedges	17	(5)	16	(50)
Total other comprehensive income	2	17	6	73
Total comprehensive income	<u>\$ 211</u>	<u>\$ 473</u>	<u>\$ 226</u>	<u>\$ 713</u>

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

TENNESSEE VALLEY AUTHORITY
CONSOLIDATED STATEMENTS OF CASH FLOWS (Unaudited)
For the Six Months Ended March 31
(in millions)

	2022	2021
Cash flows from operating activities		
Net income	\$ 220	\$ 640
Adjustments to reconcile net income to net cash provided by operating activities		
Depreciation and amortization ⁽¹⁾	1,032	770
Amortization of nuclear fuel cost	171	193
Non-cash retirement benefit expense	164	166
Other regulatory amortization and deferrals	69	(39)
Changes in current assets and liabilities		
Accounts receivable, net	214	246
Inventories and other current assets, net	(79)	(43)
Accounts payable and accrued liabilities	(36)	(70)
Accrued interest	17	6
Pension contributions	(158)	(155)
Other, net	(155)	(144)
Net cash provided by operating activities	1,459	1,570
Cash flows from investing activities		
Construction expenditures	(1,140)	(975)
Nuclear fuel expenditures	(173)	(129)
Loans and other receivables		
Advances	(8)	(7)
Repayments	9	2
Other, net	22	17
Net cash used in investing activities	(1,290)	(1,092)
Cash flows from financing activities		
Long-term debt		
Redemptions and repurchases of power bonds	(1)	(1,501)
Redemptions of debt of variable interest entities	(21)	(20)
Short-term debt issues (redemptions), net	(96)	1,184
Payments on leases and leasebacks	(52)	(154)
Other, net	4	11
Net cash used in financing activities	(166)	(480)
Net change in cash, cash equivalents, and restricted cash	3	(2)
Cash, cash equivalents, and restricted cash at beginning of period	518	521
Cash, cash equivalents, and restricted cash at end of period	\$ 521	\$ 519

Note

(1) Includes amortization of debt issuance costs and premiums/discounts.

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 Three Months Ended March 31, 2022 and 2021
(in millions)

	Power Program Appropriation Investment	Power Program Retained Earnings	Nonpower Programs Appropriation Investment, Net	Accumulated Other Comprehensive Income (Loss)	Total
Balance at December 31, 2020	\$ 258	\$ 12,358	\$ 546	\$ 5	\$ 13,167
Net income (loss)	—	458	(2)	—	456
Total other comprehensive income (loss)	—	—	—	17	17
Return on power program appropriation investment	—	(1)	—	—	(1)
Balance at March 31, 2021	<u>\$ 258</u>	<u>\$ 12,815</u>	<u>\$ 544</u>	<u>\$ 22</u>	<u>\$ 13,639</u>
Balance at December 31, 2021	\$ 258	\$ 13,701	\$ 538	\$ (18)	\$ 14,479
Net income (loss)	—	210	(1)	—	209
Total other comprehensive income (loss)	—	—	—	2	2
Return on power program appropriation investment	—	(1)	—	—	(1)
Balance at March 31, 2022	<u>\$ 258</u>	<u>\$ 13,910</u>	<u>\$ 537</u>	<u>\$ (16)</u>	<u>\$ 14,689</u>

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 Six Months Ended March 31, 2022 and 2021
(in millions)

	Power Program Appropriation Investment	Power Program Retained Earnings	Nonpower Programs Appropriation Investment, Net	Accumulated Other Comprehensive Income (Loss)	Total
Balance at September 30, 2020	\$ 258	\$ 12,177	\$ 548	\$ (51)	\$ 12,932
Net income (loss)	—	644	(4)	—	640
Total other comprehensive income (loss)	—	—	—	73	73
Return on power program appropriation investment	—	(2)	—	—	(2)
Implementation of Financial Instruments - Credit Losses Standard	—	(4)	—	—	(4)
Balance at March 31, 2021	<u>\$ 258</u>	<u>\$ 12,815</u>	<u>\$ 544</u>	<u>\$ 22</u>	<u>\$ 13,639</u>
Balance at September 30, 2021	\$ 258	\$ 13,689	\$ 540	\$ (22)	\$ 14,465
Net income (loss)	—	223	(3)	—	220
Total other comprehensive income (loss)	—	—	—	6	6
Return on power program appropriation investment	—	(2)	—	—	(2)
Balance at March 31, 2022	<u>\$ 258</u>	<u>\$ 13,910</u>	<u>\$ 537</u>	<u>\$ (16)</u>	<u>\$ 14,689</u>

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

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Unaudited)

(Dollars in millions except where noted)

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1. 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 federal legislation in response to a proposal 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 approximately 10 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. TVA performs these management duties in cooperation with other federal and state agencies that have jurisdiction and authority over certain aspects of the river system. In addition, the TVA Board of Directors ("TVA Board") has established two councils — the Regional Resource Stewardship Council and the Regional Energy Resource Council — to advise TVA on its stewardship activities in the Tennessee Valley and its energy resource activities.

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 (collectively, "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 as authorized by the Tennessee Valley Authority Act of 1933, as amended (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; 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. TVA fulfilled its requirement to repay \$1.0 billion of the Power Program Appropriation Investment with the 2014 payment; therefore, this repayment obligation is no longer a component of rate setting. 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 (2022, 2021, 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 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 TVA is no longer considered to be a regulated entity, then costs would be required to be written off. 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, 2021, and the notes thereto, which are contained in TVA's Annual Report on Form 10-K for the year ended September 30, 2021 (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 on the consolidated interim financial statements.

The accompanying consolidated interim financial statements, which have been prepared in accordance with GAAP, include the accounts of TVA and variable interest entities ("VIEs") of which TVA is the primary beneficiary. See Note 9 — *Variable Interest Entities*. 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.

Cash, Cash Equivalents, and Restricted Cash

Cash includes cash on hand, non-interest bearing cash, and deposit accounts. All highly liquid investments with original maturities of three months or less are considered cash equivalents. Cash and cash equivalents that are restricted, as to withdrawal or use under the terms of certain contractual agreements, are recorded in Other long-term assets on the

Consolidated Balance Sheets. Restricted cash and cash equivalents include cash held in trusts that are currently restricted for TVA economic development loans and for certain TVA environmental programs in accordance with agreements related to compliance with certain environmental regulations. See Note 20 — *Contingencies and Legal Proceedings — Legal Proceedings — Environmental Agreements*.

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported on the Consolidated Balance Sheets and Consolidated Statements of Cash Flows:

Cash, Cash Equivalents, and Restricted Cash (in millions)		
	At March 31, 2022	At September 30, 2021
Cash and cash equivalents	\$ 501	\$ 499
Restricted cash and cash equivalents included in Other long-term assets	20	19
Total cash, cash equivalents, and restricted cash	\$ 521	\$ 518

Allowance for Uncollectible Accounts

TVA recognizes an allowance that reflects the current estimate for credit losses expected to be incurred over the life of the financial assets based on historical experience, current conditions, and reasonable and supportable forecasts that affect the collectability of the reported amounts. The appropriateness of the allowance is evaluated at the end of each reporting period. TVA continues to monitor the impact of the coronavirus disease 2019 ("COVID-19") pandemic on accounts and loans receivable balances to evaluate the allowance for uncollectible accounts.

To determine the allowance for trade receivables, TVA considers historical experience and other currently available information, including events such as customer bankruptcy and/or a customer failing to fulfill payment arrangements by the due date. TVA's corporate credit department also performs an assessment of the financial condition of customers and the credit quality of the receivables. In addition, TVA reviews other reasonable and supportable forecasts to determine if the allowance for uncollectible amounts should be further adjusted in accordance with the accounting guidance for Current Expected Credit Losses ("CECL").

To determine the allowance for loans receivables, TVA aggregates loans into the appropriate pools based on the existence of similar risk characteristics such as collateral types and internal assessed credit risks. In situations where a loan exhibits unique risk characteristics and is no longer expected to experience similar risks to the rest of its pool, the loan will be evaluated separately. TVA derives an annual loss rate based on historical loss and then adjusts the rate to reflect TVA's consideration of available information on current conditions and reasonable and supportable future forecasts. This information may include economic and business conditions, default trends, and other internal and external factors. For periods beyond the reasonable and supportable forecast period, TVA uses the current calculated long-term average historical loss rate for the remaining life of the loan portfolio.

The allowance for uncollectible accounts was less than \$1 million at both March 31, 2022, and September 30, 2021, respectively, for trade accounts receivable. Additionally, loans receivable of \$121 million and \$99 million at March 31, 2022, and September 30, 2021, respectively, are included in Accounts receivable, net and Other long-term assets, for the current and long-term portions, respectively. Loans receivables are reported net of allowances for uncollectible accounts of \$4 million at both March 31, 2022 and September 30, 2021.

Revenues

TVA recognizes revenue from contracts with customers to depict the transfer of goods or services to customers in an amount to which the entity expects to be entitled in exchange for those goods or services. For the generation and transmission of electricity, this is generally at the time the power is delivered to a metered customer delivery point for the customer's consumption or distribution. As a result, revenues from power sales are recorded as electricity is delivered to customers. In addition to power sales invoiced and recorded during the month, TVA accrues estimated unbilled revenues for power sales provided to five customers whose billing date occurs prior to the end of the month. Exchange power sales are presented in the accompanying Consolidated Statements of Operations as a component of sales of electricity. Exchange power sales are sales of excess power after meeting TVA native load and directly served requirements. Native load refers to the customers on whose behalf a company, by statute, franchise, regulatory requirement, or contract, has undertaken an obligation to serve. TVA engages in other arrangements in addition to power sales. Certain other revenue from activities related to TVA's overall mission is recorded in Other revenue. Revenues that are not related to the overall mission are recorded in Other income (expense), net.

Depreciation

TVA accounts for depreciation of its properties using the composite depreciation convention of accounting. Under the composite method, assets with similar economic characteristics are grouped and depreciated as one asset. Depreciation is

generally computed on a straight-line basis over the estimated service lives of the various classes of assets. The estimation of asset useful lives requires management judgment, supported by external depreciation studies of historical asset retirement experience. Depreciation rates are determined based on external depreciation studies that are updated approximately every five years. During the first quarter of 2022, TVA implemented a new depreciation study related to its completed plant. The new study included a decline in the service life estimates of TVA's coal-fired plants based on current planning assumptions to potentially retire the remainder of the coal-fired fleet by 2035.

Property, Plant, and Equipment Depreciation Rates (percent)		
Asset Class	Implemented Rates ⁽¹⁾	At September 30, 2021
Nuclear	2.72	2.38
Coal-fired	3.98	1.95
Hydroelectric	1.95	1.60
Gas and oil-fired	3.45	2.98
Transmission	1.45	1.34
Other	3.21	7.12

Note

(1) Implemented rates represent average rates for each asset class as determined by the depreciation study and were applicable beginning October 1, 2021.

Depreciation expense was \$455 million and \$346 million for the three months ended March 31, 2022 and 2021, respectively. Depreciation expense was \$908 million and \$691 million for the six months ended March 31, 2022 and 2021, respectively. Implementation of the new depreciation rates resulted in an estimated increase of approximately \$197 million in depreciation and amortization expense for the six months ended March 31, 2022, as compared to the same period of the prior year. This estimate represents the effect of using the new depreciation rates on the property, plant, and equipment balances at March 31, 2021, and does not include any potential impact from additions to or retirements of net completed plant that occurred since March 31, 2021. See Note 6 — *Plant Closures* for a discussion of the impact of plant closures.

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 2022:

Lessor-Certain Leases with Variable Lease Payments	
Description	This guidance amends the lessor lease classification for leases that have variable lease payments that are not based on an index or rate. If the lease meets the criteria for classification as either (1) a sale-type or (2) a direct finance lease, and application of the lease guidance would result in recognition of a day-one selling loss, then the lease should be classified as an operating lease. There are two transition methods provided by the guidance for entities that have adopted the standard: • Retrospective application to leases that commenced or were modified after the beginning of the period in which the standard was adopted, or • Prospective application to leases that commence or are modified subsequent to the date that amendments in the guidance are first applied.
Effective Date for TVA	October 1, 2021
Effect on the Financial Statements or Other Significant Matters	TVA adopted this standard on a prospective basis. Adoption of this standard did not have a material impact on TVA's financial condition, results of operations, or cash flows.

Reference Rate Reform	
Description	This guidance provides temporary optional expedients and exceptions to the guidance in GAAP on contract modifications and hedge accounting to ease the financial reporting burdens related to the expected market transition from the London Interbank Offered Rate ("LIBOR") and other interbank offered rates to alternative reference rates, such as the Secured Overnight Financing Rates.
Effective Date for TVA	December 31, 2021
Effect on the Financial Statements or Other Significant Matters	TVA had interest rate swap contracts that totaled a notional value of \$1.5 billion at December 31, 2021, that were indexed to LIBOR. TVA adopted the International Swaps and Derivative Association's ("ISDA's") LIBOR fallback protocol for interest rate swaps prior to December 31, 2021. Under this protocol, U.S. dollar LIBOR transactions would fall back to the Secured Overnight Financing Rate ("SOFR") upon cessation of the related LIBOR publication. The interest rate swap contracts did not receive hedge accounting treatment, and therefore TVA did not elect any optional expedients for this modification. TVA does not have any other significant contracts, including lease agreements, that include payments indexed to LIBOR. Therefore, the change of reference rate 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, at March 31, 2022, were not effective and had not been adopted by TVA:

Accounting for Contract Assets and Contract Liabilities from Contracts with Customers	
Description	This guidance requires an entity (acquirer) to recognize and measure contract assets and contract liabilities acquired in a business combination in accordance with revenue with customers. It is expected that an acquirer will generally recognize and measure acquired contract assets and contract liabilities in a manner consistent with how the acquiree recognized and measured contract assets and contract liabilities in the acquiree's financial statement.
Effective Date for TVA	This new standard is effective for TVA's interim and annual reporting periods beginning October 1, 2023. While early adoption is permitted, TVA does not currently plan to adopt this 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 its financial condition, results of operations, or cash flows.

Troubled Debt Restructurings and Vintage Disclosures	
Description	This guidance eliminates the recognition and measurement guidance on troubled debt restructuring for creditors that have adopted Financial Instruments-Credit Losses and requires enhanced disclosures about loan modifications for borrowers' experiencing financial difficulty. Additionally, the guidance requires public business entities to present current-period gross write-offs by year of origination in their vintage disclosures.
Effective Date for TVA	This new standard is effective for TVA's interim and annual reporting periods beginning October 1, 2023. While early adoption is permitted, TVA does not currently plan to adopt this 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 its financial condition, results of operations, or cash flows.

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 (in millions)		
	At March 31, 2022	At September 30, 2021
Power receivables	\$ 1,277	\$ 1,480
Other receivables	76	86
Accounts receivable, net ⁽¹⁾	\$ 1,353	\$ 1,566

Note

(1) Allowance for uncollectible accounts was less than \$1 million at March 31, 2022, and September 30, 2021, 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 (in millions)		
	At March 31, 2022	At September 30, 2021
Materials and supplies inventory	\$ 776	\$ 775
Fuel inventory	245	198
Renewable energy certificates inventory, net	17	12
Allowance for inventory obsolescence	(50)	(35)
Inventories, net	\$ 988	\$ 950

5. Other Current Assets

Other current assets consisted of the following:

Other Current Assets (in millions)		
	At March 31, 2022	At September 30, 2021
Commodity contract derivative assets	\$ 207	\$ 210
Other	97	77
Other current assets	\$ 304	\$ 287

Commodity Contract Derivative Assets. TVA enters into certain derivative contracts for natural gas that require physical delivery of the contracted quantity of the commodity. TVA also reinstated the Financial Hedging Program ("FHP") (formerly the Financial Trading Program, which was suspended in 2014) in December 2021, and hedging activity began under the program in the second quarter of 2022. Commodity contract derivative assets classified as current include deliveries or settlements that will occur within 12 months or less. See Note 14 — *Risk Management Activities and Derivative Transactions — Derivatives Not Receiving Hedge Accounting Treatment — Commodity Derivatives* and — *Commodity Derivatives under the FHP* for a discussion of TVA's commodity contract derivatives.

6. Plant Closures

Background

TVA must continuously evaluate all generating assets to ensure an optimal energy portfolio that provides safe, clean, and reliable power while maintaining flexibility and fiscal responsibility to the people of the Tennessee Valley. Based on results of assessments presented to the TVA Board in 2019, the retirement of Bull Run Fossil Plant ("Bull Run") by December 2023 was approved. In addition, TVA is evaluating the impact of retiring the balance of the coal-fired fleet by 2035, and that evaluation includes environmental reviews, public input, and TVA Board approval. Due to these evaluations, certain planning assumptions were updated, and their financial impacts are discussed below.

Financial Impact

TVA's policy is to adjust depreciation rates to reflect the most current assumptions, ensuring units will be fully depreciated by the applicable retirement dates. As a result of TVA's decision to accelerate the retirement of Bull Run, TVA has recognized a cumulative \$412 million of accelerated depreciation since the second quarter of 2019. Of this amount, \$35 million and \$34 million were recognized for Bull Run during the three months ended March 31, 2022 and 2021, respectively, and \$70 million and \$67 million were recognized during the six months ended March 31, 2022 and 2021, respectively.

In addition, service lives for Cumberland Fossil Plant, Gallatin Fossil Plant, Kingston Fossil Plant ("Kingston"), and Shawnee Fossil Plant were lowered in a new depreciation study implemented during the first quarter of 2022 to reflect current planning assumptions to potentially retire the remainder of the coal-fired fleet by 2035. As a result, TVA recognized an estimated \$166 million of additional depreciation related to these four coal-fired plants during the six months ended March 31, 2022. This estimate represents the effect of using the new depreciation rates on the property, plant, and equipment balances at March 31, 2021, and does not include any potential impact from additions to or retirements of net completed plant that occurred since March 31, 2021.

During the six months ended March 31, 2022, TVA also recognized \$11 million in Operating and maintenance expense related to additional inventory reserves and write-offs for the coal-fired fleet, including Bull Run. Of this amount, \$5 million was recognized during the three months ended March 31, 2022.

7. Other Long-Term Assets

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

Other Long-Term Assets (in millions)		
	At March 31, 2022	At September 30, 2021
Loans and other long-term receivables, net	\$ 117	\$ 96
EnergyRight® receivables, net	52	57
Prepaid long-term service agreements	58	44
Commodity contract derivative assets	53	40
Other	79	83
Total other long-term assets	\$ 359	\$ 320

Loans and Other Long-Term Receivables. TVA's loans and other long-term receivables primarily consist of economic development loans for qualifying organizations and a receivable for reimbursements to recover the cost of providing long-term, on-site storage for spent nuclear fuel. The current and long-term portions of the loans receivable are reported in Accounts receivable, net and Other long-term assets, respectively, on TVA's Consolidated Balance Sheets. At March 31, 2022 and September 30, 2021, the carrying amount of the loans receivable, net of discount, reported in Accounts receivable, net was approximately \$4 million and \$3 million, respectively.

EnergyRight® Receivables. In association with the EnergyRight® program, TVA's local power company customers ("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 10 years. TVA purchases the resulting loans receivable from its LPCs. The loans receivable are then transferred to a third-party bank with which TVA has agreed to repay in full any loans receivable 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 loans receivable as secured borrowings. The current and long-term portions of the loans receivable are reported in Accounts receivable, net and Other long-term assets, respectively, on TVA's Consolidated Balance Sheets. At March 31, 2022, and September 30, 2021, the carrying amount of the loans receivable, net of discount, reported in Accounts receivable, net was approximately \$14 million and \$15 million, respectively. See Note 10 — *Other Long-Term Liabilities* for information regarding the associated financing obligation.

Allowance for Loan Losses. TVA adopted CECL on October 1, 2020, to determine its allowance for loan loss. The allowance for loan loss is an estimate of expected credit losses, measured over the estimated life of the loan receivables, that considers reasonable and supportable forecasts of future economic conditions in addition to information about historical experience and current conditions. See Note 1 — *Summary of Significant Accounting Policies — Allowance for Uncollectible Accounts*.

The allowance components, which consist of a collective allowance and specific loans allowance, are based on the risk characteristics of TVA's loans. Loans that share similar risk characteristics are evaluated on a collective basis in measuring credit losses, while loans that do not share similar risk characteristics with other loans are evaluated on an individual basis.

	Allowance Components (in millions)	
	At March 31, 2022	At September 30, 2021
EnergyRight® loan reserve	\$ 1	\$ 1
Economic development loan collective reserve	1	1
Economic development loan specific loan reserve	2	2
Total allowance for loan losses	<u>\$ 4</u>	<u>\$ 4</u>

Prepaid Long-Term Service Agreements. TVA has entered into various long-term service agreements for major maintenance activities at certain of its combined cycle plants. TVA uses the direct expense method of accounting for these arrangements. TVA accrues for parts when it takes ownership and for contractor services when they are rendered. Under certain of these agreements, payments made exceed the value of parts received and services rendered. The current and long-term portions of the resulting prepayments are reported in Other current assets and Other long-term assets, respectively, on TVA's Consolidated Balance Sheets. At both March 31, 2022, and September 30, 2021, prepayments of \$12 million were recorded in Other current assets.

Commodity Contract Derivative Assets. TVA enters into certain derivative contracts for natural gas that require physical delivery of the contracted quantity of the commodity. TVA also reinstated the FHP in December 2021, and hedging activity began under the program in the second quarter of 2022. See Note 14 — *Risk Management Activities and Derivative Transactions — Derivatives Not Receiving Hedge Accounting Treatment — Commodity Derivatives* and — *Commodity Derivatives under the FHP* for a discussion of TVA's commodity contract derivatives.

8. 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 deferral 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 March 31, 2022		At September 30, 2021
Current regulatory assets			
Unrealized losses on interest rate derivatives	\$	86	\$ 114
Unrealized losses on commodity derivatives		4	3
Fuel cost adjustment receivable		19	79
Total current regulatory assets		109	196
Non-current regulatory assets			
Deferred pension costs and other post-retirement benefits costs		3,518	3,668
Non-nuclear decommissioning costs		2,716	2,653
Unrealized losses on interest rate derivatives		888	1,122
Nuclear decommissioning costs		331	363
Unrealized losses on commodity derivatives		3	—
Other non-current regulatory assets		140	150
Total non-current regulatory assets		7,596	7,956
Total regulatory assets	\$	7,705	\$ 8,152
Current regulatory liabilities			
Fuel cost adjustment tax equivalents	\$	149	\$ 130
Unrealized gains on commodity derivatives		208	210
Total current regulatory liabilities		357	340
Non-current regulatory liabilities			
Unrealized gains on commodity derivatives		53	40
Total non-current regulatory liabilities		53	40
Total regulatory liabilities	\$	410	\$ 380

TVA reinstated the FHP in December 2021, and hedging activity began under the program in the second quarter of 2022. Deferred gains and losses relating to TVA's FHP represent net unrealized gains and losses on financial instruments used to hedge risks related to commodity prices, which are also included as part of unrealized gains and losses on commodity derivatives. Currently, TVA is hedging exposure to the price of natural gas under the FHP. TVA defers all mark-to-market ("MtM") unrealized gains or losses as regulatory liabilities or assets, respectively, and records the realized gains or losses in fuel and purchased power expense as the contracts settle to match the delivery period of the underlying commodity. This accounting treatment reflects TVA's ability and intent to include the realized gains or losses of these commodity contracts in future periods through the fuel cost adjustment. Net unrealized gains and losses for any settlements that occur within 12 months or less are classified as a current regulatory asset or liability. See Note 14 — *Risk Management Activities and Derivative Transactions*.

9. 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 activity, 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 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, (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 activity, 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 at March 31, 2022, and September 30, 2021, as reflected on the Consolidated Balance Sheets, are as follows:

Summary of Impact of VIEs on Consolidated Balance Sheets (in millions)

	At March 31, 2022	At September 30, 2021
Current liabilities		
Accrued interest	\$ 10	\$ 10
Accounts payable and accrued liabilities	3	3
Current maturities of long-term debt of variable interest entities	44	43
Total current liabilities	57	56
Other liabilities		
Other long-term liabilities	18	20
Long-term debt, net		
Long-term debt of variable interest entities, net	984	1,006
Total liabilities	\$ 1,059	\$ 1,082

Interest expense of \$12 million and \$13 million for the three months ended March 31, 2022 and 2021, respectively, and \$25 million and \$26 million for the six months ended March 31, 2022 and 2021, 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 do not have any 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.

10. Other Long-Term Liabilities

Other long-term liabilities consist primarily of liabilities related to certain derivative agreements as well as liabilities related to operating leases. The table below summarizes the types and amounts of Other long-term liabilities:

Other Long-Term Liabilities (in millions)

	At March 31, 2022	At September 30, 2021 ⁽¹⁾
Interest rate swap liabilities	\$ 1,273	\$ 1,524
Operating lease liabilities	120	122
Currency swap liabilities	85	76
EnergyRight® financing obligation	61	66
Long-term deferred compensation	33	42
Advances for construction	42	24
Long-term deferred revenue	38	37
Accrued long-term service agreements	17	29
Other	132	121
Total other long-term liabilities	\$ 1,801	\$ 2,041

Note

(1) At September 30, 2021, \$5 million and \$19 million previously classified as Long-term deferred revenue (a component of Other long-term liabilities) and Other (a component of Other long-term liabilities), respectively, have been reclassified to Advances for construction (a component of Other long-term liabilities) to conform with current year presentation.

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, Accrued interest, and Other long-term liabilities on the

Consolidated Balance Sheets. At March 31, 2022, and September 30, 2021, the carrying amount of the interest rate swap liabilities recorded in Accounts payable and accrued liabilities and Accrued interest was \$95 million and \$115 million, respectively. See Note 14 — *Risk Management Activities and Derivative Transactions — Derivatives Not Receiving Hedge Accounting Treatment — Interest Rate Derivatives* for information regarding the interest rate swap liabilities.

Operating Lease Liabilities. TVA's operating leases consist primarily of railcars, equipment, real estate/land, and power generating facilities. At March 31, 2022 and September 30, 2021, the current portion of TVA's operating leases recorded in Accounts payable and accrued liabilities was \$58 million and \$40 million, respectively.

Currency Swap Liabilities. To protect against exchange rate risk related to British pound sterling denominated Bond transactions, TVA entered into foreign currency hedges. The values of these derivatives are included in Accounts payable and accrued liabilities and Other long-term liabilities on the Consolidated Balance Sheets. At March 31, 2022 and September 30, 2021, the carrying amount of the currency swap liabilities reported in Accounts payable and accrued liabilities was \$8 million and \$7 million, respectively. See Note 14 — *Risk Management Activities and Derivative Transactions — Cash Flow Hedging Strategy for Currency Swaps* for more information regarding the currency swap liabilities.

EnergyRight® Financing Obligation. TVA purchases certain loans receivable from its LPCs in association with the EnergyRight® 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. At March 31, 2022, and September 30, 2021, the carrying amount of the financing obligation recorded in Accounts payable and accrued liabilities was approximately \$15 million and \$16 million, respectively. See Note 7 — *Other Long-Term Assets* for information regarding the associated loans receivable.

Long-Term Deferred Compensation. TVA provides compensation arrangements to engage and retain certain employees, both executive and non-executive, which are designed to provide participants with the ability to defer compensation to future periods. The current and long-term portions are recorded in Accounts payable and accrued liabilities and Other long-term liabilities, respectively, on TVA's Consolidated Balance Sheets. At March 31, 2022 and September 30, 2021, the current amount of deferred compensation recorded in Accounts payable and accrued liabilities was \$39 million and \$51 million, respectively.

Advances for Construction. TVA receives refundable and non-refundable advances for construction that are generally intended to defray all or a portion of the costs of building or extending TVA's existing power assets. Amounts received are deferred as a liability with the long-term portion representing amounts that will not be recognized within the next 12 months. As projects meet milestones or other contractual obligations, the refundable portion is refunded to the customer and the non-refundable portion is recognized as contributions in aid of construction and offsets the cost of plant assets. At March 31, 2022 and September 30, 2021, the current amount of advances for construction reported in Accounts payable and accrued liabilities were \$36 million and \$38 million, respectively.

Long-Term Deferred Revenue. Long-term deferred revenue represents payments received that exceed services rendered resulting in the deferral of revenue. This long-term portion represents amounts that will not be recognized within the next 12 months primarily related to fiber and transmission agreements. The current and long-term portions of the deferral are recorded in Accounts payable and accrued liabilities and Other long-term liabilities, respectively, on TVA's Consolidated Balance Sheets. At March 31, 2022 and September 30, 2021, the current amount of deferred revenue was \$15 million and \$17 million, respectively, and is included in Accounts payable and accrued liabilities.

Accrued Long-Term Service Agreements. TVA has entered into various long-term service agreements for major maintenance activities at certain of its combined cycle plants. TVA uses the direct expense method of accounting for these arrangements. TVA accrues for parts when it takes ownership and for contractor services when they are rendered. Under certain of these agreements, parts received and services rendered exceed payments made. The current and long-term portions of the resulting obligation are recorded in Accounts payable and accrued liabilities and Other long-term liabilities, respectively, on TVA's Consolidated Balance Sheets. At March 31, 2022 and September 30, 2021, related liabilities of \$31 million and \$28 million, respectively, were recorded in Accounts payable and accrued liabilities.

11. Asset Retirement Obligations

During the six months ended March 31, 2022, TVA's total asset retirement obligations ("ARO") liability increased \$193 million as a result of periodic accretion and revisions in estimate, partially offset by settlement projects that were conducted during the period. The nuclear and non-nuclear accretion amounts were deferred as regulatory assets. During the six months ended March 31, 2022, \$69 million of the related regulatory assets were amortized into expense as these amounts were collected in rates. See Note 8 — *Regulatory Assets and Liabilities*. TVA maintains investment trusts to help fund its decommissioning obligations. See Note 15 — *Fair Value Measurements — Investment Funds* and Note 20 — *Contingencies and Legal Proceedings — Contingencies — Decommissioning Costs* for a discussion of the trusts' objectives and the current balances of the trusts.

Asset Retirement Obligation Activity

	Nuclear	Non-Nuclear	Total
Balance at September 30, 2021	\$ 3,428	\$ 3,574	\$ 7,002 ⁽¹⁾
Settlements	—	(125)	(125)
Revisions in estimate	3	204	207
Accretion (recorded as regulatory asset)	78	33	111
Balance at March 31, 2022	<u>\$ 3,509</u>	<u>\$ 3,686</u>	<u>\$ 7,195 ⁽¹⁾</u>

Note

(1) Includes \$332 million and \$266 million at March 31, 2022, and September 30, 2021, respectively, recorded in Current liabilities.

The revisions in non-nuclear estimates increased the liability balance by \$204 million for the six months ended March 31, 2022. TVA implemented revised depreciation rates during the first quarter of 2022 applicable to its completed plant as a result of the completion of a new depreciation study. The study included a decline in the service life estimates of TVA's coal-fired plants based on current planning assumptions to potentially retire the remainder of the coal-fired fleet by 2035. As a result of the change in the service life estimates reflected in the depreciation study, TVA performed an assessment of the assumptions used in the timing of cash flows related to its non-nuclear AROs. Based on the assessment, TVA identified changes to its projections of timing of certain asset retirement activities, resulting in an increase of \$47 million to the ARO. In addition, TVA completed an engineering review of its cost estimates for closure of certain areas containing coal fines at Paradise Fossil Plant, resulting in an increase of \$119 million due to expected cost increases for necessary changes in activities associated with proper completion of the closure. During the second quarter of 2022, based on refined project cost assumptions and scope changes, TVA revised its AROs for the closure of certain coal yards at its fossil plants, resulting in an increase to AROs of \$57 million.

12. Debt and Other Obligations

Debt Outstanding

Total debt outstanding at March 31, 2022, and September 30, 2021, consisted of the following:

	Debt Outstanding (in millions)	
	At March 31, 2022	At September 30, 2021
Short-term debt		
Short-term debt, net	\$ 684	\$ 780
Current maturities of power bonds issued at par	1,028	1,028
Current maturities of long-term debt of VIEs issued at par	44	43
Total current debt outstanding, net	<u>1,756</u>	<u>1,851</u>
Long-term debt		
Long-term power bonds ⁽¹⁾	17,558	17,572
Long-term debt of VIEs, net	984	1,006
Unamortized discounts, premiums, issue costs, and other	(110)	(115)
Total long-term debt, net	<u>18,432</u>	<u>18,463</u>
Total debt outstanding	<u>\$ 20,188</u>	<u>\$ 20,314</u>

Note

(1) Includes net exchange gain from currency transactions of \$71 million and \$58 million at March 31, 2022, and September 30, 2021, respectively.

Debt Securities Activity

The table below summarizes the long-term debt securities activity for the period from October 1, 2021, to March 31, 2022:

Debt Securities Activity		
	Date	Amount (in millions)
Redemptions/Maturities⁽¹⁾		
2009 Series B	December 2021	\$ 1
Total redemptions/maturities of power bonds		1
Debt of variable interest entities		21
Total redemptions/maturities of debt		\$ 22

Note

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

Credit Facility Agreements

TVA has funding available under four long-term revolving credit facilities totaling approximately \$2.7 billion: a \$150 million credit facility that matures on February 9, 2024, a \$500 million credit facility that matures on February 1, 2025, a \$1.0 billion credit facility that matures on September 21, 2026, and a \$1.0 billion credit facility that matures on March 25, 2027. 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 March 31, 2022, and September 30, 2021, there were approximately \$1.0 billion and \$1.2 billion, respectively, of letters of credit outstanding under these facilities, and there were no borrowings outstanding. See Note 14 — *Risk Management Activities and Derivative Transactions — Other Derivative Instruments — Collateral*.

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

Summary of Long-Term Credit Facilities At March 31, 2022 (in millions)				
Maturity Date	Facility Limit	Letters of Credit Outstanding	Cash Borrowings	Availability
February 2024	\$ 150	\$ 38	\$ —	\$ 112
February 2025	500	500	—	—
September 2026	1,000	266	—	734
March 2027	1,000	213	—	787
Total	\$ 2,650	\$ 1,017	\$ —	\$ 1,633

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 2022 with a maturity date of September 30, 2022. 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 U.S. with maturities from date of issue of 12 months or less. There were no outstanding borrowings under the facility at March 31, 2022. The availability of this credit facility may be impacted by how the U.S. government addresses the possibility of approaching its debt limit.

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 ("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. At September 30, 2021, the outstanding leaseback obligations related to the remaining CTs and QTE were \$25 million. There were no outstanding leaseback obligations related to the remaining CTs and QTE at March 31, 2022. Prior to 2021, TVA made final rent payments involving 16 CTs and acquired the equity interest related to these transactions. Rent

payments under the remaining CT lease/leaseback transactions were made through January 2022. TVA gave notice in December 2021 of its election to acquire the equity interests related to the remaining eight CTs for a total of \$155 million. The associated acquisitions are expected to close in December 2022 and May 2023.

In October 2019, TVA provided notice of its intent to purchase the ownership interest in certain QTE through a series of installments. TVA made its last repurchase payment in December 2021, after which the associated leases were terminated.

13. 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 and any related accrued interest 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 March 31, 2022 and 2021, TVA reclassified \$17 million of losses and \$5 million of gains, respectively, related to its cash flow hedges from AOCI to Interest expense. During the six months ended March 31, 2022 and 2021, TVA reclassified \$16 million of losses and \$50 million of gains, respectively, related to its cash flow hedges from AOCI to Interest expense. See Note 14 — *Risk Management Activities and Derivative Transactions*.

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 8 — *Regulatory Assets and Liabilities* for a schedule of regulatory assets and liabilities. See Note 14 — *Risk Management Activities and Derivative Transactions* for a discussion of the recognition in AOCI of gains and losses associated with certain derivative instruments. See Note 15 — *Fair Value Measurements* for a discussion of the recognition of certain investment fund gains and losses as regulatory assets and liabilities. See Note 19 — *Benefit Plans* for a discussion of the regulatory accounting related to components of TVA's benefit plans.

14. Risk Management Activities and Derivative Transactions

TVA is exposed to various 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 historically 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.

In November 2021, the TVA Board approved the elimination of the Value at Risk aggregate transaction limit for the FHP and authorized the use of tolerances and measures that will be reviewed annually by the TVA Board. The tolerances will address counterparty exposure, liquidity risk, and reduction in fuel cost volatility. In addition, the TVA Board approved certain administrative changes to the FHP. In December 2021, TVA reinstated the FHP, and hedging activity began under the program in the second quarter of 2022.

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 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 Accumulated Other Comprehensive Income (Loss)
(in millions)

Derivatives in Cash Flow Hedging Relationship	Objective of Hedge Transaction	Accounting for Derivative Hedging Instrument	Three Months Ended March 31		Six Months Ended March 31	
			2022	2021	2022	2021
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	\$ (15)	\$ 22	\$ (10)	\$ 123

Summary of Derivative Instruments That Receive Hedge Accounting Treatment (part 2)⁽¹⁾
Amount of Gain (Loss) Reclassified from Accumulated Other Comprehensive Income (Loss) to Interest Expense
(in millions)

Derivatives in Cash Flow Hedging Relationship	Three Months Ended March 31		Six Months Ended March 31	
	2022	2021	2022	2021
Currency swaps	\$ (17)	\$ 5	\$ (16)	\$ 50

Note

(1) There were no amounts excluded from effectiveness testing for any of the periods presented. Based on forecasted foreign currency exchange rates, TVA expects to reclassify approximately \$18 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 exchange gain on the debt.

Summary of Derivative Instruments That Do Not Receive Hedge Accounting Treatment
Amount of Gain (Loss) Recognized in Income on Derivatives⁽¹⁾⁽²⁾

Derivative Type	Objective of Derivative	Accounting for Derivative Instrument	Three Months Ended March 31		Six Months Ended March 31	
			2022	2021	2022	2021
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 liabilities and assets, respectively Realized gains and losses are recognized in Interest expense when incurred during the settlement period and are presented in operating cash flow	\$ (28)	\$ (28)	\$ (57)	\$ (57)

Notes

(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 were no related gains (losses) recognized in income for these unrealized gains (losses) for the three and six months ended March 31, 2022 and 2021.

(2) For the three and six months ended March 31, 2022 and 2021, there were no realized gains or losses recognized for the commodity derivatives under the FHP.

Fair Values of TVA Derivatives (in millions)				
At March 31, 2022			At September 30, 2021	
Derivatives That Receive Hedge Accounting Treatment:				
	Balance	Balance Sheet Presentation	Balance	Balance Sheet Presentation
Currency swaps				
£250 million Sterling	\$ (43)	Accounts payable and accrued liabilities \$(5); Other long-term liabilities \$(38)	\$ (36)	Accounts payable and accrued liabilities \$(4); Other long-term liabilities \$(32)
£150 million Sterling	(50)	Accounts payable and accrued liabilities \$(3); Other long-term liabilities \$(47)	(47)	Accounts payable and accrued liabilities \$(3); Other long-term liabilities \$(44)
Derivatives That Do Not Receive Hedge Accounting Treatment:				
	Balance	Balance Sheet Presentation	Balance	Balance Sheet Presentation
Interest rate swaps				
\$1.0 billion notional	\$ (994)	Accounts payable and accrued liabilities \$(32); Accrued interest \$(38); Other long-term liabilities \$(924)	\$ (1,182)	Accounts payable and accrued liabilities \$(44); Accrued interest \$(37); Other long-term liabilities \$(1,101)
\$476 million notional	(373)	Accounts payable and accrued liabilities \$(15); Accrued interest \$(9); Other long-term liabilities \$(349)	(455)	Accounts payable and accrued liabilities \$(22); Accrued interest \$(10); Other long-term liabilities \$(423)
\$42 million notional ⁽¹⁾	(1)	Accrued interest \$(1)	(2)	Accounts payable and accrued liabilities \$(1); Accrued interest \$(1)
Commodity contract derivatives	202	Other current assets \$178; Other long-term assets \$31; Accounts payable and accrued liabilities \$(4); Other long-term liabilities \$(3)	247	Other current assets \$210; Other long-term assets \$40; Accounts payable and accrued liabilities \$(3)
Commodity derivatives under the FHP	52	Accounts receivable, net \$1; Other current assets \$29; Other long-term assets \$22	—	N/A

Note

(1) At September 30, 2021, represented two interest rate swaps with notional amounts of \$28 million and \$14 million. In January 2022, the final payment was made on the \$28 million notional interest rate swap, and therefore at March 31, 2022, only the \$14 million notional interest rate swap remained.

Cash Flow Hedging Strategy for Currency Swaps

To protect against exchange rate risk related to British pound sterling denominated Bond transactions, TVA entered into foreign currency hedges at the time the Bond transactions occurred. TVA had two currency swaps outstanding at March 31, 2022, with total currency exposure of £400 million and expiration dates in 2032 and 2043.

When the dollar strengthens against the British pound sterling, the exchange gain on the Bond liability and related accrued interest 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 and related accrued interest 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 and related accrued interest are included in Long-term debt, net and Accrued interest, respectively. 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 liabilities are included in Accounts payable and accrued liabilities and Other long-term liabilities on the Consolidated Balance Sheets.

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 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, Accrued interest, and Other long-term liabilities on the Consolidated Balance Sheets, and realized gains and losses, if any, are included on TVA's Consolidated Statements of Operations. For the three months ended March 31, 2022 and 2021, the changes in fair market value of the interest rate swaps resulted in the deferral of unrealized gains

of \$282 million and \$386 million, respectively. For the six months ended March 31, 2022 and 2021, the changes in fair market value of the interest rate swaps resulted in the deferral of unrealized gains of \$271 million and \$529 million, respectively. TVA may hold short-term debt balances lower than the notional amount of the interest rate swaps from time to time due to changes in business conditions and other factors. While actual balances vary, TVA generally plans to maintain average balances of short-term debt equal to or in excess of the combined notional amount of the interest rate swaps.

Commodity Derivatives. TVA enters into certain derivative contracts for natural gas that require physical delivery of the contracted quantity of the commodity. TVA marks to market natural gas contracts and defers the fair market values as regulatory assets or liabilities on a gross basis. At March 31, 2022, TVA's natural gas contract derivatives had terms of up to three years.

Commodity Contract Derivatives						
	At March 31, 2022			At September 30, 2021		
	Number of Contracts	Notional Amount	Fair Value (MtM) (in millions)	Number of Contracts	Notional Amount	Fair Value (MtM) (in millions)
Natural gas contract derivatives	29	299 million mmBtu	\$ 202	40	263 million mmBtu	\$ 247

Commodity Derivatives under the FHP. In December 2021, TVA reinstated the FHP, and hedging activity began under the program in the second quarter of 2022. Currently, TVA is hedging exposure to the price of natural gas under the FHP. There is no Value at Risk aggregate transaction limit under the current FHP structure, but the TVA Board reviews and authorizes the use of tolerances and measures annually. TVA's policy prohibits trading financial instruments under the FHP for speculative purposes.

Commodity Derivatives under Financial Hedging Program ⁽¹⁾						
	At March 31, 2022			At September 30, 2021		
	Number of Contracts	Notional Amount	Fair Value (MtM) (in millions)	Number of Contracts	Notional Amount	Fair Value (MtM) (in millions)
Natural gas						
Swap contracts	50	79 million mmBtu	\$ 52	—	— million mmBtu	\$ —

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.

TVA defers all FHP unrealized gains (losses) as regulatory liabilities (assets) and records the realized gains or losses in fuel and purchased power expense to match the delivery period of the underlying commodity. TVA experienced the following unrealized gains and losses related to the FHP at the dates set forth in the table below:

Financial Hedging Program Unrealized Gains (Losses)			
FHP unrealized gains (losses) deferred as regulatory liabilities (assets)	At March 31, 2022		At September 30, 2021
Natural gas	\$	52	\$ —

Offsetting of Derivative Assets and Liabilities

The amounts of TVA's derivative instruments as reported on the Consolidated Balance Sheets are shown in the table below:

Derivative Assets and Liabilities⁽¹⁾ (in millions)		At March 31, 2022	At September 30, 2021
Assets			
Commodity contract derivatives	\$	209	\$ 250
Commodity derivatives under the FHP		52	—
Total derivatives subject to master netting or similar arrangement	\$	261	\$ 250
Liabilities			
Currency swaps ⁽²⁾	\$	93	\$ 83
Interest rate swaps ⁽²⁾		1,368	1,639
Commodity contract derivatives		7	3
Total derivatives subject to master netting or similar arrangement	\$	1,468	\$ 1,725

Notes

(1) Offsetting amounts include counterparty netting of derivative contracts. There were no material offsetting amounts on TVA's Consolidated Balance Sheets at either March 31, 2022, or September 30, 2021.

(2) Letters of credit of approximately \$1.0 billion and \$1.2 billion were posted as collateral at March 31, 2022, and September 30, 2021, 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"). See Note 15 — *Fair Value Measurements — 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 March 31, 2022, and September 30, 2021, the NDT held investments in forward contracts to purchase debt securities. The fair values of these derivatives were in net asset positions totaling \$2 million at both March 31, 2022, and September 30, 2021.

Collateral. TVA's interest rate swaps, currency swaps, and commodity derivatives under the FHP 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 March 31, 2022, the aggregate fair value of all derivative instruments with credit-risk related contingent features that were in a liability position was \$1.5 billion. TVA's collateral obligations at March 31, 2022, under these arrangements were approximately \$924 million, for which TVA had posted approximately \$1.0 billion in letters of credit. These letters of credit 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 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.

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. Of the \$1.3

billion and \$1.5 billion of receivables from power sales outstanding at March 31, 2022, and September 30, 2021, respectively, nearly all counterparties were rated investment grade. The obligations of customers that are not investment grade are secured by collateral. 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. TVA believes its policies and procedures for counterparty performance risk reviews have generally protected TVA against significant exposure related to market and economic conditions. See Note 1 — *Summary of Significant Accounting Policies — Allowance for Uncollectible Accounts*, Note 3 — *Accounts Receivable, Net*, and Note 7 — *Other Long-Term Assets*.

TVA had revenue from two LPCs that collectively accounted for 16 percent of total operating revenues for both the six months ended March 31, 2022 and the six months ended March 31, 2021.

Suppliers. TVA assesses potential supplier performance risks, including procurement of fuel, parts, and services. If suppliers are unable to perform under TVA's existing contracts or if TVA is unable to obtain similar services or supplies from other vendors, TVA could experience delays, disruptions, additional costs, or other operational outcomes that may impact generation, maintenance, and capital programs. 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. TVA continues evaluating potential supplier performance risks and supplier impact but cannot determine or predict the duration of such risks/impacts or the extent to which such risks/impacts could affect TVA's business, operations, and financial results or cause potential business disruptions.

TVA has experienced an increase in supplier impacts as a result of COVID-19 and the state of global supply chains and the economy, such as project delays, availability of supplies, and price increases. Russia's invasion of Ukraine has further intensified the state of global supply chains in addition to inflationary pressures and COVID-19, and TVA will continue to monitor these pressures.

Natural Gas. TVA purchases a significant amount of its natural gas requirements through contracts with a variety of suppliers and purchases substantially all of its fuel oil requirements on the spot market. TVA delivers to its gas fleet under firm and non-firm transportation contracts on multiple interstate natural gas pipelines. TVA contracts for storage capacity that allows for operational flexibility and increased supply during peak gas demand scenarios or supply disruptions. TVA plans to continue using contracts of various lengths and terms to meet the projected natural gas needs of its natural gas fleet. TVA also maintains on-site, fuel oil backup to operate at the majority of the combustion turbine sites in the event of major supply disruptions. In the event of nonperformance by suppliers, TVA believes that it can obtain replacement natural gas.

Coal. To ensure a reliable supply of coal, TVA has coal contracts with multiple suppliers at March 31, 2022. The contracted supply of coal is sourced from several geographic regions of the U.S. and is delivered via barge and rail. As a result of emerging technologies, environmental regulations, industry trends, and natural gas market volatility over the past few years, coal suppliers are facing increased financial pressure, which has led to relatively poor credit ratings and bankruptcies, restructuring, mine closures, or other scenarios. A long-term continued decline in demand for coal could result in more consolidations, additional bankruptcies, restructuring, mine closures, or other scenarios. Current market conditions indicate limited availability of spot market coal due to increased exports, utility demand, and mine capacity and capability.

TVA experienced challenges in 2021 related to coal supply, as a result of supply limitation and transportation challenges, and coal supply and transportation continue to be constrained in 2022. Following an event in October 2021 at one of TVA's fuel storage locations and coal handling service providers, TVA implemented terminal service options at other locations which met TVA's interim coal handling needs. TVA's primary offsite coal storage and handling location is now fully operational, and inventory is being rebuilt at this location. In addition, rail service is currently limiting TVA's ability to transport contracted supply, which may impact summer inventory levels. TVA will continue to monitor the coal supply challenges and utilize its contracting strategy and diverse generation portfolio to balance needs and ensure adequate fuel supplies.

Nuclear Fuel. Nuclear fuel is obtained predominantly through long-term uranium concentrate supply contracts, contracted conversion services, contracted enrichment services, or a combination thereof, and contracted fuel fabrication services. The supply markets for uranium concentrates and certain nuclear fuel services are subject to price fluctuations and availability restrictions. Supply market conditions may make procurement contracts subject to credit risk related to the potential nonperformance of counterparties. In the event of nonperformance by these or other suppliers, TVA believes that replacement uranium concentrate and nuclear fuel services can be obtained, although at prices that may be unfavorable when compared to the prices under the current supply agreements.

As a result of Russia's invasion of Ukraine, new contracts for Russian origin nuclear fuel have been limited by Executive Order ("EO") 14066, and further restrictions on the purchase or use of Russian origin fuel may be forthcoming. TVA should have no direct impact from existing or future restrictions since TVA has no Russian origin nuclear fuel in inventory for use in its reactors and it is not contracted to purchase any Russian origin nuclear fuel. TVA could be impacted by higher market prices as a result of general market impacts associated with supply restrictions; however, at this time TVA's nuclear fuel is obtained predominantly through long-term contracts.

Purchased Power. TVA acquires power from a variety of power producers through long-term and short-term power purchase agreements ("PPAs") as well as through spot market purchases. In order to meet customer preferences and requirements for cleaner and greener energy, TVA has entered into certain PPAs with renewable resource providers. Because of the long-term nature and reliability of purchased power, TVA requires that the PPAs contain certain counterparty performance assurance requirements to help insure counterparty performance during the term of the agreements.

Other Suppliers. Mounting solar supply chain constraints, commodity price increases, and the recent trade policy investigation into solar panel imports have created challenges for the U.S. solar industry, threatening project delays, cancellations, and price increases. These constraints are affecting contracted PPAs from previous RFPs that are not yet online and TVA's Self-Directed Solar project.

Derivative Counterparties. TVA has entered into physical and financial contracts that are classified as derivatives for hedging purposes, and TVA's NDT, ART, and qualified defined benefit plan ("pension plan") have entered into derivative contracts for investment purposes. If a counterparty to one of the physical or financial derivative transactions defaults, TVA might incur substantial costs in connection with entering into a replacement transaction. If a counterparty to the derivative contracts into which the NDT, the ART, or the pension plan have 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, coal, and gas industries because multiple companies in these industries serve as counterparties to TVA in various derivative transactions. At March 31, 2022, all of TVA's commodity derivatives under the FHP, currency swaps, and interest rate swaps were with counterparties whose Moody's credit ratings were A2 or higher.

TVA classifies forward natural gas contracts as derivatives. See *Derivatives Not Receiving Hedge Accounting Treatment* above. At March 31, 2022, the natural gas contracts were with counterparties whose ratings ranged from B1 to A1.

15. 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 March 31, 2022, Investment funds were comprised of \$4.2 billion of equity securities and debt securities classified as trading measured at fair value. Equity and trading debt 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 \$2.9 billion and \$1.2 billion, respectively, at March 31, 2022.

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 to future periods. The NDT, ART, SERP, and DCP funds are invested in portfolios of securities generally designed to achieve a return in line with overall equity and debt market performance.

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, private real asset investments, and private credit 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 \$210 million, private real assets of \$105 million, and private credit of \$53 million at March 31, 2022. The ART had unfunded commitments related to limited partnerships in private equity of \$116 million, private real assets of \$69 million, and private credit of \$28 million at March 31, 2022. 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 these investments is based on information provided by the investment managers. These investments are valued on a quarterly basis. TVA's private equity limited partnerships, private real asset investments, and private credit 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 NAV 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 NAV in the fair value hierarchy.

Realized and unrealized gains and losses on equity and trading debt 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 — *Summary of Significant Accounting Policies* — *Cost-Based Regulation* and Note 8 — *Regulatory Assets and Liabilities*. TVA recorded unrealized gains and losses related to its equity and trading debt securities held during each period as follows:

		Unrealized Investment Gains (Losses) (in millions)			
		Three Months Ended March 31		Six Months Ended March 31	
Fund	Financial Statement Presentation	2022	2021	2022	2021
NDT	Regulatory assets	\$ (93)	\$ 23	\$ 26	\$ 253
ART	Regulatory assets	(38)	28	(8)	120
SERP	Other income (expense)	(7)	1	(5)	5
DCP	Other income (expense)	(2)	—	(2)	1

Currency and Interest Rate Swap Derivatives

See Note 14 — *Risk Management Activities and Derivative Transactions — 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 and Commodity Derivatives under the FHP

Commodity Contract Derivatives. Most of these derivative contracts are valued based on market approaches, which utilize short-term and mid-term market-quoted prices from an external industry brokerage service.

Commodity Derivatives under the FHP. Swap contracts are valued using a pricing model based on New York Mercantile Exchange inputs and are subject to nonperformance risk outside of the exit price. These contracts are classified as Level 2 valuations.

See Note 14 — *Risk Management Activities and Derivative Transactions — Derivatives Not Receiving Hedge Accounting Treatment — Commodity Derivatives* and — *Commodity Derivatives under the FHP*.

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 2021) 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 no change in the fair value of assets and a \$1 million decrease in the fair value of liabilities at March 31, 2022.

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 at March 31, 2022, and September 30, 2021. 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 March 31, 2022 (in millions)				
	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	\$ 711	\$ —	\$ —	\$ 711
Government debt securities ⁽¹⁾	522	21	—	543
Corporate debt securities ⁽²⁾	—	361	—	361
Mortgage and asset-backed securities	—	77	—	77
Institutional mutual funds	212	—	—	212
Forward debt securities contracts	—	2	—	2
Private equity funds measured at net asset value ⁽³⁾	—	—	—	453
Private real asset funds measured at net asset value ⁽³⁾	—	—	—	331
Private credit measured at net asset value ⁽³⁾	—	—	—	95
Commingled funds measured at net asset value ⁽³⁾	—	—	—	1,415
Total investments	1,445	461	—	4,200
Commodity contract derivatives	—	209	—	209
Commodity derivatives under the FHP	—	52	—	52
Total	\$ 1,445	\$ 722	\$ —	\$ 4,461
Liabilities				
Currency swaps ⁽⁴⁾	\$ —	\$ 93	\$ —	\$ 93
Interest rate swaps	—	1,368	—	1,368
Commodity contract derivatives	—	7	—	7
Total	\$ —	\$ 1,468	\$ —	\$ 1,468

Notes

(1) Includes government-sponsored entities, including \$523 million of U.S. Treasury securities within Level 1 of the fair value hierarchy.

(2) Includes both U.S. and foreign debt.

(3) Certain investments that are measured at fair value using the NAV 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 on the Consolidated Balance Sheets.

(4) 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 14 — *Risk Management Activities and Derivative Transactions — Offsetting of Derivative Assets and Liabilities*.

Fair Value Measurements At September 30, 2021 (in millions)				
	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	\$ 634	\$ —	\$ —	\$ 634
Government debt securities ⁽¹⁾	573	24	—	597
Corporate debt securities ⁽²⁾	—	411	—	411
Mortgage and asset-backed securities	—	63	—	63
Institutional mutual funds	225	—	—	225
Forward debt securities contracts	—	2	—	2
Private equity funds measured at net asset value ⁽³⁾	—	—	—	357
Private real asset funds measured at net asset value ⁽³⁾	—	—	—	272
Private credit measured at net asset value ⁽³⁾	—	—	—	71
Commingled funds measured at net asset value ⁽³⁾	—	—	—	1,421
Total investments	1,432	500	—	4,053
Commodity contract derivatives	—	250	—	250
Total	\$ 1,432	\$ 750	\$ —	\$ 4,303
Liabilities				
Currency swaps ⁽⁴⁾	\$ —	\$ 83	\$ —	\$ 83
Interest rate swaps	—	1,639	—	1,639
Commodity contract derivatives	—	3	—	3
Total	\$ —	\$ 1,725	\$ —	\$ 1,725

Notes

(1) Includes government-sponsored entities, including \$573 million of U.S. Treasury securities within Level 1 of the fair value hierarchy.

(2) Includes both U.S. and foreign debt.

(3) Certain investments that are measured at fair value using the NAV 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 on the Consolidated Balance Sheets.

(4) 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 14 — *Risk Management Activities and Derivative Transactions — Offsetting of Derivative Assets and Liabilities*.

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 instruments. The fair value of the financial instruments held at March 31, 2022, and September 30, 2021, 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 March 31, 2022, and September 30, 2021, were as follows:

Estimated Values of Financial Instruments Not Recorded at Fair Value
(in millions)

	Valuation Classification	At March 31, 2022		At September 30, 2021	
		Carrying Amount	Fair Value	Carrying Amount	Fair Value
EnergyRight® receivables, net (including current portion)	Level 2	\$ 66	\$ 66	\$ 72	\$ 71
Loans and other long-term receivables, net (including current portion)	Level 2	121	116	99	94
EnergyRight® financing obligations (including current portion)	Level 2	76	85	82	92
Unfunded loan commitments	Level 2	—	—	—	3
Membership interests of VIEs subject to mandatory redemption (including current portion)	Level 2	21	26	23	30
Long-term outstanding power bonds, net (including current maturities)	Level 2	18,476	21,861	18,485	24,309
Long-term debt of VIEs, net (including current maturities)	Level 2	1,028	1,160	1,049	1,307

The carrying value of Cash and cash equivalents, Restricted cash and cash equivalents, Accounts receivable, net, and Short-term debt, net 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 VIEs 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.

16. Revenue*Revenue from Sales of Electricity*

TVA's revenue from contracts with customers is primarily derived from the generation and sale of electricity to its customers and is included in Revenue from sales of electricity on the Consolidated Statements of Operations. Electricity is sold primarily to LPCs for distribution to their end-use customers. In addition, TVA sells electricity to directly served industrial companies, federal agencies, and others.

LPC sales	Approximately 92 percent and 91 percent of TVA's revenue from sales of electricity for the three months ended March 31, 2022 and six months ended March 31, 2022, respectively, was to LPCs, which then distribute the power to their customers using their own distribution systems. Power is delivered to each LPC at delivery points within the LPC's service territory. TVA recognizes revenue when the customer takes possession of the power at the delivery point. For power sales, the performance obligation to deliver power is satisfied in a series over time because the sales of electricity over the term of the customer contract are a series of distinct goods that are substantially the same and have the same pattern of transfer to the customer. TVA has no continuing performance obligations subsequent to delivery. Using the output method for revenue recognition provides a faithful depiction of the transfer of electricity as customers obtain control of the power and benefit from its use at delivery. Additionally, TVA has an enforceable right to consideration for energy delivered at any discrete point in time and will recognize revenue at an amount that reflects the consideration to which TVA is entitled for the energy delivered. The amount of revenue is based on contractual prices approved by the TVA Board. Customers are invoiced monthly for power delivered as measured by meters located at the delivery points. The net transaction price is offset by certain credits available to customers that are known at the time of billing. Credits are designed to achieve objectives of the TVA Act and include items such as hydro preference credits for residential customers of LPCs, economic development credits to promote growth in the Tennessee Valley, wholesale bill credits to maintain long-term partnerships with LPCs, pandemic credits created to support LPCs and strengthen the public power response to the COVID-19 pandemic, and demand response credits allowing TVA to reduce industrial customer usage in periods of peak demand to balance system demand. Payments are typically due within approximately one month of invoice issuance.
Directly served customers	Directly served customers, including industrial customers, federal agencies, and other customers, take power for their own consumption. Similar to LPCs, power is delivered to a delivery point, at which time the customer takes possession and TVA recognizes revenue. For all power sales, the performance obligation to deliver power is satisfied in a series over time since the sales of electricity over the term of the customer contract are a series of distinct goods that are substantially the same and have the same pattern of transfer to the customer. TVA has no continuing performance obligations subsequent to delivery. Using the output method for revenue recognition provides a faithful depiction of the transfer of electricity as customers obtain control of the power and benefit from its use at delivery. Additionally, TVA has an enforceable right to consideration for energy delivered at any discrete point in time and will recognize revenue at an amount that reflects the consideration to which TVA is entitled for the energy delivered. The amount of revenue is based on contractual prices approved by the TVA Board. Customers are invoiced monthly for power delivered as measured by meters located at the delivery points. The net transaction price is offset by certain credits available to customers that are known at the time of billing. Examples of credits include items such as economic development credits to promote growth in the Tennessee Valley, pandemic credits created to support directly served customers in response to the COVID-19 pandemic, and demand response credits allowing TVA to reduce industrial customer usage in periods of peak demand to balance system demand. Payments are typically due within approximately one month of invoice issuance.

Other Revenue

Other revenue consists primarily of wheeling and network transmission charges, sales of excess steam that is a by-product of power production, delivery point charges for interconnection points between TVA and the customer, and certain other ancillary goods or services.

Disaggregated Revenues

During the three and six months ended March 31, 2022, revenues generated from TVA's electricity sales were \$2.8 billion and \$5.4 billion, respectively, and accounted for virtually all of TVA's revenues. TVA's operating revenues by state for the three and six months ended March 31, 2022 and 2021, are detailed in the table below:

Operating Revenues By State (in millions)				
	Three Months Ended March 31		Six Months Ended March 31	
	2022	2021	2022	2021
Alabama	\$ 413	\$ 379	\$ 784	\$ 713
Georgia	74	66	138	124
Kentucky	190	157	361	294
Mississippi	264	237	505	449
North Carolina	23	18	43	34
Tennessee	1,867	1,663	3,526	3,164
Virginia	13	11	24	21
Subtotal	2,844	2,531	5,381	4,799
Off-system sales	4	2	5	4
Revenue from sales of electricity	2,848	2,533	5,386	4,803
Other revenue	36	39	81	73
Total operating revenues	\$ 2,884	\$ 2,572	\$ 5,467	\$ 4,876

TVA's operating revenues by customer type for the three and six months ended March 31, 2022 and 2021, are detailed in the table below:

Operating Revenues by Customer Type (in millions)				
	Three Months Ended March 31		Six Months Ended March 31	
	2022	2021	2022	2021
Revenue from sales of electricity				
Local power companies	\$ 2,608	\$ 2,337	\$ 4,914	\$ 4,428
Industries directly served	206	168	411	322
Federal agencies and other	34	28	61	53
Revenue from sales of electricity	2,848	2,533	5,386	4,803
Other revenue	36	39	81	73
Total operating revenues	\$ 2,884	\$ 2,572	\$ 5,467	\$ 4,876

TVA and LPCs continue to work together to meet the changing needs of consumers around the Tennessee Valley. In 2019, the TVA Board approved a Partnership Agreement option that better aligns the length of LPC power contracts with TVA's long-term commitments. Under the partnership arrangement, the LPC power contracts automatically renew each year and have a 20-year termination notice. The partnership arrangements can be terminated under certain circumstances, including TVA's failure to limit rate increases as provided for in the agreements going forward. Participating LPCs receive benefits including a 3.1 percent wholesale bill credit in exchange for their long-term commitment, which enables TVA to recover its long-term financial commitments over a commensurate period. The total wholesale bill credits to LPCs participating in the Partnership Agreement were \$50 million and \$48 million, respectively, for the three months ended March 31, 2022 and 2021. The total wholesale bill credits to LPCs participating in the Partnership Agreement were \$93 million and \$90 million, respectively, for the six months ended March 31, 2022 and 2021. In 2020, TVA provided participating LPCs a flexibility option, renamed Generation Flexibility, that allows them to locally generate or purchase up to approximately five percent of average total hourly energy sales over 2015 - 2019 in order to meet their individual customers' needs. As of May 11, 2022, 146 LPCs had signed the Partnership Agreement with TVA, and 77 LPCs had signed a Power Supply Flexibility Agreement.

In 2020, the TVA Board approved a Pandemic Relief Credit which was effective for 2021 as a 2.5 percent monthly base rate credit. In 2021, the TVA Board approved a 2.5 percent monthly base rate credit, the Pandemic Recovery Credit, which is effective for 2022. These pandemic credits apply to service provided to TVA's LPCs, their large commercial and industrial customers, and TVA directly served customers. The credit effective for 2022 is expected to approximate \$220 million. For both

the three months ended March 31, 2022 and the three months ended March 31, 2021, pandemic credits totaled \$55 million. For the six months ended March 31, 2022 and 2021, pandemic credits totaled \$105 million and \$104 million, respectively. In addition, in November 2021 the TVA Board approved a 1.5 percent monthly base rate credit, which is an extension of the Pandemic Recovery Credit, to be effective for 2023. The 2023 credit is expected to approximate \$133 million, and it will be administered in a manner similar to the Pandemic Recovery Credit.

The number of LPCs by contract arrangement, the revenues derived from such arrangements for the three and six months ended March 31, 2022, and the percentage those revenues comprised of TVA's total operating revenues for the same periods, are summarized in the tables below:

**TVA Local Power Company Contracts
At or for the Three Months Ended March 31, 2022**

Contract Arrangements⁽¹⁾	Number of LPCs	Revenue from Sales of Electricity to LPCs (in millions)	Percentage of Total Operating Revenues
20-year termination notice	146	\$ 2,250	78.0 %
5-year termination notice	7	358	12.4 %
Total	153	\$ 2,608	90.4 %

Note

(1) Ordinarily, the LPCs and TVA have the same termination notice period; however, in a contract with one of the LPCs with five-year termination notice, TVA has a 10-year termination notice (which becomes a five-year termination notice if TVA loses its discretionary wholesale rate-setting authority). Certain LPCs have five-year termination notices or a shorter period if any act of Congress, court decision, or regulatory change requires or permits that election.

**TVA Local Power Company Contracts
At or for the Six Months Ended March 31, 2022**

Contract Arrangements⁽¹⁾	Number of LPCs	Revenue from Sales of Electricity to LPCs (in millions)	Percentage of Total Operating Revenues
20-year termination notice	146	\$ 4,223	77.2 %
5-year termination notice	7	691	12.6 %
Total	153	\$ 4,914	89.8 %

Note

(1) Ordinarily, the LPCs and TVA have the same termination notice period; however, in a contract with one of the LPCs with five-year termination notice, TVA has a 10-year termination notice (which becomes a five-year termination notice if TVA loses its discretionary wholesale rate-setting authority). Certain LPCs have five-year termination notices or a shorter period if any act of Congress, court decision, or regulatory change requires or permits that election.

TVA's two largest LPCs — Memphis Light, Gas and Water Division ("MLGW") and Nashville Electric Service ("NES") — have contracts with a five-year and a 20-year termination notice period, respectively. Sales to MLGW and NES each accounted for eight percent of TVA's total operating revenues for both the six months ended March 31, 2022 and the six months ended March 31, 2021. Certain LPCs, including MLGW, are evaluating options for future energy choices. In addition, two LPCs — Athens Utility Board and Gibson Electric Membership Corporation — are pursuing an appeal of a Federal Energy Regulatory Commission ("FERC") order denying their request that FERC require TVA to provide transmission and interconnection service to the LPCs or other suppliers that want to serve them. These LPCs accounted for one percent of TVA's total operating revenues for the six months ended March 31, 2022. See Note 20 — *Contingencies and Legal Proceedings* — *Legal Proceedings* — *Challenge to Anti-Cherry-picking Amendment* for updates to this legal proceeding.

Contract Balances

Contract assets represent an entity's right to consideration in exchange for goods and services that the entity has transferred to customers. TVA did not have any material contract assets at March 31, 2022.

Contract liabilities represent an entity's obligations to transfer goods or services to customers for which the entity has received consideration (or an amount of consideration is due) from the customers. These contract liabilities are primarily related to upfront consideration received prior to the satisfaction of the performance obligation. See *Economic Development Incentives* below.

Economic Development Incentives. Under certain economic development programs TVA offers incentives to existing and potential power customers in targeted business sectors that make multi-year commitments to invest in the Tennessee Valley. TVA records those incentives as reductions of revenue. Incentives recorded as a reduction to revenue were \$79 million and \$82 million for the three months ended March 31, 2022 and 2021, respectively. Incentives recorded as a reduction to revenue were \$168 million and \$156 million for the six months ended March 31, 2022 and 2021, respectively. Incentives that have been approved but have not been paid are recorded in Accounts payable and accrued liabilities and Other long-term liabilities on the Consolidated Balance Sheets. At March 31, 2022, and September 30, 2021, the outstanding unpaid incentives were \$185

million and \$176 million, respectively. Incentives that have been paid out may be subject to claw back if the customer fails to meet certain program requirements.

17. Other Income (Expense), Net

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

	Other Income (Expense), Net (in millions)			
	Three Months Ended March 31		Six Months Ended March 31	
	2022	2021	2022	2021
Interest income	\$ 3	\$ 3	\$ 7	\$ 6
External services	3	3	8	7
Gains (losses) on investments	(6)	2	(2)	11
Miscellaneous	3	3	4	2
Total Other income (expense), net	<u>\$ 3</u>	<u>\$ 11</u>	<u>\$ 17</u>	<u>\$ 26</u>

18. Supplemental Cash Flow Information

Construction in progress and Nuclear fuel expenditures included in Accounts payable and accrued liabilities at March 31, 2022 and 2021, were \$503 million and \$394 million, respectively, and are excluded from the Consolidated Statements of Cash Flows for the six months ended March 31, 2022 and 2021, as non-cash investing activities.

Excluded from the Consolidated Statements of Cash Flows for the six months ended March 31, 2021, were non-cash investing and financing activities of \$233 million related primarily to an increase in lease assets and liabilities incurred for a finance lease that was amended in March 2021. No material finance leases were incurred during the six months ended March 31, 2022.

Cash flows from swap contracts that are accounted for as hedges are classified in the same category as the item being hedged or on a basis consistent with the nature of the instrument.

19. Benefit Plans

TVA sponsors a 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 components of net periodic benefit cost and other amounts recognized as changes in regulatory assets for the three and six months ended March 31, 2022 and 2021, were as follows:

Components of TVA's Benefit Plans ⁽¹⁾ (in millions)								
	For the Three Months Ended March 31				For the Six Months Ended March 31			
	Pension Benefits		Other Post-Retirement Benefits		Pension Benefits		Other Post-Retirement Benefits	
	2022	2021	2022	2021	2022	2021	2022	2021
Service cost	\$ 13	\$ 14	\$ 4	\$ 4	\$ 26	\$ 28	\$ 8	\$ 9
Interest cost	95	93	3	4	189	184	7	8
Expected return on plan assets	(109)	(123)	—	—	(218)	(246)	—	—
Amortization of prior service credit	(24)	(25)	(4)	(4)	(47)	(49)	(8)	(9)
Recognized net actuarial loss	101	115	2	2	197	227	3	5
Total net periodic benefit cost as actuarially determined	76	74	5	6	147	144	10	13
Amount expensed due to actions of regulator	1	2	—	—	7	9	—	—
Total net periodic benefit cost	\$ 77	\$ 76	\$ 5	\$ 6	\$ 154	\$ 153	\$ 10	\$ 13

Note

(1) The components of net benefit cost other than the service cost component are included in Other net periodic benefit cost on the Consolidated Statements of Operations.

TVA's minimum required pension plan contribution for 2022 is \$300 million. TVA contributes \$25 million per month to TVARS and as of March 31, 2022, had contributed \$150 million. The remaining \$150 million will be contributed by September 30, 2022. For the six months ended March 31, 2022, TVA also contributed \$51 million to the 401(k) plan, \$14 million (net of \$2 million in rebates) to the other post-retirement plans, and \$8 million to the SERP.

20. 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 financial protection to compensate for liability claims of members of the public for personal injury and property damages arising from a nuclear incident in the U.S. This financial protection consists of two layers of coverage:

- The primary level is private insurance underwritten by American Nuclear Insurers and provides public liability insurance coverage of \$450 million for each nuclear power plant licensed to operate. If this amount is not sufficient to cover claims arising from a nuclear incident, the second level, Secondary Financial Protection, applies.
- Within the Secondary Financial Protection level, the licensee of each nuclear reactor has a contingent obligation to pay a retrospective premium, equal to its proportionate share of the loss in excess of the primary level, regardless of proximity to the incident of fault, up to a maximum of approximately \$138 million per reactor per incident. With TVA's seven reactors, the maximum total contingent obligation per incident is \$963 million. This retrospective premium is payable at a maximum rate currently set at approximately \$20 million per year per nuclear incident per reactor. Currently, 95 reactors are participating in the Secondary Financial Protection program.

In the event that a nuclear incident results in public liability claims, the primary level provided by ANI combined with the Secondary Financial Protection should provide up to approximately \$13.5 billion in coverage.

Federal law requires that each Nuclear Regulatory Commission ("NRC") power reactor licensee obtain property insurance from private sources to cover the cost of stabilizing and decontaminating a reactor and its station site after an accident. TVA carries property, decommissioning liability, and decontamination liability insurance from Nuclear Electric Insurance Limited ("NEIL") and European Mutual Association for Nuclear Insurance. The limits for each site vary depending on the site and

range from up to \$2.1 billion to \$2.8 billion available for a loss at TVA's three sites. 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) with a maximum indemnity of \$490 million per unit. This insurance policy may require the payment of retrospective premiums up to a maximum of approximately \$43 million, but only to the extent the retrospective premium is deemed necessary by the NEIL Board of Directors to pay losses unable to be covered by NEIL's surplus.

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 11 — *Asset Retirement Obligations*.

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 March 31, 2022, \$3.5 billion, representing the discounted value of future estimated nuclear decommissioning costs, was included in nuclear 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. Decommissioning costs studies are updated for each of TVA's nuclear units at least every five years, and TVA is currently performing a study with implementation expected in 2022.

TVA maintains an NDT to provide funding for the ultimate decommissioning of its nuclear power plants. See Note 15 — *Fair Value Measurements — 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. See Note 8 — *Regulatory Assets and Liabilities* and Note 11 — *Asset Retirement Obligations*.

Non-Nuclear Decommissioning. At March 31, 2022, \$3.7 billion, representing the discounted value of future estimated non-nuclear decommissioning costs, was included in non-nuclear AROs. 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 technology, and changes in the cost of labor, materials, and equipment. TVA updates its underlying assumptions for non-nuclear decommissioning AROs at least every five years. However, material changes in underlying assumptions that impact the amount and timing of undiscounted cash flows are continuously monitored and incorporated into ARO balances in the period identified.

TVA maintains an ART to help fund the ultimate decommissioning of its non-nuclear power assets. See Note 15 — *Fair Value Measurements — Investment Funds*. 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. See Note 8 — *Regulatory Assets and Liabilities* and Note 11 — *Asset Retirement Obligations*.

Environmental Matters. TVA's 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, greenhouse gas ("GHG") emissions, water quality control, and management and disposal of solid and hazardous wastes. Regulations in these major areas continue to become more stringent and have, and will continue to have, 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 and natural gas-fired generating units in general and emissions of pollutants from those units. Environmental requirements placed on the operation of coal-fired and other generating units using fossil fuels such as oil and natural gas will likely continue to become more restrictive over time. Failure to comply with environmental and safety requirements can result in enforcement actions and litigation, which can lead to the imposition of significant civil liability, including fines and penalties, criminal sanctions, and/or temporary or permanent closure of non-compliant facilities. Historical non-compliance can also lead to difficulty in renewing existing permits, as well as difficulty in obtaining permits to bring new generation facilities online. Other obstacles to renewal or

permitting of new facilities include a proliferation of non-government organizations seeking to use litigation tools to delay or stop all together permitting of new fossil fuel facilities in favor of renewable energy projects.

TVA estimates that compliance with existing and future Clean Air Act ("CAA") requirements (excluding GHG requirements) could lead to costs of \$148 million from 2022 to 2026, which include existing controls capital projects and air operations and maintenance projects. TVA also estimates additional expenditures of approximately \$651 million from 2022 to 2026 relating to TVA's Coal Combustion Residuals ("CCR") Program, as well as expenditures of approximately \$140 million from 2022 to 2026 relating to compliance with Clean Water Act ("CWA") 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, and these estimates do not include expenditures expected to be incurred after 2026.

Compliance with the Environmental Protection Agency's ("EPA's") CCR rule ("CCR Rule") required implementation of a groundwater monitoring program, additional engineering, and ongoing analysis. As further analyses are performed, including evaluation of monitoring results, there is the potential for additional costs for investigation and/or remediation. These costs cannot reasonably be predicted until a final remedy is selected where required.

Liability for releases, natural resource damages, and required cleanup of hazardous substances is primarily regulated by the federal Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), the Resource Conservation and Recovery Act ("RCRA"), and other federal and parallel state statutes. In a manner similar to many other governmental entities, industries, and power systems, TVA has generated or used hazardous substances over the years. TVA operations at some facilities have resulted in releases of contaminants that TVA has addressed or is addressing consistent with state and federal requirements. At both March 31, 2022 and September 30, 2021, TVA's estimated liability for required cleanup and similar environmental work for those sites for which sufficient information is available to develop a cost estimate was approximately \$18 million on a non-discounted basis, and was included in Accounts payable and accrued liabilities and Other long-term liabilities on the Consolidated Balance Sheets. Additionally, the potential inclusion of new hazardous substances under CERCLA and RCRA jurisdiction could significantly affect TVA's future liability for remediating historical releases.

Potential Liability Associated with Workers' Exposure to CCR Materials. In response to the 2008 ash spill at Kingston, TVA hired Jacobs Engineering Group, Inc. ("Jacobs") to oversee certain aspects of the cleanup. After the cleanup was completed, Jacobs was sued in the U.S. District Court for the Eastern District of Tennessee ("Eastern District") by employees of a contractor involved in the cleanup and family members of some of the employees. The plaintiffs alleged that Jacobs had failed to take or provide proper health precautions and misled workers about the health risks associated with exposure to coal fly ash, which is a CCR material. The plaintiffs alleged that exposure to the fly ash caused a variety of significant health issues and illnesses, including in some cases death. The case was split into two phases, with the first phase considering, among other issues, general causation and the second determining specific causation and damages. On November 7, 2018, a jury hearing the first phase returned a verdict in favor of the plaintiffs, including determinations that Jacobs failed to adhere to its contract with TVA or the Site Wide Safety and Health Plan; Jacobs failed to provide reasonable care to the plaintiffs; and Jacobs's failures were capable of causing a list of medical conditions, ranging from hypertension to cancer. On January 11, 2019, the Eastern District referred the parties to mediation. Mediation has concluded, but the parties did not resolve the matter. If the litigation proceeds to the second phase, the principal question for resolution will be whether Jacobs's breaches were the specific medical cause of the plaintiffs' alleged injuries and damages. No trial date has been set for the second phase.

On August 24, 2021, the U.S. Court of Appeals for the Sixth Circuit (the "Sixth Circuit") accepted Jacobs's petition for interim appeal on issues relating to the availability of derivative governmental immunity as a defense to the plaintiffs' claims. On March 11, 2022, the Sixth Circuit held oral argument on Jacobs's petition for interim appeal, and the court also invited TVA to file a brief in the case, which TVA filed on April 11, 2022.

On September 29, 2021, the Eastern District certified four questions to the Tennessee Supreme Court regarding the applicability of the Tennessee Silicosis Claims Priority Act to the plaintiffs' claims. The Eastern District's order also stayed all proceedings pending the Tennessee Supreme Court's decision. On March 24, 2022, the Tennessee Supreme Court accepted the four certified questions from the Eastern District, and oral argument on these questions is expected to be scheduled in June 2022.

Other contractor employees and family members have filed lawsuits against Jacobs that are pending in the Eastern District. These pending lawsuits are stayed and raise similar claims to those being litigated in the case referenced above.

While TVA is not a party to any of these lawsuits, TVA may potentially have an indemnity obligation to reimburse Jacobs for some amounts that Jacobs is required to pay. TVA will continue monitoring the litigation to determine whether these or similar cases could have broader implications for the utility industry. TVA does not expect any potential liability to have a material adverse impact on its results of operations or financial condition.

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 March 31, 2022, TVA had accrued \$12 million of probable losses with respect to Legal Proceedings. Of the accrued amount, \$11 million is included in Other long-term liabilities and \$1 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 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"). Under the Environmental Agreements, TVA committed to, among other things, take actions regarding coal units that have been completed. TVA also agreed to invest \$290 million in certain TVA environmental projects of which TVA had spent approximately \$281 million as of March 31, 2022. Additionally, TVA holds restricted cash in an interest earning trust to fund the remaining project commitments. Any interest earned through the trust must also be spent on agreed upon environmental projects. The total remaining committed spend, including interest earned through the trust, was approximately \$10 million as of March 31, 2022. 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.

The liabilities related to the Environmental Agreements are included in Accounts payable and accrued liabilities and Other long-term liabilities on the March 31, 2022 Consolidated Balance Sheets. In conjunction with the approval of the Environmental Agreements, the TVA Board determined that it was appropriate to record TVA's obligations under the Environmental Agreements as regulatory assets, and they are included as such on the March 31, 2022 Consolidated Balance Sheets and will be recovered in rates in future periods.

Case Involving Kingston Fossil Plant. On August 12, 2021, an individual landowner and resident of Roane County, Tennessee, filed a lawsuit against TVA and Jacobs in the Eastern District. The complaint asserts claims for damage to property and personal injuries as a result of the 2008 ash spill at Kingston Fossil Plant and the resulting cleanup activities and from continuing operations at Kingston Fossil Plant. The complaint seeks compensatory damages of \$8 million and punitive damages of \$10 million. It also requests the court to order TVA to release certain information, to remediate alleged damages to the plaintiff's property, and to stop alleged migration of coal ash onto the plaintiff's property. The plaintiff has not yet served TVA with process.

Case Involving Bull Run Fossil Plant. On August 3, 2021, four residents of Anderson County, Tennessee filed a lawsuit against TVA in the Eastern District. The complaint alleged that the plaintiffs live near Bull Run Fossil Plant ("Bull Run") and asserted claims for personal injuries resulting from exposures to CCR that migrated from Bull Run to their home and from second-hand exposures to CCR from a family member who worked with CCR. The complaint also asserted claims for damage to property resulting from the migration of CCR from Bull Run to their home. The plaintiffs sought monetary damages in an unspecified amount as compensation for their injuries and an award of punitive damages in an unspecified amount. The plaintiffs did not timely serve TVA with process, and the court dismissed the case without prejudice on May 5, 2022.

Case Involving Bellefonte Nuclear Plant. In November 2018, Nuclear Development, LLC ("Nuclear Development"), filed suit against TVA in the U.S. District Court for the Northern District of Alabama. Nuclear Development alleged that TVA breached its agreement to sell Bellefonte Nuclear Plant ("Bellefonte"). As a remedy, Nuclear Development sought, among other things, (1) an injunction requiring TVA to maintain Bellefonte and the associated NRC permits until the case concluded; (2) an order compelling TVA to complete the sale of Bellefonte; and (3) if the court does not order TVA to complete the sale, monetary damages in excess of \$30 million. On September 23, 2020, the parties filed competing motions for summary judgment. On March 31, 2021, the court denied both parties' summary judgment motions; however, the court ruled as a matter of law that it would have been illegal under Section 101 of the Atomic Energy Act for TVA to close the sale, relying on past NRC precedent to reach that conclusion. Notwithstanding the legal rulings, the court held that there were disputed issues of material fact as to whether TVA satisfied its contractual obligations to use commercially reasonable best efforts and to cooperate with Nuclear Development in effectuating the close of the sale. Trial took place in May 2021, and the parties filed post-trial briefs on June 9, 2021. Nuclear Development also filed a motion for judgment on partial findings and to reconsider the court's March 31 ruling. The court held closing arguments on July 1, 2021, and on August 26, 2021, the court issued its decision and final judgment. The court held that TVA did not breach its obligations to use commercially reasonable best efforts and to cooperate with Nuclear Development in effectuating the close of the sale. As a result, Nuclear Development is not entitled to specific performance or damages on that claim, and TVA retains full possession and control of the Bellefonte site; however, the court found that, under the contract's termination provision, Nuclear Development was entitled to have TVA return Nuclear Development's \$22 million down payment and pay approximately \$1 million of compensated costs, along with 7.5% prejudgment interest. Including post-

judgment interest, TVA paid approximately \$28 million to the court in September 2021 to satisfy the judgment. Post-trial motions have been filed by both parties and are currently pending.

Case Involving Rate Changes. On June 9, 2020, a proposed class action lawsuit was filed against TVA and one of its LPCs, Bristol Virginia Utilities Authority ("BVUA"), in federal court in Abingdon, Virginia, by a LPC customer, asserting claims for breach of contract and violation of the Administrative Procedure Act. The lawsuit alleges that the customers of TVA's LPCs are third-party beneficiaries under TVA's wholesale power contracts with its LPCs and that TVA's rate changes dating back to 2010 violate Section 11 of the TVA Act. Section 11 of the TVA Act establishes the broad policy that TVA power projects shall be considered primarily for the benefit of the people of the Tennessee Valley and that service to industry is a secondary purpose to be used principally to secure a sufficiently high load factor and revenue returns to permit domestic and rural use at the lowest possible rates. The remedies requested include an injunction prohibiting TVA rate changes that violate Section 11, monetary damages, and repayment of rates charged in violation of Section 11. TVA and BVUA filed motions to dismiss the case on November 9, 2020, and filed supplemental motions to dismiss on December 21, 2020, in response to an amended complaint filed by the plaintiff. Oral argument on the motions was held on February 18, 2021, and on March 19, 2021, the court granted TVA's and BVUA's motions to dismiss. The plaintiff appealed the district court's judgment to the U.S. Court of Appeals for the Fourth Circuit ("Fourth Circuit") on April 15, 2021. The parties filed their briefs with the Fourth Circuit, and oral argument was held on January 27, 2022.

Case Involving Long-Term Agreements. On August 17, 2020, the Southern Environmental Law Center ("SELC") filed a lawsuit in the United States District Court for the Western District of Tennessee on behalf of three environmental groups alleging that, beginning in August 2019, TVA violated the National Environmental Policy Act ("NEPA") and Section 10 of the TVA Act by offering a Long-Term Agreement ("LTA") to its LPCs. The environmental groups represented by SELC are Protect Our Aquifer, Energy Alabama, and Appalachian Voices.

The environmental groups claim that TVA violated NEPA because (1) TVA failed to perform an environmental review of the LTAs, which harmed the groups' advocacy efforts and their ability to participate in and to inform TVA's decision, and (2) the LTAs will have a negative effect on the environment by increasing TVA's reliance on coal and gas and impeding TVA's customers' efforts to institute renewable energy options. The groups also claim that the LTAs violate Section 10 of the TVA Act, which authorizes TVA to enter into power contracts "for a term not exceeding twenty years," because, the groups allege, the twenty-year rolling contract with a twenty-year notice of termination requirement makes the LTAs effectively "never ending."

The environmental groups request the federal court to (1) declare that TVA's entry into long-term power agreements without preparing an environmental review violated NEPA and the TVA Act, (2) vacate the long-term contracts, and (3) enjoin TVA from implementing "system-wide energy contract programs that significantly affect the environment." TVA filed a motion to dismiss the case on October 20, 2020, and filed a supplemental motion to dismiss on December 4, 2020, in response to an amended complaint filed by the plaintiffs. Oral argument on the motion was held on February 26, 2021, and the court denied TVA's motion to dismiss on August 12, 2021. On August 13, 2021, the court held argument on the plaintiffs' motion to complete the administrative record and took the matter under advisement. On August 26, 2021, TVA filed its answer to the amended complaint. On January 24, 2022, the court ordered TVA to supplement the administrative record with background materials pertaining to TVA's decision to offer the LTA and its decision that an environmental review under NEPA was not warranted. The court granted the parties' joint motion to establish a scheduling order, setting the deadline for supplementing the administrative record as May 24, 2022, and setting the deadline for filing dispositive motions as August 22, 2022. TVA has filed a motion requesting the court reconsider a portion of the court's order to supplement the administrative record; oral argument on this motion was held on April 1, 2022.

Challenge to Anti-Cherry-picking Amendment. On January 11, 2021, Athens Utilities Board, Gibson Electric Membership Corporation, Joe Wheeler EMC, and Volunteer Energy Cooperative filed a complaint and petition with FERC asking FERC to order TVA to provide transmission and interconnection service to the LPCs or other suppliers that want to serve them. The petitioners seek to avoid the limitations of the Anti-Cherry-picking Amendment ("ACPA") to the Federal Power Act ("FPA"), which prohibits FERC from ordering TVA to wheel power from another supplier if the power will be consumed within the TVA service territory. The petitioners argue that section 211A of the FPA, which gives FERC limited jurisdiction over the rates, terms, and conditions of transmission service provided by unregulated transmitting utilities such as TVA, provides an alternate grant of authority to enable FERC to order TVA to wheel power inside its service area unrestricted by the application of the ACPA. The petitioners also argue that the public power model is antiquated and TVA's refusal to wheel power is not in the public interest because it stifles competition. On August 31, 2021, Joe Wheeler EMC notified FERC of its withdrawal from the complaint and petition. On October 21, 2021, FERC denied the petition. On November 22, 2021, Athens Utilities Board and Gibson Electric Membership Corporation filed a request for rehearing, and on December 7, 2021, TVA filed a response asking FERC to deny the request for rehearing. On December 23, 2021, FERC entered an order denying the request for rehearing by operation of law and providing for possible further consideration by FERC.

On February 18, 2022, Athens Utilities Board and Gibson Electric Membership Corporation petitioned the U.S. Court of Appeals for the District of Columbia Circuit to review the FERC orders. TVA and several other parties have intervened in this case. On March 21, 2022, FERC filed an unopposed motion asking the court to stay the case so that FERC could issue a further order in the underlying proceeding, and the court granted this motion on April 7, 2022. On April 22, 2022, however, FERC issued

a notice stating that the rehearing request will not be addressed in a future order. As a result, the appellate case will now move forward, and motions to govern further proceedings in the appeal are due on May 13, 2022.

Administrative Proceeding Regarding National Pollutant Discharge Elimination System Permit for Kingston. On December 28, 2021, the Sierra Club and the Center for Biological Diversity appealed the revised National Pollutant Discharge Elimination System ("NPDES") permit issued by the Tennessee Department of Environment and Conservation ("TDEC") for Kingston in December 2021 before the Tennessee Board of Water Quality, Oil, and Gas. The petitioners allege that TDEC unlawfully incorporated into the revised permit effluent limits for landfill leachate based on effluent limitation guidelines ("ELGs") for landfill leachate issued by the EPA in 1982 rather than establish new limits based on TDEC's best professional judgment. TDEC is the respondent in the matter. TVA filed a motion to intervene, which was granted, and on April 8, 2022, the parties and TVA filed cross-motions for summary decisions.

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

(Dollars in millions except where noted)

The 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 year ended September 30, 2021 (the "Annual Report").

Executive Overview

TVA's operating revenues were \$5.5 billion and \$4.9 billion for the six months ended March 31, 2022 and 2021, respectively. Operating revenues increased for the six months ended March 31, 2022, as compared to the same period of the prior year, primarily as a result of higher fuel cost recovery revenue. The higher fuel cost recovery revenue was driven by higher fuel rates as a result of higher natural gas and coal prices. In addition, higher sales volume primarily due to economic growth in the Tennessee Valley region contributed to the increase in operating revenue.

Total operating expenses increased \$1.0 billion for the six months ended March 31, 2022, as compared to the six months ended March 31, 2021. Fuel and purchased power expense increased \$554 million for the six months ended March 31, 2022, as compared to the same period of the prior year. This increase was primarily due to higher effective fuel rates and market prices of purchased power, higher output from one of TVA's hydroelectric purchased power providers, and less availability of TVA-owned generation due to increases in outage days and fewer significant rain events. Depreciation and amortization expense increased \$263 million for the six months ended March 31, 2022, as compared to the same period of the prior year. This increase was driven by the implementation of a new depreciation study during the six months ended March 31, 2022, which included a decline in the service life estimates of TVA's coal-fired plants based on current planning assumptions to potentially retire the remainder of the coal-fired fleet by 2035. Operating and maintenance expense increased \$188 million for the six months ended March 31, 2022, as compared to the same period of the prior year. This increase was primarily due to an increase in outage expense driven by an increase in nuclear, natural gas, and coal outage days, increased spend related to natural gas maintenance projects and routine nuclear maintenance and emergent work, increased payroll and benefit costs primarily due to labor escalation for cost of living increases and additional headcount to support operational needs and work to support the company's strategic priorities, and additional inventory reserves and write-offs for the coal-fired fleet.

TVA continues to closely monitor developments associated with the coronavirus disease 2019 ("COVID-19") pandemic, including impacts from variants. TVA also continues to provide support to TVA customers and the communities they serve through various customer pandemic initiatives in 2022. See *Key Initiatives and Challenges — COVID-19 Pandemic* for an expanded discussion of the impact to TVA and related initiatives and regulatory actions.

In the second quarter of 2022, the TVA Board of Directors (the "TVA Board") ratified approval of a programmatic approach to exploring advanced nuclear technology. The New Nuclear Program will provide a systematic roadmap for TVA's exploration of advanced nuclear technology. It will also coordinate TVA's collaborative efforts with other utilities, government agencies, research institutions, and organizations on advanced nuclear technologies. See *Key Initiatives and Challenges — Decarbonization and Small Modular Reactors* for additional discussion of TVA's decarbonization initiative and advanced nuclear.

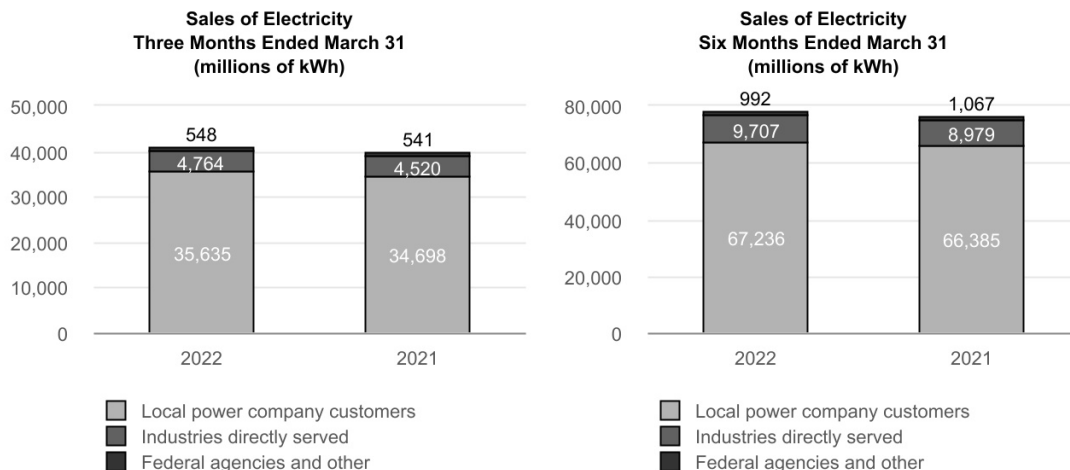
TVA's reliability, competitive rates, and economic development efforts continue to help attract or expand businesses and industries in the Tennessee Valley, with companies announcing over \$7.3 billion in investments and more than 40,900 jobs created or retained through the second quarter of 2022.

Results of Operations

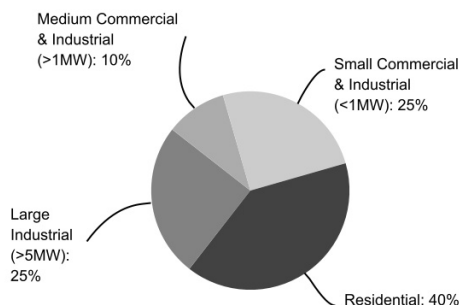
Sales of Electricity

Sales of electricity, which accounted for nearly all of TVA's operating revenues, were 40,947 million and 39,759 million of kilowatt hours ("kWh") for the three months ended March 31, 2022 and 2021, respectively. Sales of electricity, which accounted for nearly all of TVA's operating revenues, were 77,935 million and 76,431 million of kWh for the six months ended March 31, 2022 and 2021, respectively. TVA sells power at wholesale rates to local power company customers ("LPCs") that then resell the power to their customers at retail rates. TVA also sells power to directly served customers, consisting primarily of federal agencies and customers with large or nonstandard loads. In addition, power exceeding TVA's system needs is sold under exchange power arrangements with certain other power systems.

The following charts compare TVA's sales of electricity by customer type for the periods indicated:

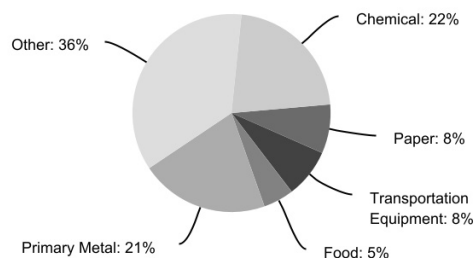


Total Energy Load



The following charts show a breakdown of TVA's energy load:

Large Industrial Energy Load



Note

Information included in the charts above was derived from energy usage of directly served customers and customers served by LPCs during calendar year ("CY") 2021, and these graphs will continue to be updated on a CY basis.

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 the TVA system 23-station average temperatures vary from 65 degrees Fahrenheit.

	Degree Days						Variation from Prior Period
	Variation from Normal						
	2022	Normal	Percent Change	2021	Normal	Percent Change	
Heating Degree Days							
Three Months Ended March 31	1,807	1,870	(3.4)%	1,743	1,870	(6.8)%	3.7 %
Six Months Ended March 31	2,809	3,159	(11.1)%	2,944	3,159	(6.8)%	(4.6)%
Cooling Degree Days							
Three Months Ended March 31	12	9	33.3 %	2	9	(77.8)%	500.0 %
Six Months Ended March 31	116	52	123.1 %	48	52	(7.7)%	141.7 %

Sales of electricity increased approximately three percent for the three months ended March 31, 2022, as compared to the same period of the prior year. The increased sales volume was primarily driven by economic growth and by milder weather in the three months ended March 31, 2021, as compared to the same period of the current year. TVA is seeing economic growth in the Tennessee Valley region primarily as a result of migration into the Valley which has driven population growth and load growth. For LPCs, sales of electricity increased due to the economic growth and also due to the overall milder weather during the three months of the prior year as compared to the same period of the current year. For industries directly served, sales of electricity increased due to economic growth, but they did not see as high of an increase in sales of electricity as LPCs, as these industries directly served are not driven primarily by weather, but mainly from changes in the economy and respective industry sectors.

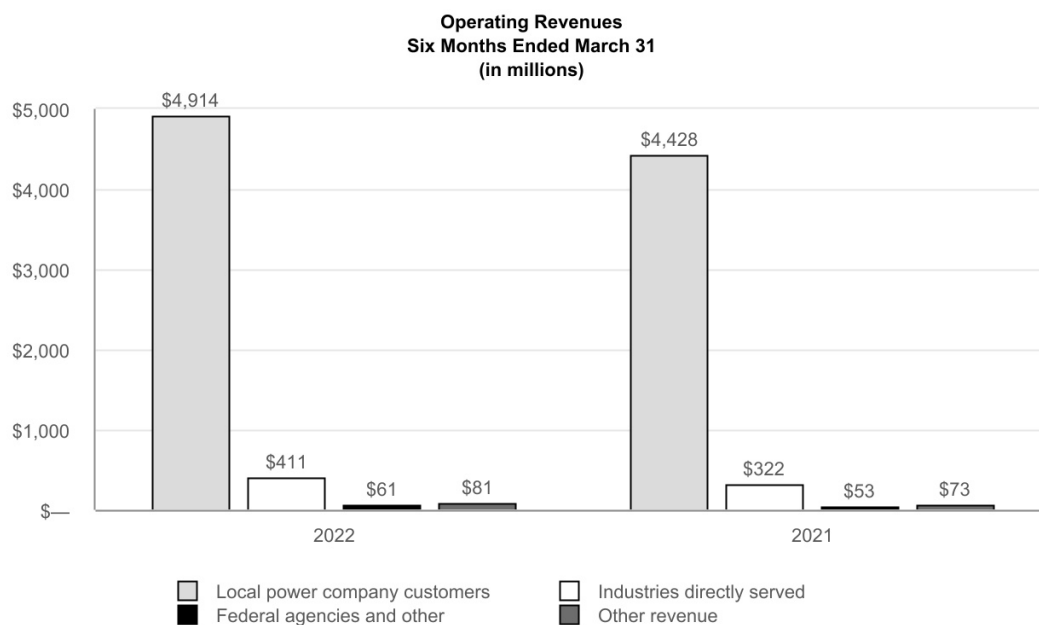
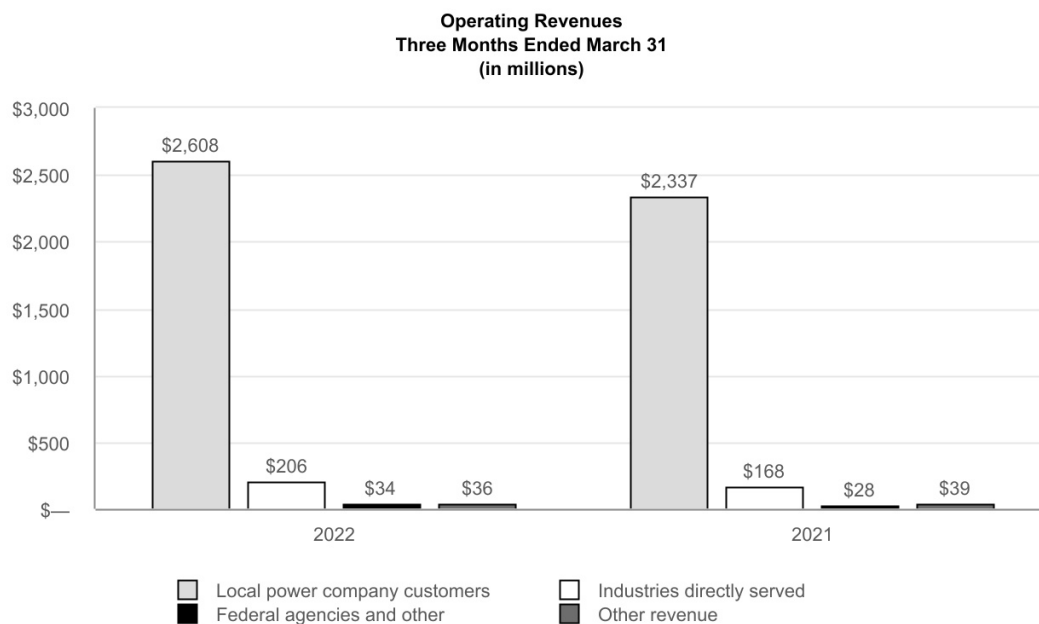
Sales of electricity increased approximately two percent for the six months ended March 31, 2022, as compared to the same period of the prior year. The increased sales volume was primarily driven by economic growth. TVA is seeing economic growth in the Tennessee Valley region primarily as a result of migration into the Valley which has driven population growth and load growth. Weather was not a significant driver for the six months ended March 31, 2022, as compared to the same period of the prior year, as a result of the three months ended March 31, 2021 having milder weather than the three months ended March 31, 2022, which offset the weather impacts TVA experienced in the first quarter of 2022 from having one of the mildest Decembers on record.

Financial Results

The following table compares operating results for the three and six months ended March 31, 2022 and 2021:

	Summary Consolidated Statements of Operations							
	(in millions)							
	Three Months Ended March 31				Six Months Ended March 31			
	2022	2021	Change	Percent Change	2022	2021	Change	Percent Change
Operating revenues	\$ 2,884	\$ 2,572	\$ 312	12.1 %	\$ 5,467	\$ 4,876	\$ 591	12.1 %
Operating expenses	2,349	1,787	562	31.4 %	4,607	3,576	1,031	28.8 %
Operating income	535	785	(250)	(31.8)%	860	1,300	(440)	(33.8)%
Other income (expense), net	3	11	(8)	(72.7)%	17	26	(9)	(34.6)%
Other net periodic benefit cost	65	64	1	1.6 %	130	129	1	0.8 %
Interest expense	264	276	(12)	(4.3)%	527	557	(30)	(5.4)%
Net income (loss)	\$ 209	\$ 456	\$ (247)	(54.2)%	\$ 220	\$ 640	\$ (420)	(65.6)%

Operating Revenues. Operating revenues for the three months ended March 31, 2022 and 2021, were \$2.9 billion and \$2.6 billion, respectively. Operating revenues for the six months ended March 31, 2022 and 2021, were \$5.5 billion and \$4.9 billion, respectively. The following charts compare TVA's operating revenues for the periods indicated:



TVA's two largest LPCs — Memphis Light, Gas and Water Division ("MLGW") and Nashville Electric Service ("NES") — have contracts with a five-year and a 20-year termination notice period, respectively. Sales to MLGW and NES each accounted for eight percent of TVA's total operating revenues for both the six months ended March 31, 2022 and the six months ended March 31, 2021. Certain LPCs, including MLGW, are evaluating options for future energy choices. In addition, two LPCs — Athens Utility Board and Gibson Electric Membership Corporation — are pursuing an appeal of a Federal Energy Regulatory Commission ("FERC") order denying their request that FERC require TVA to provide transmission and interconnection service to the LPCs or other suppliers that want to serve them. These LPCs accounted for one percent of TVA's total operating revenues for the six months ended March 31, 2022. See Note 20 — *Contingencies and Legal Proceedings — Legal Proceedings — Challenge to Anti-Cherry-picking Amendment* for updates to this legal proceeding.

TVA's rate structure uses pricing signals to indicate seasons and hours of higher cost to serve its customers and to capture a portion of TVA's fixed costs in fixed charges. The structure includes three base revenue components: time of use demand charges, time of use energy charges, and a grid access charge ("GAC"). The demand charges are based upon the customer's peak monthly usage and increase as the peak increases. The energy charges are based on time differentiated kWh used by the customer. Both of these components can be significantly impacted by weather. The GAC captures a portion of fixed costs and is offset by a corresponding reduction to the energy rates. The GAC also reduces the impact of weather variability to the overall rate structure.

In 2019, the TVA Board approved a Partnership Agreement option that better aligns the length of LPC power contracts with TVA's long-term commitments. Under the partnership arrangement, the LPC power contracts automatically renew each year and have a 20-year termination notice. The partnership arrangements can be terminated under certain circumstances, including TVA's failure to limit rate increases as provided for in the agreements going forward. Participating LPCs receive benefits including a 3.1 percent wholesale bill credit in exchange for their long-term commitment, which enables TVA to recover its long-term financial commitments over a commensurate period. As of May 11, 2022, 146 LPCs had signed the Partnership Agreement with TVA. See Note 20 — *Contingencies and Legal Proceedings — Legal Proceedings — Case Involving Long-Term Agreements* for discussion of a legal challenge to the Partnership Agreements.

In 2020, the TVA Board approved a Pandemic Relief Credit which was effective for 2021 as a 2.5 percent monthly base rate credit. In 2021, the TVA Board approved a 2.5 percent monthly base rate credit, the Pandemic Recovery Credit, which is effective for 2022. These pandemic credits apply to service provided to TVA's LPCs, their large commercial and industrial customers, and TVA directly served customers. The credit effective for 2022 is expected to approximate \$220 million. In addition, in November 2021 the TVA Board approved a 1.5 percent monthly base rate credit, which is an extension of the Pandemic Recovery Credit, to be effective for 2023. The 2023 credit is expected to approximate \$133 million, and it will be administered in a manner similar to the Pandemic Recovery Credit.

In addition to base revenues, the rate structure includes a separate fuel rate that includes the costs of natural gas, fuel oil, purchased power, 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 payments to states and counties in lieu of taxes ("tax equivalents") associated with the fuel cost adjustments.

The changes in revenue components are summarized below:

	Changes in Revenue Components (in millions)					
	Three Months Ended March 31			Six Months Ended March 31		
	2022	2021	Change	2022	2021	Change
Base revenue						
Energy revenue	\$ 1,228	\$ 1,195	\$ 33	\$ 2,285	\$ 2,255	\$ 30
Demand revenue	857	860	(3)	1,643	1,610	33
Grid access charge	147	149	(2)	295	298	(3)
Long-term partnership credits for LPCs	(50)	(48)	(2)	(93)	(90)	(3)
Pandemic credits	(55)	(55)	—	(105)	(104)	(1)
Other charges and credits ⁽¹⁾	(172)	(175)	3	(334)	(316)	(18)
Total base revenue	1,955	1,926	29	3,691	3,653	38
Fuel cost recovery	889	605	284	1,690	1,146	544
Off-system sales	4	2	2	5	4	1
Revenue from sales of electricity	2,848	2,533	315	5,386	4,803	583
Other revenue	36	39	(3)	81	73	8
Total operating revenues	\$ 2,884	\$ 2,572	\$ 312	\$ 5,467	\$ 4,876	\$ 591

Note

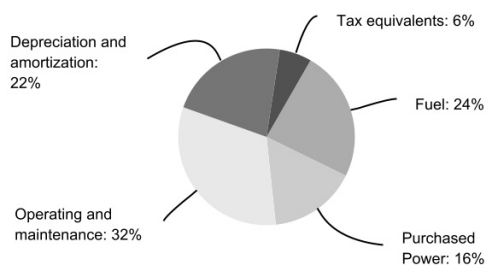
(1) Includes economic development credits to promote growth in the Tennessee Valley, hydro preference credits for residential customers of LPCs, and demand response credits allowing TVA to reduce industrial customer usage in periods of peak demand to balance system demand. See Note 16 — Revenue.

Operating revenues increased \$312 million for the three months ended March 31, 2022, as compared to the same period of the prior year, primarily due to a \$284 million increase in fuel cost recovery revenue. The \$284 million increase in fuel cost recovery revenue was driven by a \$266 million increase attributable to higher fuel rates and an \$18 million increase attributable to higher sales volume during the quarter. The higher fuel rates were primarily due to higher natural gas and coal prices. In addition, there was a \$29 million increase in base revenue driven by an increase of \$58 million attributable to higher sales volume, partially offset by a decrease of \$29 million attributable to lower effective rates. Sales volume increased as a result of economic growth in the three months ended March 31, 2022, and from milder weather in the three months ended March 31, 2021, as compared to the same period of the current year.

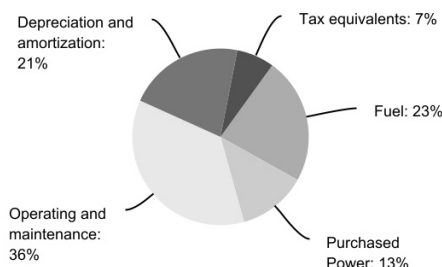
Operating revenues increased \$591 million for the six months ended March 31, 2022, as compared to the same period of the prior year, primarily due to a \$544 million increase in fuel cost recovery revenue. The \$544 million increase in fuel cost recovery revenue was driven by a \$521 million increase attributable to higher fuel rates and a \$23 million increase attributable to higher sales volume during the quarter. The higher fuel rates were primarily due to higher natural gas and coal prices. In addition, there was a \$38 million increase in base revenue driven by an increase of \$72 million attributable to higher sales volume, partially offset by a decrease of \$34 million attributable to lower effective rates. Sales volume increased as a result of economic growth in the six months ended March 31, 2022, as compared to the same period of the prior year.

Operating Expenses. Operating expense components as a percentage of total operating expenses for the three and six months ended March 31, 2022 and 2021, consisted of the following:

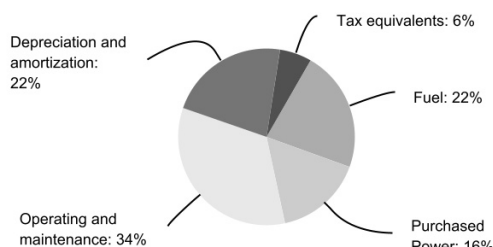
Three Months Ended March 31, 2022
Operating Expenses: \$2.3 billion



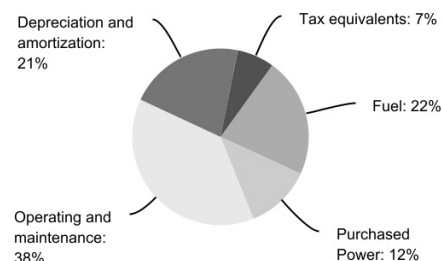
Three Months Ended March 31, 2021
Operating Expenses: \$1.8 billion



Six Months Ended March 31, 2022
Operating Expenses: \$4.6 billion



Six Months Ended March 31, 2021
Operating Expenses: \$3.6 billion



Operating Expenses (in millions)								
	Three Months Ended March 31				Six Months Ended March 31			
	2022	2021	Change	Percent Change	2022	2021	Change	Percent Change
Operating expenses								
Fuel	\$ 558	\$ 413	\$ 145	35.1 %	\$ 1,024	\$ 782	\$ 242	30.9 %
Purchased power	374	225	149	66.2 %	743	431	312	72.4 %
Operating and maintenance	767	644	123	19.1 %	1,547	1,359	188	13.8 %
Depreciation and amortization	512	381	131	34.4 %	1,022	759	263	34.7 %
Tax equivalents	138	124	14	11.3 %	271	245	26	10.6 %
Total operating expenses	\$ 2,349	\$ 1,787	\$ 562	31.4 %	\$ 4,607	\$ 3,576	\$ 1,031	28.8 %

Three Months Ended March 31, 2022, Compared to Three Months Ended March 31, 2021

Fuel expense increased \$145 million for the three months ended March 31, 2022, as compared to the same period of the prior year. This increase was primarily due to higher effective fuel rates of \$111 million due to higher natural gas and coal prices, as well as an increase in fuel cost recovery of \$44 million resulting primarily from volatility in the natural gas markets during the first quarter of 2022. Partially offsetting these increases was a decrease in fuel volume of \$10 million due to a decrease in the availability of TVA-owned generation.

Purchased power expense increased \$149 million for the three months ended March 31, 2022, as compared to the same period of the prior year primarily due to higher market prices. Fuel cost recovery resulting from volatility in the natural gas and purchased power markets during the first quarter of 2022 accounted for \$27 million of the increase. The volume of purchased power increased for the three months ended March 31, 2022, as compared to the same period of the prior year. However, the volume impacts were from TVA's lower cost purchased power providers and therefore were not the primary driver for the increase in purchased power expense.

Operating and maintenance expense increased \$123 million for the three months ended March 31, 2022, as compared to the same period of the prior year. This increase was primarily due to increased outage expense of \$47 million, driven by an increase in nuclear, natural gas, and coal outage days, \$23 million of increased payroll and benefit costs primarily due to labor escalation for cost of living increases and additional headcount to support operational needs and work to support the company's strategic priorities, and \$21 million of increased spend primarily related to natural gas maintenance projects and routine nuclear maintenance and emergent work. Additionally, there was a \$5 million increase related to additional inventory reserves and write-offs for the coal-fired fleet, including Bull Run.

Depreciation and amortization expense increased \$131 million for the three months ended March 31, 2022, as compared to the same period of the prior year. Implementation of a new depreciation study during the three months ended December 31, 2021, resulted in approximately \$99 million more depreciation expense. The increase in depreciation expense as a result of the new depreciation rates was primarily driven by a decline in the service life estimates of TVA's coal-fired plants based on current planning assumptions to potentially retire the remainder of the coal-fired fleet by 2035. See Note 1 — *Summary of Significant Accounting Policies — Depreciation*.

Tax equivalents expense increased \$14 million for the three months ended March 31, 2022, as compared to the same period of the prior year. The change is primarily driven by an increase in the tax equivalents collected in the fuel cost recovery.

Six Months Ended March 31, 2022, Compared to Six Months Ended March 31, 2021

Fuel expense increased \$242 million for the six months ended March 31, 2022, as compared to the same period of the prior year. This increase was primarily due to higher effective fuel rates of \$218 million due to higher natural gas and coal prices, as well as an increase in fuel cost recovery of \$60 million resulting primarily from volatility in the natural gas markets that began in July 2021. Partially offsetting these increases was a decrease in fuel volume of \$36 million due to a decrease in the availability of TVA-owned generation.

Purchased power expense increased \$312 million for the six months ended March 31, 2022, as compared to the same period of the prior year. This increase was primarily due to higher purchased power market prices attributing \$150 million and an increase in volume of \$135 million driven by higher output from one of TVA's hydroelectric purchased power providers and less availability of TVA-owned generation due to an increase in nuclear and natural gas outage days and fewer significant rain events. Fuel cost recovery resulting from volatility in the natural gas and purchased power markets that began in July 2021 accounted for \$27 million of the increase.

Operating and maintenance expense increased \$188 million for the six months ended March 31, 2022, as compared to the same period of the prior year. This increase was primarily due to an increase in outage expense of \$51 million, driven by an increase in nuclear, natural gas, and coal outage days, \$51 million of increased spend primarily related to natural gas maintenance projects and routine nuclear maintenance and emergent work, and \$43 million of increased payroll and benefit costs primarily due to labor escalation for cost of living increases and additional headcount to support operational needs and work to support the company's strategic priorities. Additionally, there was an \$11 million increase related to additional inventory reserves and write-offs for the coal-fired fleet, including Bull Run.

Depreciation and amortization expense increased \$263 million for the six months ended March 31, 2022, as compared to the same period of the prior year. Implementation of a new depreciation study during the six months ended March 31, 2022, resulted in approximately \$197 million more depreciation expense. The increase in depreciation expense as a result of the new depreciation rates was primarily driven by a decline in the service life estimates of TVA's coal-fired plants based on current planning assumptions to potentially retire the remainder of the coal-fired fleet by 2035. See Note 1 — *Summary of Significant Accounting Policies — Depreciation*.

Tax equivalents expense increased \$26 million for the six months ended March 31, 2022, as compared to the same period of the prior year. The change is primarily driven by an increase in the tax equivalents collected in the fuel cost recovery.

Generating Sources. The following table shows TVA's generation and purchased power by generating source as a percentage of all electrical power generated and purchased (based on kWh) for the periods indicated:

Total Power Supply by Generating Source
For the three months ended March 31
(millions of kWh)

	2022		2021	
Nuclear	15,587	38 %	16,850	42 %
Natural gas and/or oil-fired	9,224	22 %	8,341	21 %
Coal-fired	5,418	13 %	5,822	14 %
Hydroelectric	4,684	11 %	4,714	12 %
Total TVA-operated generation facilities ⁽¹⁾⁽²⁾	34,913	84 %	35,727	89 %
Purchased power (natural gas and/or oil-fired) ⁽³⁾	3,504	8 %	2,020	5 %
Purchased power (other renewables) ⁽⁴⁾	1,646	4 %	1,288	3 %
Purchased power (hydroelectric)	990	2 %	570	1 %
Purchased power (coal-fired)	659	2 %	752	2 %
Total purchased power ⁽²⁾	6,799	16 %	4,630	11 %
Total power supply	41,712	100 %	40,357	100 %

Notes

- (1) Generation from TVA-owned renewable resources (non-hydroelectric) is less than one percent for all periods shown and therefore is not represented in the table above.
- (2) Raccoon Mountain Pumped-Storage Plant net generation is allocated against each TVA-operated generation facility and purchased power type for both the three months ended March 31, 2022, and the three months ended March 31, 2021. See Item 1, Business — *Power Supply and Load Management Resources* — *Raccoon Mountain Pumped-Storage Plant* in the Annual Report for a discussion of Raccoon Mountain Pumped-Storage Plant.
- (3) Purchased power (gas) includes generation from Caledonia Combined Cycle Plant ("Caledonia CC"), which is currently a leased facility operated by TVA. Generation from Caledonia CC was 1,072 million kWh and 888 million kWh for the three months ended March 31, 2022 and 2021, respectively.
- (4) Purchased power (other renewables) includes purchased power from the following renewable sources: solar, wind, biomass, and renewable cogeneration. TVA sells the Renewable Energy Certificates ("RECs") resulting from some of this purchased power to certain customers. See *Key Initiatives and Challenges* — *Changing Customer Preferences* — *Renewable Purchase Power Agreements*.

Total Power Supply by Generating Source
For the six months ended March 31
(millions of kWh)

	2022		2021	
Nuclear	31,757	40 %	33,140	43 %
Natural gas and/or oil-fired	16,053	20 %	16,700	21 %
Coal-fired	9,117	11 %	9,110	12 %
Hydroelectric	8,536	11 %	9,534	12 %
Total TVA-operated generation facilities ⁽¹⁾⁽²⁾	65,463	82 %	68,484	88 %
Purchased power (natural gas and/or oil-fired) ⁽³⁾	7,905	10 %	4,321	6 %
Purchased power (other renewables) ⁽⁴⁾	3,088	4 %	2,642	3 %
Purchased power (hydroelectric)	1,644	2 %	1,194	2 %
Purchased power (coal-fired)	1,250	2 %	973	1 %
Total purchased power ⁽²⁾	13,887	18 %	9,130	12 %
Total power supply	79,350	100 %	77,614	100 %

Notes

- (1) Generation from TVA-owned renewable resources (non-hydroelectric) is less than one percent for all periods shown and therefore is not represented in the table above.
- (2) Raccoon Mountain Pumped-Storage Plant net generation is allocated against each TVA-operated generation facility and purchased power type for both the six months ended March 31, 2022, and the six months ended March 31, 2021. See Item 1, Business — *Power Supply and Load Management Resources* — *Raccoon Mountain Pumped-Storage Plant* in the Annual Report for a discussion of Raccoon Mountain Pumped-Storage Plant.
- (3) Purchased power (gas) includes generation from Caledonia Combined Cycle Plant ("Caledonia CC"), which is currently a leased facility operated by TVA. Generation from Caledonia CC was 2,248 million kWh and 1,959 million kWh for the six months ended March 31, 2022 and 2021, respectively.
- (4) Purchased power (other renewables) includes purchased power from the following renewable sources: solar, wind, biomass, and renewable cogeneration. TVA sells the RECs resulting from some of this purchased power to certain customers. See *Key Initiatives and Challenges* — *Changing Customer Preferences* — *Renewable Purchase Power Agreements*.

In addition to power supply sources included here, TVA offers energy efficiency programs that effectively reduce energy needs. TVA estimates energy needs could be reduced by approximately 2,500 million kWh in 2022 due to TVA's energy efficiency programs.

Interest Expense. Interest expense and interest rates for the three and six months ended March 31, 2022 and 2021, were as follows:

	Interest Expense and Rates (in millions)					
	Three Months Ended March 31			Six Months Ended March 31		
	2022	2021	Percent Change	2022	2021	Percent Change
Interest expense ⁽¹⁾	\$ 264	\$ 276	(4.3)%	\$ 527	\$ 557	(5.4)%
Average blended debt balance ⁽²⁾	\$ 20,566	\$ 20,939	(1.8)%	\$ 20,751	\$ 21,113	(1.7)%
Average blended interest rate ⁽³⁾	4.99 %	5.12 %	(2.5)%	4.95 %	5.15 %	(3.9)%

Notes

(1) Includes amortization of debt discounts, issuance, and reacquisition costs, net.

(2) Includes average balances of long-term power bonds, debt of variable interest entities ("VIEs"), and discount notes.

(3) Includes interest on long-term power bonds, debt of VIE, and discount notes.

Total interest expense decreased \$12 million and \$30 million for the three and six months ended March 31, 2022, respectively, as compared to the same periods of the prior year primarily driven by lower average rates and lower average balances on long-term debt.

Liquidity and Capital Resources

Sources of Liquidity

TVA depends on various sources of liquidity to meet cash needs and contingencies. TVA's primary sources of liquidity are cash from operations and proceeds from the issuance of short-term debt in the form of discount notes, along with periodic issuances of long-term debt. TVA's balance of short-term debt typically changes frequently as TVA issues discount notes to meet short-term cash needs and pay scheduled maturities of discount notes and long-term debt. The periodic amounts of short-term debt issued are determined by near-term expectations for cash receipts, cash expenditures, and funding needs, while seeking to maintain a target range of cash and cash equivalents on hand.

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 approximately \$2.7 billion, and proceeds from other financings. See Note 12 — *Debt and Other Obligations* — *Credit Facility Agreements*. Other financing arrangements may include sales of receivables, loans, or other assets.

The Tennessee Valley Authority Act of 1933, as amended, 16 U.S.C. §§ 831-831ee ("TVA Act") authorizes TVA to issue bonds, notes, or other evidences of indebtedness (collectively, "Bonds") in an amount not to exceed \$30.0 billion outstanding at any time. Power bonds outstanding, excluding unamortized discounts and premiums and net exchange gains from foreign currency transactions, at March 31, 2022, were \$19.3 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 9 — *Variable Interest Entities*), could provide supplementary funding if needed. Currently, TVA expects to have adequate capability to fund its ongoing operational liquidity needs and make planned capital investments over the next decade. See *Lease Financings* below, Note 9 — *Variable Interest Entities*, and Note 12 — *Debt and Other Obligations* for additional information.

TVA may from time to time seek to retire or purchase its outstanding debt through cash purchases and/or exchanges for securities, in open market purchases, privately negotiated transactions, or otherwise. Such repurchases or exchanges, if any, will depend on prevailing market conditions, TVA's liquidity requirements, contractual restrictions, and other factors. The amounts involved may be material.

TVA may hold higher cash balances from time to time in response to potential market volatility or other business conditions. TVA has maintained continued debt market access since the outbreak of the pandemic. TVA's next significant power bond maturity is \$1.0 billion in August 2022.

Debt Securities. TVA's Bonds are not obligations of the U.S., and the U.S. 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. At March 31, 2022, the average maturity of long-term power bonds was 15.20 years, and the weighted average interest rate was 4.51 percent. 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 March 31, 2022. See *Lease Financings* below, Note 9 — *Variable Interest Entities*, and Note 12 — *Debt and Other Obligations* for additional information.

The following table provides additional information regarding TVA's short-term borrowings:

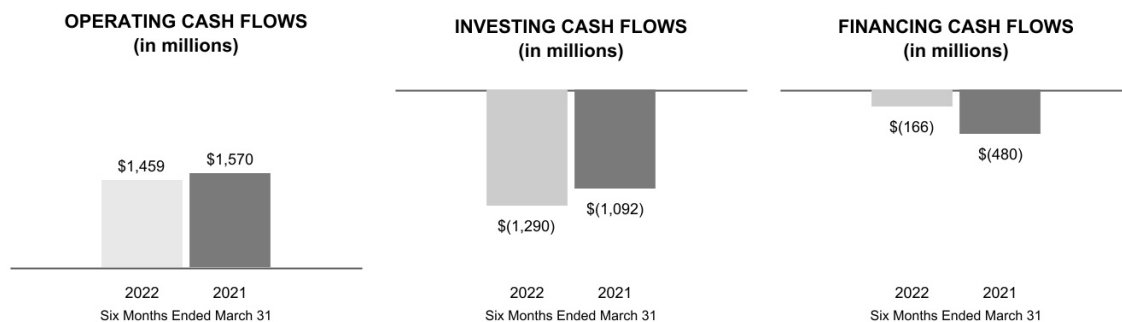
Short-Term Borrowings (in millions)						
	At March 31, 2022	Three Months Ended March 31, 2022	Six Months Ended March 31, 2022	At March 31, 2021	Three Months Ended March 31, 2021	Six Months Ended March 31, 2021
Gross Amount Outstanding (at End of Period) or Average Gross Amount Outstanding (During Period)						
Discount notes	\$ 684	\$ 836	\$ 1,021	\$ 1,241	\$ 832	\$ 485
Maximum Month-End Gross Amount Outstanding (During Period)						
Discount notes	N/A	\$ 1,055	\$ 1,526	N/A	\$ 1,316	\$ 1,316
Weighted Average Interest Rate						
Discount notes	0.23 %	0.06 %	0.05 %	0.02 %	0.04 %	0.04 %

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. In addition, 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 ("QTE"). See Note 9 — *Variable Interest Entities* and Note 12 — *Debt and Other Obligations* for information about TVA's lease financing activities.

Summary Cash Flows

A major source of TVA's liquidity is operating cash flows resulting from the generation and sale of electricity. Cash, cash equivalents, and restricted cash totaled \$521 million and \$519 million at March 31, 2022 and March 31, 2021, respectively. A summary of cash flow components for the six months ended March 31, 2022 and 2021, 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 decreased \$111 million for the six months ended March 31, 2022, as compared to the same period of the prior year. The decrease is primarily due to increased fuel and purchased power payments as a result of higher natural gas and market prices. Increases in payroll and benefit related costs due to labor escalation for cost of living increases and higher cash used for asset retirement obligation ("ARO") settlements also contributed to the decrease in

cash flows from operations. These items were partially offset by an increase in collections of fuel cost recovery revenue from higher fuel and purchased power prices that began in July 2021 and a decrease in cash paid for interest.

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 increased \$198 million for the six months ended March 31, 2022, as compared to the same period of the prior year driven by nuclear fleet improvement projects and combustion turbine projects. See *Key Initiatives and Challenges — Generation Resources — Natural Gas-Fired Units*. In addition, nuclear fuel expenditures were higher for the six months ended March 31, 2022, as compared to the same period of the prior year. Nuclear fuel expenditures vary depending on the number of outages and the prices and timing of purchases of uranium and enrichment services.

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 used in financing activities decreased \$314 million for the six months ended March 31, 2022, as compared to the same period of the prior year, primarily due to a reduction in net debt redemptions and payments on leaseback transactions. Despite lower net cash flows from operating activities and higher net cash used in investing activities during the current period, TVA was able to maintain targeted cash balance levels without the need for additional net debt issuances. TVA may have a need to increase debt in the coming years as it continues to invest in power system assets.

Impact of COVID-19

To support LPCs and strengthen the public power response to the COVID-19 pandemic, TVA created initiatives such as the Community Care Fund and Pandemic Credits. TVA has also provided regulatory flexibility for LPCs to halt disconnection of services. See *Key Initiatives and Challenges — COVID-19 Pandemic* for an expanded discussion of these initiatives and the impact to TVA.

Contractual Obligations

TVA has certain obligations and commitments to make future payments under contracts. As discussed in *Lease Financings* above, during the six months ended March 31, 2022, TVA elected to purchase the interests related to eight CTs on the expiration of the related lease terms in 2023 for a total of \$155 million. Also, during the three months ended December 31, 2021, TVA entered into a fuel purchase obligation. As a result of an increase in natural gas prices associated with recent market volatility during the second quarter of 2022, the total contractual obligation under this agreement from 2022 to 2025 increased to \$250 million, of which \$60 million is estimated to be paid during the remainder of 2022. 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*, Note 8 — *Leases*, Note 11 — *Variable Interest Entities*, Note 14 — *Debt and Other Obligations*, and Note 22 — *Benefit Plans* of the Notes to Consolidated Financial Statements in the Annual Report.

Key Initiatives and Challenges

COVID-19 Pandemic

In 2020, in response to the spread of COVID-19, TVA implemented a company-wide pandemic plan to address specific aspects of the COVID-19 pandemic, and the pandemic plan continually evolves based on medical guidance and federal requirements and guidelines.

The pandemic plan has included telework for those employees and contractors who do not have to be physically present at a TVA facility or office building to provide mission-essential activities or produce safe, reliable power. The COVID-19 situation in the United States and the Tennessee Valley region has improved, with low community transmission throughout most of TVA's service territory. While COVID-19 conditions have improved, TVA recognizes that the COVID-19 pandemic continues to be an evolving situation and, as a result, has extended the timeframe for full workforce reintegration and, for those not fully vaccinated, continues to limit non-essential travel and in-person attendance at non-essential meetings. In the second quarter of 2022, TVA began a hybrid exploration period where certain teleworkers are returning to corporate sites to explore how to best work in a hybrid environment in the future. These returns are subject to close monitoring of the public health situation both in TVA's service territory and nationally. TVA has and will continue to monitor risk and potential impacts throughout the situation, including impacts from variants, and assess whether and how to modify the pandemic plan and its response as and when appropriate.

TVA continues to implement strong physical and cybersecurity measures to ensure that systems remain functional to keep employees, customers, and communities safe and enable TVA to continue achieving its mission to serve the people of the Valley. In addition to measures to protect its workforce, stakeholders, and critical operations, TVA is actively monitoring

generation, transmission, and distribution functions. Operations and delivery of energy to customers have not been materially impacted by the COVID-19 pandemic to date. The ultimate impact of the COVID-19 pandemic on TVA's financial condition depends on factors beyond TVA's knowledge or control, including the duration and severity, actions taken to contain its spread and mitigate its effects, and broader impacts of the COVID-19 pandemic on the country and region's economy.

TVA also continues to assess potential supplier performance risks, including procurement of fuel, parts, and services. If suppliers are unable to perform under TVA's existing contracts or if TVA is unable to obtain similar services or supplies from other vendors, TVA could experience delays, disruptions, additional costs, or other operational outcomes that may impact generation, maintenance, and capital programs. TVA has experienced an increase in supplier impacts as a result of COVID-19 and the state of global supply chains and the economy, but has not experienced significant business disruptions at this time. TVA will continue to monitor the supply base and remain in contact with suppliers to identify potential risks, including impacts on workforce availability as a result of regulatory actions related to COVID-19.

Regulatory Actions. On January 20, 2021, President Biden issued Executive Order ("EO") 13991, directing federal agencies to implement COVID-19 countermeasures consistent with CDC guidance and establishing a Safer Federal Workforce Task Force ("Task Force") to develop model safety principles to which all federal agencies would subsequently align their pandemic countermeasures. TVA continues to implement these principles and remains in regular contact with the Office of Management and Budget ("OMB"), which chairs the Task Force. On September 9, 2021, President Biden issued two new EOs in response to the COVID-19 pandemic. The first EO required that all federal employees be vaccinated against COVID-19 by November 22, 2021. Only employees entitled to certain accommodations under law were exempt from this requirement. As part of the process to implement the vaccination requirement, TVA and its union partners negotiated and implemented a standalone disciplinary process for employees who have neither been vaccinated by the deadline nor received an exemption allowed by law. This policy included a progression of counseling for employees that have not been vaccinated and, for those who do not get vaccinated after counseling, a testing program. On January 21, 2022, the United States District Court for the Southern District of Texas issued an injunction against enforcement of the vaccination mandate. On April 7, 2022, the United States Court of Appeals for the Fifth Circuit reversed this decision and ordered that the matter be dismissed. After certain procedural steps have been completed, the injunction will be lifted and the mandate reinstated.

On March 31, 2022, TVA suspended its testing program, and the related disciplinary process, in accordance with federal guidance that no longer recommends testing in areas with low levels of community transmission. TVA may be required to reinstate the testing program as well as other safety measures if necessary, such as due to a significant and sustained increase in community transmission.

The second EO required that federal agencies include clauses in contracts with federal contractors requiring the contractors to comply with guidance issued by the Task Force concerning contractors. This EO does not apply to TVA, and therefore TVA has not been requiring the clauses. On November 30, 2021, the United States District Court for the Eastern District of Kentucky stayed enforcement of the order in Kentucky, Ohio, and Tennessee. The government has appealed this injunction. On December 7, 2021, the United States District Court of the Southern District of Georgia issued a nationwide injunction suspending enforcement of this order. Given that TVA has not been requiring implementation of the clauses, the injunctions do not impact TVA but could impact TVA contractors who work for other agencies and were required to comply with the order based on those relationships.

On November 4, 2021, the Occupational Safety and Health Administration ("OSHA") issued an Emergency Temporary Standard ("ETS") in response to the COVID-19 pandemic. The ETS, among other things, would have mandated employers with at least 100 employees to adopt a vaccination policy that requires employees to either be fully vaccinated or submit to at least weekly testing. On November 5, 2021, the United States Court of Appeals for the Fifth Circuit issued an order staying the ETS pending further action by the court. The Supreme Court has agreed to review this matter. The case was subsequently transferred to the United States Court of Appeals for the Sixth Circuit ("Sixth Circuit"), which lifted the stay on December 17, 2021. On January 13, 2022, the Supreme Court reinstated the stay pending further proceedings. On January 26, 2022, OSHA withdrew the ETS as an enforceable emergency temporary standard, but has retained the ETS as a proposed rule.

Customer Pandemic Initiatives. The COVID-19 pandemic created economic uncertainty for TVA's customers and the communities they serve. To support and strengthen the public power response to the COVID-19 pandemic, TVA has announced several customer pandemic initiatives since 2020. The following initiatives are still in effect in 2022:

Regulatory Flexibility. TVA continues to provide regulatory flexibility for LPCs to halt disconnection of services and respond to the local needs of their customers and communities.

Community Care Fund. TVA continues to partner with LPCs through the Community Care Fund by making available over \$9 million in TVA matching funds to support local initiatives that address hardships created by the COVID-19 pandemic. As of March 31, 2022, over \$6 million in matching funds had been provided by TVA, with nearly \$2 million provided for the six months ended March 31, 2022.

Pandemic Credits. In 2020, the TVA Board approved a Pandemic Relief Credit which was effective for 2021 as a 2.5 percent monthly base rate credit. In 2021, the TVA Board approved a 2.5 percent monthly base rate credit, the Pandemic

Recovery Credit, which is effective for 2022. These pandemic credits apply to service provided to TVA's LPCs, their large commercial and industrial customers, and TVA directly served customers. The credit effective for 2022 is expected to approximate \$220 million. For the six months ended March 31, 2022 and 2021, pandemic credits totaled \$105 million and \$104 million, respectively. In addition, in November 2021 the TVA Board approved a 1.5 percent monthly base rate credit, which is an extension of the Pandemic Recovery Credit, to be effective for 2023. The 2023 credit is expected to approximate \$133 million, and it will be administered in a manner similar to the Pandemic Recovery Credit.

These actions have shown TVA's commitment to support the financial integrity of LPCs along with communities and customers across the Tennessee Valley during these challenging economic conditions caused by the COVID-19 pandemic. The COVID-19 pandemic continues to be an evolving situation that may lead to extended disruption of economic activity and an adverse impact on TVA's results of operations. TVA continues to closely monitor developments and will adjust its response as necessary to ensure reliable service while protecting the safety and health of its workforce.

Distributed Energy Resources

Consumer desire for energy choice, among other things, is driving the expectation for flexible options in the electric industry. TVA and LPCs are working together to leverage the strengths of the Tennessee Valley public power model to provide distributed energy solutions that are economical, sustainable, and flexible. TVA will focus on the safety and reliability impacts of these resources as they are interconnected to the grid and will 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.

Fiber Optic Network. In 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 optic network that will better connect TVA's 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 DER as they enter the market. As of March 31, 2022, TVA had spent \$169 million on installation of the fiber optic lines and expects to spend an additional \$131 million.

Electric Vehicles. TVA is partnering with LPCs and others to support the electrification of transportation in the Valley in a multi-year electric vehicle ("EV") initiative. The initiative focuses on reducing or eliminating EV market barriers by setting EV policies, improving charging infrastructure availability, expanding EV availability and offerings, and spreading EV consumer awareness. In November 2020, the TVA Board approved new policies and an optional wholesale EV rate aimed at encouraging the development of charging infrastructure in the Valley. The updated policies enable LPC investment in public charging infrastructure and allow for the conditional resale of electricity, for transportation purposes only, by any charging developer on a kWh basis. The optional wholesale rate was developed with high power EV charging in mind and provides a stable option for those developing charging infrastructure.

TVA is also working with state agencies, LPCs, and third-party charging developers to create a network of public fast charging stations along major travel corridors in its seven-state region, known as the Fast Charge Network program. In 2021, TVA began a partnership with the State of Tennessee to develop funding programs for a statewide EV fast charging network with plans for fast charging stations at least every 50 miles along Tennessee's interstates and major highways. Also in 2021, TVA and five other major utilities formed the Electric Highway Coalition to develop a network of fast charging stations along all major highway routes within their service territories. Since formation, the Electric Highway Coalition has gained significant interest from additional utilities and other EV collaboratives. In December 2021, the Electric Highway Coalition merged with the Midwest Electric Vehicle Charging Infrastructure Collaboration to create the National Electric Highway Coalition with members committed to coordination on the development of EV charging infrastructure across the central U.S.

Changing Customer Preferences

As more consumers and businesses are demanding cleaner energy, the utility industry is evolving to meet those needs. As TVA also evolves, it will see impacts to the way it does business through 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. Many companies are focusing on sustainability and requiring more energy efficiency and renewable energy options. In addition, TVA also seeks to obtain greater amounts of its power supply from clean resources to work towards carbon emission reductions. As a result, TVA is focusing on energy programs that will help reduce carbon emissions and encouraging renewable power through various current renewable programs and offerings. TVA is also increasing its renewable energy portfolio by investing in existing assets and securing power purchase agreements ("PPAs") from primarily out-of-Valley wind and in-Valley solar generation facilities. New utility-scale solar is increasing, in part driven by customers' demand.

Renewable Power Solutions. TVA encourages renewable power through various current programs and offerings. These solutions include:

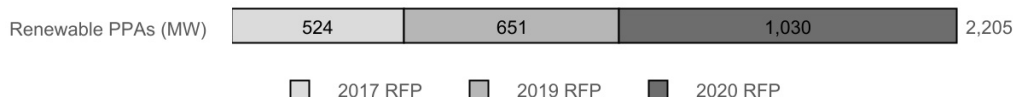
Small-scale Solutions. The Green Connect Program connects residential customers who are interested in on-site solar photovoltaic ("PV") and/or battery storage systems with qualified solar and battery storage installers who agree to install to Green Connect Program Standards. These qualified installers, who are members of TVA's Quality Contractor Network, are insured and licensed and have also completed special training on TVA guidelines. Participants have access to objective information and assurance that their solar PV system has met Green Connect Program Standards through installation verifications.

Utility-scale Solutions. The Green Invest Program matches customer demand with renewable supply through a Green Invest Agreement. The goal of the Green Invest Program is to meet the long-term sustainability needs of customers at scale. TVA procures the needed renewable supply through a diversified approach, which could include a competitive procurement process, strategic partnerships, or construction of renewable facilities to meet these needs. In addition, Generation Flexibility is a solution available to long-term LPC partners and supports the deployment of up to 2,000 megawatts ("MW") of distributed solar to provide clean, local generation. See *Ratemaking* below.

Other Renewable Solutions. The Green Switch Program allows customers to support solar renewable resources through purchasing renewable solar energy generated in the Tennessee Valley, sold in 200 kWh blocks. The Green Flex Program gives commercial and industrial customers the ability to meet sustainability goals and to make renewable energy claims through RECs from wind generation located primarily outside TVA's service area.

Renewable Power Purchase Agreements. In recent years, TVA has issued request for proposals ("RFP") in order to meet customer preferences and requirements for cleaner energy. TVA will procure the renewable energy and sell the resulting RECs to specific customers, allowing TVA to increase its renewable energy portfolio without additional costs to other TVA customers. These agreements help to align the core values of TVA and the public power model with the desire of TVA's customers for renewable energy. Of the renewable PPAs below, more than 2,000 MW has been matched to customers through TVA's Green Invest Program to meet their needs for new-to-the-world renewable energy.

As a result of those RFPs, TVA entered into certain PPAs with renewable resource providers, which are summarized below:



Notes

(1) The 2017 RFP consists of three active solar PPAs. Of the three projects, one came online in 2021, one came online in 2022, and one is contracted to come online in 2023.

(2) The 2019 RFP consists of six solar PPAs. Of these six projects, five are contracted to come online in 2023, and one is contracted to come online in 2024.

(3) The 2020 RFP consists of eight solar PPAs. Of these eight projects, six are contracted to come online in 2023, one is contracted to come online in 2024, and one is contracted to come online in 2025.

(4) In addition, the 2019 RFP includes 50 MW of battery storage and the 2020 RFP includes 196 MW of battery storage that are not included in the chart above.

TVA issued an RFP during 2021 for up to 200 MW of new renewable energy. Mounting solar supply chain constraints, commodity price increases, and the recent trade policy investigation into solar panel imports have created challenges for the U.S. solar industry, threatening project delays, cancellations, and price increases. These constraints are affecting contracted PPAs from previous RFPs that are not yet online and were reflected in submissions to TVA's 2021 RFP. TVA anticipates making selections for the 2021 RFP in 2022.

Self-Directed Solar. During 2019, the TVA Board approved the opportunity for TVA to explore being directly involved in the development of a utility-scale solar project, contingent on the successful completion of environmental reviews under the National Environmental Policy Act ("NEPA") and other applicable laws. A tentative project structure has been developed which will allow TVA to work with financial partners for solar development, and in 2021, TVA purchased land for this planned 200 MW development. As of March 31, 2022, TVA had spent approximately \$25 million on the project and expects to spend an additional \$292 million. The mounting solar supply chain constraints affecting TVA's 2021 RFP are also being seen in TVA's Self-Directed Solar project. This has resulted in a delay in the estimated completion, with the project now expected to be complete in 2025. Project cost increases are also anticipated due to cost escalations from the state of global supply chains.

Low-Income Energy Efficiency Programs. An equitable energy system is one where the economic, health, and social benefits of participation extend to all levels of society. TVA plans to address energy equity disparities through inclusive energy programming focused on expanding partnerships, improving program access, and catalyzing investment in communities where all community members can benefit from TVA's resources. Programs focus on reducing energy expenses in underserved communities. Through the Home Uplift Program, TVA is partnering with LPCs, state and local governments, non-profit agencies, energy efficiency advocates, third-party contributors, and the Tennessee Valley Public Power Association ("TVPPA") to complete home evaluations and make high-impact home energy upgrades for qualifying homeowners. In addition, TVA and LPCs conduct

workshops to educate homeowners about low and no-cost energy efficiency upgrades that improve their quality of life. Through the School Uplift Program pilot, TVA is partnering with LPCs as well as state and local governments to assist schools with adopting strategic energy management practices. The engagement with each school includes monthly virtual workshops and fosters performance through competitions for energy efficiency grants and grants for learning environment improvements. Finally, through the Community Centered Growth Program, TVA is partnering with LPCs to assist small businesses located within underserved communities with energy evaluations and energy improvement investments provided by TVA at no cost to the small business.

Automated Energy Exchange Platform

In October 2021, an automated energy exchange, the Southeast Energy Exchange Market, took effect as a result of a tie vote by FERC commissioners. The exchange was created to facilitate more short-term power exchanges and will be an enhancement to the existing market. TVA's participation is subject to certain TVA Board approvals and the completion of appropriate environmental reviews. TVA has now completed the appropriate environmental review, and participation will be further subject to those certain TVA Board approvals.

Sustainability and Social Responsibility

Sustainability has been a critical part of TVA's mission since the TVA Act was signed in 1933 and continues to be a focus in TVA's mission to deliver affordable and reliable energy, steward the environment, and create sustainable economic growth. In 2021, TVA highlighted its sustainability efforts with issuances of its Corporate Sustainability Report, a supplemental Carbon Report, and an Edison Electric Institute Environmental, Social, Governance ("EEI ESG") Sustainability Report, among others. TVA anticipates continuing to highlight its sustainability efforts in 2022 and released its 2021 Corporate Sustainability Report in May 2022. In 2022, TVA also issued its first Diversity Equity Inclusion Accessibility ("DEIA") Report. The report highlights the actions TVA has taken in the DEIA area, the results achieved, and the plans to continue to focus and improve.

Strategic Financial Plan

In 2019, the TVA Board approved an annual budget that reflects the first year of a new Strategic Financial Plan. This Strategic Financial Plan, which extends from 2020 through 2030, is flexible in aligning customer preferences and TVA's mission while at the same time establishing a long-term forecast of financial results. Key focus areas of the Strategic Financial Plan include maintaining flat rates, stabilizing debt, establishing alignment between the length of LPC contracts and TVA's long-term commitments, driving efficiencies into the business, and advancing the public power model. As TVA executes the plan, key assumptions and focus areas may change.

Workplace Flexibility

Recognizing the changing work environment, largely fostered by the COVID-19 pandemic, and responding to employee appreciation of flexibility in work location in 2021, TVA established a workplace flexibility initiative called "Reimagining How We Work." The objective of the initiative is to promote workplace flexibility guided by safety, performance, inclusion, and engagement. In the second quarter of 2022, TVA began a hybrid exploration period, to explore how to best work in a hybrid environment in the future, which will allow for more informed long-term decisions around areas such as real estate, technology, and best practices.

Generation Resources

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 has a responsibility to provide protection for its nuclear plants against such events. As a result, TVA installed a series of modifications at four dams.

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 Nuclear Regulatory Commission ("NRC") for Watts Bar Nuclear Plant ("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 in 2022. In addition, TVA submitted models for Sequoyah Nuclear Plant ("Sequoyah") Units 1 and 2 in 2020. As a result of the recently identified necessary changes to dam stability assumptions, TVA will submit a revision to the Sequoyah model in 2022. TVA will subsequently address conditions at Browns Ferry Nuclear Plant ("Browns Ferry") as needed. As of March 31, 2022, TVA had spent \$155 million on the modifications and improvements related to extreme flooding preparedness. TVA is deferring the decision on the need for additional modifications until after the modeling work is complete.

Mitigation of Beyond-Design-Basis Events. NRC rulemaking has been developed to codify the requirements promulgated by orders related to beyond-design-basis events. The NRC Commissioners approved the final rule in 2019. As of December 31, 2021, TVA has implemented the requirements for Sequoyah, Watts Bar, and Browns Ferry. A gap review of the revised rule has been performed, and no new gaps to compliance were identified.

Tritium-Producing Burnable Absorber Rods. TVA and the Department of Energy ("DOE") are engaged in a long-term interagency agreement under which TVA will, at the DOE's request, irradiate tritium-producing burnable absorber rods ("TPBARs") to assist the DOE in producing tritium for the Department of Defense. TVA has provided irradiation services using Watts Bar Unit 1 since 2003 and began tritium production in Watts Bar Unit 2 in 2021. The agreement also allows for irradiation of TPBARs at Sequoyah in the future; however, TVA does not have plans to employ Sequoyah units for tritium production in the near term. TVA does intend to increase its production in both Watts Bar Unit 1 and Watts Bar Unit 2, beginning in November 2024 for Watts Bar Unit 1 and April 2025 for Watts Bar Unit 2, to align with a DOE request for increased tritium. TVA is currently working to submit a license amendment request with the NRC to fulfill this request.

Watts Bar Unit 2. During 2014, the TVA Board approved a project for the replacement of the steam generators at Watts Bar Unit 2. During the refueling outage in the first quarter of 2021, TVA identified degraded steam generator conditions on Watts Bar Unit 2. Watts Bar Unit 2 remained at 90 percent of rated output until assessments were complete and the mid-cycle outage began in September 2021. The mid-cycle outage concluded in October 2021 and focused on an inspection protocol with multiple contingency repair strategies such that safe and reliable operation can be assured until the permanent steam generator replacement occurs. Watts Bar Unit 2 remained at or below 95 percent of rated thermal output until the outage for the permanent replacement began in March 2022. It is anticipated that Watts Bar Unit 2 will be returned to service by summer of 2022. As of March 31, 2022, TVA had spent \$427 million related to this project and expects to spend an additional \$139 million through 2022.

Optimum Energy Portfolio. TVA must continuously evaluate all generating assets to ensure an optimal energy portfolio that provides safe, clean, and reliable power while maintaining flexibility and fiscal responsibility to the people of the Tennessee Valley. TVA is also making investments in its generating portfolio to modernize its fleet while also allowing TVA to maintain competitive rates and high reliability and work toward carbon emission reductions.

Based on results of assessments presented to the TVA Board in 2019, the retirement of Bull Run by December 2023 was approved. See Note 6 — *Plant Closures*. During 2019, the TVA Board also approved the Integrated Resource Plan, which recommended an action to evaluate the engineering end-of-life of aging fossil units. In 2021, this evaluation confirmed that the aging coal fleet is among the oldest in the nation and is experiencing deterioration of material condition and performance challenges. The performance challenges are projected to increase due to the coal fleet's advancing age and the difficulty of adapting the coal fleet's generation within the changing generation profile. Therefore, TVA is evaluating the impact of retiring the balance of the coal-fired fleet by 2035.

TVA is also considering plans for additional generating facilities to replace retiring or expiring capacity and to support a low cost, reliable, flexible, and increasingly clean power system. As TVA continues to evaluate the impact of retiring its coal-fired fleet by 2035, it is also evaluating adding flexible lower carbon-emitting gas plants as a strategy to maintain reliability, such as the ongoing CT projects at TVA's Paradise and Colbert sites and the aeroderivative CT project at TVA's Johnsonville site. In addition, TVA is committed to investing in the future of nuclear with the evaluation of emerging advanced nuclear technologies, such as small modular reactors ("SMRs"), and is increasing its renewable energy portfolio by securing PPAs for out-of-Valley wind and in-Valley solar as well as with projects such as TVA's Self-Directed Solar. See *Generation Resources — Natural Gas-Fired Units and Small Modular Reactors* below, in addition to *Changing Customer Preferences* above.

TVA will prepare environmental reviews pursuant to NEPA prior to making a decision on retiring or building a plant. Environmental reviews evaluating the potential retirement of the Cumberland Fossil Plant ("Cumberland") and Kingston Fossil Plant ("Kingston") and replacement with other generation are now underway. On April 25, 2022, TVA made available to the public a draft environmental impact statement ("EIS") to assess the impacts associated with the potential retirement of Cumberland and the construction and operation of facilities to replace part of that generation. TVA is asking for public input on the draft EIS during the 45-day public comment period of April 29, 2022 through June 13, 2022. In addition, on November 10, 2021, the TVA Board authorized the Chief Executive Officer to evaluate, decide upon, and complete, if necessary, the retirements of Cumberland and Kingston and replacement generation projects, subject to completing all required environmental reviews, periodically updating the TVA Board on plans and actions, and notifying the TVA Board before making final decisions. The TVA Board approved spending up to \$3.5 billion for these projects to develop generation and transmission assets and complete required demolition activities.

Decarbonization. TVA is seeking to obtain greater amounts of its power supply from clean resources to work towards carbon emission reductions and is making investments in its generating portfolio to modernize the fleet while also allowing TVA to maintain low rates and high reliability. TVA's decarbonization initiative is aimed at understanding and applying clean resources to support the reduction of carbon emissions from its power supply. Related to its carbon reduction efforts, TVA has established six guiding principles which are as follows:

- Prioritize the needs of Valley stakeholders as TVA works to achieve its goals by maintaining low rates and high reliability, and attracting new jobs in the Tennessee Valley.
- Use best-available science and support research and policies that further carbon-free dispatchable technologies.
- Partner with long-term LPCs and other customers and communities to support economy-wide decarbonization efforts and the strategic electrification of other sectors, such as transportation.

- Maintain nuclear generation, hydro generation, and a strong transmission grid as key enabling assets.
- Be transparent with stakeholders in measuring and sharing TVA's progress, and listen and work effectively with all its stakeholders to understand their priorities and needs.
- Adapt to new technologies and changing policies, and be willing and open to changing TVA's plans and projects to achieve deep carbon reduction.

As part of the decarbonization efforts, in the second quarter of 2022, the TVA Board ratified approval of a programmatic approach to exploring advanced nuclear technology (the "New Nuclear Program"), which is one of several technologies TVA is exploring. The New Nuclear Program will provide a systematic roadmap for TVA's exploration of advanced nuclear technology, both in terms of various reactor designs being proposed and potential locations where such facilities may be needed in the region to support future energy needs. Other decarbonization technologies TVA is exploring in addition to advanced nuclear include carbon capture, carbon disposal, new hydroelectric pumped storage, and hydrogen.

See also *Small Modular Reactors* below for additional discussion on advanced nuclear and *Environmental Matters — Climate Change* for a discussion on the impact of executive actions and climate related regulations on TVA.

Natural Gas-Fired Units. During 2019, the TVA Board approved an expansion of approximately 1,500 MW of peaking gas replacement capacity at two combustion turbine gas facilities to coincide with the retirement of Allen CTs 1-20 and Johnsonville CTs 1-16, contingent on the successful completion of environmental reviews under NEPA and other applicable laws. In 2020, detailed design and engineering work began at TVA's Paradise and Colbert sites to further scope out the projects and supply information needed for the NEPA review. In 2021, environmental reviews under NEPA and other applicable laws were complete, and TVA received the air permits for the Paradise and Colbert facilities. Each project is expected to increase combustion turbine generation capacity by 750 MW at a cost not to exceed approximately \$503 million per project. As of March 31, 2022, TVA had spent approximately \$414 million on these expansions, and TVA expects to spend an additional \$592 million. Both projects are anticipated to enter commercial operations by the end of CY 2023.

A 500 MW aeroderivative CT project at TVA's Johnsonville site has been approved for \$599 million, contingent on the successful completion of environmental reviews under NEPA and other applicable laws. In 2020, detailed design and engineering work began to further scope out the project and supply information needed for the NEPA review. As of March 31, 2022, TVA had spent approximately \$193 million on the design and engineering work and for long lead time equipment that could be used at any site. TVA expects to spend an additional \$406 million on these expansions and expects the project to enter commercial operations by the end of CY 2024.

Coal Combustion Residuals Facilities. TVA has committed to a programmatic approach for the elimination of wet storage of coal combustion residuals ("CCR") within the TVA service area. Under this program ("CCR Program"), TVA performed stability remediation, completed the conversion of all operational coal-fired plants to dry CCR storage, and is now closing all remaining wet storage facilities.

Dry generation and dewatering projects. TVA has accomplished the conversion from wet to dry handling of CCR materials at all operating coal plants with the completion of dry generation and/or dewatering projects at Bull Run, Cumberland, Gallatin Fossil Plant ("Gallatin"), Kingston, and Shawnee Fossil Plant ("Shawnee").

Landfills. TVA has made strategic decisions to build and maintain lined and permitted dry storage facilities on TVA-owned property at some TVA locations, allowing these facilities to operate beyond existing dry storage capacity. Lined and permitted landfills are operational at Bull Run, Gallatin, Kingston, and Shawnee; construction of a new lined and permitted landfill at Gallatin is expected to start in 2022; and TVA continues to work through the permitting process for a new landfill at Cumberland and expects construction to begin in 2023. Construction of additional lined and dry permitted storage facilities may occur to support future business requirements.

CCR facilities closures. TVA is working to close CCR facilities in accordance with federal and state requirements. Closure project schedules and costs are driven by the selected closure methodology (such as closure-in-place or closure-by-removal). Closure initiation dates are driven by environmental regulations. TVA's predominant closure methodology is closure-in-place, with exceptions at certain facilities. 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 approval by appropriate state regulators and applicable closure requirements of state and federal regulations. Additional site-specific NEPA studies will be conducted as other facilities are designated for closure. See Note 11 — *Asset Retirement Obligations*.

Groundwater monitoring. Compliance with the Environmental Protection Agency's ("EPA's") CCR rule ("CCR Rule") required implementation of a groundwater monitoring program, additional engineering, and ongoing analysis. As further

analyses are performed, including evaluation of monitoring results and possible remedies, there is the potential for additional costs for investigation and/or remediation. These costs cannot reasonably be predicted until investigations and evaluations are complete and a final remedy is selected where required.

The final Part A revision to the CCR Rule became effective September 28, 2020. Among other things, the final Part A rule requires unlined CCR surface impoundments to stop receiving CCR and non-CCR waste streams and to initiate closure or retrofit by no later than April 11, 2021. TVA ceased sending CCR and non-CCR waste streams to, and initiated closure of, unlined CCR surface impoundments by the specified deadline.

In compliance with the CCR Rule, TVA published the results of 2021 groundwater testing at its CCR facilities during the second quarter of 2022. The results included values above groundwater protection standards for some constituents at certain CCR units. TVA previously identified several CCR units with constituents at statistically significant levels above site-specific groundwater protection standards. TVA has completed an assessment of corrective measures ("ACM"), which analyzes the effectiveness of potential corrective actions, and has published ACM reports to its CCR Rule Compliance Data and Information website. Based on the results of the ACM, TVA is required to select a remedy as soon as feasible. TVA continues to investigate and evaluate remedies and will continue posting semi-annual progress reports on the status of remedy selection until the final remedy is selected. The cost of these final remedies cannot reasonably be predicted until investigations and evaluations are complete and remedial methods are selected.

As of March 31, 2022, TVA had spent approximately \$2.4 billion on its CCR Program. Through 2026, TVA expects to spend an additional \$651 million on the CCR Program. Estimates for these amounts and spend after 2026 may change depending on the final closure method selected for each facility. While the conversion portion of the CCR Program is completed, TVA will continue to undertake CCR closure and storage projects, including building new landfill cells under existing permits and closing existing cells once they reach capacity.

TVA was involved in two lawsuits concerning the CCR facilities at Gallatin. One of these cases was decided in TVA's favor by the Sixth Circuit, and the other case was resolved by the entry of a consent order and agreement in Davidson County Chancery Court that became effective July 24, 2019. Under the consent order, TVA agreed to close the existing ash facility by removal, either to an onsite landfill or to an offsite facility. TVA may also consider options for beneficial reuse of the CCR. TVA has submitted the removal plan for approval to the Tennessee Department of Environment and Conservation ("TDEC") and other applicable parties pursuant to the consent order. See Note 11 — *Asset Retirement Obligations*.

In October 2019, TDEC released amendments to its regulations which govern solid waste disposal facilities, including TVA's active CCR facilities covered by a solid waste disposal permit and those which closed pursuant to a TDEC approved closure plan. Such facilities are generally subject to a 30-year post-closure care period during which the owner or operator must undertake certain activities, including monitoring and maintaining the facility. The amendments, among other things, add an additional 50-year period after the end of the post-closure care period, require TVA to submit recommendations as to what activities must be performed during this 50-year period to protect human health and the environment, and require TVA to submit revised closure plans every 10 years.

Allen Groundwater Investigation. The CCR Rule required TVA to implement a comprehensive groundwater monitoring program at units subject to the rule. As a result of this groundwater monitoring program, TVA reported to TDEC in 2017 elevated levels of arsenic, lead, and fluoride in groundwater samples collected from two shallow-aquifer groundwater monitoring wells around the Allen East Ash Disposal Area. TVA, under the oversight of TDEC, conducted a remedial investigation into the nature and extent of the contamination. In 2018, TVA submitted a draft Remedial Investigation Report to TDEC which was revised after discussions with TDEC and additional investigation. TVA submitted the Final Updated Remedial Investigation Report to TDEC in 2019.

The remedial investigation confirmed that the high arsenic, fluoride, and lead concentrations are limited to the shallow alluvial aquifer in the north and south areas of the Allen East Ash Disposal Area. These areas are not adversely impacting the Memphis aquifer, which is the source of the public drinking water supply. All samples taken from the Memphis aquifer through TVA production wells were within the EPA drinking water standards. As the result of a pumping test conducted on TVA production wells at the nearby Allen Combined Cycle Plant ("Allen CC") by the United States Geological Survey and the University of Memphis, TVA has committed to not using these production wells until additional data is generated that supports safe use. TVA constructed water tanks on site and is purchasing cooling water from MLGW in lieu of utilizing the projection wells. Purchasing cooling water in combination with the use of water tanks, rather than wells, could impose some operational limitations, such as limitations on capacity, on the Allen CC due to lower availability of cooling water.

TVA is taking steps to close both of the CCR storage facilities at the Allen Fossil Plant and initiate remediation of the groundwater at the East Ash Disposal Area. TVA evaluated closure options for both the East Ash Disposal Area and the nearby West Ash Disposal Area through an EIS pursuant to NEPA. In March 2019, TVA released its public scoping report, which eliminated closure-in-place as an alternative. TVA published the final EIS on March 13, 2020, and its Record of Decision on April 14, 2020, which documents the final decision to remove CCR from the above identified areas and transport the CCR to an existing permitted offsite landfill. TVA conducted two virtual public outreach meetings in September 2021 to discuss the project

and selected landfill. As part of this closure, TVA will continue to dewater the East Ash Disposal Area and treat the water before it is discharged to the National Pollutant Discharge Elimination System ("NPDES") outfall.

In parallel with the evaluation of closure options, TVA has also initiated an Interim Response Action Plan which includes installation of a groundwater extraction system and treatment system. A feasibility study to evaluate remedial actions for the site was submitted to TDEC on September 4, 2020. A virtual public meeting to present the Interim Response Action as the Proposed Plan for the site was held on November 17, 2020. The public was invited to review the remediation documents and encouraged to comment on the Proposed Plan during the public comment period. TVA submitted the public comments along with responses to TDEC for consideration. After considering public comments, TDEC signed the Record of Decision on August 16, 2021.

TVA prepared a Remedial Action Plan ("RAP") to outline remediation actions at the site and submitted this plan to TDEC for review and approval. After review, consideration, and associated plan revisions, TDEC accepted the RAP and provided written approval to begin relocation of CCR materials to an offsite, lined landfill on November 19, 2021. Removal of CCR from the site began November 29, 2021. Monthly progress meetings with TDEC began in December 2021 and will continue as the material is collected and transported to the off-site disposal facility, which is expected to continue through 2029.

TVA's Remedial Investigation/Interim Response Action Groundwater Monitoring Plan is reviewed and modified annually. The 2022 Remedial Investigation/Interim Response Action Groundwater Monitoring Plan was submitted to TDEC on March 2, 2022. TVA continues to sample on a quarterly basis the monitoring wells at the site as required by the plan. TVA prepares and shares with TDEC a memorandum after each quarterly event and prepares an annual report to evaluate the sampling results. The annual report for CY 2021 groundwater monitoring was submitted to TDEC on March 25, 2022.

Potential Liability Associated with Workers' Exposure to CCR Materials. In response to the 2008 ash spill at Kingston, TVA hired Jacobs Engineering Group, Inc. ("Jacobs") to oversee certain aspects of the cleanup. After the cleanup was completed, Jacobs was sued in the U.S. District Court for the Eastern District of Tennessee ("Eastern District") by employees of a contractor involved in the cleanup and family members of some of the employees. The plaintiffs alleged that Jacobs had failed to take or provide proper health precautions and misled workers about the health risks associated with exposure to coal fly ash, which is a CCR material. The plaintiffs alleged that exposure to the fly ash caused a variety of significant health issues and illnesses, including in some cases death. The case was split into two phases, with the first phase considering, among other issues, general causation and the second determining specific causation and damages. On November 7, 2018, a jury hearing the first phase returned a verdict in favor of the plaintiffs, including determinations that Jacobs failed to adhere to its contract with TVA or the Site Wide Safety and Health Plan; Jacobs failed to provide reasonable care to the plaintiffs; and Jacobs's failures were capable of causing a list of medical conditions, ranging from hypertension to cancer. On January 11, 2019, the Eastern District referred the parties to mediation. Mediation has concluded, but the parties did not resolve the matter. If the litigation proceeds to the second phase, the principal question for resolution will be whether Jacobs's breaches were the specific medical cause of the plaintiffs' alleged injuries and damages. No trial date has been set for the second phase.

On August 24, 2021, the Sixth Circuit accepted Jacobs's petition for interim appeal on issues relating to the availability of derivative governmental immunity as a defense to the plaintiffs' claims. On March 11, 2022, the Sixth Circuit held oral argument on Jacobs's petition for interim appeal, and the court also invited TVA to file a brief in the case, which TVA filed on April 11, 2022.

On September 29, 2021, the Eastern District certified four questions to the Tennessee Supreme Court regarding the applicability of the Tennessee Silicosis Claims Priority Act to the plaintiffs' claims. The Eastern District's order also stayed all proceedings pending the Tennessee Supreme Court's decision. On March 24, 2022, the Tennessee Supreme Court accepted the four certified questions from the Eastern District, and oral argument on these questions is expected to be scheduled in June 2022.

Other contractor employees and family members have filed lawsuits against Jacobs that are pending in the Eastern District. These pending lawsuits are stayed and raise similar claims to those being litigated in the case referenced above.

While TVA is not a party to any of these lawsuits, TVA may potentially have an indemnity obligation to reimburse Jacobs for some amounts that Jacobs is required to pay. TVA will continue monitoring the litigation to determine whether these or similar cases could have broader implications for the utility industry. TVA does not expect any potential liability to have a material adverse impact on its results of operations or financial condition. See Note 20 — *Contingencies and Legal Proceedings — Contingencies*.

Coal Supply. TVA experienced challenges in 2021 related to coal supply, as a result of supply limitation and transportation challenges. Coal supply and transportation continue to be constrained in 2022. Following an event in October 2021 at one of TVA's fuel storage locations and coal handling service providers, TVA implemented terminal service options at other locations which met TVA's interim coal handling needs. TVA's primary offsite coal storage and handling location is now fully operational, and inventory is being rebuilt at this location. Rail service is currently limiting TVA's ability to transport contracted supply, which may impact summer inventory levels. TVA will continue to monitor the coal supply challenges and utilize its contracting strategy and diverse generation portfolio to balance needs and ensure adequate fuel supplies.

River Management. Rainfall and runoff in the Tennessee Valley through the second quarter of 2022 were 114 percent and 123 percent of normal, respectively. Above normal rainfall and runoff have continued to help TVA meet its river system commitments, including managing minimum river flows and minimum depths for navigation, generating low-cost hydroelectric power, maintaining flows that support habitat for fish and other aquatic species, maintaining water supply, and providing recreational opportunities for the Tennessee Valley. In addition, having cool water available helps TVA to meet thermal compliance and support normal operation of TVA's nuclear and fossil-fueled plants, while oxygenating water helps fish species remain healthy. Rainfall and runoff in the Tennessee Valley during the second quarter of 2022 were both 130 percent of normal.

Aquatic Vegetation. In 2020, the unprecedented growth and breakaway of aquatic vegetation in Wheeler Reservoir challenged the Browns Ferry intake structures and impacted the source of cooling water for the plant. Two units were removed from operation and power was reduced on the third unit to accommodate the decreased capability of the cooling systems. Nuclear safety was not challenged during the event. Breakaway of aquatic vegetation will continue to be a concern until a permanent solution is finalized. However, mitigation solutions have been identified to eliminate marine biofouling of the plant intake system, and permanent design solutions are expected to be implemented by the end of CY 2025.

Small Modular Reactors. In December 2019, TVA became the first utility in the nation to successfully obtain approval for an early site permit from the NRC to potentially construct and operate small modular reactors at TVA's Clinch River Nuclear Site. The permit is valid through 2039 and therefore provides TVA a great deal of flexibility to make new nuclear decisions based on energy needs and economic factors. In 2021, TVA initiated a Programmatic EIS ("PEIS") that evaluates a variety of alternatives for a proposed advanced nuclear technology park at the Clinch River Nuclear Site and will provide additional flexibility for future decision making. The PEIS was issued for public comment in March of 2022, and is expected to be finalized in the summer of 2022.

In addition, in the second quarter of 2022, the TVA Board ratified approval of the New Nuclear Program. The New Nuclear Program will provide a systematic roadmap for TVA's exploration of advanced nuclear technology. Collaboration with other interested parties will be an important aspect of this program, and TVA has already entered into several agreements with like-minded organizations that allow for mutual collaboration to explore advanced reactor designs as a next-generation nuclear technology.

The decision to potentially build SMRs continues to be part of the ongoing discussion as part of the asset strategy for TVA's future generation portfolio, and any future decision to construct any reactor, advanced or otherwise, would require approval by the TVA Board and the NRC. As of March 31, 2022, TVA had spent \$96 million on work regarding SMRs, including work to complete the early site permit application for the Clinch River Nuclear Site, of which the DOE had reimbursed TVA \$29 million. Additional expenditures will be determined based on future project development.

System Operations Center. A new system operations center has been approved for \$289 million. The new secured facility is being built to accommodate a new energy management system and adapt to new regulatory requirements, and will have improved physical security from the previous center. The facility is expected to be constructed by the third quarter of 2023 and fully operational in 2025. As of March 31, 2022, TVA had spent approximately \$125 million on the project and expects to spend an additional \$164 million.

Energy Management System. A new energy management system has been approved for \$90 million. As the current energy management system is nearing the end of its life cycle, this project will replace the existing analog system with a digital system. The new digital system will have higher capacity and speed, for communications with the TVA grid and for inputs from monitoring equipment, which will also network the new control center with existing locations and enable better remote visibility and control. The system is expected to be complete in 2026. As of March 31, 2022, TVA had spent approximately \$40 million on the project and expects to spend an additional \$50 million.

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 analyzes, evaluates, and manages risks through a systematic and thorough process that facilitates decision making for the safety of a structure, identifying necessary actions to reduce risk, including remediation projects, and prioritization of actions for TVA's river dams. Prioritization is driven by reducing risk to the public and asset preservation. TVA also continues to provide routine care of the dams as part of the dam safety program through inspections, monitoring, and maintenance, among other activities.

Boone Dam Remediation. In 2015, 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 grouting, construction of an upstream and downstream buttress, installation of the concrete cut-off wall, raising of the reservoir for fluctuation testing of the repair, and construction of the floodwall. TVA is currently in the process of removing the tailrace filter berm and completing site restoration activities. The site is anticipated to be re-opened to the public in May 2022, and TVA expects the reservoir to return to normal

operations in 2022 once the remaining work is complete. As of March 31, 2022, TVA had spent \$313 million related to this project and expects to spend an additional \$15 million through 2023.

Pickwick South Embankment Remediation. Reassessments of Pickwick Landing Dam ("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 currently working on a project with the local water utility to relocate an affected water intake system, which will allow for completion of the remaining upstream berm work. This work is estimated to be complete in 2022. As of March 31, 2022, TVA had spent \$118 million related to this project and expects to spend an additional \$10 million through 2022.

Real Property Portfolio

TVA continues to study its real property portfolio as part of the Strategic Real Estate Plan, which is aimed at reducing cost, right-sizing the portfolio, and aligning real estate holdings with TVA's strategic direction. In addition, as TVA continues to implement telework for those who do not have to be physically present during the COVID-19 pandemic, it is also assessing and reviewing the pandemic's long-term impacts to real estate.

Regional Consolidations — Knoxville and Nashville Regions. In the Knoxville region, consolidation of the centralized field offices in Norris, Tennessee, was completed. The Knoxville Regional plan has now been completed with the exception of some remaining work to improve the Greenway Transmission Service Center transmission storage yard. In the Nashville region, TVA is assessing its leased property portfolio.

Supply Chain and Inflation Pressures

TVA has experienced an increase in supplier impacts as a result of COVID-19 and the state of global supply chains and the economy, such as project delays, availability of supplies, and price increases. Russia's invasion of Ukraine has further intensified the state of global supply chains in addition to inflationary pressures and COVID-19. TVA is actively managing spend to mitigate inflationary pressures; however, broader inflationary pressures are expected to persist in 2022. TVA is also managing supplier impacts through existing contracts and increased lead times and communications with suppliers. TVA has been able to manage with limited business disruptions at this time; however should pressures continue long-term, TVA could experience more significant disruptions.

Buy American Executive Order. On January 25, 2021, President Biden issued EO 14005, "Ensuring the Future Is Made in All of America by All of America's Workers." EO 14005 imposes new reporting and procedural requirements, as well as additional executive oversight, for federal agency purchases of foreign goods and services. OMB issued guidance in connection with EO 14005 in June 2021, and in July 2021 TVA submitted its report in response. TVA will continue to comply with new reporting requirements as applicable.

Ratemaking

TVA, LPCs, and directly served industries have worked collaboratively in recent years to develop changes to rates that focus on TVA's long-term pricing efforts and the changing needs of customers in the Tennessee Valley. These changes have improved pricing by better aligning rates with underlying cost drivers and by sending improved pricing signals, while maintaining competitive industrial rates and keeping residential rates affordable.

TVA and LPCs continue to work together to meet the changing needs of consumers around the Tennessee Valley. In 2019, the TVA Board approved a Partnership Agreement option that better aligns the length of LPC power contracts with TVA's long-term commitments. Under the partnership arrangement, the LPC power contracts automatically renew each year and have a 20-year termination notice. The partnership arrangements can be terminated under certain circumstances, including TVA's failure to limit rate increases as provided for in the agreements going forward. Participating LPCs receive benefits including a 3.1 percent wholesale bill credit in exchange for their long-term commitment, which enables TVA to recover its long-term financial commitments over a commensurate period. In 2020, TVA provided participating LPCs a flexibility option, renamed Generation Flexibility, that allows them to locally generate or purchase up to approximately five percent of average total hourly energy sales over 2015 - 2019 in order to meet their individual customers' needs. As of May 11, 2022, 146 LPCs had signed the Partnership Agreement with TVA, and 77 LPCs had signed a Power Supply Flexibility Agreement.

Board Quorum

The terms of John L. Ryder and Kenneth E. Allen as members of the TVA Board ended January 3, 2022, with the adjournment of the most recent session of Congress. There are currently five TVA Board members, and the terms of two additional TVA Board members – Jeff W. Smith and A.D. Frazier – expire on May 18, 2022, although they are permitted under the TVA Act to remain in office until the earlier of the end of the current session of Congress or the date a successor takes office.

Under the TVA Act, a quorum of the TVA Board is five members. The TVA Board is responsible for, among other things, establishing the rates TVA charges for power as well as TVA's long-term objectives, policies, and plans. Accordingly, loss of a quorum for an extended period of time would impair TVA's ability to change rates and to modify these objectives, policies, and plans. See Item 1A, Risk Factors – *Loss of a quorum of the TVA Board could limit TVA's ability to adapt to meet changing business conditions* in the Annual Report.

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, transmit, 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 continues to work with the North American Electric Reliability Corporation ("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 cybersecurity. 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 U.S. Department of Homeland Security's Cybersecurity and Infrastructure Security Agency ("CISA") and the U.S. Computer Emergency Readiness Team ("US-CERT"). CISA serves as the agency assisting other federal entities in defending against threats and securing critical infrastructure. US-CERT functions as a liaison between the U.S. Department of Homeland Security and the public and private sectors to coordinate responses to security threats.

The risk of cybersecurity events such as malicious code attacks, unauthorized access attempts, and social engineering attempts continues to intensify across all industries, including the energy sector. Over the last few years, TVA has observed a significant increase in malicious activity including phishing campaigns, malicious websites, distributed denial of service attacks, and activity specific to the COVID-19 pandemic, among others. These types of malicious activity have also been observed by TVA's external vendors, stakeholders, and partners, which has caused the need for heightened awareness and preparedness. In addition, TVA has increased cybersecurity efforts as a precautionary measure due to Russia's invasion of Ukraine. TVA has also observed an increase in activity from Russia. Finally, TVA has a robust vulnerability and patch management program in place. When vulnerabilities are identified, the program is utilized to identify and prioritize remediation and mitigation activities to reduce the risk to TVA.

On May 12, 2021, President Biden signed EO 14028, "Improving the Nation's Cybersecurity." This EO is intended to improve the nation's cybersecurity posture and protect federal government networks by improving information-sharing between the U.S. government and the private sector on cyber issues and strengthening the United States' ability to respond to incidents when they occur. This EO is focused on specific goals and requirements including actions for zero trust architectures; cloud services; FedRAMP programs; supply chain and contracts; secure software development; endpoint detection and response, standardized vulnerability, and incident response operational plans; threat and vulnerability analysis; assessment and threat-hunting; event logging, monitoring, and retention; and information sharing. TVA continues to evaluate and respond to the EO, associated OMB memorandums, and other emerging requirements in alignment with the order. TVA has submitted all reports as required, established response teams and an oversight structure, and initiated projects as necessary to address the required actions.

In December 2021, TVA was notified of a potential cyber vulnerability, known as Log4j, that had the ability to impact many applications and services. TVA immediately responded and through its vulnerability and patch management program, implemented remediations and mitigations to address potential impact. TVA is continuing to work with vendors to ensure all services and applications are secure. At this time, this event has not impacted TVA's ability to operate as planned.

TVA is leveraging federal and other partners to better identify, detect, protect, and respond to these potential attacks. While TVA and its third-party vendors and service providers have been, and will likely continue to be, subjected to such attacks and attempts to disrupt operations, to date the attacks have not had a significant or material impact on business or operations and have not impacted TVA's ability to operate as planned. See Item 1A, Risk Factors — *Cybersecurity 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 ("GMDs") and electromagnetic pulses ("EMPs"). TVA meets all existing NERC Standards for GMD, 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 concern.

Bulk-Power System Assets. On May 1, 2020, the Trump Administration issued EO 13920, "Securing the United States Bulk-Power System." Among other things, the EO prohibits the acquisition or installation of any bulk-power system electric equipment where the transaction (1) involves any property in which any foreign country or a national thereof has any interest and (2) poses an undue risk to the bulk-power system in, or national security of, the U.S. On December 17, 2020, the DOE issued a Prohibition Order Securing Critical Defense Facilities, which was suspended and then revoked. EO 13920 has expired and is no longer in effect. EO 13990, "Protecting Public Health and the Environment and Restoring Science To Tackle the Climate Crisis," directs DOE and OMB to consider whether to recommend the issuance of a replacement EO to EO 13920. The DOE issued a Request for Information on April 22, 2021, to help inform any recommendation that it may make for a replacement EO. At this time, it is uncertain to what extent a future EO that may potentially address risks associated with the bulk-power system may impact TVA's operations.

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 matters. Emissions from all TVA-owned and operated units (including small CTs of less than 25 MW) have been reduced from historic peaks. Emissions of nitrogen oxide ("NO_x") have been reduced by 97 percent below peak 1995 levels and emissions of sulfur dioxide ("SO₂") have been reduced by 99 percent below 1977 levels through CY 2021. For CY 2021, TVA's emissions of carbon dioxide ("CO₂") from its owned and operated units, including purchased power and REC retirement adjustments which reduce the CO₂ emissions, were 50 million tons, resulting in a TVA system average, as delivered, CO₂ emission rate of 638 lbs/MWh. This represents a 57 percent reduction in mass carbon emissions from 2005 levels. To remain consistent and to align with the EPA's reporting requirements, TVA intends to continue reporting CO₂ emissions on a CY basis.

Additional quantitative emissions data is as follows:

Emissions and Intensity Rates ⁽¹⁾	CY 2021	CY 2020
Nitrogen Oxide (NO_x)⁽²⁾		
Total NO _x Emissions (MT)	15,210	12,577
Total NO _x Emissions Intensity (MT/Net MWh)	0.000109	0.000094
Sulfur Dioxide (SO₂)⁽²⁾		
Total SO ₂ Emissions (MT)	25,226	17,082
Total SO ₂ Emissions Intensity (MT/Net MWh)	0.000181	0.000127
Mercury (Hg)		
Total Hg Emissions (kg)	22.3	17.5
Total Hg Emissions Intensity (kg/Net MWh)	0.0000002	0.0000001

Notes

(1) Intensity rates are calculated based on generation from TVA's most recent fiscal year for years indicated and emissions data from the most recent CYs.

(2) Emissions data is consistent with EEI ESG Sustainability Report standards, which are based on metric tons ("MTs") whereas overall CO₂ emission rates and baseline reductions from historical levels are based on short tons.

While TVA continues down the path of lowering greenhouse gas ("GHG") emissions, there will be fluctuations in TVA's emission numbers. Between CY 2020 and CY 2021, TVA's GHG emissions reflect higher electricity usage in the Tennessee Valley as the region recovered from the effects of the COVID-19 pandemic and experienced economic growth. Changes in the power supply mix between CY 2020 and CY 2021 also impacted the emissions fluctuation, as TVA continues to make operational decisions to keep the system reliable and deliver low-cost energy.

Clean Air Act

The Clean Air Act ("CAA") establishes a comprehensive program to protect and improve the nation's air quality and control sources of air pollution. The major CAA programs that affect TVA's power generation activities are described below.

National Ambient Air Quality Standards. The CAA requires the EPA to set National Ambient Air Quality Standards ("NAAQS") for certain air pollutants. The EPA has done this for ozone, particulate matter, SO₂, nitrogen dioxide, carbon

monoxide, and lead. Over the years, the EPA has made the NAAQS more stringent. Each state must develop a plan to be approved by the EPA for achieving and maintaining NAAQS within its borders. These plans impose limits on emissions from pollution sources, including TVA fossil fuel-fired plants. Areas meeting a NAAQS are designated as attainment areas. Areas not meeting a NAAQS are designated as non-attainment areas, and more stringent requirements apply in those areas, including stricter controls on industrial facilities and more complicated and public permitting processes. TVA fossil fuel-fired plants can be impacted by these requirements. All TVA generating units are located in areas designated as in attainment with NAAQS.

Revised Cross-State Air Pollution Rule. The EPA issued the Cross-State Air Pollution Rule ("CSAPR") in 2011 requiring several states in the eastern U.S. to improve air quality by reducing power plant emissions that contribute to pollution in other states. In 2016, the EPA issued an update to CSAPR to address cross-state air pollution (the "CSAPR Update Rule"). The EPA subsequently issued an additional rule to resolve any remaining cross-state air pollutant issues ("CSAPR Close-Out Rule"). The U.S. Court of Appeals for the District of Columbia Circuit ("D.C. Circuit") remanded a portion of the CSAPR Update Rule back to the EPA to address its failure to require upwind states to eliminate substantial contributions to downwind non-attainment areas by the statutory deadline. The D.C. Circuit also vacated the CSAPR Close-Out Rule. On March 15, 2021, the EPA Administrator signed the final revisions to the Revised CSAPR Update Rule. The revisions address the defects identified by the D.C. Circuit and took effect on June 29, 2021. In this final action, the EPA reduced ozone-season NO_x allowances for a group of 12 states, including Kentucky, and required sources in those states to surrender most of their allowance inventory. TVA's Shawnee Fossil Plant ("Shawnee") facility is affected by these revisions. TVA is monitoring forecasted needs and has purchased allowances with plans to continue doing so as needed to comply with the rule in 2022. A longer-term compliance strategy for the facility is being developed that could include a combination of NO_x control upgrades, operational changes, and allowance purchases.

Proposed Federal Implementation Plan Addressing Regional Ozone Transport for the 2015 Ozone National Ambient Air Quality Standard. On March 11, 2022, the EPA issued a proposed Federal Implementation Plan ("FIP") to address cross-state air pollution with respect to the 2015 ozone NAAQS. The proposed FIP establishes ozone-season NO_x allowance budgets for electric generating units in 25 states, including Alabama, Kentucky, Mississippi, and Tennessee. TVA is currently evaluating potential impacts from this proposal. A compliance strategy for affected facilities in Kentucky and Tennessee could include a combination of NO_x control upgrades, operational changes, and allowance purchases.

Mercury and Air Toxics Standards for Electric Utility Units. In 2020, the EPA issued a final rule which revokes the agency's earlier finding that regulation of hazardous air pollutants ("HAP") emitted from steam electric utilities is appropriate and necessary. The rule does not remove electric generating units from the source categories listed under Section 112 of the CAA nor does it rescind the Mercury and Air Toxics Standards ("MATS") requirements. Additionally, the EPA determined that further restrictions on HAP emissions are not warranted based on a residual risk and technology review ("RTR") for this source category. TVA does not anticipate that the final rule will change TVA's MATS compliance requirements or strategy. On January 31, 2022, the EPA issued a proposed rule that revokes the 2020 finding and finds that regulation of HAP emitted from steam electric utilities is appropriate and necessary. In the proposal, the EPA is also reviewing the 2020 RTR by soliciting information on the performance and cost of new technologies to control HAP from steam electric utilities. If adopted in its current form, the proposed rule would not change TVA's compliance requirements.

Environmental Agreements. See Note 20 — *Contingencies and Legal Proceedings* — *Legal Proceedings* — *Environmental Agreements* for a discussion of two substantively similar agreements into which TVA entered in April 2011: one with the 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"), which discussion is incorporated herein by reference.

Acid Rain Program. The Acid Rain Program is intended to help reduce emissions of SO₂ and NO_x, which are the primary pollutants implicated in the formation of acid rain. The program includes a cap-and-trade emission reduction program for SO₂ emissions from power plants. TVA continues to reduce SO₂ and NO_x emissions from its coal-fired plants, and the SO₂ allowances allocated to TVA under the Acid Rain Program are sufficient to cover the operation of its coal-fired plants. In the TVA service area, the limitations imposed on SO₂ and NO_x emissions by the CSAPR program are more stringent than the Acid Rain Program. Therefore, TVA does not anticipate that the Acid Rain Program will impose any additional material requirements on TVA.

Regional Haze Program. The EPA issued the Clean Air Visibility Rule, which required certain older sources to install best available retrofit technology. No additional controls or lower operating limits are required for any TVA units to meet best available retrofit technology requirements. In 2017, the EPA published the final rule that changed some of the requirements for Regional Haze State Implementation Plans ("SIPs"). Specific impacts cannot be determined until future Regional Haze SIPs are developed for the next decennial review under the visibility haze provisions of the CAA. States were required to submit their Regional Haze SIPs to the EPA by July 31, 2021. In response to requests from state air pollution control agencies in Tennessee and Kentucky, TVA submitted regional haze analyses for Cumberland and Shawnee, respectively, to those state agencies. The reports evaluate SO₂ emission reduction options for these facilities and will be used by these state agencies in preparing their Regional Haze SIPs. TVA cannot predict the outcome of the EPA's evaluation of the SIPs to be submitted by Tennessee and Kentucky.

Opacity. Opacity, or visible emissions, measures the denseness (or color) of power plant plumes and has traditionally been used by states as a means of monitoring good maintenance and operation of particulate control equipment. Under some

conditions, retrofitting a unit with additional equipment to better control SO₂ and NO_x emissions can adversely affect opacity performance, and TVA and other utilities have addressed this issue. The evaluation of utilities' compliance with opacity requirements is coming under increased scrutiny, especially during periods of startup, shutdown, and malfunction. Historically, SIPs developed under the CAA typically excluded periods of startup, shutdowns, and malfunctions, but in June 2015, the EPA finalized a rule to eliminate such exclusions ("2015 Rule"). The 2015 Rule required states to modify their implementation plans by November 2016. Kentucky, Tennessee, and Mississippi submitted implementation plans, but Alabama has not. Environmental petitioners and several states filed petitions for judicial review of the 2015 Rule before the D.C. Circuit. In April 2017, the D.C. Circuit, at the request of the EPA Administrator, ordered this litigation to be suspended pending the EPA's review to determine whether to reconsider all or part of the 2015 Rule. On October 9, 2020, the EPA issued a guidance memorandum ("2020 Memorandum") that superseded and replaced policy statements outlined in the 2015 Rule. On September 30, 2021, the EPA withdrew the 2020 Memorandum, reinstating the agency's prior policy as set out in the 2015 Rule. The EPA's evaluation of state SIPs will be undertaken in light of the considerations outlined in the September 30, 2021 memorandum. TVA cannot predict the outcome of future SIP evaluations.

New York Petition to Address Impacts from Upwind High Emitting Sources. In 2018, the State of New York filed a petition with the EPA under Section 126(b) of the CAA to address ozone impacts on New York from the NO_x emissions from sources emitting at least 400 tons of NO_x in CY 2017 from nine states including Kentucky. The New York petition requests that the EPA require daily NO_x limits for utility units with selective catalytic reduction systems ("SCRs") such as Shawnee Units 1 and 4 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. In 2019, the EPA finalized its denial of New York's petition because the state did not demonstrate, and the EPA could not independently establish, that sources in the states listed in the petition contribute to exceedances of the 2008 and 2015 ozone NAAQS in New York. The State of New York filed a petition in the D.C. Circuit for judicial review of the EPA's denial of the petition. In July 2020, the D.C. Circuit vacated the EPA's denial of the petition and remanded the petition to the EPA for reconsideration. In its recently published Unified Regulatory Agenda, the EPA indicated that it will publish a proposed rule in July 2022 that provides a revised response to New York's Section 126(b) petition. Specific impacts to TVA cannot be determined until the EPA takes further action on the petition.

Affordable Clean Energy Rule. In 2019, the EPA finalized the Affordable Clean Energy ("ACE") rule and repealed the EPA's previous regulation addressing GHG emissions from existing fossil fuel-fired units. The ACE rule established guidelines for GHG emissions from existing coal-fired units based on efficiency improvements that can be achieved at those units at reasonable cost. Several industry, environmental, and state and local petitioners filed for judicial review of the ACE rule. On January 19, 2021, the D.C. Circuit vacated and remanded the ACE rule, and specified that the court's mandate will not issue with regard to the portion of the ACE rule that repeals the Clean Power Plan until after the EPA develops a replacement for the ACE rule. On October 29, 2021, the U.S. Supreme Court accepted the request filed by a coalition of states and other parties to review the D.C. Circuit's decision to vacate the ACE rule. Petitioners are asking the Supreme Court to rule on the extent of the EPA's authority to regulate GHG emissions from existing power plants under Section 111(d) of the CAA. In its recently published Unified Regulatory Agenda, the EPA indicated that it expects to publish a proposed rule to replace the ACE rule in July 2022. TVA is unable to predict the future course of the litigation on appeal, nor the direction that the EPA may take in the future to regulate GHG emissions from existing fossil fuel-fired units. As such, it is not possible at this time to predict the impacts EPA's effort will have on the level of GHG emissions control to be required at existing TVA plants should the rule in some form survive promulgation and expected additional litigation.

New Source Performance Standards. In 2018, the EPA proposed revisions to the 2015 GHG emission standards for new, modified, and reconstructed electric utility generating units required under Section 111(b) of the CAA. For coal-fired units, the EPA proposed to revise the current new source standards such that carbon capture and sequestration technology is no longer necessary to meet the standards of performance that reflect the best system of emission reduction. The resulting limits are less stringent than limits under the 2015 rule and can be met by modern coal-fired units (e.g., supercritical steam generators) in combination with best operating practices, but without carbon capture and sequestration. The EPA is not proposing to revise the new source performance standard in the 2015 rule for GHG emission from gas-fired units. In January 2021, the EPA published criteria in the Federal Register for making a significant contribution finding for GHGs from a source category for the purpose of regulating those emissions under Section 111(b) of the CAA, but the EPA did not take final action on the 2018 proposed revisions in this rulemaking. On March 17, 2021, the EPA asked the D.C. Circuit to vacate and remand the "significant contribution" finding since the rule was promulgated without public notice or opportunity to comment. On April 5, 2021, the D.C. Circuit vacated and remanded the January 2021 final rule. In its recently published Unified Regulatory Agenda, the EPA indicated that it is undertaking a comprehensive review of the new source performance standards for GHG emissions from electric utility steam generating units, including a review of all aspects of the 2018 proposed amendments and requirements in the 2015 rule that the agency did not propose to amend in the 2018 proposal. The EPA expects to issue the results of this review in a proposed rule in June 2022. TVA is unable to predict the direction that the EPA may take in the future to regulate GHG emissions from new, modified, or reconstructed fossil fuel-fired units.

Climate Change

Executive Actions. On January 20, 2021, President Biden issued EO 13990, "Protecting Public Health and the Environment and Restoring Science To Tackle the Climate Crisis." EO 13990 directs federal agencies to review and revise regulations consistent with broad policy goals to improve public health and the environment, reduce GHG emissions, and

prioritize environmental justice. On March 8, 2021, a coalition of 12 states filed a lawsuit in the U.S. District Court for the Eastern District of Missouri challenging President Biden's authority to establish interim values for the social cost of GHGs under EO 13990. On August 31, 2021, the court dismissed the matter, but the plaintiffs have appealed the decision to the U.S. Court of Appeals for the Eighth Circuit. A similar lawsuit is pending in the U.S. District Court for the Western District of Louisiana. EO 13990 also requires the EPA to review several environmental regulations to determine their consistency with the goals and policies prescribed in the EO. On March 16, 2022, the U.S. Court of Appeals for the Fifth Circuit issued a stay of the Louisiana District Court's injunction, restoring the government's ability to use social cost of carbon values in federal rulemaking. Given the pendency of the lawsuits and the absence of a final rule, specific impacts to TVA of EO 13990 cannot be determined or predicted at this time.

In addition, on January 27, 2021, President Biden issued EO 14008, "Executive Order on Tackling the Climate Crisis at Home and Abroad." Among other things, EO 14008 expresses the following policies of the federal government: (1) to organize and deploy the full capacity of its agencies to combat the climate crisis to implement a government-wide approach that reduces climate pollution in every sector of the economy, (2) to align the management of federal procurement and real property, public lands and waters, and financial programs to support robust climate action, (3) to use all available procurement authorities to achieve or facilitate (a) a carbon pollution-free electricity sector no later than 2035 and (b) clean and zero-emission vehicles for federal, state, local, and tribal government fleets, (4) to put the U.S. on a path to achieve net-zero emissions, economy-wide, by no later than 2050, (5) to accelerate the deployment of clean energy and transmission projects in an environmentally stable manner, (6) to ensure that, to the extent consistent with applicable law, federal funding is not directly subsidizing fossil fuels, (7) to promote the flow of capital toward climate-aligned investments and away from high-carbon investments, (8) improve air and water quality, and (9) secure an equitable economic future by making environmental justice part of an agency's mission. TVA is closely monitoring these developments, including the Justice40 Initiative, the Department of Treasury effort to establish a carbon market, establishment and development of the Civilian Climate Corps, and establishment of several White House comprehensive plans. In addition, EO 14008 created the Special Presidential Envoy for Climate and called for an early Leaders' Climate Summit aimed at raising climate ambition and making a positive contribution to the 26th United Nations Climate Change Conference of the Parties and beyond. EO 14008 also stated the U.S. would reconvene the Major Economies Forum on Energy and Climate, beginning with the Leader's Climate Summit. Federal agencies were directed to update their Climate Change Action Plans, and TVA chose to submit its draft plan in May 2021 and its final plan in August 2021. In addition to submitting these plans, TVA is voluntarily pursuing multiple policies and programs in the Tennessee Valley that align with the goals and policies of the EO.

On May 20, 2021, President Biden also issued EO 14030, "Climate-Related Financial Risk," which calls for a governmental-wide strategy on the disclosure of climate-related financial risk. EO 14030 requires the development of this strategy regarding the following: (1) the measurement, assessment, mitigation, and disclosure of climate-related financial risk to federal government programs, assets, and liabilities in order to increase the long-term stability of federal operations; (2) financing needs associated with achieving net-zero GHG emissions for the U.S. economy by no later than 2050, limiting global average temperature rise to 1.5 degrees Celsius, and adapting to the acute and chronic impacts of climate change; and (3) areas in which private and public investments can play complementary roles in meeting these financing needs while advancing economic opportunity, worker empowerment, and environmental mitigation, especially in disadvantaged communities and communities of color. The specific impacts of EO 14030 on TVA cannot be determined at this time, as the regulations required by the EO have not yet been finalized.

On December 8, 2021, President Biden signed EO 14057 detailing the administration's policy to take a whole of government approach to lead by example to achieve a carbon pollution-free electricity sector by 2035 and net-zero emissions economy-wide by no later than 2050. EO 14057 instructs virtually all elements of the federal government to demonstrate how innovation and environmental stewardship can protect the planet, safeguard federal investments, respond to the needs of American communities, and expand American technologies, industries, and jobs. TVA is voluntarily pursuing multiple policies and programs in the Tennessee Valley that align with the goals and policies of the EO.

International Accords. In September 2016, the U.S. formally accepted the Paris Agreement. The agreement met the threshold of at least 55 countries that account for at least 55 percent of global GHG emissions and formally entered into force in November 2016. On November 4, 2019, the U.S. formally notified the United Nations that it would withdraw from the agreement. Under the terms of the agreement, the effective date for the withdrawal was November 4, 2020.

On January 20, 2021, President Biden formally rejoined the Paris Agreement on behalf of the U.S. The means for tracking emissions targets under the Paris Agreement are nationally determined contributions ("NDCs"). Each nation that is a party to the Paris Agreement is asked to prepare five-year, successive NDCs that it plans to achieve. On April 22, 2021, the Biden Administration announced its GHG NDCs for 2030 under the Paris Agreement, and these NDCs establish a new target for the U.S. to achieve a 50 to 52 percent reduction from 2005 levels in economy-wide net GHG pollution in 2030. Specific impacts to TVA cannot be determined at this time.

Litigation. In addition to legislative activity, climate change issues have been the subject of a number of lawsuits, including lawsuits against TVA, and TVA may be subject to additional lawsuits in the future. See Note 20 — *Contingencies and Legal Proceedings* for additional information.

Indirect Consequences of Regulation or Business Trends. Legal, technological, political, and scientific developments regarding climate change may create new opportunities and risks. The potential indirect consequences could include an

increase or decrease in electricity demand, increased demand for clean generation from alternative energy sources, and subsequent impacts to business reputation and public opinion.

Physical Impacts of Climate Change. Physical impacts of climate change may include, but not be limited to, changing weather patterns, extreme weather conditions, and other events such as flooding, droughts, wildfires, and snow or ice storms, and these events can impact TVA's system in terms of system operability, customer demand, and the health of regional economies. TVA has a Climate Change Action Plan which it updated in 2021 in support of EO 14008. TVA submitted its draft Climate Change Action Adaptation and Resiliency Plan to the White House in May 2021 and its final plan in August 2021. The goal of the action planning process is to ensure TVA continues to achieve its mission and program goals and to operate in a secure, effective, and efficient manner in a changing climate by integrating climate change adaptation efforts in coordination with state and local partners, tribal governments, and private stakeholders. TVA manages the potential effects of climate change on its mission, programs, and operations within its environmental management processes.

Actions Taken by TVA to Reduce GHG Emissions. TVA has reduced GHG emissions from both its generation facilities and its operations. TVA Board actions have focused on TVA's plan to balance its coal-fired generation by increasing its nuclear capacity, modernizing its hydroelectric generation system, increasing natural gas-fired generation, installing emission control equipment on certain of its coal-fired units, increasing its purchases of renewable energy, building solar facilities, and investing in energy efficiency initiatives to reduce energy use in the Tennessee Valley. Additionally, TVA has invested to increase energy efficiency in its operations. These changes support the broad electrification and carbon emission reduction efforts in other sectors of the economy. There are inherent challenges each year in both operations and asset changes. TVA will not sacrifice reliability at any time, which means that TVA must make certain operational decisions at times to keep the system reliable, possibly impacting annual performance on carbon emissions. Therefore, while TVA continues down the path of lowering GHG emissions, there will be fluctuations in TVA's emission numbers resulting from changes in the power supply mix, weather impacts, economic conditions, and generating unit performance. As TVA evolves its generation portfolio, and after appropriate environmental review under NEPA, the TVA Board could make decisions about the timing, retirement, and replacement of aging fossil units or other expiring capacity, which may further TVA's CO₂ and other emissions reductions. The Environmental Policy also provides additional direction in several environmental stewardship areas related to reducing environmental impacts on the Valley's natural resources, including reducing carbon intensity and air emissions.

Renewable/Clean Energy Standards

Thirty-eight states and the District of Columbia have established enforceable or mandatory requirements for electric utilities to generate a certain amount of electricity from renewable sources or have established a renewable goal. In 12 of those states (and the District of Columbia) the requirement is for a 100% clean electricity standard or goal by 2050 or earlier. Two states within the TVA service area, North Carolina and Virginia, have mandatory renewable and clean energy goals that, while not applying directly to TVA, do apply to TVA's LPCs serving retail customers in those states. TVA's policy is to provide compliance assistance to any distributor of TVA power, and TVA is providing assistance to the covered LPCs that sell TVA power in North Carolina. In 2020, Virginia signed into law the Clean Economy Act. The Act establishes a mandatory requirement for utilities to generate a certain amount of electricity from renewable sources. At this time, TVA is not impacted by the legislation due to the relatively small amount of electricity that TVA provides in Virginia compared to other utilities. Likewise, the Mississippi Public Service Commission adopted an energy efficiency rule applying to electric and natural gas providers in the state, and TVA is supplying information on participation in TVA's energy efficiency programs to support the covered Mississippi LPCs.

Water Quality Control Developments

Waters of the United States. In 2015, the EPA and the U.S. Army Corps of Engineers ("USACE") issued the Clean Water Rule, which redefined waters of the United States ("WOTUS") in the agencies' regulations for the first time since the 1980s and was intended to clarify the regulatory jurisdiction of the EPA and the USACE ("2015 WOTUS Rule"). In April 2020, the USACE and the EPA issued the Navigable Waters Protection Rule ("NWPR"), which established a new regulatory definition of WOTUS and replaced the definition set forth in the 2015 WOTUS Rule. The NWPR was challenged in multiple courts, and on August 30, 2021, it was vacated by the United States District Court for the District of Arizona. The United States District Court for the District of New Mexico also vacated it on September 27, 2021. Two other courts declined to vacate the rule, but remanded it to the EPA and the Army Corps of Engineers. Previously, on June 9, 2021, the EPA and the Department of the Army announced their intention to initiate a new rulemaking process to restore the definition of WOTUS that was in place prior to the 2015 WOTUS Rule and to develop a new rule to establish a new definition of WOTUS. A proposed rule was published in the Federal Register on December 7, 2021, with the public comment period open until February 7, 2022. The impact of the rulemaking process cannot be ascertained fully at this time. Pending the completion of the rulemaking process, the EPA and the USACE are interpreting WOTUS consistent with the pre-2015 definition.

Cooling Water Intake Structures. In 2014, the EPA released a final rule under Section 316(b) of the CWA relating to cooling water intake structures ("CWIS") for existing power generating facilities. The rule requires changes in CWIS used to cool the vast majority of coal, gas, and nuclear steam-electric generating plants and a wide range of manufacturing and industrial facilities in the U.S. The final rule requires CWIS to reflect the best technology available for minimizing adverse environmental impacts, primarily by reducing the amount of fish and shellfish that are impinged or entrained at a CWIS. These new requirements will potentially affect a number of TVA's fossil- and nuclear-fueled facilities and will likely require capital upgrades to

ensure compliance. Most TVA facilities are projected to require retrofit of CWIS with "fish-friendly" screens and fish return systems to achieve compliance with the new rule. The rule is being implemented through permits issued under the NPDES in Section 402 of the CWA. State agencies administer the NPDES permit program in most states including those in which TVA's facilities are located. In addition, the responsible state agencies must provide all permit applications to the U.S. Fish and Wildlife Service for a 60-day review prior to public notice and an opportunity to comment during the public notice. As a result, the permit may include requirements for additional studies of threatened and endangered species arising from U.S. Fish and Wildlife Service comments and may require additional measures be taken to protect threatened and endangered species and critical habitats directly or indirectly related to the plant cooling water intake. TVA's review of the final rule indicates that the rule offers adequate flexibility for cost-effective compliance. The required compliance timeframe is linked to plant-specific NPDES permit renewal cycles (i.e., technology retrofits), and compliance is expected to be required beginning in the CY 2022 - 2024 timeframe.

The EPA has never previously applied the requirements under Section 316(b) to hydroelectric facilities. However, on September 30, 2021, EPA Region 10, which covers an area outside TVA's service area, issued NPDES permits to four hydroelectric plants that include Section 316(b) requirements. In determining the best technology available ("BTA") to minimize adverse impacts on the environment using best professional judgment, Region 10 analyzed the existing controls that the hydroelectric facilities were already implementing and concluded that those controls constitute BTA. It is not clear whether this approach will be adopted nationwide or how the BTA standard would be applied to TVA's hydroelectric facilities; accordingly, the specific impacts to TVA from the new Region 10 permits cannot be determined at this time.

Hydrothermal Discharges. The EPA and many states continue to focus regulatory attention on potential effects of hydrothermal discharges. Many TVA plants have variances from thermal standards under Section 316(a) of the CWA that are subject to review as NPDES permits are renewed. Specific data requirements in the future will be determined based on negotiations between TVA and state regulators. If plant thermal limits are made more stringent, TVA may have to install cooling towers at some of its plants and operate installed cooling towers more often. This could result in a substantial cost to TVA.

Steam-Electric Effluent Guidelines. In 2015, the EPA revised existing steam-electric effluent limitation guidelines ("ELGs"), which regulate water discharge pollutants and require the application of certain pollutant control technologies. The 2015 ELGs established more stringent performance standards for existing and new sources and required major upgrades to wastewater treatment options at all coal-fired plants. Compliance with new requirements was originally required in the CYs

2018 - 2023 timeframe, but the EPA delayed the compliance dates for flue gas desulfurization ("FGD") wastewater and bottom ash transport water until CY 2020 - 2023 to allow the EPA time to review and potentially revise the ELGs with regard to these waste streams.

In October 2020, the EPA issued final revised ELGs for bottom ash transport water and FGD wastewater. The primary impact for TVA is on the operation of existing coal-fired generation facilities. The revised ELGs could impact long-term investment decisions being made relative to the long-term compliance and operability of these plants. The revisions may require TVA to install additional wastewater treatment systems for FGD wastewater and bottom ash transport water, and TVA could incur substantial costs to comply with the new rule. In addition, the revised ELGs could cause TVA to further reduce utilization of its coal-fired generation facilities or even to decommission such facilities. The revision also includes a subcategory for which Cumberland would qualify that provides TVA greater flexibility in meeting the ELGs. The revision includes two additional subcategories for low utilization units and units that cease coal combustion by the end of CY 2028. TVA is evaluating the applicability of those subcategories to its plants as appropriate. In October 2021, TVA filed Notices of Planned Participation preserving the option for TVA's Bull Run, Cumberland, and Kingston plants to participate in the subcategory for units that cease coal combustion by the end of CY 2028.

Petitions for judicial review of the October 2020 ELG rule were filed in the D.C. Circuit and the U.S. Court of Appeals for the Fourth Circuit (the "Fourth Circuit") and have been consolidated in the Fourth Circuit in the case *Appalachian Voices, et al. v. EPA*. On August 3, 2021, the EPA announced a supplemental rulemaking to revise the Steam Electric Power Generating Effluent Limitations Guidelines and Standards. As part of the rulemaking process, the EPA will determine whether more stringent limitations and standards are appropriate and consistent with the technology-forcing statutory scheme and the goals of the CWA. The impact of the proposed rulemaking cannot be fully determined at this time. Because this rulemaking could result in more stringent ELGs, the EPA has requested that the *Appalachian Voices, et al. v. EPA* litigation in the Fourth Circuit be stayed pending the outcome of the supplemental rulemaking process.

Consistent with the 2020 rule, on January 8, 2021, TVA submitted requests to state regulatory authorities to modify NPDES permits for Kingston, Cumberland, Bull Run, Shawnee, and Gallatin Fossil Plant ("Gallatin") to incorporate into the permits limitations in the 2020 rule. The Kentucky Department for Environmental Protection issued a final revised permit for Shawnee in the fourth quarter of 2021 and an additional revision in the second quarter of 2022, and TDEC issued a final revised permit for Kingston in the first quarter of 2022. TDEC issued a revised draft permit for Gallatin in March 2022, and TVA anticipates TDEC will issue draft permits for Cumberland and Bull Run later in 2022.

The Sierra Club and the Center for Biological Diversity administratively appealed the NPDES permit issued for Kingston. See Note 20 — *Contingencies and Legal Proceedings — Administrative Proceeding Regarding National Pollutant Discharge Elimination System Permit for Kingston*.

Nationwide Permits for Dredge and Fill. On January 12, 2021, the USACE published notice of a final rule that reissued and modified 16 Nationwide Permits ("NWP") that authorize discharges of dredge and fill material into waters of the U.S. from certain designated activities. The final rule limits applicability of NWP 12, which previously authorized discharges from all utility line activities, to oil and natural gas pipelines, creates new NWPs for certain utility line activities, including NWP 57 for electric utility line and telecommunication activities, and modifies certain pre-construction notification requirements. The new NWP 12 is being challenged in court on the same grounds that were litigated in *Northern Plains Resource Council v. U.S. Army Corps of Engineers*, where the U.S. District Court for the District of Montana found the permit unlawful and vacated it. Although the new lawsuit does not challenge NWP 57, the NWP upon which TVA is most likely to rely for its utility line activities, the lawsuit raises claims that apply with equal force to NWP 57. However, the impact on TVA from this litigation cannot be evaluated fully until the legal challenge is resolved. On December 21, 2021, the EPA and the USACE reissued 41 NWPs in a final rule. The reissued permits went into effect on February 25, 2022. This reissuance has little impact on TVA operations, and the reissued permits will not be available for use by TVA until states issue a 401 water quality certification for these permits.

Other Clean Water Act Requirements. As is the case in other industrial sectors, TVA and other utilities are also facing more stringent requirements related to the protection of wetlands, reductions in storm water impacts from construction activities, new water quality criteria for nutrients and other pollutants, new wastewater analytical methods, and changes in regulation of pesticide application.

Recent CWA Supreme Court Decision

On April 23, 2020, in *County of Maui v. Hawaii Wildlife Fund*, the Supreme Court held that the CWA requires a permit when there is a direct discharge of pollutants from a point source to waters of the U.S. and when there is "the functional equivalent" of a direct discharge to such waters. The Court suggested seven factors for determining when such a discharge is the functional equivalent of a direct discharge and acknowledged that the new test would be somewhat difficult to apply, potentially requiring evaluation of multiple factors. The Court noted that "time and distance" of pollutant migration often will be the most important factor but that other relevant factors may include, for example, the nature of the material through which the pollutant travels and the extent to which the pollutant is diluted or chemically changed as it travels. After evaluating the potential impact of the decision, TVA determined that this decision will not require TVA to change its operations.

Cleanup of Solid and Hazardous Wastes

Liability for releases and cleanup of hazardous substances is imposed under the federal Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), the Resource Conservation and Recovery Act ("RCRA"), and other federal and parallel state statutes. In a manner similar to many other governmental entities, industries, and power systems, TVA has generated or used hazardous substances over the years that have resulted in releases to the environment.

TVA Sites. TVA historical operations at certain facilities have resulted in releases of contaminants that TVA is addressing, including at TVA's Environmental Research Center at Muscle Shoals, Alabama. TVA has completed several removal, remedial, and characterization actions at the site, as required by a hazardous waste permit issued by the Alabama Department of Environmental Management. At March 31, 2022, TVA's estimated liability for required cleanup and similar environmental work for those sites for which sufficient information was available to develop a cost estimate was approximately \$18 million and was included in Accounts payable and accrued liabilities and Other long-term liabilities on the Consolidated Balance Sheet. TVA has submitted an application for renewal of the RCRA permit as the current permit expires on September 27, 2022. Both the renewal process and the resulting renewed permit may include additional mandates for further remedial activities under RCRA's corrective action authorities. TVA has evaluated the potential impact that a permit renewal could have on its operations and does not believe that the renewal will have any adverse impacts at this time. In addition, the Environmental Research Center has an active groundwater monitoring program as part of a permitted corrective action plan.

Non-TVA Sites. TVA is aware of alleged hazardous-substance releases at certain non-TVA areas for which it may have some liability. See Note 20 — *Contingencies and Legal Proceedings — Environmental Matters*.

Coal Combustion Residuals. The EPA published its final rule governing CCR in 2015. The rule regulates CCR as nonhazardous waste under Subtitle D of the RCRA. While states may adopt the rule's requirements into their regulatory programs, the rule does not require states to adopt the requirements. The initial version of the rule provided for self-implementation by utilities and allows enforcement through citizen suits in federal court. The Water Infrastructure Improvements for the Nation Act ("WIIN Act") subsequently allowed state or federal-based permitting to implement the CCR Rule as an alternative to self-implementation and citizen suits. See Part I, Item 2, Management's Discussion and Analysis of Financial Condition and Results of Operations — *Key Initiatives and Challenges — Generation Resources — Coal Combustion Residuals Facilities* for a discussion of the impact on TVA's operations, including the cost and timing estimates of related projects.

In July 2018, the EPA issued a final CCR rule which provided additional flexibility and an extension of certain deadlines. In March 2019, the D.C. Circuit granted the EPA's request to remand the final rule to allow the EPA to reconsider the amendments. The remand also allowed the EPA time to complete a new rulemaking to establish revised timelines for unlined impoundments to initiate closure and to reexamine the October 2020 deadline for closing some unlined impoundments. In August 2019, the EPA issued a proposed rule to amend portions of the CCR Rule regarding beneficial use, temporary piles, and

public access to information.

On November 4, 2019, the EPA announced a proposed rule that will revise portions of the CCR Rule requiring closure of unlined surface impoundments. The final Part A rule was published in the Federal Register on August 28, 2020, and became effective September 28, 2020. Among other things, the final Part A rule required all unlined CCR surface impoundments to stop receiving CCR and non-CCR waste streams and to initiate closure or retrofit by no later than April 11, 2021, and TVA ceased doing so, and initiated closure, by the specified deadline. Additionally, the final rule provides a process for a utility to seek site-specific approval from the EPA to continue to use the unlined CCR surface impoundment until October 15, 2023, and possibly longer under certain circumstances. The final rule also includes requirements that enhance the public's access to groundwater monitoring and corrective action reports. TVA does not currently anticipate the final rule will have a significant impact because TVA initiated closure of its unlined CCR surface impoundments by the regulatory deadline and already makes groundwater monitoring and corrective action reports publicly available. A separate final Part B rule was published in the Federal Register on November 12, 2020. This rule provides an alternative liner demonstration procedure for utilities with clay lined units which are being forced to close under the Part A rule. However, TVA does not have any units which qualify for this demonstration.

In August 2015, the TDEC issued an order that (1) established a process for TDEC to oversee TVA's implementation of the EPA's CCR rule and to ensure coordination and compliance with Tennessee laws and regulations that govern the management of CCR and (2) required TVA to investigate and assess CCR contamination risks at seven of TVA's eight coal-fired plants in Tennessee and to remediate any unacceptable risks. The TDEC order does not allege that TVA is violating any CCR regulatory requirements nor does it assess TVA penalties. The TDEC order sets out an iterative process through which TVA and TDEC will identify and evaluate any CCR contamination risks and, if necessary, respond to such risks. TVA submitted to TDEC an environmental assessment report ("EAR") for Allen in the fourth quarter of 2021 and an EAR for Cumberland in the third quarter of 2022. TVA is currently conducting environmental investigations for the remaining five sites in accordance with the TDEC-approved Environmental Investigation Plans and will submit EARs to TDEC upon completion of the related investigations. Upon TVA's submittal of each EAR, TDEC will review the document and provide comments, and TVA will make revisions until TDEC approves a final EAR for each site. It is too early to understand the scope of any remedial activities that may arise as a result of these pending investigations, and as such cost estimates for any required remedies are not possible to predict at this time.

Groundwater Contamination. Environmental groups and state regulatory agencies are increasing their attention on alleged groundwater contamination associated with CCR management activities. As a result, TVA may have to change how it manages CCR at some of its plants, potentially resulting in higher costs. See Part I, Item 2, Management's Discussion and Analysis of Financial Condition and Results of Operations — *Key Initiatives and Challenges* — *Generation Resources* — *Coal Combustion Residuals Facilities* and — *Allen Groundwater Investigation* and Note 11 — *Asset Retirement Obligations*.

Environmental Investments

From 1970 to 2021, TVA spent approximately \$6.8 billion on controls to reduce emissions from its coal-fired power plants. In addition, TVA has reduced emissions by idling or retiring coal-fired units and relying more on cleaner energy resources including natural gas and nuclear generation.

TVA currently anticipates spending significant amounts on environmental projects in the future, including investments in new clean energy generation including renewables to reduce TVA's overall environmental footprint. TVA environmental project expenditures could also result from coal-fired plant decommissioning and from effective ash management modernization. Based on TVA's decisions regarding certain coal-fired units, the amount and timing of expenditures could change.

SO₂ Emissions and NO_x Emissions. To reduce SO₂ emissions, TVA operates scrubbers on 18 of its coal-fired units and switched to lower-sulfur coal at certain coal-fired units. To reduce NO_x emissions, TVA operates SCRs on 18 coal-fired units, operates low-NO_x burners or low-NO_x combustion systems on 21 units, optimized combustion on all 25 units, and operates NO_x control equipment year round when units are operating (except during start-up, shutdown, and maintenance periods). TVA has also retired 34 of 59 coal-fired units. Except for seven units at Shawnee, the remaining coal-fired units in the TVA fleet have scrubbers and SCRs.

Particulate Emissions. To reduce particulate emissions of air pollutants, TVA has equipped all of its coal-fired units with scrubbers, mechanical collectors, electrostatic precipitators, and/or bag houses.

Greenhouse Gas Emissions. Various federal agencies, including the EPA and the Department of Commerce, may issue regulations establishing more stringent air, water, and waste requirements, as well as GHG accounting requirements, and these requirements could result in significant changes in the structure of the U.S. power industry, especially in the eastern half of the country. There could be additional material costs if further reductions of GHGs, including CO₂, are mandated by legislative, executive, regulatory, or judicial actions and if more stringent emission reduction requirements for conventional pollutants are established. These costs cannot reasonably be predicted at this time because of the uncertainty of these actions.

Estimated Required Environmental Expenditures

The following table contains information about TVA's current estimates on projects related to environmental laws and regulations.

Estimated Potential Environmental Expenditures⁽¹⁾⁽²⁾ As of March 31, 2022 (in millions)

	Remaining 2022	2023	2024-2026 ⁽³⁾⁽⁴⁾	Total
Coal Combustion Residual Program ⁽⁵⁾	\$ 94	\$ 189	\$ 368	\$ 651
Clean Air Act control projects ⁽⁶⁾	20	38	90	148
Clean Water Act requirements ⁽⁷⁾	69	64	7	140

Notes

- (1) These estimates are subject to change as additional information becomes available and as regulations change.
(2) These estimates include \$111 million, \$74 million, and \$52 million for the remainder of 2022, 2023, and thereafter, respectively, in capital expenditures.
(3) See Note 20 — *Contingencies and Legal Proceedings — Contingencies*.
(4) These estimates do not include expenditures expected to be incurred after 2026.
(5) Includes costs associated with the closure of facilities 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. See Part I, Item 2, Management's Discussion and Analysis of Financial Condition and Results of Operations — *Key Initiatives and Challenges — Generation Resources — Coal Combustion Residuals Facilities* and Note 11 — *Asset Retirement Obligations*.
(6) 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.
(7) Includes projects that TVA is currently planning to comply with revised rules under the Clean Water Act regarding CWIS and ELGs 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. At March 31, 2022, TVA had accrued \$12 million with respect to Legal Proceedings. 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 20 — *Contingencies and Legal Proceedings — 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 March 31, 2022, TVA had no off-balance sheet arrangements.

Critical Accounting 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 estimates and policies are discussed in Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations — *Critical Accounting Estimates* and Note 1 — *Summary of Significant Accounting Policies* 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 — *Impact of New Accounting Standards and Interpretations*, 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, 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, TVA's hedging costs may increase, and TVA may have to post additional collateral and margin in connection with its derivative transactions.

For additional discussion on legislative and regulatory matters, including a discussion of environmental legislation and regulation, see Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations — *Key Initiatives and Challenges* and — *Environmental Matters*.

TVA does not engage, and does not control any entity that is engaged, in any activity listed under Section 13(r) of the Securities Exchange Act of 1934 ("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 U.S., 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 U.S.

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 14 — *Risk Management Activities and Derivative Transactions* 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 and Strategy Officer, and members of the Disclosure Control Committee, including the Vice President and Controller (Principal Accounting Officer) (collectively "management"), evaluated the effectiveness of TVA's disclosure controls and procedures (as defined in Rule 13a-15(e) under the Exchange Act) as of March 31, 2022. Based on this evaluation, management concluded that TVA's disclosure controls and procedures were effective as of March 31, 2022, 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, as appropriate, to allow timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

During the quarter ended March 31, 2022, 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.

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 20 — *Contingencies and Legal Proceedings* — *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.

ITEM 5. OTHER INFORMATION

On May 11, 2022, the TVA Board of Directors (the "TVA Board") took several actions related to compensation. The TVA Board (1) established fiscal year ("FY") 2023 performance measures for the Corporate Multiplier under the Winning Performance Team Incentive Plan and Executive Annual Incentive Plan ("EAIP"), (2) established performance measures and goals for the FY 2023 – FY 2025 performance cycle under the Long-Term Incentive Plan ("LTIP"), and (3) approved administrative changes to the TVA Compensation Plan. In addition, on May 10, 2022, the Chief Executive Officer ("CEO") approved amendments to the EAIP and LTIP to align these plans to market.

Corporate Multiplier

The TVA Board approved the following performance measures for the Corporate Multiplier for FY 2023: (1) Safety – Serious Injury Incident Rate, (2) Total Financing Obligations, (3) Operating Cash Flow, (4) Net Income, (5) Jobs Created and Retained, and (6) Board Level Significant Events. These measures are described in more detail in the table below:

Performance Measure	Description	Target
Safety - Serious Injury Incident Rate	(Number of cases X 200,000) / (Number of hours worked by TVA employees and staff augmentation contractors)	0.00
Total Financing Obligations	The total amount of long-term debt (including unamortized premiums and discounts), short-term debt, leaseback obligations, energy prepayment obligations, and variable interest entities less unbudgeted contributions to unfunded liabilities	FY 2023 Budget
Operating Cash Flow	Net cash provided by operating activities as shown on TVA's Consolidated Statements of Cash Flows	FY 2023 Budget
Net Income	Net income as shown on TVA's Consolidated Statements of Operations	FY 2023 Budget
Jobs Created and Retained	The number of new or retained jobs in TVA's service area for which TVA has played a role in the recruitment or retention of the economic development project	45,000 - 75,000
Board Level Significant Events	Items (both favorable and unfavorable) that the TVA Board deems significant and that affect TVA's reputation, organizational health, or the public at large	Zero

Establishment of LTIP Performance Measures and Goals for the FY 2023 – FY 2025 Performance Cycle

The TVA Board approved LTIP performance measures for the FY 2023 – FY 2025 performance cycle. These performance measures, along with their associated weights and goals, are as follows:

FY 2023 - FY 2025 LTIP Performance Cycle				
	Weight	Threshold	Target	Maximum
Non-Fuel Delivered Cost of Power ⁽¹⁾	45%	Budget + 4%	Budget	Budget - 4%
Load Not Served ⁽²⁾	30%	4.5	3.9	3.2
External Performance Indicators for TVA Nuclear Fleet ⁽³⁾	15%	Industry Median	Top Quartile	Top Fleet
Powerful Partnerships Survey ⁽⁴⁾	10%	75.0	79.0	83.0

Notes

- (1) Non-Fuel Delivered Cost of Power = (Operating and Maintenance Expense + Base Capital Expense + Interest Expense + Other Expense) / Budgeted Electric Power Sales. For the FY 2023 - 2025 LTIP performance cycle, the Non-Fuel Delivered Cost of Power measure will be calculated using an average of the FY 2023, FY 2024, and FY 2025 results.
- (2) Load Not Served = (Percentage of Total Load Not Served) x (Number of Minutes in the Period). The Load Not Served measure excludes interruptions during declared major events, variances, gunfire, vandalism, and verified tornadoes and includes distributor provided load not served estimates for distributor connection point interruptions caused by TVA. For the FY 2023 – FY 2025 LTIP performance cycle, the Load Not Served measure will be calculated using an average of the FY 2023, FY 2024, and FY 2025 results.
- (3) The External Performance Indicators for TVA Nuclear Fleet measure is calculated using a weighted combination of key performance indicators based on standard nuclear industry definitions for station performance, with the maximum obtainable being 100 points. For the FY 2023 – FY 2025 LTIP performance cycle, this measure will be based on FY 2025 results.
- (4) The Powerful Partnerships Survey is conducted among customers, elected officials, business and economic development leaders, and the general public in the TVA service area to assess the strength of various stakeholder relationships with TVA. For the FY 2023 – FY 2025 LTIP performance cycle, the Powerful Partnerships Survey measure will be calculated using an average of the FY 2023, FY 2024, and FY 2025 results.

Administrative Changes to TVA Compensation Plan

On May 11, 2022, the TVA Board approved an amended and restated TVA Compensation Plan to streamline administration by incorporating into and thereby replacing an annual action item taken by the TVA Board granting the CEO authority to approve compensation for employees with salaries greater than Executive Schedule Level IV and by making other minor administrative revisions. A copy of the amended and restated TVA Compensation Plan is attached as Exhibit 10.1 to this report and is incorporated herein by reference. The foregoing description is qualified in its entirety by reference to such document.

Market Alignment Changes to TVA Incentive Compensation Plans

TVA competes for talent with large investor-owned utility companies and therefore must offer competitive compensation programs in order to attract, retain, and motivate the highly competent talent necessary to manage TVA's complex operations, achieve superior performance objectives set annually by the TVA Board, and continue to successfully embrace the unique public power mission set forth in the TVA Act. To ensure TVA's compensation programs remain competitive, a market review of TVA's incentive compensation plans as compared to its pay comparator peer group was conducted. As a result, plan design opportunities to better reflect normative compensation practices within TVA's pay comparator peer group were identified in TVA's short- and long-term incentive plans.

Short-Term Incentive Plans

On May 10, 2022, the CEO approved plan design changes to TVA's short-term incentive plans, including the EAIP. The maximum scorecard opportunity increased to 200% to remain competitive through better alignment with market practices of TVA's pay comparator peer group and to reward achievement of stretch performance goals. This change continues to reinforce corporate performance that contributes to TVA's overall commitment to its stakeholders while maintaining the current plan design maximum payout based on a combination of scorecard results, a Corporate Multiplier, and an Individual Performance Multiplier. The changes also allow positive discretion on the Corporate Multiplier (increased to 1.1) to provide flexibility to recognize corporate achievements not directly captured in the scorecard results. A copy of the amended and restated EAIP, which also includes minor administrative revisions, is attached as Exhibit 10.2 to this report and is incorporated herein by reference. The foregoing description is qualified in its entirety by reference to such document.

LTIP

On May 10, 2022, the CEO approved changes to the LTIP. The maximum scorecard opportunity increased to 200% to remain competitive through better alignment with market practices of TVA's pay comparator peer group and to reward achievement of stretch performance goals. A copy of the amended and restated LTIP, which also includes minor administrative revisions, is attached as Exhibit 10.3 to this report and is incorporated herein by reference. The foregoing description is qualified in its entirety by reference to such document.

ITEM 6. EXHIBITS

Exhibit No.	Description
10.1	Amended and Restated TVA Compensation Plan Approved by the TVA Board on May 11, 2022
10.2	Amended and Restated Executive Annual Incentive Plan Adopted as of May 10, 2022
10.3	Amended and Restated Long-Term Incentive Plan Adopted as of May 10, 2022
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	Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
101.SCH	Inline XBRL Taxonomy Extension Schema
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase
104	Cover Page Interactive Data File - formatted in Inline XBRL and contained in Exhibit 101

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: May 11, 2022

TENNESSEE VALLEY AUTHORITY
(Registrant)

By: /s/ Jeffrey J. Lyash

Jeffrey J. Lyash
President and Chief Executive Officer
(Principal Executive Officer)

By: /s/ John M. Thomas, III

John M. Thomas, III
Executive Vice President and Chief Financial and Strategy Officer
(Principal Financial Officer)

TENNESSEE VALLEY AUTHORITY



COMPENSATION PLAN

Amended and Restated May 2022

Tennessee Valley Authority Compensation Plan

Principles

Authority

The Tennessee Valley Authority ("TVA") Compensation Plan provides the framework for Management, the People and Governance Committee, and the Board of Directors of the Tennessee Valley Authority ("Board") to establish and manage compensation for all TVA employees in a manner that is in compliance with the Tennessee Valley Authority Act of 1933, as amended ("TVA Act"). The Board approves the Compensation Plan and ensures that it is consistent with the TVA Act and TVA's strategic goals.

The TVA Act provides that the Board will approve and establish a compensation plan for TVA employees which:

- Specifies all compensation (including salary or any other pay, bonuses, benefits, incentives, and any other form of remuneration) for the Chief Executive Officer ("CEO") and TVA employees;
- Shall be based on an annual survey of the prevailing compensation for similar positions in private industry, including engineering and electric utility companies, publicly owned electric utilities, and Federal, State, and local governments; and
- Shall provide that education, experience, level of responsibility, geographic differences, and retention and recruitment needs will be taken into account in determining compensation of employees.

The TVA Act also provides that:

- The Board shall approve all compensation (including salary or any other pay, bonuses, benefits, incentives, and any other form of remuneration) of all managers and technical personnel that report directly to the CEO (including any adjustment to compensation);
- On the recommendation of the CEO, the Board shall approve the salaries of employees whose annual salaries would be in excess of the annual rate payable for positions at Level IV of the Executive Schedule; and
- The CEO shall determine the salary and benefits of employees whose annual salary is not greater than the annual rate payable for positions at Level IV of the Executive Schedule.

The Compensation Plan is reviewed annually to ensure consistency and alignment with TVA's mission and strategic goals. The Compensation Plan includes the following key elements:

Philosophy

TVA's Compensation Philosophy is based on certain statutory requirements and is designed to attract, engage, and retain highly skilled and coveted employees needed to accomplish the agency's broad mission. Under the TVA Act, TVA has its own personnel system; however, employees are public servants.

In their service, many employees are called on to accomplish specialized aspects of TVA's mission safely, reliably, and efficiently, and must have the requisite education, experience, and professional qualifications. These requirements make it necessary for TVA to offer compensation opportunities that enable TVA to attract, retain, and fully engage highly qualified candidates for positions similar to those in relevant industries.

Performance-based compensation is critical to TVA in achieving its strategic goals. A key component of the Compensation Philosophy is a strong orientation toward "pay for performance," which rewards continuous improvement in TVA's overall performance as well as that of individual business units and individual participants.

TVA's Compensation Philosophy emphasizes a structured, market-based, and performance-based approach to determining pay levels and incentive opportunities. For those positions requiring specialization, compensation is designed to be competitive with the sectors from which TVA would recruit and those likely to recruit TVA employees.

- Compensation is targeted at the median (50th percentile) of the applicable labor market for talent for most positions.
- Compensation may be targeted above the median of the relevant labor market (typically between 50th and 75th percentiles) for certain positions due to market scarcity, recruitment and retention issues, or other business reasons.
- Compensation may be targeted below the median of the relevant labor market for certain positions due to incumbent experience, position scope, or other business reasons.

Competitive compensation levels are determined using relevant labor market data obtained through surveys and public filing reviews and validated through recruitment and periodic supplemental benchmark activities.

Additionally, compensation for TVA trades and labor employees is based on prevailing pay for similar work. Section 3 of the TVA Act requires the prevailing rate of wages for work of a similar nature prevailing in the vicinity be paid to laborers and mechanics whether employed by contractors or directly by TVA. Compensation for other represented employees is based on total compensation levels, market rates, practices, and methods of payment for similar work in the relevant labor market consistent with applicable labor agreements.

TVA's Employee Benefits program offers a competitive benefits package to attract and retain the workforce required for TVA to achieve its mission successfully while prudently managing costs, ensuring optimum use of benefit dollars, engaging employees and retirees to become informed consumers, and partnering in managing benefit costs.

TVA sponsors two qualified retirement plans for eligible employees, a defined benefit pension plan and a defined contribution (401(k)) plan, which provide competitive benefits in the relevant

labor market. Certain executives in critical positions may also participate in a non-qualified retirement plan that provides supplemental benefits at compensation levels that are higher than the limits specified by IRS regulations.

Strategy

Compensation Basis

Executives, Management & Specialist, and Excluded Employees

In accordance with the TVA Act, the level of compensation for Executives, Management and Specialists will be based on annual market survey data that represent prevailing competitive compensation for similar positions in private industry, including engineering and electric utility companies, publicly owned electric utilities, and Federal, State, and local governments.

Non-management and specialist employees who are not covered by one of TVA's bargaining units due to the sensitive and confidential nature of their work are categorized as Excluded Employees. Compensation for employees in this category will be based on annual market survey data that represent prevailing competitive compensation for similar positions in the relevant labor market. Compensation for Excluded Employees will be targeted, in general, at the median of the relevant labor market for all positions.

Represented Employees

Trades and Labor Represented Employees

TVA annually conducts a wage survey within a specified geographic vicinity and negotiates with the Trades and Labor project agreement Council representing contractor employees from multiple building trades unions to establish an agreed upon prevailing wage rate. Any dispute over what the rate should be may be appealed to the Secretary of Labor under the TVA Act for a final decision. TVA contractors are required to pay these prevailing rates, and unions provide craftspeople to the contractor's job at these rates. The same total wage package applies to all work sites.

TVA also annually conducts a prevailing wage survey for work performed by TVA Trades and Labor employees directly. The prevailing wage rate is negotiated between TVA and the Annual Council representing multiple unions and the Teamsters for jobs each represents. Disputes over the prevailing rate may be appealed to the Secretary of Labor.

Salary Policy Represented Employees

As required by labor agreements, surveys, published data, and/or other sources are reviewed annually by TVA and the applicable unions to negotiate compensation budgets and pay adjustments. Disputes over monetary issues are resolved through binding arbitration.

Candidate Sourcing and Relevant Labor Markets

External recruiting areas are defined for specialized segments of TVA's employees based on the most likely sources of qualified candidates and the sectors in which TVA is most vulnerable to external recruitment activities.

External recruitment sources for the most senior levels of Management (CEO, direct reports to the CEO, and other select executives) consist of both private and publicly-owned companies in the energy services industry that have similar revenue and scope as TVA due to the criticality of industry-specific knowledge, experience, and professional qualifications in carrying out the duties of these positions.

However, some positions which have less need for industry-specific knowledge and experience may have recruitment areas in general industry and governmental entities in addition to the energy services industry and public power.

External recruitment areas for other segments of TVA employees may include general industry, governmental entities, energy services companies, and investor-owned utilities.

Relevant labor markets for other segments of TVA employees are frequently reviewed and will reflect consideration of potential recruiting sources, external recruiting threats, geographic scope of recruitment activities, type of business/industry, type of position, etc.

Sources of Competitive Market Compensation Information

Competitive market compensation information is obtained from a variety of sources including:

- Published and custom compensation surveys reflecting the relevant labor markets identified for designated positions; and
- Publicly disclosed information from a custom peer group of energy services companies of comparable size and business complexity as reviewed and approved by the People and Governance Committee annually.

The competitive market compensation information is used to:

- Test competitiveness of compensation level and opportunity by position;
- Serve as a point-of-reference for establishing pay packages for recruiting executives; and
- Inform appropriate adjustments to compensation levels and opportunities to maintain the desired degree of market competitiveness.

The development of competitive market references that reflect the primary sources of candidates does not limit the potential candidates to those sources. For example, the fact that the market reference for a position reflects median compensation for energy services companies simply informs as to the likely pay levels necessary to attract and retain talent for that position and should not limit TVA's recruiting efforts to energy services companies.

Compensation Components

Total direct compensation consists of the following components: 1) Salary, 2) Short-Term Incentive, and 3) Long-Term Incentive. Salary is considered a “fixed” compensation component that represents the annual base salary or rate of pay provided to an employee to reward day-to-day contributions to TVA.

The Short-Term Incentive and Long-Term Incentive are variable and/or “at-risk” compensation components. At TVA, the Short-Term Incentive is generally paid through the Winning Performance Team Incentive Plan or the Executive Annual Incentive Plan. It represents the primary element used to reward accomplishments against established business and individual goals within a given fiscal year. TVA provides Long-Term Incentive through the Long-Term Incentive Plan to TVA officers, executives, and key positions based on market prevalence. The Long-Term Incentive Plan focuses employees on longer-term performance and retention goals, and eligible participants may receive one or both components.

Consistent with TVA's philosophy of tying pay to performance, the mix of fixed and variable pay components varies by level of position. In general, as the scope and responsibility of a position increases, the percentage of pay that is variable or at-risk also increases.

Pay for Performance

A key feature of the Compensation Plan is a strong orientation toward pay for performance for all employees. The at-risk, pay for performance elements play a substantial role in executive pay and are guided by TVA's business strategy to ensure appropriate alignment between accountability and motivation/reward. The Compensation Plan also seeks to strike the appropriate balance between achieving short-term annual results and ensuring TVA's long-term success and viability.

TVA's incentive plans are linked to strategic priorities emphasizing improvements in TVA's overall performance. The range of incentive opportunity for TVA executives is calibrated to the degree of difficulty in achievement of specific goals.

TVA continuously reviews the goals and measures that are used in its pay for performance plans to ensure they support the achievement of TVA's strategic goals. Generally, it is the intention of TVA that changes to the goals and measures will not be made during or at the conclusion of the performance period; however, the Board retains the right to do so, if necessary to ensure a fair and balanced outcome. Through pay for performance, the Compensation Plan recognizes individual performance and focuses attention on the achievement of business goals that are important to customers and the people TVA serves. TVA's Short-Term Incentive achieves this objective through the use of a scorecard, while TVA's Long-Term Incentive emphasizes a performance orientation by typically targeting a majority portion of long-term compensation in the form of at-risk, performance-based compensation tied to the achievement of measurable, predetermined goals.

Roles

EVP and Chief People and Communications Officer

- Recommends the TVA Compensation Plan to provide the framework for TVA Management, the CEO, the People and Governance Committee, and the Board to manage compensation for all TVA employees in a manner which is in compliance with the TVA Act.

Chief Executive Officer

- Evaluates the performance of the CEO's direct reports and recommends executive pay adjustments to the People and Governance Committee and the Board as appropriate.
- Approves, or delegates to others the authority to approve, all personnel and compensation actions not reserved for Board approval as defined by the delegations in this Compensation Plan.
- Approves the TVA Retirement System ("TVARS") Board's selection of trustees of TVARS and the 401(k) Plan and the trust agreements between TVARS and such trustees and any amendments thereto.
- Approves the TVARS Board's selection of investment managers of TVARS and the 401(k) Plan and the investment management agreements between TVARS and such managers and any amendments thereto.
- Receives notice of any amendments to the TVARS Rules and Regulations and the 401(k) Plan Provisions approved by the TVARS Board that do not have a direct cost impact on TVA and that do not increase the liabilities of TVARS and elects whether to veto or not to veto such amendments during a 30-day window following receipt of notice of amendments from TVARS.
- Appoints three members to the TVARS Board.

People and Governance Committee

- Reviews the TVA Compensation Plan that is required by Section 2(g)(1)(F) of the TVA Act and makes recommendations to the full Board for approval.
- Reviews total compensation for the CEO and all executives who report directly to the CEO (including employment agreements dealing with such compensation and other matters, to the extent deemed appropriate) and the structure of TVA's executive leadership team, including CEO specific quantitative and qualitative goals, and recommends such compensation and goals for the CEO to the full Board for approval.
- Reviews the performance of the CEO and, on an annual basis, reviews a report by the CEO on the performance of the CEO's direct reports.

- Monitors TVA's executive compensation to ensure its competitiveness and effectiveness in recruiting, retaining, and keeping capable executives fully engaged in service to TVA.
- Periodically reviews the compensation and benefits programs for all TVA employees, including retirement benefits, annual opportunities under incentive plans, and other elements of compensation, to ensure prudent management of resources and competitiveness and effectiveness in recruiting, retaining, and fully engaging capable executives, managers, and employees.
- Reviews and recommends to the full Board TVA's annual contribution to TVARS.
- Reviews amendments to the TVARS Rules and Regulations and 401(k) Plan Provisions approved by the TVARS Board that have a direct cost impact on TVA or that increase the liabilities of TVARS and recommends to the full Board whether to elect to veto or not to veto such amendments.
- Coordinates with other Board committees as appropriate on any of the roles set out above.

TVA Board of Directors

- Approves the TVA Compensation Plan and amendments to the plan for all employees, which includes TVA's Compensation Philosophy and relevant labor market.
- Approves all compensation (including salary, bonuses, benefits, incentives, and any other form of remuneration) for the CEO.
- Approves TVA's annual contribution to TVARS.
- Receives notice of any amendments to the TVARS Rules and Regulations and the 401(k) Plan Provisions approved by the TVARS Board that have a direct cost impact on TVA or that increase the liabilities of TVARS and elects whether to veto or not to veto such amendments during a 30-day window following receipt of notice of amendments from TVARS.
- Receives notice of any change in asset allocation that would change TVARS' assumed rate of investment return and elects whether to veto or not to veto such change during a 60-day window following receipt of notice of any such change from TVARS.



EXECUTIVE ANNUAL INCENTIVE PLAN

Amended and Restated – May 2022

Prepared by: /s/ Tina Wallace 5/9/2022

Tina Wallace, VP Total Rewards and Strategic Performance Date

Validation Date: 05/06/2022

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1. PURPOSE AND SCOPE

1.1 **Establishment.** The Tennessee Valley Authority (“TVA”) hereby amends and restates in its entirety its short-term incentive program for officers and executives, which shall be known as the “Executive Annual Incentive Plan” (“EAIP” or “Plan”). The Plan supports TVA’s Compensation Philosophy, which is designed to attract, retain, and engage employees needed to accomplish TVA’s broad mission.

1.2 **Purpose.** The Plan is designed to encourage and reward TVA officers and other Participants for their performance and contribution to the successful achievement of financial, operational, and individual goals.

This is accomplished by linking a significant element of variable annual compensation to the accomplishment of selected short-term financial, operational, and individual performance standards. The Plan, in conjunction with salary, provides total annual compensation opportunities similar to those found at competing companies, thus assisting TVA in retaining and recruiting executive talent critical to TVA’s success.

2. DEFINITIONS

Wherever used herein, the following terms have the meanings set forth below, unless a different meaning is clearly required by the context:

2.1 “Authorized Parties” means the TVA Board of Directors (“Board”), the Chief Executive Officer (“CEO”), or the delegates of either the Board or the CEO.

2.2 “Corporate Multiplier” means the adjustment to the EAIP Award based on the consideration of certain corporate factors and events that are significant during the Performance Cycle but not included or captured by the Corporate Performance Measures and Goals.

2.3 “Corporate Performance Goals” means the annual goals established for each Corporate Performance Measure.

2.4 “Corporate Performance Measures” means the specific metrics used to measure performance at the corporate level.

2.5 “EAIP Award” means the actual dollar amount awarded to a Participant under the EAIP.

2.6 “EAIP Incentive Opportunity” means the award opportunity expressed as a percent of the Participant’s salary.

- 2.7 “Individual Performance Multiplier” means the adjustment to the EAIP Award based on the eligible Participant’s individual achievements and performance.
- 2.8 “Participant” means TVA employees eligible to receive an award under the EAIP.
- 2.9 “Performance Cycle” means the period of time over which performance is measured for the purpose of awarding incentives.
- 2.10 “Plan Year” means TVA’s fiscal year (October 1 through September 30).
- 2.11 “Retirement” and like phrases mean an employee has met one of the following criteria: (i) the employee has reached the age of 55 with at least 10 years of full-time TVA service, (ii) the employee has reached the age of 60 with at least five years of full-time TVA service, or (iii) the employee is in the Civil Service Retirement System or Federal Employees Retirement System and is eligible for an immediate retirement benefit upon termination as outlined in the applicable plan.
- 2.12 “SBU” means a Strategic Business Unit within TVA.
- 2.13 “SBU Performance Goals” means the annual goals established for each SBU Performance Measure.
- 2.14 “SBU Performance Measures” means the specific metrics used to measure performance at the SBU level.
- 2.15 “Section 409A” means the Internal Revenue Code Section 409A and the regulations and other binding guidance thereunder.
- 2.16 “Separation from Service” and like phrases has the meaning set forth in 26 C.F.R. §1.409A-1(h), as such provision may be amended from time to time.
- 2.17 “Total Cash Compensation” means the Participant’s compensation that includes salary plus EAIP Award.

3. PARTICIPATION

An Authorized Party shall approve individual employees as Participants.

Eligibility is limited to officers and key managers serving in jobs within the Officer/Executive pay band.

4. PERFORMANCE CYCLE

The EAIP performance cycle follows TVA's fiscal year (October 1 through September 30).

5. PERFORMANCE MEASURES AND GOALS

The Plan incorporates the use of performance measures that focus primarily on the achievement of TVA's short-term financial and/or operational goals in key areas essential for the achievement of TVA's strategic objectives. Performance measures and goals are evaluated over the one-year period of the Performance Cycle. Performance measures, performance measure weighting, and the identification of performance goals for each performance measure will be established for each Performance Cycle in accordance with reservations and delegations of authority under the TVA Compensation Plan and communicated by an Authorized Party.

Performance measures and goals will generally be set within the first 90 days of the Performance Cycle. It is the intention of TVA that changes to the performance measures and goals will not be made during or at the conclusion of the Performance Cycle; however, the Board or its designee retains the right to do so, if necessary, to ensure a fair and balanced outcome. Performance measures and goals, and the results of the performance measures and goals, are approved for each Performance Cycle by the Board or its designee.

5.1 **Corporate Performance Measures and Goals.** The Plan uses Corporate Performance Measures and Goals, which focus on key areas essential for the achievement of TVA's strategic priorities.

5.2 **SBU Performance Measures and Goals.** The Plan may also use SBU Performance Measures and Goals, which focus on key areas essential for top performance in identified SBUs. When SBU Performance Measures and Goals are used for a Performance Cycle:

5.2.1 These measures will be focused on a balance among responsibility, rates, and reliability.

5.2.2 Achievement of the SBU Performance Measures and Goals is used in the determination of EAIP Awards for all Participants in TVA organizations which have SBU Performance Measures and Goals.

5.2.3 The SBU Performance Measures and Goals for each SBU will vary depending on the type of organization and its particular goals within TVA's strategic objectives.

- 5.2.4 Participants who are employed in organizations that are not tied to a specific set of SBU Performance Measures and Goals will have EAIP Awards determined based on the achievement of Corporate Performance Measures and Goals.

6. DETERMINATION OF AWARDS

- 6.1 **Eligibility.** To be eligible for an EAIP Award, the Participant must (1) be a TVA employee at the end of the Performance Cycle and (2) have been employed for a minimum of 90 consecutive days during the Performance Cycle. Participants with an annual performance review rating of “Unsatisfactory” are not eligible for an award.

Participants who meet eligibility requirements and fall into one of the following categories will receive a pro-rated award:

- Employed for less than the full Plan Year
- Leave Without Pay (“LWOP”) for more than 30 days during the Plan Year (unless LWOP is due to a service-related injury or active military duty)

- 6.2 **EAIP Incentive Opportunity.** Annual EAIP Incentive Opportunities for each Participant are established based on market data, level of responsibility, and relationship with other TVA positions in order to ensure a consistent approach among TVA organizations. Annual EAIP Incentive Opportunities under the Plan are designed to align each position’s Total Cash Compensation with relevant labor market practices. EAIP Incentive Opportunities for each Participant are approved in accordance with the TVA Compensation Plan and the delegations thereunder.

- 6.3 **Scorecard Achievement.** Scorecards have goals that are essential to TVA success and may include goals around performance of fleet assets, reliability to customers, TVA’s impact on the environment, and overall financial and operational performance. Scorecards can result in a payout ranging from 0% to 200% depending on performance.

- 6.4 **Corporate Multiplier.** The overall incentive payout may be adjusted based on the consideration of certain corporate factors and events that are significant during the Performance Cycle but not included or captured by the Corporate Performance Measures and Goals. The Board will establish performance measures and goals for the Corporate Multiplier. The Board and CEO will jointly qualitatively assess performance on the Corporate Multiplier measures and determine the final Corporate Multiplier, which will range from zero (0) to one point one (1.1), after the end of each fiscal year. The Corporate Multiplier will then be multiplied by the performance results of the

Scorecard Achievement to determine the EAIP Award payouts for Participants.

6.5 Individual Performance Multiplier. Actual EAIP Awards for eligible Participants may be adjusted, up or down, by an individual's supervisor/manager based on an evaluation of the Participant's individual achievements and performance over the Performance Cycle within a range of 0% to 150%. Final awards for all Participants (other than the CEO) will be approved by the CEO or designee. Final awards for the CEO will be approved by the Board Chair after obtaining input from Board members and consulting with the People and Governance Committee.

6.6 Award Calculation. EAIP Awards for Participants are calculated as follows:

$$\begin{array}{l} \text{EAIP Award} \\ \text{(225\% Max)} \end{array} = \begin{array}{l} \text{Salary} \\ \text{X} \end{array} \begin{array}{l} \text{Position's EAIP} \\ \text{Incentive Opportunity} \\ \% \end{array} \begin{array}{l} \text{X} \\ \end{array} \begin{array}{l} \text{Scorecard Achievement} \\ \text{(0\% - 200\%)} \end{array} \begin{array}{l} \text{X} \\ \end{array} \begin{array}{l} \text{Corporate} \\ \text{Multiplier (0-1.1)} \end{array} \begin{array}{l} \text{X} \\ \end{array} \begin{array}{l} \text{Individual} \\ \text{Performance} \\ \text{Multiplier} \\ \text{(0\% - 150\%)} \end{array}$$

6.7 Maximum Payout. The maximum payout after all factors are applied is 225% of the Participant's target EAIP Award (the "Maximum Payout"). In the event that the Participant's EAIP Award calculation (as illustrated in Section 6.6) exceeds the Maximum Payout, the Participant's award will be adjusted not to exceed the Maximum Payout.

6.8 Award Adjustment. EAIP Awards may be adjusted further by the Board or the CEO (1) as a result of any unusual or nonrecurring event affecting TVA or the financial statements of TVA, or (2) as a result of changes in business conditions or the business strategy of TVA.

6.9 Change in Position. Awards are based on the Participant's base salary, the EAIP Incentive Opportunity assigned to the Participant's position, and TVA's achievement of performance measures and goals for the Performance Cycle. Participants who have a change in salary, incentive opportunity, or scorecard during a Performance Cycle as a result of a change in position or reclassification will have their EAIP Award calculated based on time in each position, salary, incentive opportunity, and/or scorecard during the Performance Cycle. Participants who change their full-time/part-time status during the Performance Cycle will receive a prorated EAIP Award based on time spent at part time and full time during the Performance Cycle.

- 6.10 ***Termination Prior to End of Performance Cycle.*** Participants who meet the eligibility requirements (e.g., employed 90 consecutive days during the Performance Cycle) and terminate employment with TVA before the end of the Performance Cycle for reasons that are beyond the Participant's control and acceptable to TVA may be eligible to receive a pro-rated EAIP Award.

Participants who meet the eligibility requirements (e.g., employed 90 consecutive days during the Performance Cycle) and terminate employment with TVA before the end of the Performance Cycle for reasons that are voluntary or who are terminated "for Cause" are not eligible for any EAIP Award.

If a Participant is terminated during the Performance Cycle and the participant is eligible for Retirement (as defined by Section 2.11), the Participant's eligibility for an EAIP Award shall be unaffected and the Participant will remain eligible for a prorated EAIP Award, if any, available to the Participant under the EAIP plan upon Separation from Service. If eligible for Retirement, leaving for other reasons does not impact right to receive payment.

7. PAYMENT OF AWARDS

Except in the case of deferral, EAIP Awards will be paid in a lump sum during the first quarter of the next fiscal year following the Plan Year in which the awards are earned, typically late November to early December, but in no event will the EAIP Awards be paid later than December 15. EAIP Awards will be approved by an Authorized Party prior to payment in accordance with the TVA Compensation Plan and the delegations thereunder. Each EAIP Award shall be paid in cash after deducting the amount of applicable federal, state, and local withholding taxes of any kind required by law to be withheld by TVA.

8. DEFERRAL ELECTION OPTION

Participants may defer the payment of EAIP Awards under the Plan in accordance with the criteria set forth below:

8.1 *Eligibility for Deferral for Existing Employees*

Participants who are employed by TVA before the performance measures and goals for a Performance Cycle have been established may be eligible to elect to defer all or a portion of any eligible EAIP Award for a Performance Cycle to the TVA Deferred Compensation Plan under the following conditions:

- 8.1.1 The deferral election must be made before the first day of the Performance Cycle;

- 8.1.2 The deferral election is irrevocable as of the date set forth in Section 8.1.1 above;
- 8.1.3 The deferral must be made in 1 percent increments of the actual EAIP Award;
- 8.1.4 Before the deferral election becomes irrevocable, the participant must elect to have deferred amounts paid out in accordance with the options set forth in the TVA Deferred Compensation Plan; and
- 8.1.5 The Participant performs services at TVA continuously from the date the Participant's performance measures and goals are established through the date the deferral election is made.

8.2 ***Eligibility for Deferral for New Hires***. Participants who are hired after the performance measures and goals for a Performance Cycle have been established and who have not at any time previously been eligible to participate in the Plan or in any other plan required to be aggregated and treated with the Plan as a single plan under Section 409A of the Internal Revenue Code and the regulations and other binding guidance thereunder ("Section 409A") may be eligible to elect to defer a portion of any eligible EAIP Award for that Performance Cycle to the TVA Deferred Compensation Plan under the following conditions:

- 8.2.1 The deferral election must be made within thirty (30) days after the date the Participant becomes eligible to participate in the Plan;
- 8.2.2 The deferral is irrevocable as of the date set forth in Section 8.2.1 above;
- 8.2.3 The deferral must be made with respect to 1 percent increments of the actual EAIP Award;
- 8.2.4 The deferral election applies only with respect to compensation paid for services to be performed after the election is made; and
- 8.2.5 Before the deferral election becomes irrevocable, the Participant must elect to have deferred amounts paid out in accordance with the options set forth in the TVA Deferred Compensation Plan.

9. PLAN ADMINISTRATION

9.1 **Authority of Plan Administrator.** The Plan shall be administered by the CEO or the designee of the CEO (the "Plan Administrator") unless otherwise delegated by the Board. For the avoidance of doubt, CEO participation is approved and administered by the Board or its designee. Subject to the express provisions of the Plan, the Plan Administrator shall have the power, authority, and sole and exclusive discretion to construe, interpret, and administer the Plan, including without limitation, the power and authority to make factual determinations relating to, and correct mistakes in, EAIP Awards and to take such other action in the administration and operation of the Plan as the Plan Administrator deems appropriate under the circumstances, including but not limited to the following:

9.1.1 The Plan Administrator may, from time to time, prescribe forms and procedures for carrying out the purposes and provisions of the Plan.

The Plan Administrator shall have the authority to prescribe the terms of any communications made under the Plan, to interpret and construe the Plan, any rules and regulations under the Plan, and the terms and conditions of any EAIP Award, and to answer all questions arising under the Plan, including questions on the proper construction and interpretation of the Plan.

9.1.2 The Plan Administrator may (1) notify each Participant that he or she has been selected as a Participant and (2) obtain from each Participant such agreements and powers and designations of beneficiaries as the Plan Administrator shall reasonably deem necessary for the administration of the Plan.

9.1.3 To the extent permitted by law, the Plan Administrator may at any time delegate such powers and duties to one or more other executives or managers, whether ministerial or discretionary, as the Plan Administrator may deem appropriate, including but not limited to, authorizing the Plan Administrator's delegate to execute documents on the Plan Administrator's behalf.

9.2 **Determinations by Plan Administrator.** All decisions, determinations, and interpretations by the Plan Administrator regarding the Plan, any rules and regulations under the Plan, and the terms and conditions of or operation of any EAIP Award, shall be final and binding on all Participants, beneficiaries, heirs, or other persons holding or claiming rights under the Plan or any EAIP Award. The Plan Administrator shall consider such factors as it deems relevant, in its sole and absolute discretion, in making such decisions,

determinations, and interpretations including, without limitation, the recommendations or advice of an Authorized Party or any other employee of TVA and such consultants and accountants as it may select.

10. AMENDMENT OR TERMINATION OF THE PLAN

The Board or the CEO may at any time amend or terminate the Plan without the consent of any Participant, beneficiary, or other person; provided that TVA and the Plan Administrator, after any such termination, shall continue to have full administrative powers to take any and all action contemplated by the Plan which is necessary or desirable and to make payment of any outstanding awards earned by Participants in accordance with the terms of the Plan. No amendment or termination of the Plan may adversely affect, other than as specified in the Plan, any right acquired by any Participant or any beneficiary under an EAIP Award granted before the effective date of such amendment or termination. Upon termination of the Plan, distribution of vested EAIP Awards shall be made to Participants and beneficiaries in the manner and at the time described in Section 7, unless an Authorized Party determines in its sole discretion that all such amounts shall be distributed upon termination of the Plan.

11. GENERAL PROVISIONS

- 11.1 ***TVA Compensation Plan.*** Approvals regarding awards under the Plan for each Participant, such as the target award opportunity and the amount of actual awards, will be made in accordance with the TVA Compensation Plan and the delegations thereunder.
- 11.2 ***Non-Transferability of Rights and Interests.*** Neither a Participant nor a beneficiary may alienate, assign, transfer or otherwise encumber his or her rights and interests under the Plan. No such interest or right to receive a distribution may be taken, either voluntarily or involuntarily, for the satisfaction of the debts of, or other obligations or claims against, such person, and any attempt to do so shall be null and void. In the event of a Participant's death, the Plan Administrator shall authorize payment of any EAIP Award due a Participant under the Plan to the Participant's beneficiary.
- 11.3 ***Sources of Payments.*** All EAIP Awards shall be payable out of TVA's general assets. Each Participant's or beneficiary's claim, if any, for the payment of an EAIP Award shall not be superior to that of any general and unsecured creditor of TVA. Nothing contained in the Plan and no action taken pursuant to the provisions of the Plan shall create or be construed to create a trust of any kind or a fiduciary relationship between TVA and any Participant, beneficiary, or other person. If an

error or omission is discovered in any of the determinations, the Plan Administrator shall cause an appropriate equitable adjustment to be made in order to remedy such error or omission.

- 11.4 **Severability.** In the event that any provision or portion of the Plan shall be determined to be invalid or unenforceable for any reason, the remaining provisions and portions of the Plan shall be unaffected thereby and shall remain in full force and effect to the fullest extent permitted by law.
- 11.5 **Limitation of Rights.** Nothing in the Plan shall be construed to give any employee any right to be selected as a Participant or to receive an EAIP Award or to be granted an EAIP Award other than as is provided in this document. Nothing in the Plan or any EAIP Award issued pursuant to the Plan shall be construed to limit in any way the right of TVA to terminate a Participant's employment at any time, without regard to the effect of such termination on any rights such Participant would otherwise have under the Plan, or give any right to a Participant to remain employed by TVA in any particular position or capacity or at any particular rate of remuneration. During the lifetime of the Participant, only the Participant (or the Participant's legal representative) may exercise the rights and receive the benefits of any EAIP Award.
- 11.6 **Titles.** The titles of the sections herein are included for convenience of reference only and shall not be construed as part of the Plan or have any effect upon the meaning of the provisions hereof. Unless the context requires otherwise, the singular shall include the plural and the masculine shall include the feminine. Such words as "herein," "hereafter," "hereof," and "hereunder" shall refer to this instrument as a whole and not merely to the subdivision in which such words appear.
- 11.7 **Governing Law.** TVA is a corporate agency and instrumentality of the United States and the Plan shall be governed by and construed under federal law. In the event federal law does not provide a rule of decision for any matter or issue under the Plan, the law of the State of Tennessee shall apply; provided, however, in no event shall Tennessee's choice of law provisions apply.
- 11.8 **Authorized Representatives.** Whenever TVA under the terms of the Plan is permitted or required to do or to perform any act or matter or thing, it shall be done and performed by a duly authorized representative of TVA.

- 11.9 **Certain Rights and Limitations.** The establishment of the Plan shall not be construed as conferring any legal rights upon any employee or other person for a continuation of employment, nor shall it interfere with the rights of TVA to discharge any employee and to treat any employee without regard to the effect that such treatment might have upon that employee as a Participant in the Plan.
- 11.10 **Compliance with Section 409A.** At all times, to the extent Section 409A applies to amounts deferred under the Plan: (i) the Plan shall be operated in accordance with the requirements of Section 409A; (ii) any action that may be taken (and, to the extent possible, any action actually taken) by an Authorized Party and the Participants or their beneficiaries shall not be taken (or shall be void and without effect), if such action violates the requirements of Section 409A; (iii) any provision in the Plan that is determined to violate the requirements of Section 409A shall be void and without effect; and (iv) any provision that is required by Section 409A to appear in the Plan that is not expressly set forth shall be deemed to be set forth herein, and the Plan shall be administered in all respects as if such provision were expressly set forth herein. The payments of EAIP Awards, to the extent no deferral election is made, are intended to be interpreted, operated, and administered in a manner consistent with the short-term deferral exemption from Section 409A. No provision of the Plan is intended or shall be interpreted to create any right with respect to the tax treatment of the amounts paid hereunder, and TVA shall not, under any circumstances, have any liability to a Participant or Beneficiary for any taxes, penalties, or interest due on amounts paid or payable under the Plan, including taxes, penalties, or interest imposed under Section 409A.
- 11.11 **Tax Withholding.** TVA is authorized to withhold from any EAIP Award taxes due or potentially payable in connection with any transactions involving the Plan, and to take any other actions TVA may deem advisable to allow TVA to satisfy obligations for the payment of withholding taxes and other tax obligations related to any EAIP Award.

IN WITNESS WHEREOF, this instrument has been executed as of the 10th day of May, 2022.
Tennessee Valley Authority

By: /s/ Jeffrey J. Lyash
Jeffrey J. Lyash
President and Chief Executive Officer

LONG-TERM INCENTIVE PLAN

Amended and Restated – May 2022

Prepared by: /s/ Tina Wallace 5/9/2022

Tina Wallace, VP Total Rewards and Strategic Performance Date

Validation Date: 05/06/2022
Review Frequency: 3 years
Validated By: Stephen Gaby

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1. PURPOSE AND SCOPE

- 1.1 **Establishment.** The Tennessee Valley Authority (“TVA”) hereby amends and restates in its entirety its long-term incentive plan, which shall be known as the Long-Term Incentive Plan (“Plan”). This Plan supports TVA’s compensation philosophy, which is designed to attract, retain, and engage employees needed to accomplish TVA’s broad mission.
- 1.2 **Purpose.** The purpose of the Plan is to provide a targeted level of total long-term compensation that is comprised of both (1) a variable, at-risk performance-based component (the “Performance Component”) and (2) a retention component (the “Retention Component”). The Plan is designed to provide a competitive level of total compensation to eligible participants (each, a “Participant”).

Participants may be selected for enrollment in one or both components of the Plan. For a Participant who is enrolled in both components, the Performance Component will typically target a majority portion of the Participant’s total long-term compensation. The remaining portion will be provided under the Retention Component.

- 1.2.1 **Performance Component.** The Performance Component is designed to provide Participants with time-vested incentive opportunities based on successful achievement of established financial and/or operational goals measured over a three-year period. This component is intended to provide performance incentives to Participants similar to the performance incentive provided by long-term performance stock or performance cash awards in publicly traded companies.
- 1.2.2 **Retention Component.** The Retention Component is designed to provide Participants with time-based incentive opportunities designed to encourage them to remain with TVA. This component is intended to provide retention incentives to Participants similar to the retention incentive provided by restricted stock or restricted stock units in publicly traded companies.

2. DEFINITIONS

Wherever used herein, the following terms have the meanings set forth below, unless a different meaning is clearly required by the context:

- 2.1 “Beneficiary” means the Participant’s surviving spouse, unless the Participant designates one or more persons or entities to be the Participant’s Beneficiary. The Participant may make, change, or revoke a Beneficiary designation at any time before his or her death without the consent of the Participant’s spouse or anyone the Participant previously named as a Beneficiary, and the Participant may designate primary and secondary Beneficiaries. A Beneficiary designation must comply with procedures established by the Plan Administrator (as defined below) and must be received by the Plan Administrator before the Participant’s death. If the Participant dies without a valid Beneficiary designation (as determined by the Plan Administrator) and has no surviving spouse, the Beneficiary shall be the Participant’s estate.
- 2.2 “Disability” means that the Participant has any medically determinable physical or mental impairment resulting in the Participant’s inability to perform the duties of his or her position or any substantially similar position that can be expected to result in death or can be expected to last for a continuous period of not less than six months. Disability shall be determined by the Plan Administrator, in his or her sole discretion.
- 2.3 “Long-Term Performance Incentive Award” means the amount earned under the Performance Component after determining achievement of the performance goals.
- 2.4 “Long-Term Performance Incentive Grant” means the amount granted to a Participant under the Performance Component.
- 2.5 “Long-Term Performance Incentive Opportunity” means the award opportunity under the Performance Component expressed as a percentage of the Participant’s base salary.
- 2.6 “Long-Term Retention Incentive Grant” means the amount granted to a Participant under the Retention Component.

- 2.7 “Percent of Opportunity Achieved” means the percent of the Long Term Performance Incentive Opportunity achieved with respect to a Participant based on achieved level of performance compared to the established Performance Measures and Performance Goals over the Performance Cycle.
- 2.8 “Performance Cycle” means a period of three consecutive TVA fiscal years. A new Performance Cycle begins at the start of each TVA fiscal year (October 1). The following illustration shows how the three-year cycles overlap:



- 2.9 “Performance Goals” means the long-term strategic financial and/or operational goals established for each Performance Measure used to determine awards under the Performance Component.
- 2.10 “Performance Measures” means the specific metrics used to measure performance under the Performance Component.
- 2.11 “Retention Cycle” means a period of three consecutive TVA fiscal years. A new Retention Cycle begins at the start of each TVA fiscal year and typically includes three one-year vesting periods.
- 2.12 “Retirement” and like phrases mean an employee has met one of the following criteria: (i) the employee has reached the age of 55 with at least 10 years of full-time TVA service, (ii) the employee has reached the age of 60 with at least five years of full-time TVA service, or (iii) the employee is in the Civil Service Retirement System or Federal Employees Retirement System and is eligible for an immediate retirement benefit upon termination as outlined in the applicable plan.
- 2.13 “Section 409A” means Internal Revenue Code Section 409A and the regulations and other binding guidance thereunder.
- 2.14 “Separation from Service” and like phrases have the meaning set forth in 26 C.F.R. §1.409A-1(h) as such provision may be amended from time to time.

3. PARTICIPATION

The TVA Board of Directors (the “Board”) or its designee(s) (collectively, the “Authorized Parties”) shall approve individual employees as Participants. Each Participant approved for participation shall be enrolled in the Performance Component, the Retention Component, or both. Participation is generally limited to key positions that have the ability to significantly impact the long-term financial and/or operational objectives critical to TVA’s overall success (“Key Positions”).

Eligibility based on the Plan guidelines does not entitle an individual to receive an award under the Plan. An employee’s eligibility and participation in one year does not guarantee eligibility or participation for any subsequent year. No other long-term incentive may be provided that is inconsistent with the Plan.

3.1 **Performance Component.** Eligibility to participate in the Performance Component shall be limited to executives serving in positions within the Officer/Executive (O/E) pay band. Key Positions within M&S pay band may become eligible based on market prevalence.

3.2 **Retention Component.** Eligibility to participate in the Retention Component shall be limited to:

- Executives serving in positions within the O/E pay band; and
- Other key positions based on market prevalence

Participation in the Plan, as well as the terms of each award granted under the Plan, is at the discretion of the Authorized Parties based on, among other things, recruiting needs and review of benchmark data.

4. PERFORMANCE MEASURES AND GOALS

The Board establishes both Performance Measures and Performance Goals. Performance measures focus primarily on the achievement of TVA’s long-term financial and/or operational goals, and performance goals are established for each performance measure. Performance measures and goals typically cover the three-year period of the Performance Cycle. Performance measures and goals will generally be set within the first 90 days of the Performance Cycle. It is the intention of TVA that changes to the performance measures and goals will not be made during or at the conclusion of the Performance Cycle; however, the Board or its designee retains the right to do so, if necessary, to ensure a fair and balanced outcome. Performance measures and goals, and the results of the performance measures and goals, are approved for each Performance Cycle by the Board or its designee.

5. DETERMINATION OF GRANTS AND AWARDS

5.1 *Grant Frequency.*

5.1.1 Long-Term Performance Incentive Grants will typically be made annually as of the first day of each Performance Cycle. Long-Term Retention Incentive Grants will typically be granted annually as of the first day of each fiscal year. Grants must be formally approved by an Authorized Party prior to being communicated to Participants. Approval will generally be part of the compensation review. Formal communication of approved grants shall be provided to Participants as soon as practicable after approval.

5.1.2 If, after the first day of a Performance Cycle or Retention Cycle, an individual is hired and becomes eligible/approved to participate in the Performance Component or Retention Component or is promoted or transferred into a position that is covered by the Performance Component or Retention Component (or would provide for an increase in the grant amount), the employee may, unless the Plan Administrator determines otherwise, become a Participant with respect to each Performance Cycle and Retention Cycle then in effect, provided that such participation shall be on a pro-rated basis.

5.2 ***Calculation of Grants and Awards.*** Grants represent the right of a Participant to receive a cash award, subject to vesting, in the amount determined by an Authorized Party, as set forth below.

5.2.1 ***Performance Component.*** Long-Term Performance Incentive Grants are based on a Participant's base salary and Long-Term Performance Incentive Opportunity on the grant date, and are calculated as follows:

$$\begin{array}{ccccc} \text{Long-Term} & & & & \text{Long-Term} \\ \text{Performance} & & & & \text{Performance} \\ \text{Incentive Grant} & = & \text{Base Salary at} & \times & \text{Incentive Opportunity} \\ \text{(Target Value)} & & \text{Grant Date} & & \text{at Grant Date} \end{array}$$

Long-Term Performance Incentive Awards are based on achieved level of performance compared to the established performance measures and goals over the Performance Cycle and are calculated as follows:

$$\begin{array}{ccccc} \text{Long-Term} & & & & \text{Percent of} \\ \text{Performance} & & \text{Long-Term} & & \text{Opportunity} \\ \text{Incentive Award} & = & \text{Performance Incentive} & \times & \text{Achieved (0\% -} \\ & & \text{Grant (Target Value)} & & \text{200\%)} \end{array}$$

For each Participant, the maximum Long-Term Performance Incentive Award allowed under the Plan is 200% of the Long-Term Performance Incentive Opportunity unless a different maximum is approved by an Authorized Party. The Board may apply discretion to adjust the final Long-Term Performance Incentive Award, if necessary, to ensure a fair and balanced outcome not to exceed a total payout of 200% of the Long-Term Performance Incentive Opportunity.

5.2.2 **Retention Component.** Long-Term Retention Incentive Awards will be fixed on the date of grant.

5.3 **Vesting.** A Participant will vest in his or her award as set forth below.

5.3.1 **Performance Component.** Except as provided in Section 5.4, Participants will become fully vested in their Long-Term Performance Incentive Awards if they remain employed through the end of the Performance Cycle. Long-Term Performance Incentive Grants will be made as of October 1 or as soon as practicable following the date that an employee becomes eligible/approved during a fiscal year or is hired, promoted, or transferred into a position that is covered by the Performance Component and will vest three years later on September 30 unless a proration has occurred, provided that the Participant remains employed through that date. For example, a Long-Term Performance Incentive Grant made for the Performance Cycle beginning on October 1, 2022, to a Participant who was enrolled in the Plan on such date, will become fully vested on September 30, 2025.

5.3.2 **Retention Component.** The Retention Component shall have a vesting period covering three fiscal years. Long-Term Retention Incentive Awards will be granted on October 1 or as soon as practicable following the date that an employee becomes eligible/approved during a fiscal year or is hired, promoted, or transferred into a position that is covered by the Retention Component and will become 1/3 vested on each subsequent September 30 unless a proration has occurred, provided the Participant remains employed through that date. For example, a

Long-Term Retention Incentive Award of \$75,000 granted on October 1, 2022, to a Participant who was enrolled in the Plan on such date, will vest as follows: \$25,000 on September 30, 2023; \$25,000 on September 30, 2024; and \$25,000 on September 30, 2025.

5.4 **Awards Payable for Termination Prior to Vesting.** Except as otherwise determined by an Authorized Party or provided in the subsections below, if a Participant's employment with TVA terminates for any reason, the unvested portion of any award shall be completely forfeited on the date of such termination of the Participant's employment.

5.4.1 **Death.** If a Participant dies while employed, the Beneficiary shall be entitled to the sum of (1) any Long-Term Performance Incentive Awards that have already vested at the time of the Participant's death and have not yet been paid to the Participant, (2) any Long-Term Performance Incentive Awards that have not vested at the time of the Participant's death and that cover a Performance Cycle for which the Participant has received a Long-Term Performance Incentive Grant, provided that the amount of any such Long-Term Performance Incentive Award (a) will be calculated assuming that the Percent of Opportunity Achieved is 100 percent and (b) will be prorated based on the number of whole months the Participant was participating in the Plan during the applicable Performance Cycle, (3) any portion of a Long-Term Retention Incentive Award that has already vested at the time of the Participant's death and has not yet been paid, and (4) a prorated portion of any Long-Term Retention Incentive Grant that has not vested at the time of the Participant's Separation from Service provided that the Long-Term Retention Incentive Award for each vesting period within a Retention Cycle will be prorated based on the number of whole months the Participant was employed by TVA during the vesting period in which the Participant Separated from Service as compared to (a) 12 months for the vesting period that includes the day that the Participant Separated from Service, (b) 24 months for the vesting period that immediately follows the vesting period during which the Participant Separated from Service, and (c) 36 months for the second vesting period that follows the vesting period during which the Participant Separated from Service (such sum being hereinafter referred to as the "Beneficiary Award"). The Beneficiary Award shall be paid to the Beneficiary in accordance with Section 6.3.

- 5.4.2 **Disability.** If a Participant Separates from Service due to a Disability, the Participant shall be entitled to the sum of (1) any Long-Term Performance Incentive Awards that have already vested at the time the Participant Separates from Service due to a Disability and have not yet been paid to the Participant, (2) any Long-Term Performance Incentive Awards that have not vested at the time of the Participant's Separation from Service due to a Disability and that cover a Performance Cycle for which the Participant has received a Long-Term Performance Incentive Grant, provided that the amount of any such Long-Term Performance Incentive Award (a) will be calculated assuming that the Percent of Opportunity Achieved is 100 percent and (b) will be prorated based on the number of whole months the Participant was employed by TVA during the applicable Performance Cycle, (3) any portion of a Long-Term Retention Incentive Award that has already vested at the time that the Participant Separates from Service due to a Disability and has not yet been paid, and (4) a prorated portion of any Long-Term Retention Incentive Grant that has not vested at the time of the Participant's Separation from Service provided that the Long-Term Retention Incentive Award for each vesting period within a Retention Cycle will be prorated based on the number of whole months the Participant was employed by TVA during the vesting period in which the Participant Separated from Service as compared to (a) 12 months for the vesting period that includes the day that the Participant Separated from Service, (b) 24 months for the vesting period that immediately follows the vesting period during which the Participant Separated from Service, and (c) 36 months for the second vesting period that follows the vesting period during which the Participant Separated from Service (such sum being hereinafter referred to as the "Disability Award"). The Disability Award shall be paid to such Participant in accordance with Section 6.4 below.
- 5.4.3 **Retirement.** If a Participant Separates from Service after October 1, 2018, due to a Retirement, the Participant shall be entitled to the sum of (1) any Long-Term Performance Incentive Grant that has already vested at the time the Participant Separates from Service and has not yet been paid (the "Initial Performance Award"), (2) a prorated portion of any Long-Term Performance Incentive Grant that has not vested at the time of the Participant's Separation from Service, provided that the amount of any such Long-Term Performance Incentive Award (i) is calculated using the actual Percent of Opportunity Achieved and (ii) is prorated based on the

number of whole months the Participant is employed by TVA during the applicable Performance Cycle (such amount being hereafter referred to as the "Prorated Performance Award"), (3) any portion of a Long-Term Retention Incentive Grant that has already vested at the time the Participant Separates from Service and has not yet been paid (the "Initial Retention Award"), and (4) a prorated portion of any Long-Term Retention Incentive Grant that has not vested at the time of the Participant's Separation from Service provided that the amount of any such Long-Term Retention Incentive Award for each vesting period within the Retention Cycle is prorated based on the number of whole months the Participant was employed by TVA during such vesting period (such amount being hereafter referred to as the "Prorated Retention Award"). The Initial Performance Award, the Prorated Performance Award, the Initial Retention Award, and the Prorated Retention Award will be paid to such Participant in accordance with Section 6.5 below.

6. PAYMENT OF AWARDS

Each award shall be paid in cash after deducting the amount of applicable federal, state, and local withholding taxes of any kind required by law to be withheld by TVA or any amounts due to be paid to TVA. All awards will be approved by an Authorized Party prior to payment. The awards will be paid as follows:

- 6.1 **Performance Component.** Except in the case of death, Disability, or Retirement or in the case of deferral, Long-Term Performance Incentive Awards will be paid in a lump sum within two months of the end of each Performance Cycle.
- 6.2 **Retention Component.** Except in the case of death, Disability, or Retirement, Long-Term Retention Incentive Awards will be paid in a lump sum within two months of vesting. For example, a Long-Term Retention Incentive Award of \$75,000 granted on October 1, 2022, will be paid as follows to the extent the Participant remains employed as of the applicable vesting date: \$25,000 within two months after September 30, 2023; \$25,000 within two months after September 30, 2024; and \$25,000 within two months after September 30, 2025.
- 6.3 **Death.** The Beneficiary Award will be paid as soon as administratively practicable but in no event later than the last day of the second full calendar month following the Participant's death.

- 6.4 **Disability.** The Disability Award will be paid as soon as administratively practicable but in no event later than the last day of the second full calendar month following the Participant's Separation from Service due to Disability.
- 6.5 **Retirement.** The Initial Performance Award and the Prorated Performance Award will be paid in a lump sum within two months of the end of the applicable Performance Cycle; the Initial Retention Award will be paid in a lump sum within two months of vesting; and the Prorated Retention Award will be paid in a lump sum within two months of the end of the fiscal year during which the Participant Separates from Service due to Retirement.

7. DEFERRAL ELECTION OPTION

Participants are not eligible to defer the payment of Long-Term Retention Incentive Awards. If permitted by the Plan Administrator, Participants may defer the payment of Long-Term Performance Incentive Awards in accordance with the rules set forth below.

- 7.1 **Eligibility for Deferral for Existing Employees.** Employees and Participants who are eligible to participate in the Performance Component before the performance measures and goals for a Performance Cycle have been established may defer Long-Term Performance Incentive Awards under the following conditions:
- 7.1.1 Subject to Section 7.2.1, the deferral election must be made before the first day of the Performance Cycle;
 - 7.1.2 The deferral election is irrevocable as of the date set forth in Section 7.1.1 above;
 - 7.1.3 The deferral must be made with respect to 1 percent increments of the actual Long-Term Performance Incentive Award;
 - 7.1.4 Before the deferral election becomes irrevocable, the Participant must elect to have deferred amounts paid out in accordance with the options set forth in TVA's Deferred Compensation Plan; and
 - 7.1.5 The Participant performs services at TVA continuously from the date the performance measures and goals are established through the date the deferral election is made.

7.2 **Eligibility for Deferral for New Hires.** Participants who are hired by TVA after the performance measures and goals for a Performance Cycle have been established and who have not at any time previously been eligible to participate in the Plan or in any other plan required to be aggregated and treated with the Plan as a single plan under Section 409A may defer their Long-Term Performance Incentive Awards under the following conditions:

- 7.2.1 The deferral election must be made within 30 days after the date the Participant becomes eligible to participate in the Plan and will be effective with respect to participation in the Performance Component as of the next October 1;
- 7.2.2 The deferral election is irrevocable as of the date set forth in Section 7.2.1 above;
- 7.2.3 The deferral must be made with respect to 1 percent increments of the actual Long-Term Performance Incentive Award;
- 7.2.4 The deferral election applies only with respect to compensation paid for services to be performed after the election is made; and
- 7.2.5 Before the deferral election becomes irrevocable, the Participant must elect to have deferred amounts paid out in accordance with the options set forth in TVA's Deferred Compensation Plan.

8. PLAN ADMINISTRATION

8.1 **Authority of Plan Administrator.** The Plan shall be administered by the CEO or the designee of the CEO (the "Plan Administrator") unless otherwise delegated by the Board. For the avoidance of doubt, CEO participation is approved and administered by the Board or its designee. Subject to the express provisions of the Plan, the Plan Administrator shall have the power, authority, and sole and exclusive discretion to construe, interpret, and administer the Plan, including without limitation the power and authority to make factual determinations relating to, and correct mistakes in, awards and to take such other action in the administration and operation of the Plan as the Plan Administrator deems appropriate under the circumstances, including but not limited to the following:

- 8.1.1 The Plan Administrator may, from time to time, prescribe forms and procedures for carrying out the purposes and provisions of the Plan;

- 8.1.2 The Plan Administrator shall have the authority to prescribe the terms of any communications made under the Plan and to interpret and construe the Plan, any rules and regulations under the Plan, and the terms and conditions of any award, and answer all questions arising under the Plan, including questions on the proper construction and interpretation of the Plan;
- 8.1.3 The Plan Administrator may (1) notify each Participant that he or she has been selected as a Participant and (2) obtain from each Participant such agreements and powers and designations of Beneficiaries as the Plan Administrator shall reasonably deem necessary for the administration of the Plan; and
- 8.1.4 To the extent permitted by law, the Plan Administrator may at any time delegate such powers and duties to one or more other executives or managers, whether ministerial or discretionary, as the Plan Administrator may deem appropriate, including but not limited to authorizing the Plan Administrator's delegate to execute documents on the Plan Administrator's behalf.

8.2 ***Determinations by Plan Administrator.*** All decisions, determinations, and interpretations by the Plan Administrator regarding the Plan, any rules and regulations under the Plan, and the terms and conditions of or operation of any Plan award shall be final and binding on all Participants, Beneficiaries, heirs, assigns, or other persons holding or claiming rights under the Plan or any award.

9. AMENDMENT OR TERMINATION OF THE PLAN

The Board may at any time amend or terminate the Plan without the consent of any Participant, Beneficiary, or other person; provided that, no amendment or termination of the Plan may adversely affect, other than as specified in the Plan, any right acquired by any Participant or any Beneficiary under an award vested before the effective date of such amendment or termination. Upon termination of the Plan, distribution of vested awards shall be made to Participants and Beneficiaries in the manner and at the time described in Sections 6 and 7, unless an Authorized Party determines in his or her sole discretion that all such amounts shall be distributed upon termination of the Plan, in accordance with Section 409A to the extent applicable. TVA and the Plan Administrator, after such amendment or termination, shall continue to have full administrative powers to take any and all action contemplated by the Plan which is necessary or desirable

and to make payment of any outstanding awards earned by Participants in accordance with the terms of the Plan.

10. GENERAL PROVISIONS

- 10.1 **TVA Compensation Plan.** Approvals regarding awards granted under the Plan for each Participant, and the amount of actual awards, will be made in accordance with the TVA Compensation Plan and the delegations thereunder.
- 10.2 **Non-Transferability of Rights and Interests.** Neither a Participant nor a Beneficiary may alienate, assign, transfer, or otherwise encumber his or her rights and interests under the Plan, nor may such interest or right to receive a distribution be taken, either voluntarily or involuntarily, for the satisfaction of the debts of, or other obligations or claims against, such person, and any attempt to do so shall be null and void.
- 10.3 **Source of Payments.** All awards shall be payable out of TVA's general assets. Each Participant's or Beneficiary's claim, if any, for the payment of an award shall not be superior to that of any general and unsecured creditor of TVA. Nothing contained in the Plan and no action taken pursuant to the provisions of the Plan shall create or be construed to create a trust of any kind or a fiduciary relationship between TVA and any Participant, Beneficiary, or other person. If an error or omission is discovered in any of the determinations, the Plan Administrator, in his or her sole discretion, shall cause an appropriate equitable adjustment to be made in order to remedy such error or omission.
- 10.4 **Severability.** In the event that any provision or portion of the Plan shall be determined to be invalid or unenforceable for any reason, the remaining provisions and portions of the Plan shall be unaffected thereby and shall remain in full force and effect to the fullest extent permitted by law.
- 10.5 **Limitation of Rights.** Nothing in the Plan shall be construed to give any employee any right to be selected as a Participant or to receive an award or to be granted an award other than as is provided in this document. Nothing in the Plan or any grant or award issued pursuant to the Plan shall be construed to limit in any way the right of TVA to terminate a Participant's employment at any time, without regard to the effect of such termination on any rights such Participant would otherwise have under the Plan, or give any right to a Participant to remain employed by TVA in any particular position or capacity or at any particular rate of remuneration. During the lifetime of the Participant, only the Participant (or the Participant's legal representative) may exercise the rights and receive the benefits of any award.

- 10.6 **Titles.** The titles of the articles and sections herein are included for convenience of reference only and shall not be construed as part of the Plan or have any effect upon the meaning of the provisions hereof. Unless the context requires otherwise, the singular shall include the plural and the masculine shall include the feminine. Words such as "herein," "hereafter," "hereof," and "hereunder" shall refer to this instrument as a whole and not merely to the subdivision in which such words appear.
- 10.7 **Governing Law.** TVA is a corporate agency and instrumentality of the United States, and the Plan shall be governed by and construed under federal law. In the event federal law does not provide a rule of decision for any matter or issue under the Plan, the law of the State of Tennessee shall apply, without taking into account conflict of law principles. By participating in the Plan, each Participant agrees that the jurisdiction for any action with respect to the Plan shall lie in the United States District Court for the Eastern District of Tennessee. Any such action must commence no later than the date an award is paid or was to be paid, as applicable.
- 10.8 **Authorized Representatives.** Whenever TVA under the terms of the Plan is permitted or required to do or to perform any act or matter or thing, it shall be done and performed by a duly authorized representative of TVA.
- 10.9 **Compliance with Section 409A.** At all times, to the extent Section 409A applies to amounts deferred under the Plan, (a) the Plan shall be operated in accordance with the requirements of Section 409A; (b) any action that may be taken (and, to the extent possible, any action actually taken) by an Authorized Party and the Participants or their Beneficiaries shall not be taken (or shall be void and without effect), if such action violates the requirements of Section 409A; (c) any provision in the Plan that is determined to violate the requirements of Section 409A shall be void and without effect; and (d) any provision that is required by Section 409A to appear in the Plan that is not expressly set forth shall be deemed to be set forth herein, and the Plan shall be administered in all respects as if such provision were expressly set forth herein.

Except for the payment of the Prorated Performance Award and the Prorated Retention Award, the payment of awards under the Performance Component (to the extent no deferral election is made) and the Retention Component are intended to be interpreted, operated, and administered in a manner consistent with the short-term deferral exemption from Section 409A. TVA may at any time amend the Plan with respect to Section 409A but is not required to do so. No provision of the Plan is intended or shall be interpreted to create any right with respect to the tax treatment of the amounts paid hereunder, and TVA shall not, under any circumstances, have any liability to a Participant or Beneficiary for any taxes, penalties, or interest due on amounts paid or payable under the Plan, including taxes, penalties, or interest imposed under Section 409A.

- 10.10 **Tax Withholding.** TVA is authorized to withhold from any Award taxes due or potentially payable in connection with any transactions involving the Plan, and to take any other actions TVA may deem advisable to allow TVA to satisfy obligations for the payment of withholding taxes and other tax obligations related to any Award.

IN WITNESS WHEREOF, this instrument has been executed this 10th day of May, 2022.

Tennessee Valley Authority

By: /s/ Jeffrey J. Lyash
Jeffrey J. Lyash
President and Chief Executive Officer

RULE 13a-14(a)/15d-14(a) CERTIFICATION

I, Jeffrey J. Lyash, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of the Tennessee Valley Authority;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and we have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 11, 2022

/s/ Jeffrey J. Lyash

Jeffrey J. Lyash
President and Chief Executive Officer

RULE 13a-14(a)/15d-14(a) CERTIFICATION

I, John M. Thomas, III, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of the Tennessee Valley Authority;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and we have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 11, 2022

/s/ John M. Thomas, III

John M. Thomas, III

Executive Vice President and Chief Financial and Strategy Officer
(Principal Financial Officer)

**CERTIFICATION FURNISHED PURSUANT TO
SECURITIES EXCHANGE ACT RULE 13a-14(b)
OR RULE 15d-14(b) AND 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report on Form 10-Q of the Tennessee Valley Authority (the "Company") for the quarter ended March 31, 2022, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Jeffrey J. Lyash, President and Chief Executive Officer of the Company, certify, for the purposes of complying with Rule 13a-14(b) or Rule 15d-14(b) of the Securities Exchange Act of 1934, as amended, and Section 1350 of Chapter 63 of Title 18 of the United States Code, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) the Report fully complies with the requirements of section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Jeffrey J. Lyash

Jeffrey J. Lyash

President and Chief Executive Officer

May 11, 2022

**CERTIFICATION FURNISHED PURSUANT TO
SECURITIES EXCHANGE ACT RULE 13a-14(b)
OR RULE 15d-14(b) AND 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report on Form 10-Q of the Tennessee Valley Authority (the "Company") for the quarter ended March 31, 2022, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, John M. Thomas, III, Executive Vice President and Chief Financial and Strategy Officer of the Company, certify, for the purposes of complying with Rule 13a-14(b) or Rule 15d-14(b) of the Securities Exchange Act of 1934, as amended, and Section 1350 of Chapter 63 of Title 18 of the United States Code, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) the Report fully complies with the requirements of section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ John M. Thomas, III

John M. Thomas, III

Executive Vice President and Chief Financial and Strategy Officer
(Principal Financial Officer)

May 11, 2022
