



# Board Meeting

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August 22, 2018  
Knoxville, TN



# President's Report

BILL JOHNSON  
President and CEO



# Knoxville





# Congratulations



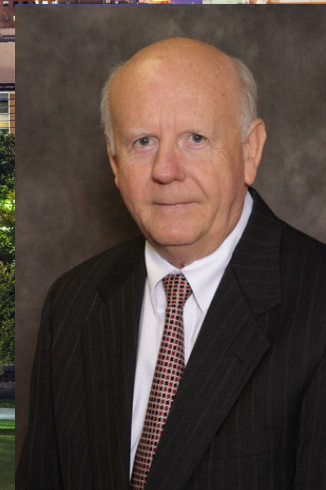
Mintha Roach  
CEO



# Congratulations



Mintha Roach  
CEO



Joe Cade  
CEO

# Mission | Strategic Imperatives

## Energy

Delivering affordable,  
reliable power



## Environment

Caring for our region's  
natural resources

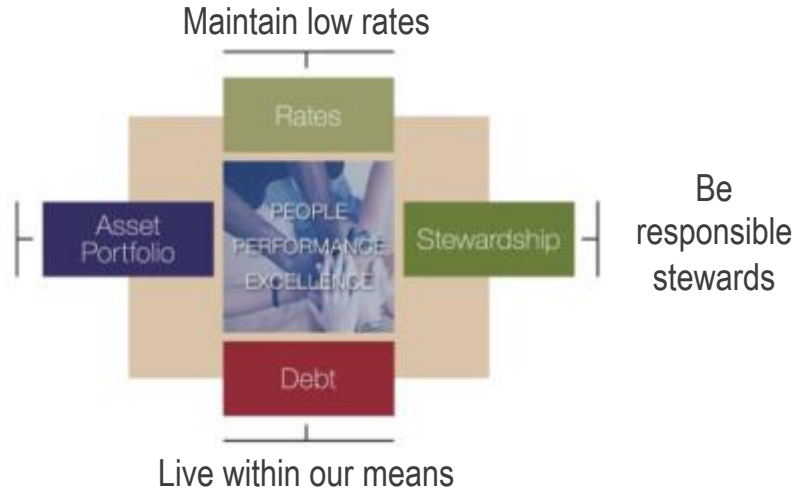


## Economic Development

Creating sustainable  
economic growth



Meet  
reliability  
expectations  
& provide a  
balanced  
portfolio



# TVA Long Range Plan

- Reduce debt to ~\$20B Net of cash
- 1.5% Annual Base Rate increase as long as rates remain competitive
- Offset base rate increase through O&M and fuel cost reductions
- Modernize and diversify fleet to reduce fuel costs



# Financials

operating  
expenses



DRIVEN BY

**\$800** MILLION  
IN **SUSTAINABLE**  
efficiency improvement  
& **REDUCED**  
operating costs

**SAVING**  
**\$1** BILLION  
PER YEAR IN  
**LOWER FUEL COSTS**

The **TVA power system** is one of the  
**CLEANEST**, **MOST DIVERSE**, and **MOST RELIABLE**  
power systems **in the nation.**

**DEBT REDUCED**  
**\$1.6 BILLION** TO DATE

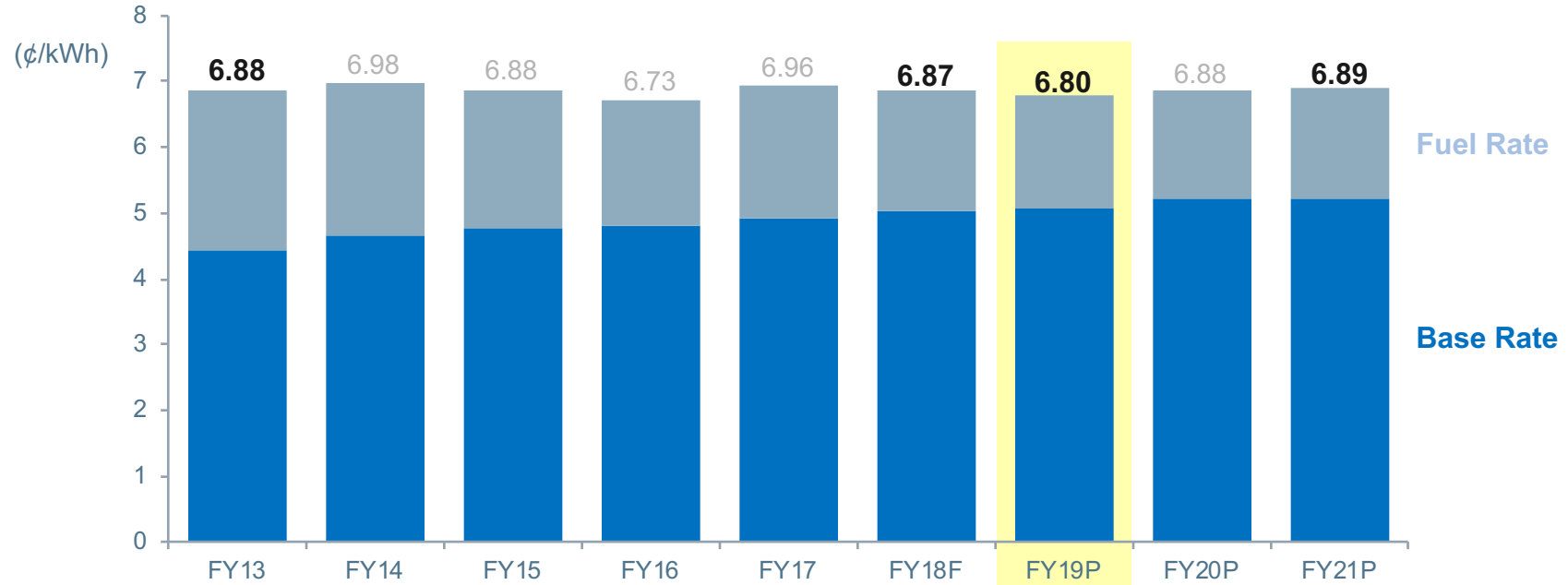
Long-Range Financial Plan

**FAITHFULLY**  
**FOLLOWED** FOR

**5 YEARS**

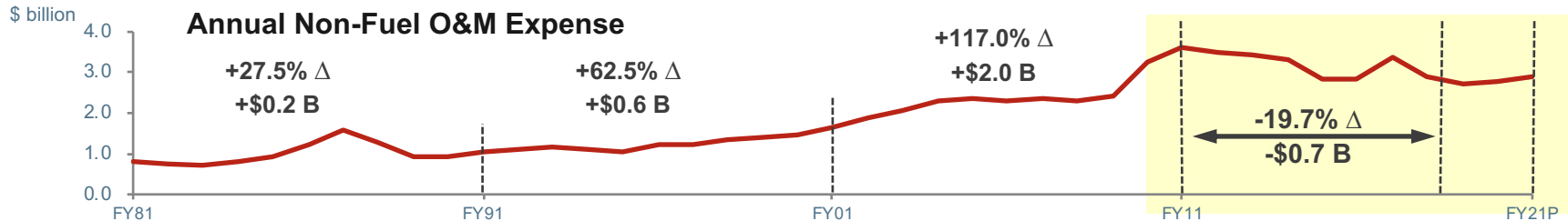
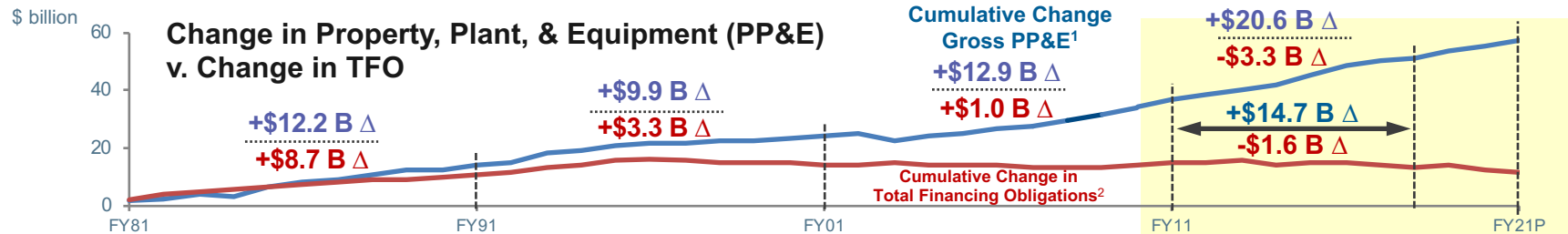
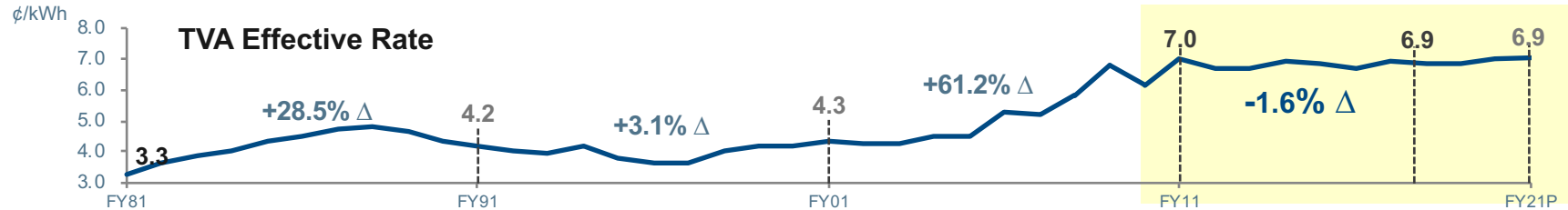


# Flat Effective Wholesale Rate



Base Rate	4.44	4.64	4.78	4.81	4.93	5.03	5.09	5.22	5.22
Fuel Rate	2.44	2.34	2.10	1.92	2.03	1.84	1.71	1.66	1.67
<b>Total Wholesale Rate</b>	<b>6.88</b>	<b>6.98</b>	<b>6.88</b>	<b>6.73</b>	<b>6.96</b>	<b>6.87</b>	<b>6.80</b>	<b>6.88</b>	<b>6.89</b>

# Effective Rates

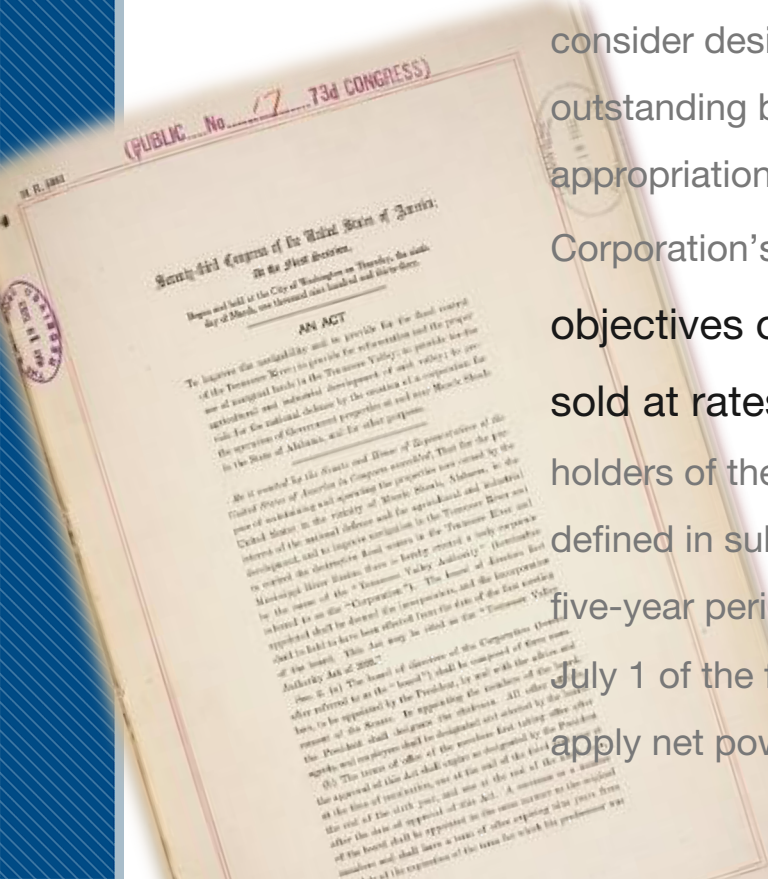


<sup>1</sup>Gross PP&E adjusted to include the addition of certain generation assets written down in 2001. Also PP&E includes the addition of capital leases & nuclear fuel.

<sup>2</sup>Total Financing Obligations include bonds, notes, leaseback and prepay obligations

# TVA Act

consider desirable for investment in power system assets, retirement of outstanding bonds in advance of maturity, additional reduction of appropriation investment, and other purposes connected with the Corporation's power business having due regard for the **primary** objectives of the Act, including the objective that power shall be sold at rates as low as are feasible. In order to protect the investment of holders of the Corporation's securities and the appropriation investment as defined in subsection (e) hereof, the Corporation, during each successive five-year period beginning with the five-year period which commences on July 1 of the first full fiscal year after the effective date of this section, shall apply net power proceeds either in reduction



# Energy | Environment | Economic Development



# Browns Ferry Nuclear Plant

## Extended Power Uprate

Will produce 14% MORE POWER









# Together We Produced Cleaner & Greener Energy



## NREL Top 5 Utility for 2017 Green Pricing Programs – Top Green Power Sales

CO<sub>2</sub>

47%  
from 2005

SO<sub>2</sub>

98%  
from peak

NO<sub>x</sub>

94%  
from peak





# Hydro Power



# Energy | **Environment** | Economic Development





# TENNESSEE RIVER ADVENTURE GUIDE



# Energy | Environment | **Economic Development**





# Continuing Economic Development

## FYTD Results

**54,000 JOBS**

Created or Retained

**\$10.2 billion**

Capital Investment

**> \$1 billion**



TVA FY17 Spend with Small Businesses

## CLARKSVILLE, TENNESSEE

Worker believes the skillset of the people, access to clean energy and strong partnership opportunities are what led to a major investment in the city of 150,000 people on the Kentucky border. "Google broke ground in February on a \$600 million data center on 1,300 acres," he says. "And LG is spending \$250 million to build an 829,000-square-foot home appliance factory slated to employ 1,000 workers." The city is also investing in a riverfront and hiking the Clarksville Riverfront Trail. The city's new \$100-million, 18-hole D&D Black Hills golf course is also a major attraction.



# Next Tech Hot Spots









Customs House Museum & Cultural Center, Clarksville, Tennessee. PHOTO: JENNIFER WRIGHT/ALAMY PHOTO

## HUNTSVILLE, ALABAMA

Alabama's third-largest city, 75 miles north of Birmingham, has long been known for engineering prowess. The city is nicknamed the Rocket City for its role in U.S. space missions associated with the area's U.S. Space & Rocket Center. In January, Toyota and Mazda announced plans to build together a \$1.6 billion auto plant in the city of 193,000.

# FY19 Winning Performance Metrics

Measure	FY19 Target	Rational
Safe Workplace	 0	Work safely and effectively
Total Financial Obligations	 Budget	Ensure long-term financial health
Operating Cash Flow	 Budget	Maintain low rates & align spending with revenue
Net Income	 Budget	Maintain low rates & align spending with revenue
Jobs Created / Retained	 50,000-75,000	Fulfill economic development mission
Board Level Significant Events	 0	Serve the citizens of the valley

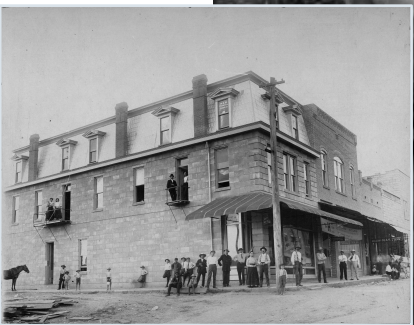
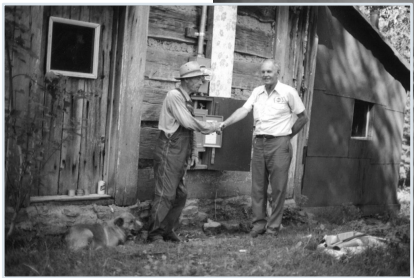
*Note – Pre-board Approval*

# Nuclear & IT Team



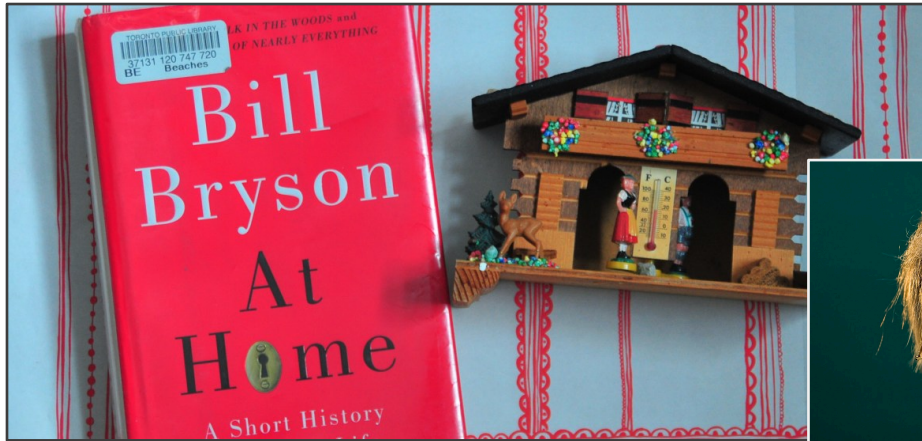


# 85 Years of Service



“We forget just how painfully dim the world was before electricity.”

- Bill Bryson







# President's Report

BILL JOHNSON  
President and CEO



# Board Meeting

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August 22, 2018  
Knoxville, TN



# Finance, Rates, and Portfolio Committee





# Financial Performance Update

JOHN THOMAS

Executive Vice President  
and Chief Financial Officer



## Q3 Fiscal Year 2018

Operating revenues of \$8.0 billion – 7% higher

- Driven primarily by weather, higher demand

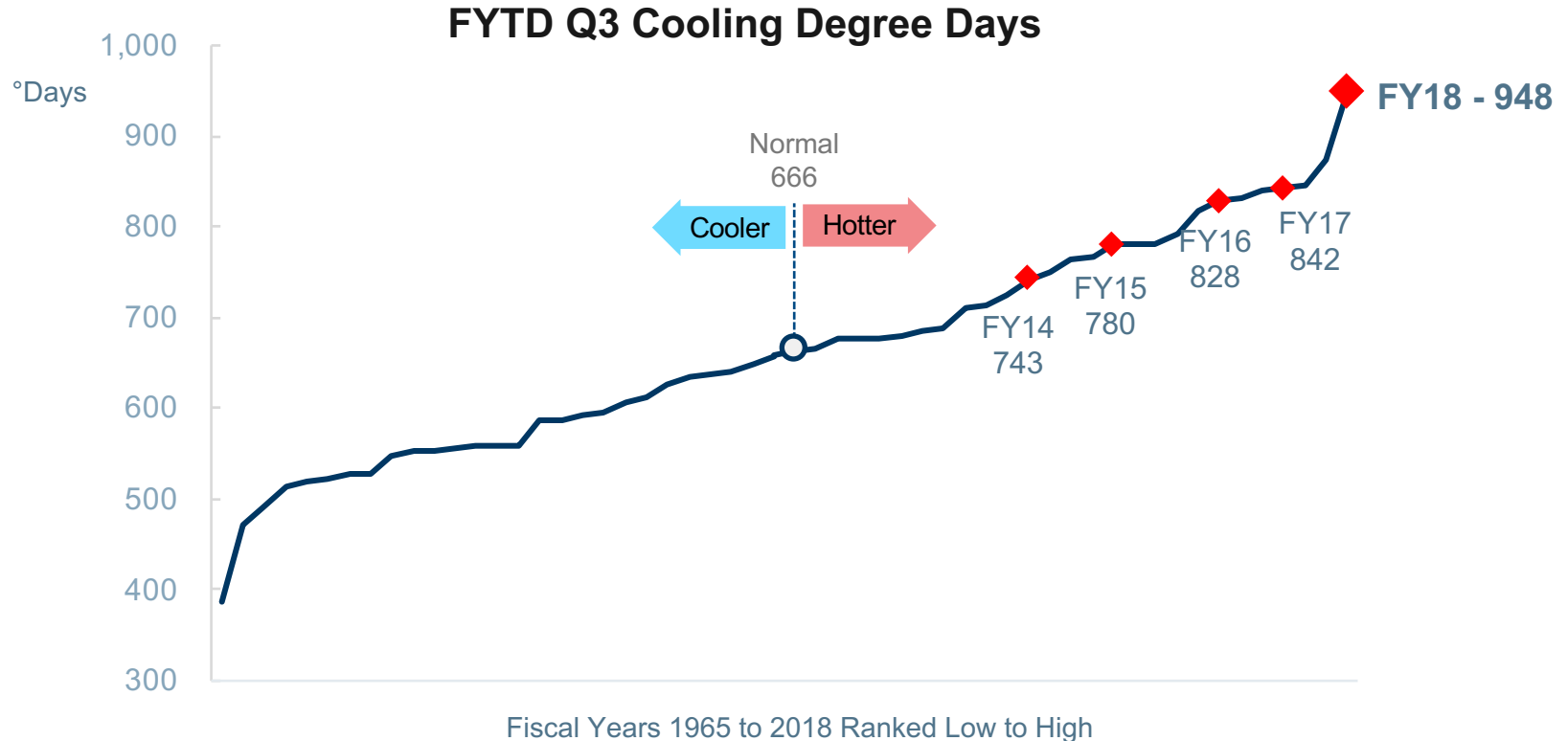
Operating expenses of \$5.9 billion – 2% lower

- Driven primarily by lower operating and maintenance expense

Net interest expense favorable by \$99 million

- Driven primarily by lower average balance and rates on long-term debt

# Record Cooling Degree Days FYTD





# Q3 Summary Income Statement

**\$739M favorable due to higher operating revenue and lower expenses**

\$ million	FYTD 2018			FYTD 2017	
	Actual	Budget	Variance Fav/(Unfav)	Actual	'18 v '17 Fav/(Unfav)
Operating Revenue	\$ 8,048	\$ 7,529	\$ 519	\$ 7,664	\$ 384
Fuel & Purchased Power	2,204	2,142	(62)	2,300	96
Total O&M	2,074	2,228	154	2,159	85
Taxes, Depreciation, Other	1,608	1,637	29	1,642	34
Interest	942	1,041	99	1,017	75
Net Income (Loss)	\$ 1,220	\$ 481	\$ 739	\$ 546	\$ 674

# Q3 Summary Cash Flow Statement

TFOs were \$1.4B favorable to budget, reflecting \$1.1B of favorability FYTD 2018

\$ million	FYTD 2018			FYTD 2017	
	Actual	Budget	Variance	Actual	'18 v '17
Cash Flow from Operating Activities	\$ 2,524	\$ 1,769	\$ 755	\$ 1,979	\$ 545
Cash Flow used in Investing Activities	(1,546)	(1,934)	388	(1,898)	352
Cash Flow from Financing Activities	(979)	165	(1,144)	(80)	(899)
<b>Net Change in Cash &amp; Cash Equivalents</b>	<b>(1)</b>	<b>-</b>	<b>(1)</b>	<b>1</b>	<b>(2)</b>
<b>Ending Cash &amp; Short-Term Investments</b>	<b>299</b>	<b>300</b>	<b>(1)</b>	<b>301</b>	<b>(2)</b>
<b>Ending Debt and Financing Obligations</b>	<b>\$ 24,997</b>	<b>\$ 26,441</b>	<b>\$ 1,444</b>	<b>\$ 26,067</b>	<b>\$ 1,070</b>

# Q3 Summary (Results v. Plan)

**Higher Revenues** – early Summer & Winter weather increased demand and energy revenue

**Lower Expenses** – O&M and interest

**Lower Debt Balance** – favorable cash flows resulting in less debt





# FY 2019 Financial Plan and Budget

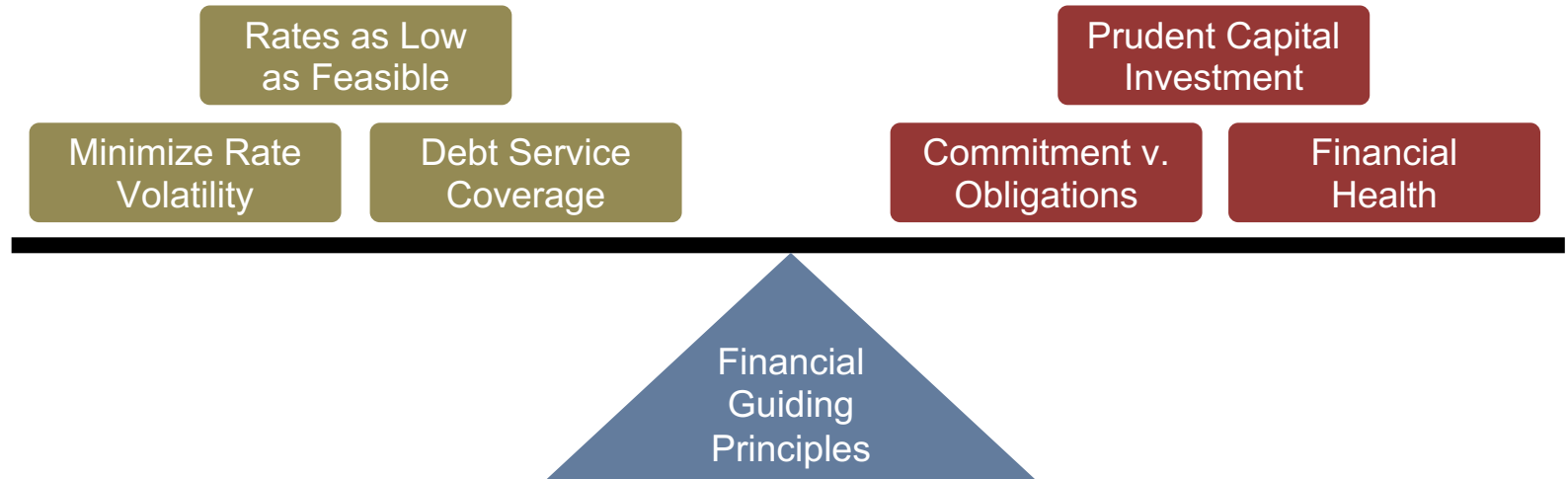
JOHN THOMAS

Executive Vice President  
and Chief Financial Officer

# TVA Long-Range Financial Plan

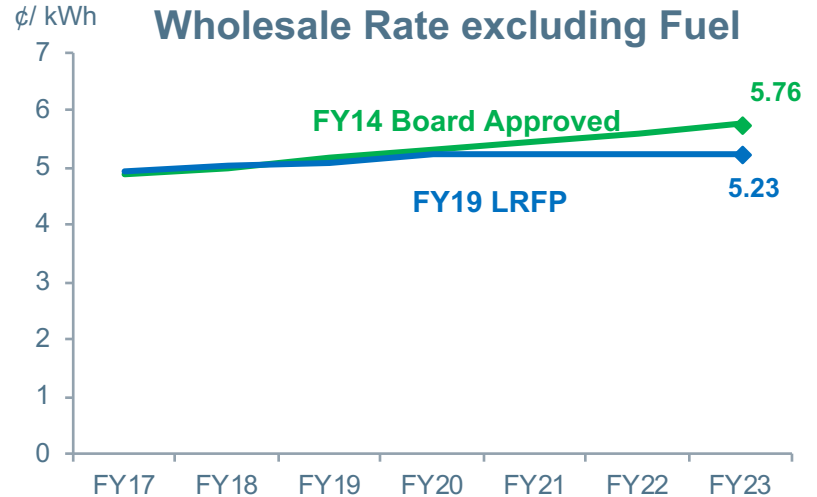
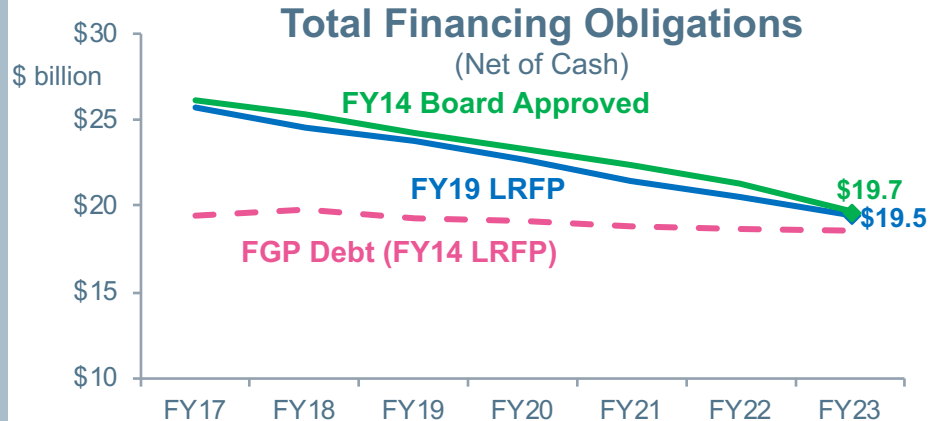
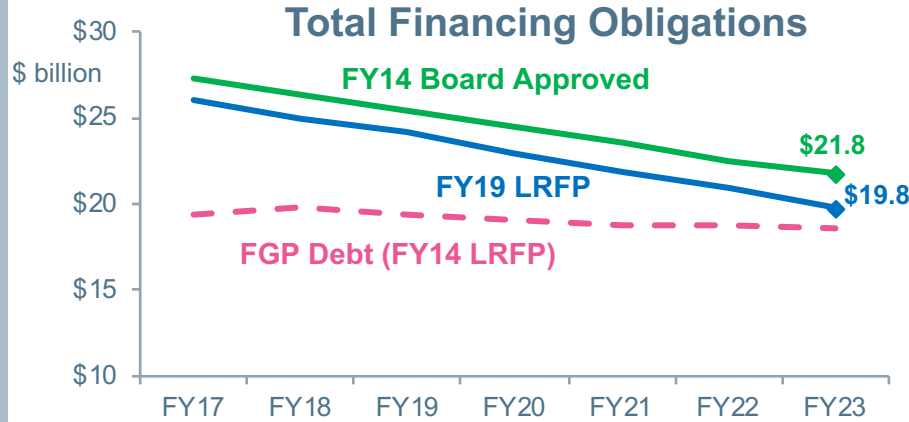
- 2014 President's Budget – divest TVA due to inability to control debt (among other things)
- TVA/Lazard Study – TVA model is best for the Valley if TVA executes plan
- TVA commitment to OMB – reduce debt to \$21.8 billion by 2023
- TVA plan to reduce debt:
  - 1.5 percent annual base rate increases as long as rates remain competitive
  - Offset rate increases by reducing O&M (\$800M), reducing fuel costs (\$1 billion) and improving performance of assets and people
  - Reducing fuel costs required fleet modernization and large capital program (\$15 billion)
  - Achieved with slight overall reduction in debt and capital program substantially reduced
- Reporting progress to OMB routinely; audited by GAO

# Financial Strategy Tradeoffs



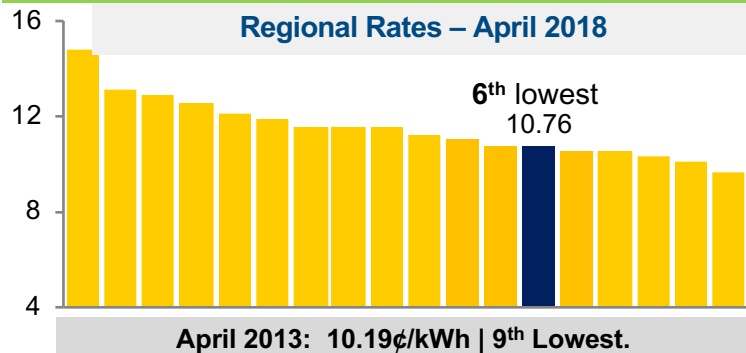


# Balancing Rates and Debt – FY19 LRFP

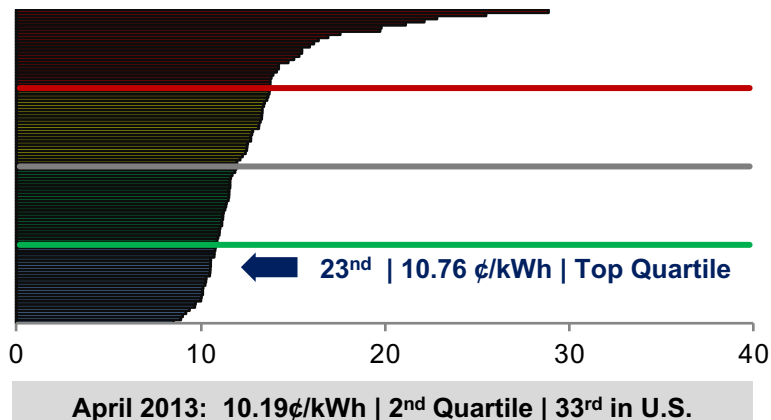


# Tennessee Valley Rate Competitiveness

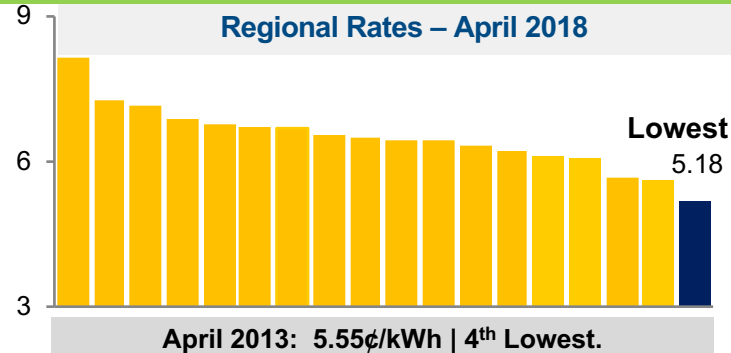
## RESIDENTIAL



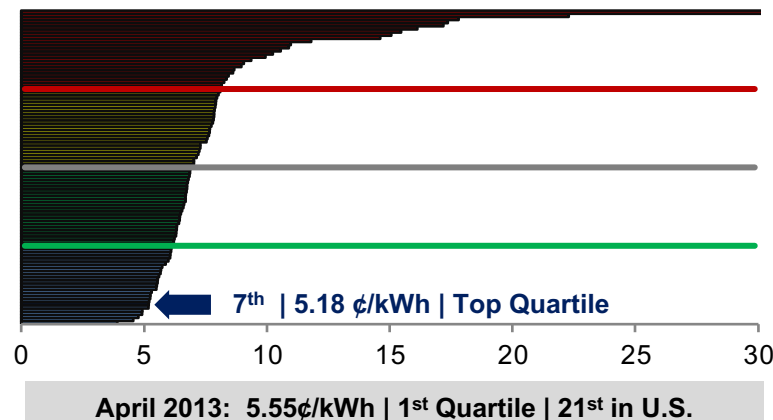
## Top 100 Utilities – April 2018



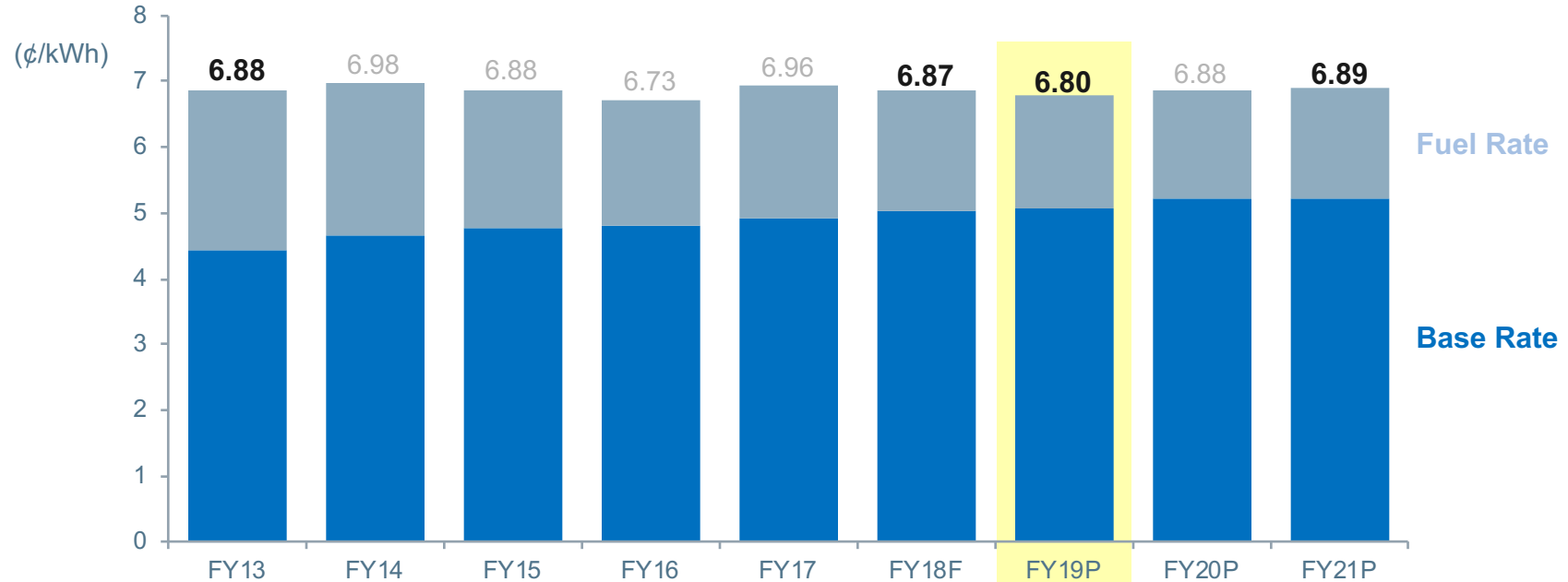
## INDUSTRIAL



## Top 100 Utilities – April 2018



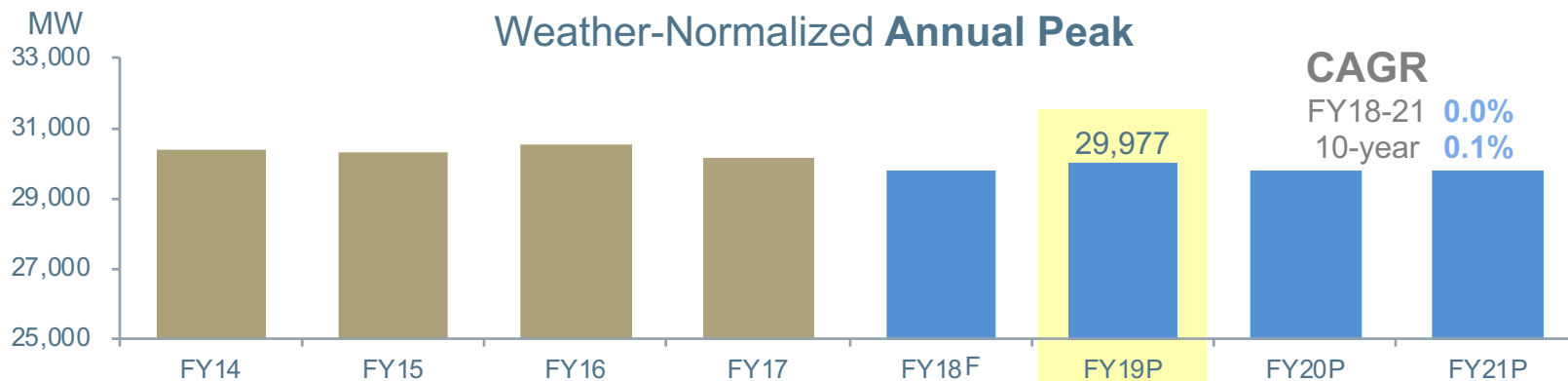
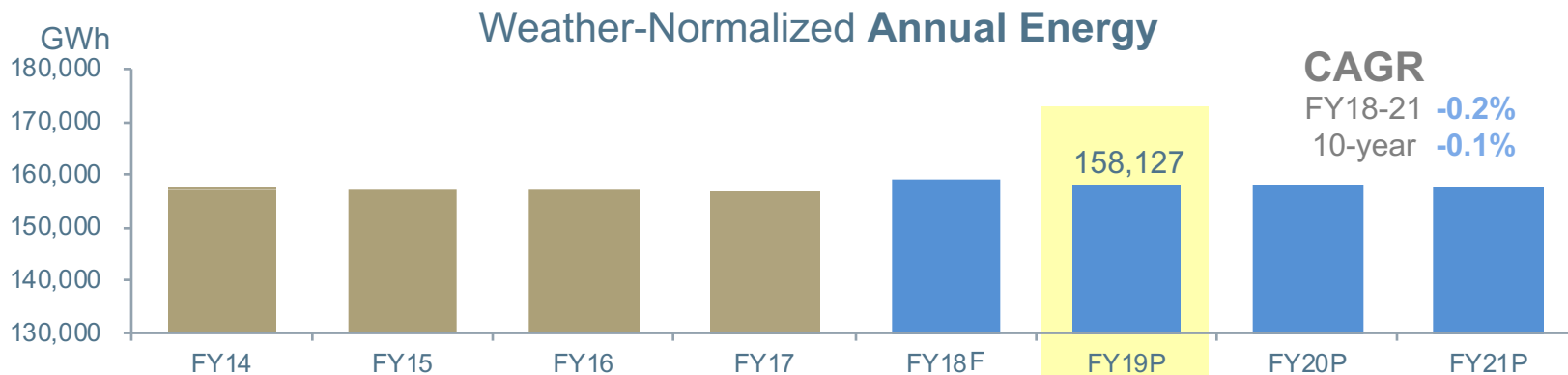
# Flat Effective Wholesale Rate



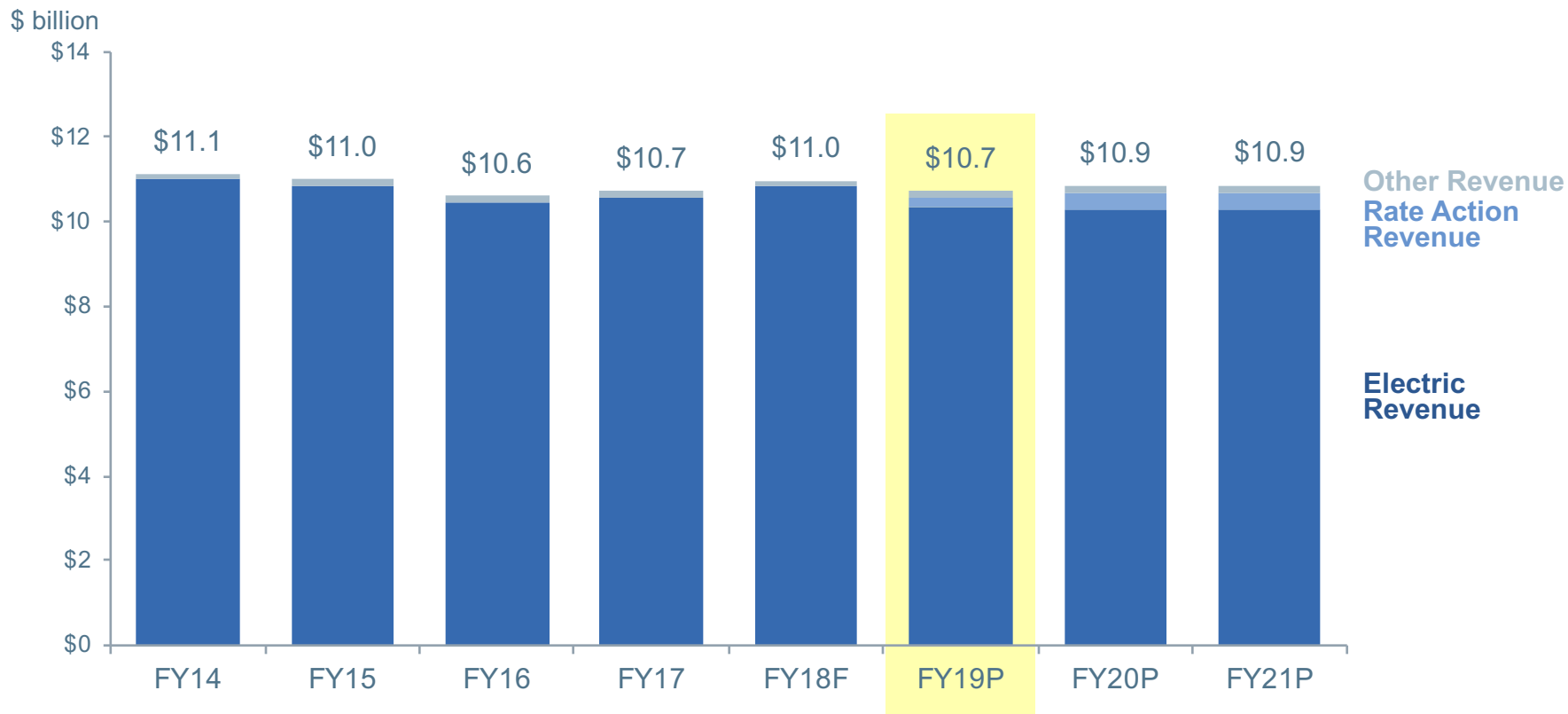
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Fuel Rate	2.44	2.34	2.10	1.92	2.03	1.84	1.71	1.66	1.67
<b>Total Wholesale Rate</b>	<b>6.88</b>	<b>6.98</b>	<b>6.88</b>	<b>6.73</b>	<b>6.96</b>	<b>6.87</b>	<b>6.80</b>	<b>6.88</b>	<b>6.89</b>



# Energy and Peak

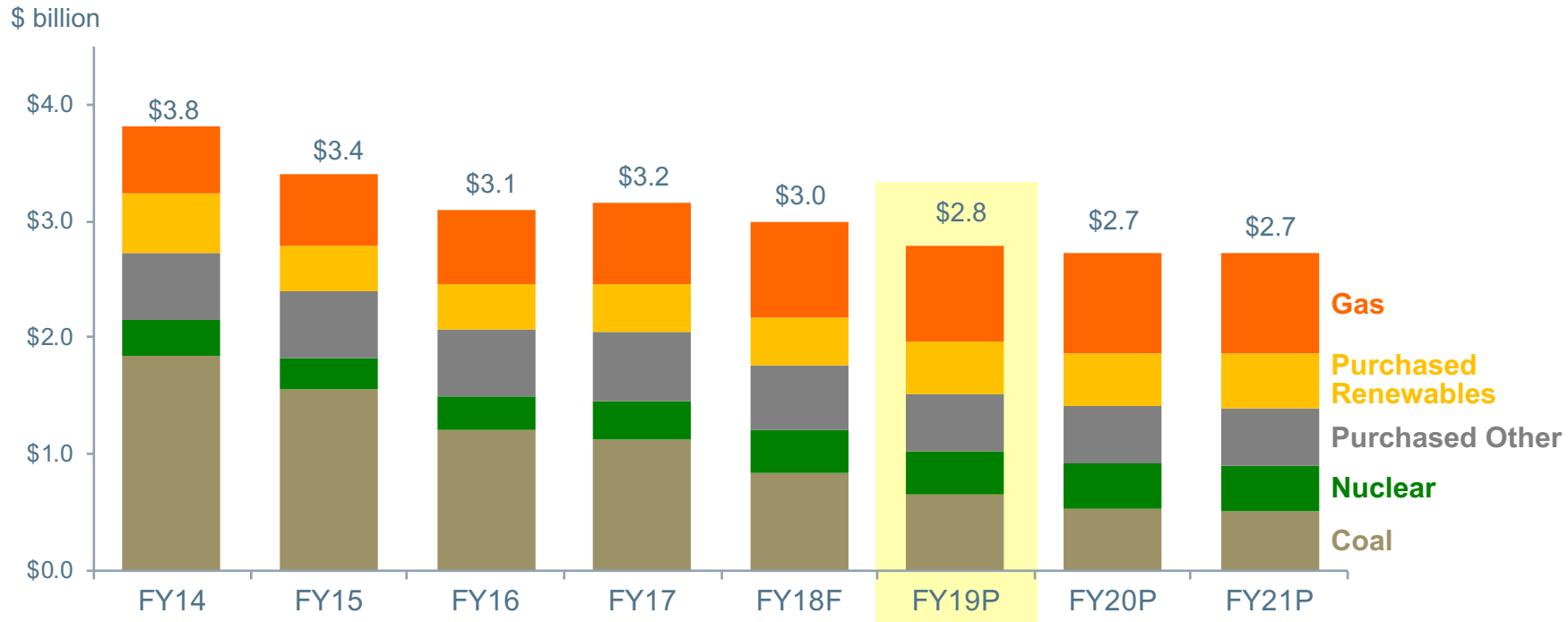


# Operating Revenue



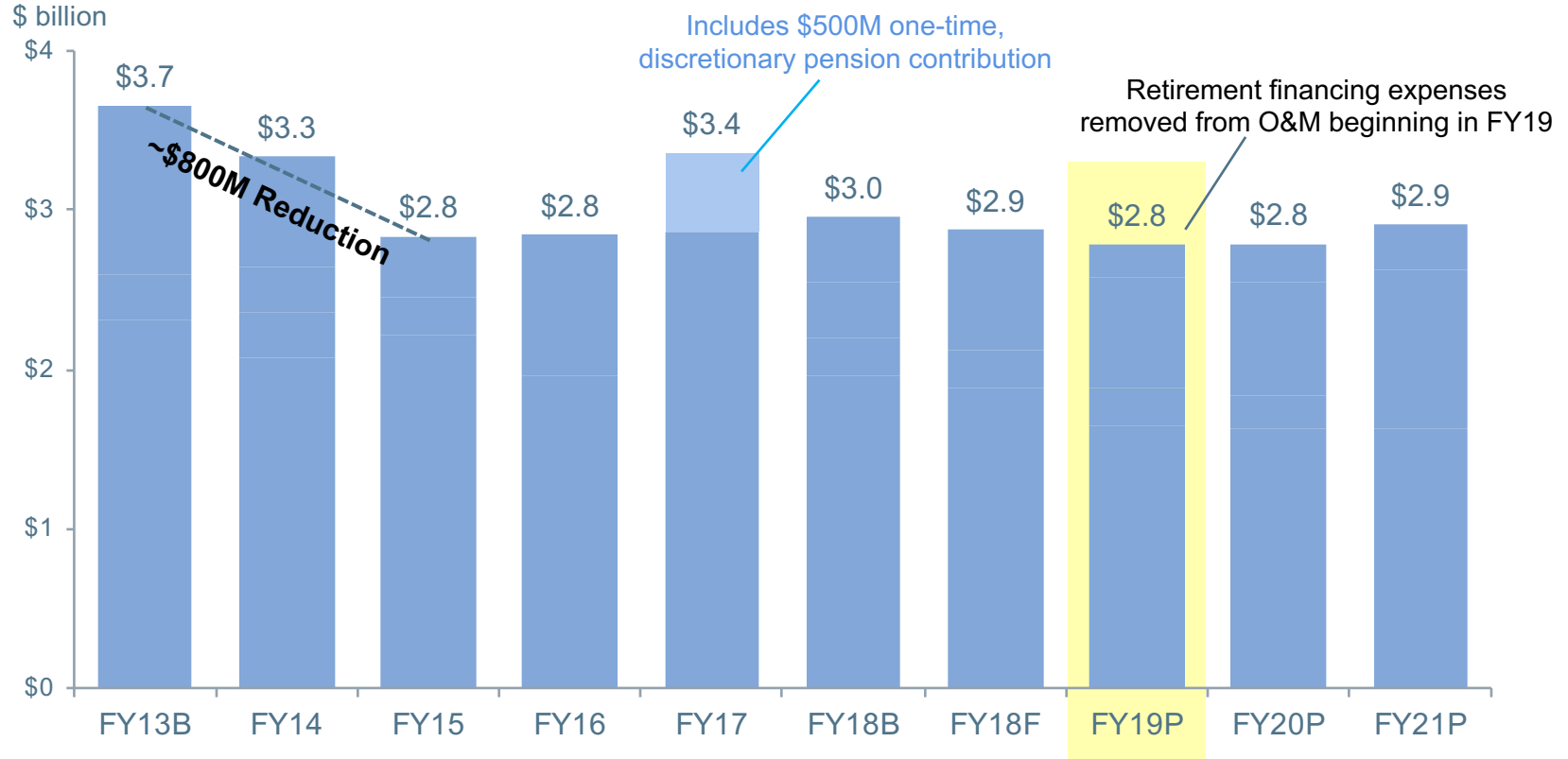
# Fuel and Purchased Power

Benefits of a balanced portfolio

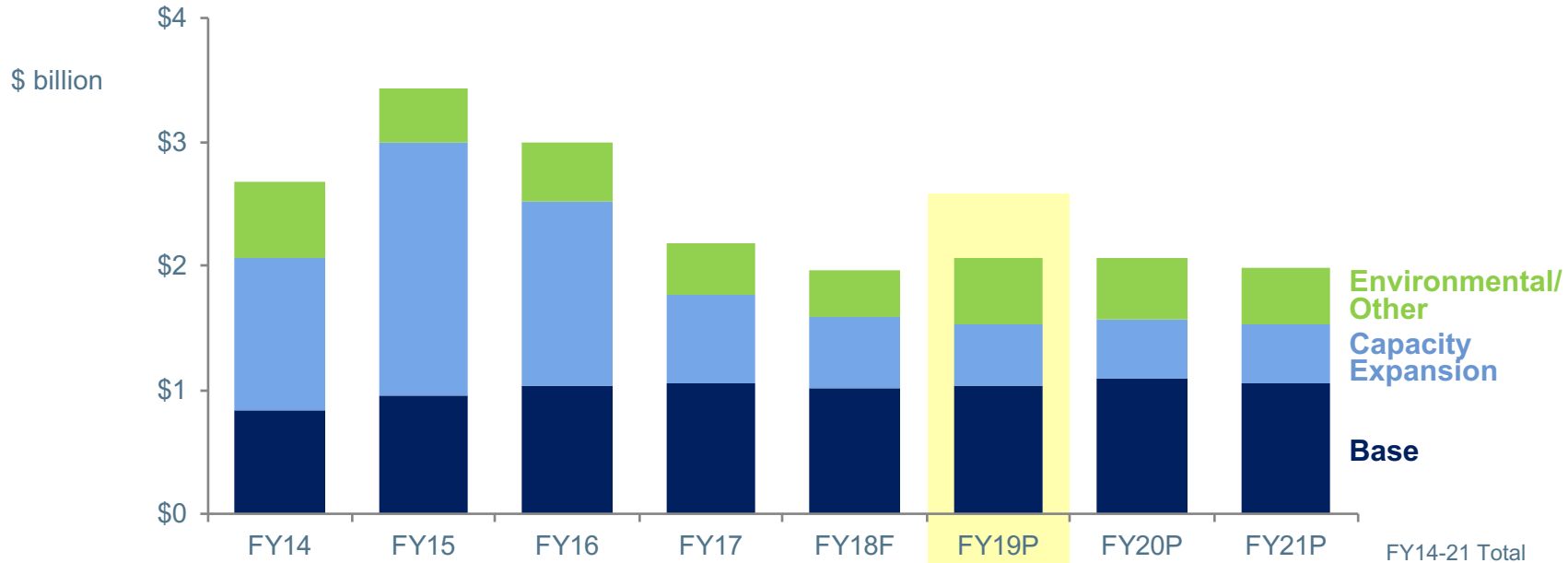




# O&M Expense



# Capital Expenditures

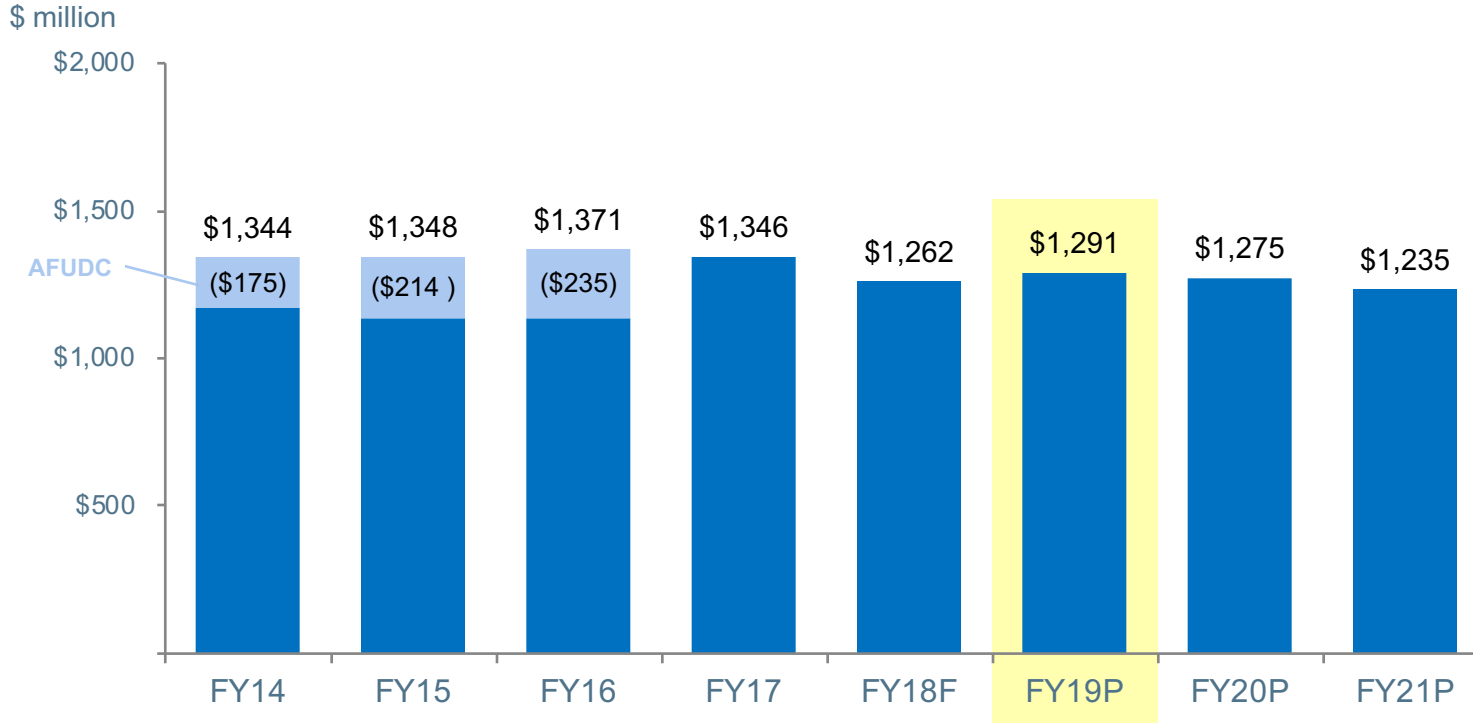


	FY14	FY15	FY16	FY17	FY18F	FY19P	FY20P	FY21P	FY14-21 Total
Base	\$ 0.8	\$ 1.0	\$ 1.0	\$ 1.1	\$ 1.0	\$ 1.0	\$ 1.1	\$ 1.0	\$ 8.0
Capacity Expansion	1.3	2.0	1.5	0.7	0.6	0.5	0.5	0.5	7.6
Environmental/Other	0.6	0.4	0.5	0.4	0.4	0.5	0.5	0.5	3.8
<b>Total Capital Expenditures</b>	<b>\$ 2.7</b>	<b>\$ 3.4</b>	<b>\$ 3.0</b>	<b>\$ 2.2</b>	<b>\$ 2.0</b>	<b>\$ 2.0</b>	<b>\$ 2.1</b>	<b>\$ 2.0</b>	<b>\$ 19.4</b>

Capital Expenditures include AFUDC, ARO/Decommissioning, Kingston Ash Cleanup and Bellefonte Regulatory Asset spend

# Interest Expense

Debt reduction offsetting higher effective interest rates



# Risks to the Plan: \$Billion+

Loss of Load and/or Customers

Environmental Remediation Cost

Litigation

Financial Risk/Economy

Pension Liability

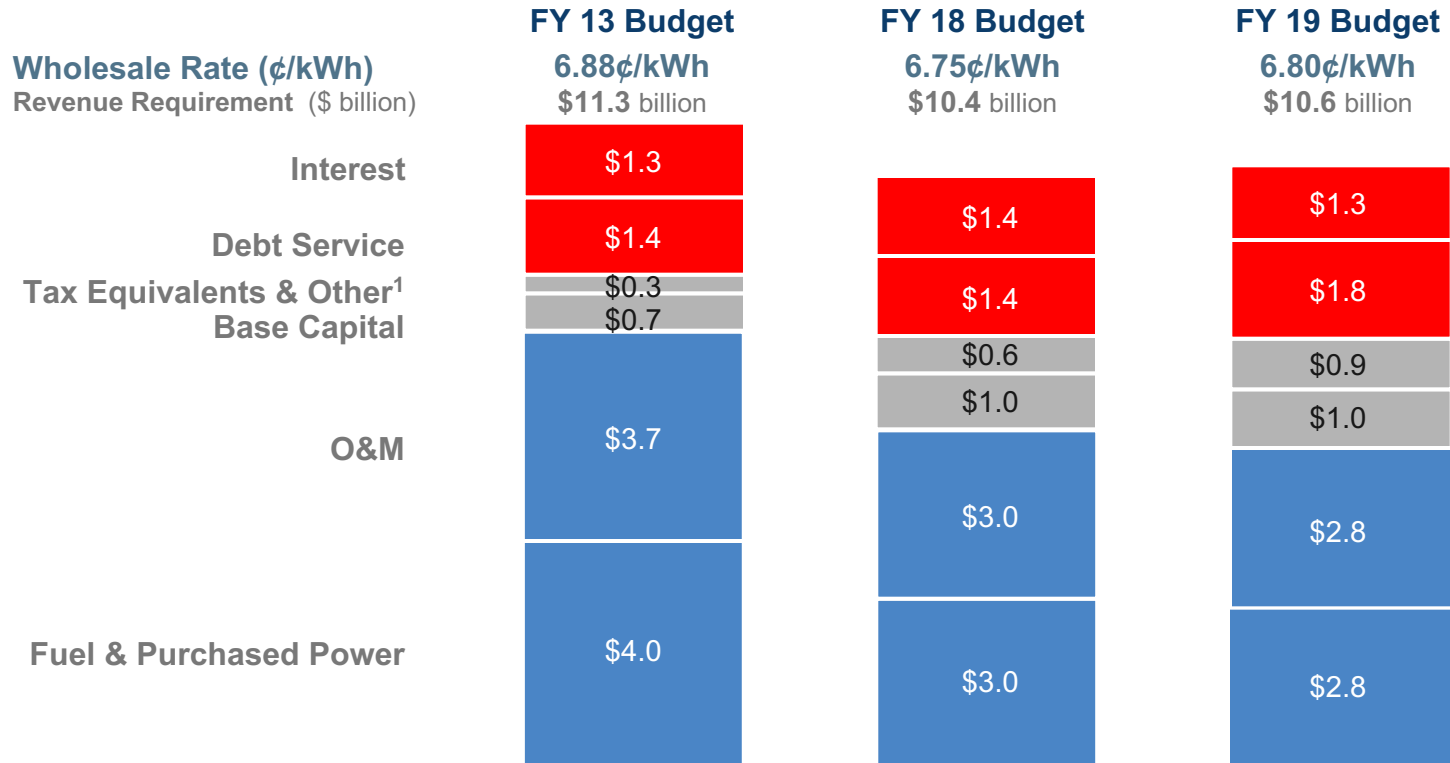
Aging Infrastructure

Industry Issues

New Regulation/Compliance



# Debt Reduction



<sup>1</sup>Tax Equivalents & Other for FY13 excludes adjustment for pension expense

# Income Statement

\$ million	FY18B	FY18F	FY19P	FY20P	FY21P
<b>Operating Revenue</b>	<b>\$ 10,522</b>	<b>\$ 10,980</b>	<b>\$ 10,714</b>	<b>\$ 10,856</b>	<b>\$ 10,863</b>
Fuel & Purchased Power	2,953	2,990	2,792	2,720	2,728
O&M	2,958	2,872	2,790	2,795	2,918
Depreciation & Amortization	1,716	1,663	1,728	1,778	1,770
Tax Equivalents	510	514	527	522	533
<b>Operating Expenses</b>	<b>8,137</b>	<b>8,040</b>	<b>7,837</b>	<b>7,814</b>	<b>7,949</b>
<b>Operating Income</b>	<b>2,385</b>	<b>2,941</b>	<b>2,877</b>	<b>3,041</b>	<b>2,914</b>
<b>Other Income / (Expense)</b>	<b>37</b>	<b>37</b>	<b>(223)</b>	<b>(224)</b>	<b>(106)</b>
Interest Expense	1,382	1,262	1,291	1,275	1,235
AFUDC Borrowed Funds	-	-	-	-	-
<b>Net Interest Expense</b>	<b>1,382</b>	<b>1,262</b>	<b>1,291</b>	<b>1,275</b>	<b>1,235</b>
<b>Net Income</b>	<b>\$ 1,040</b>	<b>\$ 1,716</b>	<b>\$ 1,363</b>	<b>\$ 1,542</b>	<b>\$ 1,573</b>

# Revenue Requirements

\$ million

	FY18B	FY18F	FY19P	FY20P	FY21P
<b><u>Revenue Forecast</u></b>					
Fuel	2,953	2,990	2,792	2,720	2,728
O&M	2,958	2,872	2,790	2,795	2,918
Base Capital	1,020	1,018	1,041	1,090	1,050
Interest	1,382	1,262	1,291	1,275	1,235
Tax Equivalents	510	514	527	522	533
Debt Paydown	1,439	2,086	1,759	2,208	2,067
Other	110	86	356	85	171
<b>Total TVA Revenue Requirements</b>	<b>\$ 10,372</b>	<b>\$ 10,828</b>	<b>\$ 10,556</b>	<b>\$ 10,695</b>	<b>\$ 10,702</b>
 Base Revenues	 7,349	 7,932	 7,699	 7,711	 7,704
Fuel Revenues	2,828	2,896	2,658	2,582	2,596
Rate Action Revenues	195	-	199	402	402
<b>Total Electric Revenues</b>	<b>\$ 10,372</b>	<b>\$ 10,828</b>	<b>\$ 10,556</b>	<b>\$ 10,695</b>	<b>\$ 10,702</b>
 <b>Surplus / (Shortfall)</b>	 -	 -	 -	 -	 -
 Strategic Capital	 1,112	 947	 1,030	 975	 936
Cash on Hand	-	-	-	-	-
Debt Paydown	(1,439)	(2,086)	(1,759)	(2,208)	(2,067)
<b>Change in TFO</b>	<b>\$ (327)</b>	<b>\$ (1,139)</b>	<b>\$ (729)</b>	<b>\$ (1,233)</b>	<b>\$ (1,131)</b>

# Summary

- Incremental fuel cost savings
- Incremental O&M efficiencies
- Provides \$2 billion in new capital investment
- Includes \$199 million effective rate increase
- Achieves debt reduction goal



# Tax Equivalents

Section 13 of the TVA Act requires five percent of TVA's gross proceeds from power sales\* to be redistributed as tax equivalent payments.

The payments to states are determined by the following criteria:

- 50 percent from the state's book value of TVA power properties compared to TVA's total book value of power property
- 50 percent from the state's power sales compared to total TVA power sales

\*excluding federal sales, off-system sales, and power used by TVA

# Tax Equivalent Payments by State

(\$ million)

State	FY17	FY18
Tennessee	\$ 344	\$ 347
Alabama	87	88
Mississippi	39	40
Kentucky	34	36
Georgia	8	8
North Carolina	3	3
Virginia	1	1
Illinois	<u>1</u>	<u>1</u>
Total Payments	\$ 517	\$ 524
FCA Adjustment	<u>8</u>	<u>(10)</u>
Total Expense	\$ 525	\$ 514

# Recommendation

## Approve the following:

- FY19 Budget, includes
  - Contracting Plan for Fuels and Purchased Power, and Distributed Energy Resources
  - Projects over \$50 million
  - Land Condemnations
  - Regulatory Accounting
  - Final FY18 and begin estimated FY19 Section 13 Tax Equivalent Payments
- Rate Adjustment of approximately \$200 million effective October 1
- \$2.0 billion of long-term bonds



# Finance, Rates, and Portfolio Committee







# Nuclear Fuel Supply Program

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David Czufin, Senior Vice President, Engineering & Operations Support  
August 22, 2018

# Topic

TVA must buy low enriched uranium to ensure an adequate and secure supply for our nuclear fleet

## **For Board Consideration in August 2018**

Approve entering into agreements to obtain low enriched uranium for TVA's nuclear power plants through 2040 not to exceed \$750 million

# Recommendation

Approve entering into agreements to obtain low enriched uranium for TVA's nuclear power plants through 2040 not to exceed \$750 million.



# Finance, Rates, and Portfolio Committee







# Integrated Supply Program for Maintenance, Repair, Operations, and Industrial Items

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Rebecca Tolene, Vice President, Supply Chain

August 22, 2018

# Purpose

Request the Board award a contract to WESCO Distribution for maintenance, repair, operations supplies, and administrative services for TVA's Integrated Supply Program

# Integrated Supply Program

- Integrated Supply Program created in 2010
- WESCO selected as lead integrator
- Current contract expires September 30, 2018
- Request for proposals issued and evaluated

# Integrated Supply Program

WESCO selected for

- Best overall proposal
- Cost savings
- Dedicated customer service
- Standardization and automation
- Strategic inventory management
- Utilization of small and valley-owned businesses

# Recommendation

Recommend the Board award a contract to WESCO Distribution for maintenance, repair, operations supplies, and program services for five years, with the option to extend the contract up to five years, and for a total amount of \$800 million





# Finance, Rates, and Portfolio Committee





# Audit, Risk, and Regulation Committee







# External Relations Committee





# Public Land Protection Policy

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Mike Skaggs, Executive Vice President, Operations  
August 22, 2018

# Purpose

Propose the Public Land Protection Policy  
for Board approval



# Public Land Protection Policy

- Complements the 2006 TVA Land Policy
- Consistent with Board-approved actions relating to TVA's management of its public land
- Better aligns TVA with other federal agencies which manage public land
- Reflects public input received during a 60-day comment period

# Public Land Protection Policy

Because of the importance of TVA public land and resources to the region and to TVA's mission of service, TVA's policy is to manage its lands and resources to protect the integrated operation of the TVA reservoir and power systems, to provide for appropriate public use and enjoyment of TVA public land, and to provide for continuing economic growth in the Valley.

Further, it is TVA's commitment to prevent abuse and destruction of TVA public land and resources and take necessary steps to remedy unauthorized uses and encroachments.

To that end, the TVA Board supports broad efforts to better protect TVA public land and resources, including the development of land management regulations.

# Recommendation

Recommend the Board approve the Public Land Protection Policy



# External Relations Committee





# Nuclear Oversight Committee





# People and Performance Committee



A close-up photograph of a person in a blue suit and striped tie, holding a silver pen over a document. The image is used as a background for the text.

# Corporate Goals

JOHN THOMAS

Executive Vice President  
and Chief Financial Officer

# Fiscal Year 2019 Performance Goals

Approve scorecards for:

- **Annual Incentive Program (Winning Performance)**

Designed to promote teamwork, motivate and reward employees for achieving annual goals

- **Long-Term Incentive Plan (LTIP)**

Designed to support achievement of long-term strategic goals

# FY19 Winning Performance Design

- Corporate multiplier between 0 and 1.0
- Board defines key performance measures aligned to strategic imperatives
- Board / CEO qualitatively assess performance compared to target to determine final multiplier
- Board continues to use judgment in all aspects of corporate performance

# Winning Performance Scorecard Overview

FY19 Corporate Multiplier

Aligns to People, Financial, and Stewardship Strategic Imperatives Outlined by Board

Measure	Target
Safe Workplace	0
Financial Health	
Operating Cash Flow	Budget
Net Income	Budget
Total Financing Obligations	Budget
Jobs Created / Retained	50,000-75,000
Board Level Significant Events	0

Note: Corporate Measures include only a target; CEO / Board will assess performance above or below target



# Long-Term Incentive Plan (LTIP)

FY21 LTIP Cycle Scorecard Measures include:

- Non-Fuel Delivered Cost of Power
- Load Not Served
- External Measures Index
  - INPO Index
  - Media Tone
  - Stakeholder Survey
  - Customer Loyalty
  - Board Level Significant Events

# 2021 LTIP Scorecard

Measure	Weight	Threshold	Target	Stretch
<b>Non-Fuel Delivered Cost of Power</b> (FY19 – FY21 avg.)	40%	3.57	3.44	3.30
<b>Load Not Served</b> (FY19 – FY21 avg.)	30%	4.8	4.0	3.6
<b>External Measures</b> (FY19 – FY21 avg.)	30%	82.0	89.8	97.5

# Revision to 2019 and 2020 LTIP Scorecards

Consistent with the 2021 Scorecard, recommend replacing Wholesale Rate Excluding Fuel with Non-Fuel Delivered Cost of Power for

- FY17 – FY19 LTIP Cycle
- FY18 – FY20 LTIP Cycle

Non-Fuel Delivered Cost of Power	Weight	Threshold	Target	Stretch
<b>FY17 - FY19</b> (FY19 budget value)	40%	3.65	3.51	3.37
<b>FY18 – FY20</b> (Average of FY19 and FY20 from FY19 budget)	40%	3.57	3.43	3.29

# Recommendation

## **FY19 Winning Performance**

- Approve strategic measures and targets in corporate multiplier

## **Long-term Incentive Plan**

- Approve LTIP 2021 Cycle scorecard and targets
- Reapprove LTIP 2019 and LTIP 2020 Cycle scorecards revised for using Non-Fuel Delivered Cost of Power in place of Wholesale Rate Excluding Fuel as the financial measure



# People and Performance Committee







# Health Savings Account Administration

SUE COLLINS

Chief Human Resources Officer

# Purpose

Request Board approval to award a contract to HSA Bank, a division of Webster Bank, N.A. (HSA Bank) for health savings account administration services

# Background

- Existing contract with HSA Bank for health savings account services will expire December 31, 2018
- Request for Proposal was issued in January 2018 to ten potential bidders
- Eight proposals were received and evaluated by a cross-functional team, including members from Employee Benefits, Payroll Operations, Retirement Management, and Sourcing

# Background

- HSA Bank presented the best overall proposal and received the highest technical score
- HSA Bank's performance and service have resulted in a high satisfaction level
- No disruption in services will be experienced

# Recommendation

Request Board approval to award a contract to HSA Bank for health savings account administration.





# People and Performance Committee



