FIRSTENERGY CORP
Form 10-K
February 20, 2018

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

FORM 10-K
(Mark One)
þ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the FISCAL YEAR ended December 31, 2017

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	Registrant; State of Incorporation; Address; and Telephone Number	I.R.S. Employer Identification No.
333-21011	FIRSTENERGY CORP. (An Ohio Corporation) 76 South Main Street Akron, OH 44308 Telephone (800)736-3402	34-1843785
000-53742	FIRSTENERGY SOLUTIONS CORP. (An Ohio Corporation) c/o FirstEnergy Corp. 76 South Main Street Akron, OH 44308 Telephone (800)736-3402	31-1560186

SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:

Registrant	Title of Each Class	Name of Each Exchange on Which Registered
FirstEnergy Corp.	Common Stock, $0.10 par value per share	New York Stock Exchange

SECURITIES REGISTERED PURSUANT TO SECTION 12(g) OF THE ACT:

Registrant	Title of Class
FirstEnergy Solutions Corp.	Common Stock, no par value per share

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes þ No o FirstEnergy Corp.
Yes o No þ FirstEnergy Solutions Corp.
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

Yes o No þ FirstEnergy Corp. and FirstEnergy Solutions Corp.

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) 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 þ No o FirstEnergy Corp. and FirstEnergy Solutions Corp.

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

Yes þ No o FirstEnergy Corp. and FirstEnergy Solutions Corp.

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

þ FirstEnergy Corp.

þ FirstEnergy Solutions Corp.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or 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 þ	FirstEnergy Corp.
Accelerated Filer o	N/A
Non-accelerated Filer (Do not check if a smaller reporting company) þ	FirstEnergy Solutions Corp.
Smaller Reporting Company o	N/A
Emerging Growth Company o	N/A

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

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

Yes o No þ FirstEnergy Corp. and FirstEnergy Solutions Corp.

State the aggregate market value of the voting and non-voting common equity held by non-affiliates computed by reference to the price at which the common equity was last sold, or the average bid and ask price of such common equity, as of the last business day of the registrant’s most recently completed second fiscal quarter.

FirstEnergy Corp., $12,919,874,051 as of June 30, 2017; and for FirstEnergy Solutions Corp., none.

Indicate the number of shares outstanding of each of the registrant’s classes of common stock, as of the latest practicable date:

CLASS	OUTSTANDING AS OF JANUARY 31, 2018
FirstEnergy Corp., $0.10 par value	475,589,829
FirstEnergy Solutions Corp., no par value	7

FirstEnergy Corp. is the sole holder of FirstEnergy Solutions Corp. common stock.

Documents Incorporated By Reference

DOCUMENT	PART OF FORM 10-K INTO WHICH DOCUMENT IS INCORPORATED

Proxy Statement for 2018 Annual Meeting of Shareholders of FirstEnergy Corp. to be held May 15, 2018	Part III

This combined Form 10-K is separately filed by FirstEnergy Corp. and FirstEnergy Solutions Corp. Information contained herein relating to an individual registrant is filed by such registrant on its own behalf. No registrant makes any representation as to information relating to the other registrant, except that information relating to FirstEnergy Solutions Corp. is also attributable to FirstEnergy Corp.

OMISSION OF CERTAIN INFORMATION

FirstEnergy Solutions Corp. meets the conditions set forth in General Instruction I(1)(a) and (b) of Form 10-K and is therefore filing this Form 10-K with the reduced disclosure format specified in General Instruction I(2) of Form 10-K.

Forward-Looking Statements: Certain of the matters discussed in this Annual Report on Form 10-K are forward-looking statements, within the meaning of the Private Securities Litigation Reform Act of 1995, that are subject to risks and uncertainties. The factors that could cause actual results to differ materially from the forward-looking statements made by the Registrants include those factors discussed herein, including those factors with respect to such Registrants discussed in (a) Item 1A. Risk Factors, (b) Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations, and (c) other factors discussed herein and in other filings with the SEC by the Registrants. These risks, unless otherwise indicated, are presented on a consolidated basis for FirstEnergy; if and to the extent a deconsolidation occurs with respect to certain FirstEnergy companies the risks described herein may materially change. Readers are cautioned not to place undue reliance on these forward-looking statements, which apply only as of the date of this Form 10-K. Neither of the Registrants undertake any obligation to update these statements, except as required by law.

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GLOSSARY OF TERMS

The following abbreviations and acronyms are used in this report to identify FirstEnergy Corp. and its current and former subsidiaries:

AE	Allegheny Energy, Inc., a Maryland utility holding company that merged with a subsidiary of FirstEnergy on February 25, 2011, which subsequently merged with and into FE on January 1, 2014
AESC	Allegheny Energy Service Corporation, a subsidiary of FirstEnergy Corp.
AE Supply	Allegheny Energy Supply Company, LLC, an unregulated generation subsidiary
AGC	Allegheny Generating Company, a generation subsidiary of AE Supply and equity method investee of MP
ATSI	American Transmission Systems, Incorporated, formerly a direct subsidiary of FE that became a subsidiary of FET in April 2012, which owns and operates transmission facilities
BU Energy	Buchanan Energy Company of Virginia, LLC, a subsidiary of AE Supply, and 50% owner in a joint venture that owns the Buchanan Generating Facility
Buchanan Generation	Buchanan Generation, LLC, a joint venture between AE Supply and CNX Gas Corporation
CEI	The Cleveland Electric Illuminating Company, an Ohio electric utility operating subsidiary
CES	Competitive Energy Services, a reportable operating segment of FirstEnergy
FE	FirstEnergy Corp., a public utility holding company
FENOC	FirstEnergy Nuclear Operating Company, a subsidiary of FE, which operates nuclear generating facilities
FES	FirstEnergy Solutions Corp., together with its consolidated subsidiaries, which provides energy-related products and services
FESC	FirstEnergy Service Company, which provides legal, financial and other corporate support services
FET	FirstEnergy Transmission, LLC, formerly known as Allegheny Energy Transmission, LLC, which is the parent of ATSI, MAIT and TrAIL, and has a joint venture in PATH
FEV	FirstEnergy Ventures Corp., which invests in certain unregulated enterprises and business ventures
FG	FirstEnergy Generation, LLC, a wholly-owned subsidiary of FES, which owns and operates non-nuclear generating facilities
FirstEnergy	FirstEnergy Corp., together with its consolidated subsidiaries
Global Holding	Global Mining Holding Company, LLC, a joint venture between FEV, WMB Marketing Ventures, LLC and Pinesdale LLC
Global Rail	Global Rail Group, LLC, a subsidiary of Global Holding that owns coal transportation operations near Roundup, Montana
GPU	GPU, Inc., former parent of JCP&L, ME and PN, that merged with FE on November 7, 2001
Green Valley	Green Valley Hydro, LLC, which owned hydroelectric generating stations
JCP&L	Jersey Central Power & Light Company, a New Jersey electric utility operating subsidiary
MAIT	Mid-Atlantic Interstate Transmission, LLC, a subsidiary of FET, which owns and operates transmission facilities
ME	Metropolitan Edison Company, a Pennsylvania electric utility operating subsidiary
MP	Monongahela Power Company, a West Virginia electric utility operating subsidiary
NG	FirstEnergy Nuclear Generation, LLC, a subsidiary of FES, which owns nuclear generating facilities
OE	Ohio Edison Company, an Ohio electric utility operating subsidiary
Ohio Companies	CEI, OE and TE

PATH	Potomac-Appalachian Transmission Highline, LLC, a joint venture between FE and a subsidiary of AEP
PATH-Allegheny	PATH Allegheny Transmission Company, LLC
PATH-WV	PATH West Virginia Transmission Company, LLC
PE	The Potomac Edison Company, a Maryland and West Virginia electric utility operating subsidiary
Penn	Pennsylvania Power Company, a Pennsylvania electric utility operating subsidiary of OE
Pennsylvania Companies	ME, PN, Penn and WP
PN	Pennsylvania Electric Company, a Pennsylvania electric utility operating subsidiary
Signal Peak	Signal Peak Energy, LLC, an indirect subsidiary of Global Holding that owns mining operations near Roundup, Montana
TE	The Toledo Edison Company, an Ohio electric utility operating subsidiary
TrAIL	Trans-Allegheny Interstate Line Company, a subsidiary of FET, which owns and operates transmission facilities
Utilities	OE, CEI, TE, Penn, JCP&L, ME, PN, MP, PE and WP
WP	West Penn Power Company, a Pennsylvania electric utility operating subsidiary

The following abbreviations and acronyms are used to identify frequently used terms in this report:

AAA	American Arbitration Association
ADIT	Accumulated Deferred Income Taxes

GLOSSARY OF TERMS, Continued

AEP	American Electric Power Company, Inc.
AFS	Available-for-sale
AFUDC	Allowance for Funds Used During Construction
ALJ	Administrative Law Judge
AMT	Alternative Minimum Tax
AOCI	Accumulated Other Comprehensive Income
ARO	Asset Retirement Obligation
ASU	Accounting Standards Update
Bath County	Bath County Pumped Storage Hydro-Power Station
BGS	Basic Generation Service
bps	Basis points
BNSF	BNSF Railway Company
BRA	PJM RPM Base Residual Auction
CAA	Clean Air Act
CBA	Collective Bargaining Agreement
CCR	Coal Combustion Residuals
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFL	Compact Fluorescent Light
CFR	Code of Federal Regulations
CFTC	Commodity Futures Trading Commission
CO_2	Carbon Dioxide
CPP	EPA's Clean Power Plan
CSAPR	Cross-State Air Pollution Rule
CSX	CSX Transportation, Inc.
CTA	Consolidated Tax Adjustment
CWA	Clean Water Act
D.C. Circuit	United States Court of Appeals for the District of Columbia Circuit
DCPD	Deferred Compensation Plan for Outside Directors
DCR	Delivery Capital Recovery
DMR	Distribution Modernization Rider
DOE	United States Department of Energy
DPM	Distribution Platform Modernization
DR	Demand Response
DSIC	Distribution System Improvement Charge
DSP	Default Service Plan
DTA	Deferred Tax Asset
EDC	Electric Distribution Company
EDCP	Executive Deferred Compensation Plan
EE&C	Energy Efficiency and Conservation
EGS	Electric Generation Supplier
EGU	Electric Generation Units
ELPC	Environmental Law & Policy Center
EmPOWER Maryland	EmPOWER Maryland Energy Efficiency Act
ENEC	Expanded Net Energy Cost
EPA	United States Environmental Protection Agency

EPRI	Electric Power Research Institute
ERO	Electric Reliability Organization
ESOP	Employee Stock Ownership Plan
ESP	Electric Security Plan
ESP IV	Electric Security Plan IV
ESP IV PPA	Unit Power Agreement entered into on April 1, 2016, by and between the Ohio Companies and FES
Facebook®	Facebook is a registered trademark of Facebook, Inc.

GLOSSARY OF TERMS, Continued

FASB	Financial Accounting Standards Board
FERC	Federal Energy Regulatory Commission
Fitch	Fitch Ratings
FMB	First Mortgage Bond
FPA	Federal Power Act
FTR	Financial Transmission Right
GAAP	Accounting Principles Generally Accepted in the United States of America
GHG	Greenhouse Gases
HCl	Hydrochloric Acid
IBEW	International Brotherhood of Electrical Workers
ICE	Intercontinental Exchange, Inc.
ICP 2007	FirstEnergy Corp. 2007 Incentive Plan
ICP 2015	FirstEnergy Corp. 2015 Incentive Compensation Plan
IIP	Investment Infrastructure Program
IRP	Integrated Resource Plan
IRS	Internal Revenue Service
ISO	Independent System Operator
kV	Kilovolt
kW	Kilowatt
KWH	Kilowatt-hour
LBR	Little Blue Run
LED	Light Emitting Diode
LOC	Letter of Credit
LSE	Load Serving Entity
LS Power	LS Power Equity Partners, LP
LTIIPs	Long-Term Infrastructure Improvement Plans
MATS	Mercury and Air Toxics Standards
MDPSC	Maryland Public Service Commission
MISO	Midcontinent Independent System Operator, Inc.
MLP	Master Limited Partnership
mmBTU	One Million British Thermal Units
Moody’s	Moody’s Investors Service, Inc.
MOPR	Minimum Offer Price Rule
MVP	Multi-Value Project
MW	Megawatt
MWH	Megawatt-hour
NAAQS	National Ambient Air Quality Standards
NDT	Nuclear Decommissioning Trust
NEIL	Nuclear Electric Insurance Limited
NERC	North American Electric Reliability Corporation
NJAPA	New Jersey Administrative Procedure Act
NJBPU	New Jersey Board of Public Utilities
NOL	Net Operating Loss
NOPR	Notice of Proposed Rulemaking
NOV	Notice of Violation
NOx	Nitrogen Oxide

NPDES	National Pollutant Discharge Elimination System
NRC	Nuclear Regulatory Commission
NS	Norfolk Southern Corporation
NSR	New Source Review
NUG	Non-Utility Generation
NYPSC	New York State Public Service Commission

GLOSSARY OF TERMS, Continued

OCA	Office of Consumer Advocate
OCC	Ohio Consumers' Counsel
OPEB	Other Post-Employment Benefits
OPEIU	Office and Professional Employees International Union
ORC	Ohio Revised Code
OTC	Over The Counter
OTTI	Other-Than-Temporary Impairments
OVEC	Ohio Valley Electric Corporation
PA DEP	Pennsylvania Department of Environmental Protection
PCB	Polychlorinated Biphenyl
PCRB	Pollution Control Revenue Bond
PJM	PJM Interconnection, L.L.C.
PJM Region	The aggregate of the zones within PJM
PJM Tariff	PJM Open Access Transmission Tariff
PM	Particulate Matter
POLR	Provider of Last Resort
POR	Purchase of Receivables
PPA	Purchase Power Agreement
PPB	Parts per Billion
PPUC	Pennsylvania Public Utility Commission
PSA	Power Supply Agreement
PSD	Prevention of Significant Deterioration
PUCO	Public Utilities Commission of Ohio
PURPA	Public Utility Regulatory Policies Act of 1978
R&D	Research and Development
RCRA	Resource Conservation and Recovery Act
REC	Renewable Energy Credit
Regulation FD	Regulation Fair Disclosure promulgated by the SEC
REIT	Real Estate Investment Trust
RFC	ReliabilityFirst Corporation
RFP	Request for Proposal
RGGI	Regional Greenhouse Gas Initiative
ROE	Return on Equity
RPM	Reliability Pricing Model
RRS	Retail Rate Stability
RSS	Rich Site Summary
RTEP	Regional Transmission Expansion Plan
RTO	Regional Transmission Organization
RWG	Restructuring Working Group
S&P	Standard & Poor’s Ratings Service
SB310	Substitute Senate Bill No. 310
SBC	Societal Benefits Charge
SEC	United States Securities and Exchange Commission
Seventh Circuit	United States Court of Appeals for the Seventh Circuit
SIP	State Implementation Plan(s) Under the Clean Air Act
Sixth Circuit	United States Court of Appeals for the Sixth Circuit

SO_2	Sulfur Dioxide
SOS	Standard Offer Service
SPE	Special Purpose Entity
SRC	Storm Recovery Charge
SREC	Solar Renewable Energy Credit
SSA	Social Security Administration

GLOSSARY OF TERMS, Continued

SSO	Standard Service Offer
Tax Act	Tax Cuts and Jobs Act adopted December 22, 2017
TDS	Total Dissolved Solid
TMI-2	Three Mile Island Unit 2
TO	Transmission Owner
Twitter®	Twitter is a registered trademark of Twitter, Inc.
UWUA	Utility Workers Union of America
VEPCO	Virginia Electric and Power Company
VIE	Variable Interest Entity
VMP	Vegetation Management Plan
VMS	Vegetation Management Surcharge
VSCC	Virginia State Corporation Commission
WVDEP	West Virginia Department of Environmental Protection
WVPSC	Public Service Commission of West Virginia

PART I
ITEM 1. BUSINESS
The Companies

FE was incorporated under Ohio law in 1996. FE’s principal business is the holding, directly or indirectly, of all of the outstanding equity of its principal subsidiaries: OE, CEI, TE, Penn (a wholly owned subsidiary of OE), JCP&L, ME, PN, FESC, FES and its principal subsidiaries (FG and NG), AE Supply, MP, PE, WP, FET and its principal subsidiaries (ATSI, MAIT and TrAIL), and AESC. In addition, FE holds all of the outstanding equity of other direct subsidiaries including: FirstEnergy Properties, Inc., FEV, FENOC, FELHC, Inc., GPU Nuclear, Inc. and Allegheny Ventures, Inc.

FE and its subsidiaries are principally involved in the generation, transmission and distribution of electricity. FirstEnergy’s ten utility operating companies comprise one of the nation’s largest investor-owned electric systems, based on serving over six million customers in the Midwest and Mid-Atlantic regions. Its regulated and unregulated generation subsidiaries control over 16,000 MWs of capacity from a diverse mix of non-emitting nuclear, scrubbed coal, natural gas, hydroelectric and other renewables. FirstEnergy’s transmission operations include approximately 24,500 miles of lines and two regional transmission operation centers.
FirstEnergy’s revenues are primarily derived from the sale of energy and related products and services by its unregulated competitive subsidiaries (FES and AE Supply), and electric service provided by its utility operating subsidiaries (OE, CEI, TE, Penn, JCP&L, ME, PN, MP, PE and WP) and its transmission subsidiaries (ATSI, MAIT and TrAIL).

Unregulated Competitive Subsidiaries

FES, a subsidiary of FE, was incorporated under Ohio law in 1997. FES provides energy-related products and services to retail and wholesale customers. FES also owns and operates, through its FG subsidiary, fossil generating facilities and owns, through its NG subsidiary, nuclear generating facilities, which are operated by FENOC. FG, a subsidiary of FES, was organized under Ohio law in 2000. FG sells the entire output of its fossil generating facilities (5,440 MWs) to FES. NG was organized under Ohio law in 2005. NG sells the entire output of its nuclear generating facilities (4,048 MWs) to FES. NG's nuclear generating facilities are operated and maintained by FENOC, a separate subsidiary of FE, organized under Ohio law in 1998.

AE Supply was organized under Delaware law in 1999. AE Supply provides energy-related products and services primarily to wholesale customers. AE Supply also owns and operates the Pleasants generating facility (1,300 MWs), and owns approximately 59% of AGC and a 50% interest in the Buchanan Generating facility.

AGC was organized under Virginia law in 1981. Approximately 59% of AGC is owned by AE Supply and approximately 41% is owned by MP. AGC’s sole asset is a 40% undivided interest in the Bath County, Virginia pumped-storage hydroelectric generation facility (1,200 MWs) and its connecting transmission facilities. AGC provides the generation capacity from this facility to AE Supply and MP.

AE Supply and AGC entered into an asset purchase agreement with a subsidiary of LS Power, as amended and restated in August 2017, to sell four natural gas generating plants, AE Supply's interest in the Buchanan Generating facility and approximately 59% of AGC’s interest in Bath County (1,615 MWs of combined capacity) for an all-cash purchase price of $825 million, subject to adjustments. On December 13, 2017, AE Supply completed the sale of its four natural gas generating plants and expects to complete the sale of approximately 59% of AGC’s interest in the Bath County hydroelectric power station and BU Energy’s 50% interest in the Buchanan Generating facility in the first half of 2018. For additional information, see "Competitive Generation Asset Sale" below.

FES, FG, NG, AE Supply and AGC comply with the regulations, orders, policies and practices prescribed by the SEC, FERC, and applicable state regulatory authorities. In addition, NG and FENOC comply with the regulations, orders, policies and practices prescribed by the NRC.

Utility Operating Subsidiaries

The Utilities' combined service areas encompass approximately 65,000 square miles in Ohio, Pennsylvania, West Virginia, Maryland, New Jersey and New York. The areas they serve have a combined population of approximately 13.3 million.

OE was organized under Ohio law in 1930 and owns property and does business as an electric public utility in that state. OE engages in the distribution and sale of electric energy to communities in a 7,000 square mile area of central and northeastern Ohio. The area it serves has a population of approximately 2.3 million.

OE owns all of Penn's outstanding common stock. Penn was organized under Pennsylvania law in 1930 and owns property and does business as an electric public utility in that state. Penn is also authorized to do business in Ohio. Penn furnishes electric service to communities in 1,100 square miles of western Pennsylvania. The area it serves has a population of approximately 0.4 million.

CEI was organized under Ohio law in 1892 and does business as an electric public utility in that state. CEI engages in the distribution and sale of electric energy in an area of 1,600 square miles in northeastern Ohio. The area it serves has a population of approximately 1.6 million.

TE was organized under Ohio law in 1901 and does business as an electric public utility in that state. TE engages in the distribution and sale of electric energy in an area of 2,300 square miles in northwestern Ohio. The area it serves has a population of approximately 0.7 million.

JCP&L was organized under New Jersey law in 1925 and owns property and does business as an electric public utility in that state. JCP&L provides transmission and distribution services in 3,200 square miles of northern, western and east central New Jersey. The area it serves has a population of approximately 2.7 million. JCP&L also has a 50% ownership interest (210 MWs) in a hydroelectric generating facility.

ME was organized under Pennsylvania law in 1917 and owns property and does business as an electric public utility in that state. ME provides distribution services in 3,300 square miles of eastern and south central Pennsylvania. The area it serves has a population of approximately 1.2 million. Additionally, as discussed in "FERC Matters" below, ME transferred its transmission assets to MAIT on January 31, 2017.

PN was organized under Pennsylvania law in 1919 and owns property and does business as an electric public utility in that state. PN provides distribution services in 17,600 square miles of western, northern and south central Pennsylvania. The area it serves has a population of approximately 1.2 million. PN, as lessee of the property of its subsidiary, The Waverly Electric Light & Power Company, also serves customers in the Waverly, New York vicinity. Additionally, as discussed in "FERC Matters" below, PN transferred its transmission assets to MAIT on January 31, 2017.

PE was organized under Maryland law in 1923 and under Virginia law in 1974. PE is authorized to do business in Virginia, West Virginia and Maryland. PE owns property and does business as an electric public utility in those states. PE provides transmission and distribution services in portions of Maryland and West Virginia and provides transmission services in Virginia in an area totaling approximately 5,500 square miles. The area it serves has a population of approximately 0.9 million.

MP was organized under Ohio law in 1924 and owns property and does business as an electric public utility in the state of West Virginia. MP provides generation, transmission and distribution services in 13,000 square miles of northern West Virginia. The area it serves has a population of approximately 0.8 million. As of December 31, 2017, MP owned or contractually controlled 3,580 MWs of generation capacity that is supplied to its electric utility business. In addition, MP is contractually obligated to provide power to PE to meet its load obligations in West Virginia.

WP was organized under Pennsylvania law in 1916 and owns property and does business as an electric public utility in that state. WP provides transmission and distribution services in 10,400 square miles of southwestern, south-central and northern Pennsylvania. The area it serves has a population of approximately 1.5 million.

The Utilities comply with the regulations, orders, policies and practices prescribed by the SEC, FERC, NERC, and their respective state regulatory authorities (PUCO, PPUC, NJBPU, WVPSC, MDPSC, NYPSC, and VSCC).

Transmission Subsidiaries

ATSI was organized under Ohio law in 1998. ATSI owns major, high-voltage transmission facilities, which consist of approximately 7,800 circuit miles of transmission lines with nominal voltages of 345 kV, 138 kV and 69 kV in the PJM Region.

TrAIL was organized under Maryland law and Virginia law in 2006. TrAIL was formed to finance, construct, own, operate and maintain high-voltage transmission facilities in the PJM Region and has several transmission facilities in operation, including a 500 kV transmission line extending approximately 150 miles from southwestern Pennsylvania through West Virginia to a point of interconnection with VEPCO in northern Virginia. TrAIL plans, operates and maintains its transmission system and facilities in accordance with NERC reliability standards, and other applicable regulatory requirements. In addition, TrAIL complies with the regulations, orders, policies and practices prescribed by the SEC, FERC, and applicable state regulatory authorities.

MAIT was organized under Delaware law in 2015. As discussed in "FERC Matters" below, ME and PN transferred their transmission facilities to MAIT on January 31, 2017. The assets transferred consist of approximately 4,234 circuit miles of transmission lines with nominal voltages of 500 kV, 345 kV, 230 kV, 138 kV, 115 kV, 69 kV and 46 kV in the PJM Region.

Each of ATSI, MAIT and TrAIL plans, operates, and maintains its transmission system in accordance with NERC reliability standards, and other applicable regulatory requirements. In addition, each of ATSI, MAIT and TrAIL complies with the regulations, orders, policies and practices prescribed by the SEC, FERC and applicable state regulatory authorities.

Service Company

FESC provides legal, financial and other corporate support services at cost, in accordance with its cost allocation manual, to affiliated FirstEnergy companies.

Operating Segments

FirstEnergy's reportable operating segments are as follows: Regulated Distribution, Regulated Transmission and CES.

The Regulated Distribution segment distributes electricity through FirstEnergy’s ten utility operating companies, serving approximately six million customers within 65,000 square miles of Ohio, Pennsylvania, West Virginia, Maryland, New Jersey and New York, and purchases power for its POLR, SOS, SSO and default service requirements in Ohio, Pennsylvania, New Jersey and Maryland. This segment also controls 3,790 MWs of regulated electric generation capacity located primarily in West Virginia, Virginia and New Jersey. The segment's results reflect the commodity costs of securing electric generation and the deferral and amortization of certain fuel costs.

The Regulated Transmission segment transmits electricity through transmission facilities owned and operated by ATSI, TrAIL, MAIT (effective January 31, 2017) and certain of FirstEnergy's utilities (JCP&L, MP, PE and WP). The segment's revenues are primarily derived from forward-looking rates at ATSI and TrAIL, as well as stated transmission rates at certain of FirstEnergy's utilities. As discussed in "Utility Regulation - FERC Matters," below, MAIT and JCP&L submitted applications to FERC requesting authorization to implement forward-looking formula transmission rates. In March 2017, FERC approved JCP&L's and MAIT's forward-looking formula rates, subject to refund, with effective dates of June 1, 2017, and July 1, 2017, respectively. Additionally, MAIT and JCP&L filed settlement agreements with FERC on October 13, 2017 and December 21, 2017, respectively, both pending final orders by FERC. Both the forward-looking and stated rates recover costs and provide a return on transmission capital investment. Under forward-looking rates, the revenue requirement is updated annually based on a projected rate base and projected costs, which are subject to an annual true-up based on actual costs. The segment's results also reflect the net transmission expenses related to the delivery of electricity on FirstEnergy's transmission facilities.

The CES segment, through FES and AE Supply, primarily supplies electricity to end-use customers through retail and wholesale arrangements, including competitive retail sales to customers primarily in Ohio, Pennsylvania, Maryland, Michigan, New Jersey and Illinois, and the provision of partial POLR and default service for some utilities in Ohio, Pennsylvania and Maryland, including the Utilities. As of January 31, 2018, this business segment controlled 12,303 MWs of electric generating capacity, including, as discussed in "Unregulated Competitive Subsidiaries" above, 756 MWs of generating capacity which remain subject to an asset purchase agreement with a subsidiary of LS Power that is expected to close in the first half of 2018. The CES segment’s operating results are primarily derived from electric generation sales less the related costs of electricity generation, including fuel, purchased power and net transmission (including congestion) and ancillary costs and capacity costs charged by PJM to deliver energy to the segment’s customers, as well as other operating and maintenance costs, including costs incurred by FENOC.

Interest expense on stand-alone holding company debt, corporate income taxes and other businesses that do not constitute an operating segment are categorized as Corporate/Other for reportable business segment purposes. Additionally, reconciling adjustments for the elimination of inter-segment transactions are included in Corporate/Other. As of December 31, 2017, Corporate/Other had $6.8 billion of stand-alone holding company long-term debt, of which $1.45 billion was subject to variable-interest rates, and $300 million was borrowed by FE under its revolving credit facility. On January 22, 2018, FE repaid its $1.45 billion of outstanding variable-interest rate debt using the proceeds from the $2.5 billion equity investment.

Additional information regarding FirstEnergy’s reportable segments is provided in Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," and Note 19, "Segment Information," of the Combined Notes to Consolidated Financial Statements. FES does not have separate reportable operating segments.

Competitive Generation

As of January 31, 2018, FirstEnergy’s competitive generating portfolio consists of 12,303 MWs of electric generating capacity. Of the competitive generation asset portfolio, approximately 6,136 MWs (49.9%) consist of coal-fired capacity; 4,048 MWs (32.9%) consist of nuclear capacity; 713 MWs (5.8%) consist of hydroelectric capacity; 733 MWs (6.0%) consist of oil and natural gas units; 496 MWs (4.0%) consist of wind and solar power arrangements; and 177 MWs (1.4%) consist of capacity entitlements to output from generation assets owned by OVEC. All units are located within PJM and sell electric energy, capacity and other products into the wholesale markets that are operated by PJM. Within CES' generation portfolio, 10,180 MWs consist of FES' facilities that are operated by FENOC and FG (including entitlements from OVEC, wind and solar power arrangements), and except for portions of Bruce Mansfield facilities that are subject to the sale and leaseback arrangements with non-affiliates for which the corresponding output of these arrangements is available to FES through power sales agreements, are all owned directly by NG and FG. Another 2,123 MWs of the CES' portfolio consists of AE Supply's facilities, including AE Supply's entitlement to 713 MWs from AGC's interest in Bath County and 67 MWs of AE Supply's 3.01% entitlement from OVEC's generation output. As discussed below, AE Supply and AGC agreed to sell to a subsidiary of LS Power 1,615 MWs of electric generating capacity. On December 13, 2017, AE Supply completed the sale of its four natural gas generating plants (859 MWs). The sale of the remaining 756 MWs of generating capacity is expected to close in the first half of 2018. FES' generating facilities are concentrated primarily in Ohio and Pennsylvania and AE Supply's generating facilities are primarily located in West Virginia, Virginia and Ohio.

On January 10, 2018, a fire damaged the scrubber, stack and other plant property and systems associated with Bruce Mansfield Units 1 and 2. Evaluation of the extent of the damage, which may be significant, to the scrubber, stack and other plant property and systems associated with Units 1 and 2 is underway and is expected to take several weeks. Unit 3, which had been off-line for maintenance, was unaffected by the fire. The affected plant property and systems are insured and management is working with the insurance carriers to complete the assessment. At this time management is unable to estimate the financial effect of the fire on Units 1 and 2.

In November 2016, FirstEnergy announced a strategic review to exit its commodity-exposed generation at CES, which is primarily comprised of the operations of FES and AE Supply. In connection with this strategic review, AE Supply and AGC entered into an asset purchase agreement with a subsidiary of LS Power, as amended and restated in August 2017, to sell four natural gas generating plants, AE Supply's interest in the Buchanan Generating facility and approximately 59% of AGC’s interest in Bath County (1,615 MWs of combined capacity) for an all-cash purchase price of $825 million, subject to adjustments and through multiple, independent closings. On December 13, 2017, AE Supply completed the sale of the natural gas generating plants with net proceeds, subject to post-closing adjustments, of approximately $388 million. The sale of AE Supply’s interests in the Bath County hydroelectric power station and the Buchanan Generating facility is expected to generate net proceeds of $375 million and is anticipated to close in the first half of 2018, subject in each case to various customary and other closing conditions, including, without limitation, receipt of regulatory approvals.

Additionally, on March 6, 2017, AE Supply and MP entered into an asset purchase agreement for MP to acquire AE Supply’s Pleasants Power Station (1,300 MWs) for approximately $195 million, resulting from an RFP issued by MP to address its generation shortfall. On January 12, 2018, FERC issued an order denying authorization for the transaction, holding that MP and AE Supply did not demonstrate the sale was consistent with the public interest and the transaction did not fall within the safe harbors for meeting FERC’s affiliate cross-subsidization analysis. On January 26, 2018, the WVPSC approved the transfer of the Pleasants Power Station, subject to certain conditions as further described in "West Virginia Regulatory Matters," below, which included MP assuming significant commodity risk. Based on the FERC ruling and the conditions included in the WVPSC order, MP and AE Supply terminated the asset purchase agreement and on February 16, 2018, AE Supply announced its intent to exit operations of the Pleasants Power Station by January 1, 2019, through either sale or deactivation, which resulted in a pre-tax impairment charge of $120 million.

With the sale of the gas plants completed, upon the consummation of the sale of AGC's interest in the Bath County hydroelectric power station or the sale or deactivation of the Pleasants Power Station, AE Supply is obligated under the amended and restated purchase agreement and AE Supply's applicable debt agreements, to satisfy and discharge approximately $305 million of currently outstanding senior notes as well as its $142 million of pollution control notes and AGC’s $100 million senior notes, which are expected to require the payment of “make-whole” premiums currently estimated to be approximately $95 million based on current interest rates. For additional information see "Outlook" below.

The strategic options to exit the remaining portion of the CES portfolio, which is primarily at FES, are limited. The credit quality of FES, including its unsecured debt rating of Ca at Moody’s, C at S&P, and C at Fitch and the negative outlook from Moody’s and S&P, has challenged its ability to consummate asset sales. Furthermore, the inability to obtain legislative support under the Department of Energy’s recent NOPR, which was rejected by FERC, limits FES’ strategic options to plant deactivations, restructuring its debt and other financial obligations with its creditors, and/or to seek protection under U.S. bankruptcy laws.

As part of the strategic review, FES evaluated its options with respect to its nuclear power plants. Factors considered as part of this review included current and forecasted market conditions, such as wholesale power and capacity prices, legislative and regulatory solutions that recognize their environmental and energy security benefits, and many other factors, including the significant capital and operating costs associated with operating a safe and reliable nuclear fleet. Based on this analysis, given the weak power and capacity price environment and the lack of legislative and regulatory solutions achieved to date, FES concluded that it would be increasingly difficult to operate these facilities in this environment and absent significant change concluded that it was probable that the facilities would be either deactivated or sold before the end of their estimated useful lives. As a result, FES recorded a pre-tax charge of $2.0 billion in the fourth quarter of 2017 to fully impair the nuclear facilities, including the generating plants and nuclear fuel as well as to reserve against the value of materials and supplies inventory and to increase its asset retirement obligation. For additional information see Note 2, "Asset Sales and Impairments."

Although FES has access to a $500 million secured line of credit with FE, all of which was available as of January 31, 2018, its current credit rating and the current forward wholesale pricing environment present significant challenges to FES. As previously disclosed, FES has $515 million of maturing debt in 2018 (excluding intra-company debt), beginning with a $100 million principal payment due April 2, 2018. Based on FES' current senior unsecured debt rating, capital structure and long-term cash flow projections, the debt maturities are unlikely to be refinanced. Although management continues to explore cost reductions and other options to improve cash flow, these obligations and their impact to liquidity raise substantial doubt about FES’ ability to meet its obligations as they come due over the next twelve months and, as such, its ability to continue as a going concern.

Regulated Generation

As of January 31, 2018, FirstEnergy’s regulated generating portfolio consists of 3,790 MWs of diversified capacity contained within the Regulated Distribution segment: 210 MWs consist of JCP&L's 50% ownership interest in the Yard's Creek hydroelectric facility in New Jersey; and 3,580 MWs consist of MP's facilities, including 487 MWs from AGC's interest in Bath County that MP partially owns and 11 MWs of MP's 0.49% entitlement from OVEC's generation output. MP's facilities are concentrated primarily in West Virginia. On December 16, 2016, MP issued an RFP to address its generation shortfall previously identified in the IRP filed with the WVPSC. The IRP identified a capacity shortfall for MP starting in 2016 and exceeding 700 MWs by 2020 and 850 MWs by 2027. AE Supply was the winning bidder of the RFP to address MP’s generation shortfall and on March 6, 2017, MP and AE Supply signed an asset purchase agreement for MP to acquire AE Supply’s Pleasants Power Station (1,300 MW). As discussed in "Competitive Generation," above, based on the FERC ruling and the conditions included in the WVPSC order, MP and AE Supply terminated the asset purchase agreement.

Utility Regulation

State Regulation

Each of the Utilities' retail rates, conditions of service, issuance of securities and other matters are subject to regulation in the states in which it operates - in Maryland by the MDPSC, in Ohio by the PUCO, in New Jersey by the NJBPU, in Pennsylvania by the PPUC, in West Virginia by the WVPSC and in New York by the NYPSC. The transmission operations of PE in Virginia are subject to certain regulations of the VSCC. In addition, under Ohio law, municipalities may regulate rates of a public utility, subject to appeal to the PUCO if not acceptable to the utility.

As competitive retail electric suppliers serving retail customers primarily in Ohio, Pennsylvania, Maryland, Michigan, New Jersey and Illinois, FES and AE Supply are subject to state laws applicable to competitive electric suppliers in those states, including affiliate codes of conduct that apply to FES, AE Supply and their public utility affiliates. In addition, if any of the FirstEnergy affiliates were to engage in the construction of significant new transmission or generation facilities, depending on the state, they may be required to obtain state regulatory authorization to site, construct and operate the new transmission or generation facility.

Following the adoption of the Tax Act, various state regulatory proceedings have been initiated to investigate the impact of the Tax Act on the Utilities’ rates and charges. State proceedings which have arisen are discussed below. The Utilities continue to monitor and investigate the impact of state regulatory impacts resulting from the Tax Act.

Federal Regulation

With respect to their wholesale services and rates, the Utilities, AE Supply, ATSI, AGC, FES, FG, MAIT, NG and TrAIL are subject to regulation by FERC. Under the FPA, FERC regulates rates for interstate wholesale sales, transmission of electric power, accounting and other matters, including construction and operation of hydroelectric projects. FERC regulations require ATSI, JCP&L, MAIT, MP, PE, WP and TrAIL to provide open access transmission service at FERC-approved rates, terms and conditions. Transmission facilities of ATSI, JCP&L, MAIT, MP, PE, WP and TrAIL are subject to functional control by PJM and transmission service using their transmission facilities is provided by PJM under the PJM Tariff. See "FERC Matters" below.

To date, FERC has yet to issue guidance to address how to reflect the impacts resulting from the Tax Act in customer rates. Management continues to monitor and investigate the impact of changes to federal regulation resulting from the Tax Act.

FERC regulates the sale of power for resale in interstate commerce in part by granting authority to public utilities to sell wholesale power at market-based rates upon showing that the seller cannot exert market power in generation or transmission or erect barriers to entry into markets. The Utilities, AE Supply, FES and certain of its subsidiaries, Buchanan Generation and Green Valley each have been authorized by FERC to sell wholesale power in interstate commerce at market-based rates and have a market-based rate tariff on file with FERC, although major wholesale purchases remain subject to regulation by the relevant state commissions. As a condition to selling electricity on a wholesale basis at market-based rates, the Utilities, AE Supply, FES and certain of its subsidiaries, Buchanan Generation and Green Valley, like other entities granted market-based rate authority, must file electronic quarterly reports with FERC listing their sales transactions for the prior quarter. However, consistent with its historical practice, FERC has granted AE Supply, FES and certain of its subsidiaries, Buchanan Generation and Green Valley a waiver from certain reporting, record-keeping and accounting requirements that typically apply to traditional public utilities. Along with market-based rate authority, FERC also granted AE Supply, FES and certain of its subsidiaries, Buchanan Generation and Green Valley blanket authority to issue securities and assume liabilities under Section 204 of the FPA.

The nuclear generating facilities owned and leased by NG and operated by FENOC are subject to extensive regulation by the NRC. The NRC subjects nuclear generating stations to continuing review and regulation covering, among other things, operations, maintenance, emergency planning, security, environmental and radiological aspects of those stations. The NRC may modify, suspend or revoke operating licenses and impose civil penalties for failure to comply with the Atomic Energy Act, the regulations under such Act or the terms of the licenses. FENOC is the licensee for the operating nuclear plants and has direct compliance responsibility for NRC matters. FES controls the economic dispatch of NG’s plants. See "Nuclear Regulation" below.

Federally-enforceable mandatory reliability standards apply to the bulk electric system and impose certain operating, record-keeping and reporting requirements on the Utilities, FES and certain of its subsidiaries, AE Supply, FENOC, ATSI, MAIT and TrAIL. NERC is the ERO designated by FERC to establish and enforce these reliability standards, although NERC has delegated day-to-day implementation and enforcement of these reliability standards to eight regional entities, including RFC. All of FirstEnergy's facilities are located within the RFC region. FirstEnergy actively participates in the NERC and RFC stakeholder processes, and otherwise monitors and manages its companies in response to the ongoing development, implementation and enforcement of the reliability standards implemented and enforced by RFC.

FirstEnergy, including FES, believes that it is in compliance with all currently-effective and enforceable reliability standards. Nevertheless, in the course of operating its extensive electric utility systems and facilities, FirstEnergy, including FES, occasionally learns of isolated facts or circumstances that could be interpreted as excursions from the reliability standards. If and when such occurrences are found, FirstEnergy, including FES, develops information about the occurrence and develops a remedial response to the specific circumstances, including in appropriate cases “self-reporting” an occurrence to RFC. Moreover, it is clear that NERC, RFC and FERC will continue to refine existing reliability standards as well as to develop and adopt new reliability standards. Any inability on FirstEnergy's, including FES, part to comply with the reliability standards for its bulk electric system could result in the imposition of financial penalties, and obligations to upgrade or build transmission facilities, that could have a material adverse effect on its financial condition, results of operations and cash flows.

Regulatory Accounting

FirstEnergy accounts for the effects of regulation through the application of regulatory accounting to the Utilities, AGC, ATSI, MAIT and TrAIL since their rates are established by a third-party regulator with the authority to set rates that bind customers, are cost-based and can be charged to and collected from customers.

The Utilities, AGC, ATSI, MAIT and TrAIL recognize, as regulatory assets and regulatory liabilities, costs which FERC and the various state utility commissions, as applicable, have authorized for recovery/return from/to customers in future periods or for which authorization is probable. Without the probability of such authorization, costs currently recorded as regulatory assets and regulatory liabilities would have been charged to income as incurred. All regulatory assets and liabilities are expected to be recovered/returned from/to customers. Based on current ratemaking procedures, the Utilities, AGC, ATSI, MAIT and TrAIL continue to collect cost-based rates for their transmission and distribution services; accordingly, it is appropriate that the Utilities, AGC, ATSI, MAIT and TrAIL continue the application of regulatory accounting to those operations. Regulatory accounting is applied only to the parts of the business that meet the above criteria. If a portion of the business applying regulatory accounting no longer meets those requirements, previously recorded net regulatory assets or liabilities are removed from the balance sheet in accordance with GAAP.

As a result of the Tax Act, FirstEnergy adjusted its net deferred tax liabilities at December 31, 2017, for the reduction in the corporate income tax rate from 35% to 21%. For the portions of FirstEnergy’s business that apply regulatory accounting, the impact of reducing the net deferred tax liabilities was offset with a regulatory liability, as appropriate, for amounts expected to be refunded to rate payers in future rates, with the remainder recorded to deferred income tax expense.

Maryland Regulatory Matters

PE provides SOS pursuant to a combination of settlement agreements, MDPSC orders and regulations, and statutory provisions. SOS supply is competitively procured in the form of rolling contracts of varying lengths through periodic auctions that are overseen by the MDPSC and a third-party monitor. Although settlements with respect to SOS supply for PE customers have expired, service continues in the same manner until changed by order of the MDPSC. PE recovers its costs plus a return for providing SOS.

The Maryland legislature adopted a statute in 2008 codifying the EmPOWER Maryland goals to reduce electric consumption and demand and requiring each electric utility to file a plan every three years. On July 16, 2015, the MDPSC issued an order setting new incremental energy savings goals for 2017 and beyond, beginning with the goal of 0.97% savings achieved under PE's current plan for 2016, and increasing 0.2% per year thereafter to reach 2%. The Maryland legislature in April 2017 adopted a statute requiring the same 0.2% per year increase, up to the ultimate goal of 2% annual savings, for the duration of the 2018-2020 and 2021-2023 EmPOWER Maryland program cycles, to the extent the MDPSC determines that cost-effective programs and services are available. The costs of PE's 2015-2017 plan approved by the MDPSC in December 2014 were approximately $60 million. PE filed its 2018-2020 EmPOWER Maryland plan on August 31, 2017. The 2018-2020 plan continues and expands upon prior years' programs, and adds new programs, for a projected total cost of $116 million over the three-year period. On December 22, 2017, the MDPSC issued an order approving the 2018-2020 plan with various modifications. PE recovers program costs subject to a five-year amortization. Maryland law only allows for the utility to recover lost distribution revenue attributable to energy efficiency or demand reduction programs through a base rate case proceeding, and to date, such recovery has not been sought or obtained by PE.

On February 27, 2013, the MDPSC issued an order requiring the Maryland electric utilities to submit analyses relating to the costs and benefits of making further system and staffing enhancements in order to attempt to reduce storm outage durations. PE's responsive filings discussed the steps needed to harden the utility's system in order to attempt to achieve various levels of storm response speed described in the February 2013 Order, and projected that it would require approximately $2.7 billion in infrastructure investments over 15 years to attempt to achieve the quickest level of response for the largest storm projected in the February 2013 Order. On July 1, 2014, the Staff of the MDPSC issued a set of reports that recommended the imposition of extensive additional requirements in the areas of storm response, feeder performance, estimates of restoration times, and regulatory reporting, as well as the imposition of penalties, including customer rebates, for a utility's failure or inability to comply with the escalating standards of storm restoration speed proposed by the Staff of the MDPSC. In addition, the Staff of the MDPSC proposed that the Maryland utilities be required to develop and implement system hardening plans, up to a rate impact cap on cost. The MDPSC conducted a hearing September 15-18, 2014, to consider certain of these matters, and has not issued a ruling on any of those matters.

On September 26, 2016, the MDPSC initiated a new proceeding to consider an array of issues relating to electric distribution system design, including matters relating to electric vehicles, distributed energy resources, advanced metering infrastructure, energy storage, system planning, rate design, and impacts on low-income customers. Comments were filed and a hearing was held in late 2016. On January 31, 2017, the MDPSC issued a notice establishing five working groups to address these issues over the following eighteen months, and also directed the retention of an outside consultant to prepare a report on costs and benefits of distributed solar generation in Maryland. On January 19, 2018, PE filed a joint petition, along with other utility companies, work group stakeholders, and the MDPSC electric vehicle work group leader, to implement a statewide electric vehicle portfolio. If approved, PE will launch an electric vehicle charging infrastructure program on January 1, 2019, offering up to 2,000 rebates for electric vehicle charging equipment to residential customers, and deploying up to 259 chargers at non-residential customer service locations at a projected total cost of $12 million. PE is proposing to recover program costs subject to a five-year amortization. On February 6, 2018, the MDPSC opened a new proceeding to consider the petition and directed that comments be filed by March 16, 2018.

On January 12, 2018, the MDPSC instituted a proceeding to examine the impacts of the Tax Act on the rates and charges of Maryland utilities. PE must track and apply regulatory accounting treatment for the impacts beginning January 1, 2018, and submitted a report to the MDPSC on February 15, 2018, estimating that the Tax Act impacts would be approximately $7 million to $8 million annually for PE’s customers and proposed to file a base rate case in the third quarter of 2018 where the benefits from the effects of the Tax Act will be realized by customers through a lower rate increase than would otherwise be necessary.

New Jersey Regulatory Matters

JCP&L currently provides BGS for retail customers who do not choose a third party EGS and for customers of third-party EGSs that fail to provide the contracted service. The supply for BGS is comprised of two components, procured through separate, annually held descending clock auctions, the results of which are approved by the NJBPU. One BGS component reflects hourly real time energy prices and is available for larger commercial and industrial customers. The second BGS component provides a fixed price service and is intended for smaller commercial and residential customers. All New Jersey EDCs participate in this competitive BGS procurement process and recover BGS costs directly from customers as a charge separate from base rates.

JCP&L currently operates under rates that were approved by the NJBPU on December 12, 2016, effective as of January 1, 2017. These rates provide an annual increase in operating revenues of approximately $80 million from those previously in place and are intended to improve service and benefit customers by supporting equipment maintenance, tree trimming, and inspections of lines, poles and substations, while also compensating for other business and operating expenses. In addition, on January 25, 2017, the NJBPU approved the acceleration of the amortization of JCP&L’s 2012 major storm expenses that are recovered through the SRC in order for JCP&L to achieve full recovery by December 31, 2019.

Pursuant to the NJBPU's March 26, 2015 final order in JCP&L's 2012 rate case proceeding directing that certain studies be completed, on July 22, 2015, the NJBPU approved the NJBPU staff's recommendation to implement such studies, which included operational and financial components. The independent consultant conducting the review issued a final report on July 27, 2016, recognizing that JCP&L is meeting the NJBPU requirements and making various operational and financial recommendations. The NJBPU issued an Order on August 24, 2016, that accepted the independent consultant’s final report and directed JCP&L, the Division of Rate Counsel and other interested parties to address the recommendations.

In an Order issued October 22, 2014, in a generic proceeding to review its policies with respect to the use of a CTA in base rate cases, the NJBPU stated that it would continue to apply its current CTA policy in base rate cases, subject to incorporating the following modifications: (i) calculating savings using a five-year look back from the beginning of the test year; (ii) allocating savings with 75% retained by the company and 25% allocated to rate payers; and (iii) excluding transmission assets of electric distribution companies in the savings calculation. On November 5, 2014, the Division of Rate Counsel appealed the NJBPU Order regarding the generic CTA proceeding to the Superior Court of New Jersey Appellate Division and JCP&L filed to participate as a respondent in that proceeding supporting the order. On September 18, 2017, the Superior Court of New Jersey Appellate Division reversed the NJBPU's Order on the basis that the NJBPU's modification of its CTA methodology did not comply with the procedures of the NJAPA. JCP&L's existing rates are not expected to be impacted by this order. On December 19, 2017, the NJBPU approved the issuance of proposed rules to modify the CTA methodology consistent with its October 22, 2014 Generic Order. The proposed rule was published in the NJ Register on January 16, 2018, and was republished on February 6, 2018, to correct an error. Interested parties have sixty days to comment on the proposed rulemaking.

At the December 19, 2017 NJBPU public meeting, the NJBPU approved its IIP rulemaking. The IIP creates a financial incentive for utilities to accelerate the level of investment needed to promote the timely rehabilitation and replacement of certain non-revenue producing components that enhance reliability, resiliency, and/or safety. JCP&L expects to make a filing in 2018.

On January 31, 2018, the NJBPU instituted a proceeding to examine the impacts of the Tax Act on the rates and charges of New Jersey utilities. JCP&L must track and apply regulatory accounting treatment for the impacts effective January 1, 2018, and file a petition with the NJBPU by March 2, 2018, regarding the expected impacts of the Tax Act on JCP&L’s expenses and revenues and how the effects will be passed through to its customers.

Ohio Regulatory Matters

The Ohio Companies currently operate under ESP IV which commenced June 1, 2016 and expires May 31, 2024. The material terms of ESP IV, as approved in the PUCO’s Opinion and Order issued on March 31, 2016 and Fifth Entry on Rehearing on October 12, 2016, include Rider DMR, which provides for the Ohio Companies to collect $132.5 million annually for three years, with the possibility of a two-year extension. Rider DMR will be grossed up for federal income taxes, resulting in an approved amount of approximately $204 million annually. Revenues from Rider DMR will be excluded from the significantly excessive earnings test for the initial three-year term but the exclusion will be reconsidered upon application for a potential two-year extension. The PUCO set three conditions for continued recovery under Rider DMR: (1) retention of the corporate headquarters and nexus of operations in Akron, Ohio; (2) no change in control of the Ohio Companies; and (3) a demonstration of sufficient progress in the implementation of grid modernization programs approved by the PUCO. ESP IV also continues a base distribution rate freeze through May 31, 2024. In addition, ESP IV continues the supply of power to non-shopping customers at a market-based price set through an auction process.

ESP IV also continues Rider DCR, which supports continued investment related to the distribution system for the benefit of customers, with increased revenue caps of $30 million per year from June 1, 2016 through May 31, 2019; $20 million per year from June 1, 2019 through May 31, 2022; and $15 million per year from June 1, 2022 through May 31, 2024. Other material terms of ESP IV include: (1) the collection of lost distribution revenues associated with energy efficiency and peak demand reduction programs; (2) an agreement to file a Grid Modernization Business Plan for PUCO consideration and approval (which filing was made on February 29, 2016, and remains pending); (3) a goal across FirstEnergy to reduce CO_2 emissions by 90% below 2005 levels by 2045; (4) contributions, totaling $51 million to: (a) fund energy conservation programs, economic development and job retention in the Ohio Companies’ service territories; (b) establish a fuel-fund in each of the Ohio Companies’ service territories to assist low-income customers; and (c) establish a Customer Advisory Council to ensure preservation and growth of the competitive market in Ohio; and (5) an agreement to file an application to transition to a straight fixed variable cost recovery mechanism for residential customers' base distribution rates (which filing was made on April 3, 2017, and remains pending).

Several parties, including the Ohio Companies, filed applications for rehearing regarding the Ohio Companies’ ESP IV with the PUCO. The Ohio Companies’ application for rehearing challenged, among other things, the PUCO’s failure to adopt the Ohio Companies’ suggested modifications to Rider DMR. The Ohio Companies had previously suggested that a properly designed Rider DMR would be valued at $558 million annually for eight years, and include an additional amount that recognizes the value of the economic impact of FirstEnergy maintaining its headquarters in Ohio. Other parties’ applications for rehearing argued, among other things, that the PUCO’s adoption of Rider DMR is not supported by law or sufficient evidence. On August 16, 2017, the PUCO denied all remaining intervenor applications for rehearing, denied the Ohio Companies’ challenges to the modifications to Rider DMR and added a third-party monitor to ensure that Rider DMR funds are spent appropriately. On September 15, 2017, the Ohio Companies filed an application for rehearing of the PUCO’s August 16, 2017 ruling on the issues of the third-party monitor and the ROE calculation for advanced metering infrastructure. On October 11, 2017, the PUCO denied the Ohio Companies' application for rehearing on both issues. On October 16, 2017, the Sierra Club and the Ohio Manufacturer's Association Energy Group filed notices of appeal with the Supreme Court of Ohio appealing various PUCO entries on their applications for rehearing. On November 16, 2017, the Ohio Companies intervened in the appeal. Additional parties subsequently filed notices of appeal with the Supreme Court of Ohio challenging various

PUCO entries on their applications for rehearing. For additional information, see “FERC Matters - Ohio ESP IV PPA,” below.

Under ORC 4928.66, the Ohio Companies are required to implement energy efficiency programs that achieve certain annual energy savings and total peak demand reductions. Starting in 2017, ORC 4928.66 requires the energy savings benchmark to increase by 1% and the peak demand reduction benchmark to increase by 0.75% annually thereafter through 2020 and the energy savings benchmark to increase by 2% annually from 2021 through 2027, with a cumulative benchmark of 22.2% by 2027. On April 15, 2016, the Ohio Companies filed an application for approval of their three-year energy efficiency portfolio plans for the period from January 1, 2017 through December 31, 2019. The plans as proposed comply with benchmarks contemplated by ORC 4928.66 and provisions of the ESP IV, and include a portfolio of energy efficiency programs targeted to a variety of customer segments, including residential customers, low income customers, small commercial customers, large commercial and industrial customers and governmental entities. On December 9, 2016, the Ohio Companies filed a Stipulation and Recommendation with several parties that contained changes to the plan and a decrease in the plan costs. The Ohio Companies anticipate the cost of the plans will be approximately $268 million over the life of the portfolio plans and such costs are expected to be recovered through the Ohio Companies’ existing rate mechanisms. On November 21, 2017, the PUCO issued an order that approved the filed Stipulation and Recommendation with several modifications, including a cap on the Ohio Companies’ collection of program costs and shared savings set at 4% of the Ohio Companies’ total sales to customers as reported on FERC Form 1. On December 21, 2017, the Ohio Companies filed an application for rehearing challenging the PUCO’s modification of the Stipulation and Recommendation to include the 4% cost cap, which was denied by the PUCO on January 10, 2018.

Ohio law requires electric utilities and electric service companies in Ohio to serve part of their load from renewable energy resources measured by an annually increasing percentage amount through 2026, except that in 2014 SB310 froze 2015 and 2016 requirements at the 2014 level (2.5%), pushing back scheduled increases, which resumed in 2017 (3.5%), and increases 1% each year through 2026 (to 12.5%) and shall remain at 12.5% in 2027 and each year thereafter. The Ohio Companies conducted RFPs in 2009, 2010 and 2011 to secure RECs to help meet these renewable energy requirements. In September 2011, the PUCO opened a docket to review the Ohio Companies' alternative energy recovery rider through which the Ohio Companies recover the costs of acquiring these RECs. The PUCO issued an Opinion and Order on August 7, 2013, approving the Ohio Companies' acquisition process and their purchases of RECs to meet statutory mandates in all instances except for certain purchases arising from one auction and directed the Ohio Companies to credit non-shopping customers in the amount of $43.4 million, plus interest, on the basis that the Ohio Companies did not prove such purchases were prudent. On December 24, 2013, following the denial of their application for rehearing, the Ohio Companies filed a notice of appeal and a motion for stay of the PUCO's order with the Supreme Court of Ohio, which was granted. The OCC and the ELPC also filed appeals of the PUCO's order. On January 24, 2018, the Supreme Court of Ohio reversed the PUCO order finding that the order violated the rule against prohibiting retroactive ratemaking. On February 5, 2018, the OCC and ELPC filed a motion for reconsideration, to which the Ohio Companies responded in opposition on February 15, 2018.

On April 9, 2014, the PUCO initiated a generic investigation of marketing practices in the competitive retail electric service market, with a focus on the marketing of fixed-price or guaranteed percent-off SSO rate contracts where there is a provision that permits the pass-through of new or additional charges. On November 18, 2015, the PUCO ruled that on a going-forward basis, pass-through clauses may not be included in fixed-price contracts for all customer classes. On December 18, 2015, FES filed an Application for Rehearing seeking to change the ruling or have it only apply to residential and small commercial customers. On January 13, 2016, the PUCO granted reconsideration for further consideration of the matters specified in the applications for rehearing. On March 29, 2017, the PUCO issued a Second Entry on Rehearing that granted, in part, the applications for rehearing filed by FES and other parties, finding that the PUCO’s guidelines regarding fixed-price contracts should not apply to large mercantile customers. This finding changes the original order, which applied the guidelines to all customers, including mercantile customers. The PUCO also reaffirmed several provisions of the original order, including that the fixed-price guidelines only apply on a going-forward basis and not to existing contracts and that regulatory-out clauses in contracts are permissible.

On December 1, 2017, the Ohio Companies filed an application with the PUCO for approval of a DPM Plan. The DPM Plan is a portfolio of approximately $450 million in distribution platform investment projects, which are designed to modernize the Ohio Companies’ distribution grid, prepare it for further grid modernization projects, and provide customers with immediate reliability benefits. The Ohio Companies have requested that the PUCO issue an order approving the DPM Plan and associated cost recovery no later than May 2, 2018, so that the Ohio Companies can expeditiously commence the DPM Plan and customers can begin to realize the associated benefits.

On January 10, 2018, the PUCO opened a case to consider the impacts of the Tax Act and determine the appropriate course of action to pass benefits on to customers. The Ohio Companies must establish a regulatory liability, effective January 1, 2018, for the estimated reduction in federal income tax resulting from the Tax Act, and filed comments on February 15, 2018, explaining that customers will save nearly $40 million annually as a result of updating tariff riders for the tax rate changes and that the Ohio Companies’ base distribution rates are not impacted by the Tax Act changes because they are frozen through May 2024.

Pennsylvania Regulatory Matters

The Pennsylvania Companies operate under DSPs for the June 1, 2017 through May 31, 2019 delivery period, which provide for the competitive procurement of generation supply for customers who do not choose an alternative EGS or for customers of alternative EGSs that fail to provide the contracted service. Under the DSPs, the supply will be provided by wholesale suppliers through a mix of 12 and 24-month energy contracts, as well as one RFP for 2-year SREC contracts for ME, PN and Penn. The DSPs include modifications to the Pennsylvania Companies' POR programs in order to reduce the level of uncollectible expense the Pennsylvania Companies experience associated with alternative EGS charges.

On December 11, 2017, the Pennsylvania Companies filed DSPs for the June 1, 2019 through May 31, 2023 delivery period. Under the 2019-2023 DSPs, the supply is proposed to be provided by wholesale suppliers through a mix of 3, 12 and 24-month energy contracts, as well as two RFPs for 2-year SREC contracts for ME, PN and Penn. The 2019-2023 DSPs as proposed also include modifications to the Pennsylvania Companies' POR programs in order to continue their clawback pilot program as a long-term, permanent program term. The 2019-2023 DSPs also introduce a retail market enhancement rate mechanism designed to stimulate residential customer shopping, and modifications to the Pennsylvania Companies' customer class definitions to allow for the introduction of hourly priced default service to customers at or above 100kW. A hearing has been scheduled for April 10-11, 2018, and the PPUC is expected to issue a final order on these DSPs by mid-September 2018.

The Pennsylvania Companies operate under rates that were approved by the PPUC on January 19, 2017, effective as of January 27, 2017. These rates provide annual increases in operating revenues of approximately $96 million at ME, $100 million at PN, $29 million at Penn, and $66 million at WP, and are intended to benefit customers by modernizing the grid with smart technologies, increasing vegetation management activities, and continuing other customer service enhancements.

Pursuant to Pennsylvania's EE&C legislation in Act 129 of 2008 and PPUC orders, Pennsylvania EDCs implement energy efficiency and peak demand reduction programs. On June 19, 2015, the PPUC issued a Phase III Final Implementation Order setting: demand reduction targets, relative to each Pennsylvania Companies' 2007-2008 peak demand (in MW), at 1.8% for ME, 1.7% for Penn, 1.8% for WP, and 0% for PN; and energy consumption reduction targets, as a percentage of each Pennsylvania Companies' historic 2010 forecasts (in MWH), at 4.0% for ME, 3.9% for PN, 3.3% for Penn, and 2.6% for WP. The Pennsylvania Companies' Phase III EE&C plans for the June 2016 through May 2021 period, which were approved in March 2016, with expected costs up to $390 million, are designed to achieve the targets established in the PPUC's Phase III Final Implementation Order with full recovery through the reconcilable EE&C riders.

Pursuant to Act 11 of 2012, Pennsylvania EDCs may establish a DSIC to recover costs of infrastructure improvements and costs related to highway relocation projects with PPUC approval. Pennsylvania EDCs must file LTIIPs outlining infrastructure improvement plans for PPUC review and approval prior to approval of a DSIC. On February 11, 2016, the PPUC approved LTIIPs for each of the Pennsylvania Companies. On June 14, 2017, the PPUC approved modified LTIIPs for ME, PN and Penn for the remaining years of 2017 through 2020 to provide additional support for reliability and infrastructure investments. The LTIIPs estimated costs for the remaining period of 2018 to 2020, as modified, are: WP $50.1 million; PN $44.8 million; Penn $33.2 million; and ME $51.3 million.

On February 16, 2016, the Pennsylvania Companies filed DSIC riders for PPUC approval for quarterly cost recovery, which were approved by the PPUC on June 9, 2016, and went into effect July 1, 2016, subject to hearings and refund or reallocation among customer classes. On January 19, 2017, in the PPUC's order approving the Pennsylvania Companies' general rate cases, the PPUC added an additional issue to the DSIC proceeding to include whether ADIT should be included in DSIC calculations. On February 2, 2017, the parties to the DSIC proceeding submitted a Joint Settlement to the ALJ that resolved the issues that were pending from the order issued on June 9, 2016, which is pending PPUC approval. The ADIT issue is subject to further litigation and a hearing was held on May 12, 2017. On August 31, 2017, the ALJ issued a decision recommending that the complaint of the Pennsylvania OCA be granted by the PPUC such that the Pennsylvania Companies reflect all federal and state income tax deductions related to DSIC-eligible property in the currently effective DSIC rates. If the decision is approved by the PPUC, the impact is not expected to be material to FirstEnergy. The Pennsylvania Companies filed exceptions to the decision on September 20, 2017, and reply exceptions on October 2, 2017.

On February 12, 2018, the PPUC initiated a proceeding to determine the effects of the Tax Act on the tax liability of utilities and the feasibility of reflecting such impacts in rates charged to customers. By March 9, 2018, the Pennsylvania Companies must submit information to the PPUC to calculate the net effect of the Tax Act on income tax expense and rate base, and comments addressing whether rates should be adjusted to reflect the tax rate changes, and if so, how and when such modifications should take effect.

West Virginia Regulatory Matters

MP and PE provide electric service to all customers through traditional cost-based, regulated utility ratemaking. MP and PE recover net power supply costs, including fuel costs, purchased power costs and related expenses, net of related market sales revenue through the ENEC. MP's and PE's ENEC rate is updated annually.

On September 23, 2016, the WVPSC approved the Phase II energy efficiency program for MP and PE as reflected in a unanimous settlement by the parties to the proceeding, which includes three energy efficiency programs to meet the Phase II requirement of energy efficiency reductions of 0.5% of 2013 distribution sales for the January 1, 2017 through May 31, 2018 period, which was approved by the WVPSC in the 2012 proceeding approving the transfer of ownership of Harrison Power Station to MP. The costs for the Phase II program are expected to be $10.4 million and are eligible for recovery through the existing energy efficiency rider which is reviewed in the fuel (ENEC) case each year. On December 15, 2017, the WVPSC approved MP's and PE's proposed annual decrease in their EE&C rates, effective January 1, 2018, which is not material to FirstEnergy.

On December 9, 2016, the WVPSC approved the annual ENEC case for MP and PE as reflected in a unanimous settlement by the parties to the proceeding, resulting in an increase in the ENEC rate of $25 million annually beginning January 1, 2017. In addition, ENEC rates will be maintained at the same level for a two year period.

On December 30, 2015, MP and PE filed an IRP with the WVPSC identifying a capacity shortfall starting in 2016 and exceeding 700 MWs by 2020 and 850 MWs by 2027. On June 3, 2016, the WVPSC accepted the IRP. On December 16, 2016, MP issued an RFP to address its generation shortfall, along with issuing a second RFP to sell its interest in Bath County. Bids were received by an independent evaluator in February 2017 for both RFPs. AE Supply was the winning bidder of the RFP to address MP’s generation shortfall and on March 6, 2017, MP and AE Supply signed an asset purchase agreement for MP to acquire AE Supply’s Pleasants Power Station (1,300 MWs) for approximately $195 million, subject to customary and other closing conditions, including regulatory approvals. In addition, on March 7, 2017, MP and PE filed an application with the WVPSC and MP and AE Supply filed an application with FERC requesting authorization for such purchase. Various intervenors filed protests challenging the RFP and requesting FERC deny the application, set it for hearing to allow discovery into the RFP process, or delay an order pending the conclusion of the WVPSC proceeding. On January 12, 2018, FERC issued an order denying authorization for the transaction, holding that MP and AE Supply did not demonstrate that the sale was consistent with the public interest and the transaction did not fall within the safe harbors for meeting FERC’s affiliate cross-subsidization analysis. In the order FERC also revised and clarified certain details of its standards for the review of transactions resulting from competitive solicitations, and concluded that MP’s RFP did not meet the revised and clarified standards. FERC allowed that MP may submit a future application for a transaction resulting from a new RFP.

The WVPSC issued its order on January 26, 2018, denying the petition as filed but granting the transfer of Pleasants Power Station under certain conditions, which included MP assuming significant commodity risk. MP, PE and AE Supply have determined not to seek rehearing at FERC in light of the adverse decisions at FERC and the WVPSC. Based on the FERC ruling and the conditions included in the WVPSC order, MP and AE Supply terminated the asset purchase agreement. With respect to the Bath County RFP, MP does not plan to move forward with that sale of its ownership interest. In the future, MP may re-evaluate its options with respect to its interest in Bath County.

On September 1, 2017, MP and PE filed with the WVPSC for a reconciliation of their VMS to confirm that rate recovery matches VMP costs and for a regular review of that program. MP and PE proposed a $15 million annual decrease in VMS rates effective January 1, 2018, and an additional $15 million decrease in rates for 2019. This is an overall decrease in total revenue and average rates of 1%. On December 15, 2017, the WVPSC issued an order adopting a unanimous settlement without modification.

On January 3, 2018, the WVPSC initiated a proceeding to investigate the effects of the Tax Act on the revenue requirements of utilities. MP and PE must track the tax savings resulting from the Tax Act on a monthly basis, effective January 1, 2018, and file written testimony explaining the impact of the Tax Act on federal income tax and revenue requirements by May 30, 2018. On January 26, 2018, the WVPSC issued an order clarifying that regulatory accounting should be implemented as of January 1, 2018, including the recording of any regulatory liabilities resulting from the Tax Act.

FERC Matters

Ohio ESP IV PPA

On August 4, 2014, the Ohio Companies filed an application with the PUCO seeking approval of their ESP IV. ESP IV included a proposed Rider RRS, which would flow through to customers either charges or credits representing the net result of the price paid to FES through an eight-year FERC-jurisdictional PPA, referred to as the ESP IV PPA, against the revenues received from selling such output into the PJM markets. The Ohio Companies entered into stipulations which modified ESP IV, and on March 31, 2016, the PUCO issued an Opinion and Order adopting and approving the Ohio Companies’ stipulated ESP IV with modifications. FES and the Ohio Companies entered into the ESP IV PPA on April 1, 2016, but subsequently agreed to suspend it and advised FERC of this course of action.

On March 21, 2016, a number of generation owners filed with FERC a complaint against PJM requesting that FERC expand the MOPR in the PJM Tariff to prevent the alleged artificial suppression of prices in the PJM capacity markets by state-subsidized generation, in particular alleged price suppression that could result from the ESP IV PPA and other similar agreements. The complaint requested that FERC direct PJM to initiate a stakeholder process to develop a long-term MOPR reform for existing resources that receive out-of-market revenue. On January 9, 2017, the generation owners filed to amend their complaint to include challenges to certain legislation and regulatory programs in Illinois. On January 24, 2017, FESC, acting on behalf of its affected affiliates and along with other utility companies, filed a motion to dismiss the amended complaint for various reasons, including that the ESP IV PPA matter is now moot. In addition, on January 30, 2017, FESC along with other utility companies filed a substantive protest to the amended complaint, demonstrating that the question of the proper role for state participation in generation development should be addressed in the PJM stakeholder process. On August 30, 2017, the generation owners requested expedited action by FERC. This proceeding remains pending before FERC.

PJM Transmission Rates

PJM and its stakeholders have been debating the proper method to allocate costs for certain transmission facilities. While FirstEnergy and other parties advocate for a traditional "beneficiary pays" (or usage based) approach, others advocate for “socializing” the costs on a load-ratio share basis, where each customer in the zone would pay based on its total usage of energy within PJM. This question has been the subject of extensive litigation before FERC and the appellate courts, including before the Seventh Circuit. On June 25, 2014, a divided three-judge panel of the Seventh Circuit ruled that FERC had not quantified the benefits that western PJM utilities would derive from certain new 500 kV or higher lines and thus had not adequately supported its decision to socialize the costs of these lines. The majority found that eastern PJM utilities are the primary beneficiaries of the lines, while western PJM utilities are only incidental beneficiaries, and that, while incidental beneficiaries should pay some share of the costs of the lines, that share should be proportionate to the benefit they derive from the lines, and not on load-ratio share in PJM as a whole. The court remanded the case to FERC, which issued an order setting the issue of cost allocation for hearing and settlement proceedings. On June 15, 2016, various parties, including ATSI and the Utilities, filed a settlement agreement at FERC agreeing to apply a combined usage based/socialization approach to cost allocation for charges to transmission customers in the PJM Region for transmission projects operating at or above 500 kV. Certain other parties in the proceeding did not agree to the settlement and filed protests to the settlement seeking, among other issues, to strike certain of the evidence advanced by FirstEnergy and certain of the other settling parties in support of the settlement, as well as provided further comments in opposition to the settlement. FirstEnergy and certain of the other parties responded to such opposition. On October 20, 2017, the settling and non-opposing parties requested expedited action by FERC. The settlement is pending before FERC.

RTO Realignment

On June 1, 2011, ATSI and the ATSI zone transferred from MISO to PJM. While many of the matters involved with the move have been resolved, FERC denied recovery under ATSI's transmission rate for certain charges that collectively can be described as "exit fees" and certain other transmission cost allocation charges totaling approximately $78.8 million until such time as ATSI submits a cost/benefit analysis demonstrating net benefits to customers from the transfer to PJM. Subsequently, FERC rejected a proposed settlement agreement to resolve the exit fee and transmission cost allocation issues, stating that its action is without prejudice to ATSI submitting a cost/benefit analysis demonstrating that the benefits of the RTO realignment decisions outweigh the exit fee and transmission cost allocation charges. On March 17, 2016, FERC denied FirstEnergy's request for rehearing of FERC's earlier order rejecting the settlement agreement and affirmed its prior ruling that ATSI must submit the cost/benefit analysis.

Separately, ATSI resolved a dispute regarding responsibility for certain costs for the “Michigan Thumb” transmission project. Potential responsibility arises under the MISO MVP tariff, which has been litigated in complex proceedings before FERC and certain U.S. appellate courts. On October 29, 2015, FERC issued an order finding that ATSI and the ATSI zone do not have to pay MISO MVP charges for the Michigan Thumb transmission project. MISO and the MISO TOs filed a request for rehearing, which FERC denied on May 19, 2016. The MISO TOs subsequently filed an appeal of FERC's orders with the Sixth Circuit. FirstEnergy intervened and participated in the proceedings on behalf of ATSI, the Ohio Companies and Penn. On June 21, 2017, the Sixth Circuit issued its decision denying the MISO TOs' appeal request. MISO and the MISO TOs did not seek review by the U.S. Supreme Court, effectively resolving the dispute over the "Michigan Thumb" transmission project. On a related issue, FirstEnergy joined certain other PJM TOs in a protest of MISO's proposal to allocate MVP costs to energy transactions that cross MISO's borders into the PJM Region. On July 13, 2016, FERC issued its order finding it appropriate for MISO to assess an MVP usage charge for transmission exports from MISO to PJM. Various parties, including FirstEnergy and the PJM TOs, requested rehearing or clarification of FERC’s order. The requests for rehearing remain pending before FERC.

In addition, in a May 31, 2011 order, FERC ruled that the costs for certain "legacy RTEP" transmission projects in PJM approved before ATSI joined PJM could be charged to transmission customers in the ATSI zone. The amount to be paid, and the question of derived benefits, is pending before FERC as a result of the Seventh Circuit's June 25, 2014 order described above under "PJM Transmission Rates."

The outcome of the proceedings that address the remaining open issues related to MVP costs and "legacy RTEP" transmission projects cannot be predicted at this time.

Transfer of Transmission Assets to MAIT

Following receipt of necessary regulatory approvals, on January 31, 2017, MAIT issued membership interests to FET, PN and ME in exchange for their respective cash and transmission asset contributions. MAIT, a transmission-only subsidiary of FET, owns and operates all of the FERC-jurisdictional transmission assets previously owned by ME and PN. Subsequently, on March 13, 2017, FERC issued an order authorizing MAIT to issue short- and long-term debt securities, permitting MAIT to participate in the FirstEnergy regulated companies’ money pool for working capital, to fund day-to-day operations, support capital investment and establish an actual capital structure for ratemaking purposes.

MAIT Transmission Formula Rate

On October 28, 2016, as amended on January 10, 2017, MAIT submitted an application to FERC requesting authorization to implement a forward-looking formula transmission rate to recover and earn a return on transmission assets effective February 1, 2017. Various intervenors submitted protests of the proposed MAIT formula rate. Among other things, the protest asked FERC to suspend the proposed effective date for the formula rate until June 1, 2017. On March 10, 2017, FERC issued an order accepting the MAIT formula transmission rate for filing, suspending the formula transmission rate for five months to become effective July 1, 2017, and establishing hearing and settlement judge procedures. On April 10, 2017, MAIT requested rehearing of FERC’s decision to suspend the effective date of the formula rate. FERC's order on rehearing remains pending. MAIT’s rates went into effect on July 1, 2017, subject to refund pending the outcome of the hearing and settlement procedures. On October 13, 2017, MAIT and certain parties filed a settlement agreement with FERC. The settlement agreement provides for certain changes to MAIT's formula rate, changes MAIT's ROE from 11% to 10.3%, sets the recovery amount for certain regulatory assets, and establishes that MAIT's capital structure will not exceed 60% equity over the period ending December 31, 2021. The settlement agreement further provides that the ROE and the 60% cap on the equity component of MAIT's capital structure will remain in effect unless changed pursuant to section 205 or 206 of the FPA provided the effective date for any change shall be no earlier than January 1, 2022. The settlement agreement currently is pending at FERC. As a result of the settlement agreement, MAIT recognized a pre-tax impairment charge of $13 million in the third quarter of 2017.

JCP&L Transmission Formula Rate

On October 28, 2016, after withdrawing its request to the NJBPU to transfer its transmission assets to MAIT, JCP&L submitted an application to FERC requesting authorization to implement a forward-looking formula transmission rate to recover and earn a return on transmission assets effective January 1, 2017. A group of intervenors, including the NJBPU and New Jersey Division of Rate Counsel, filed a protest of the proposed JCP&L transmission rate. Among other things, the protest asked FERC to suspend the proposed effective date for the formula rate until June 1, 2017. On March 10, 2017, FERC issued an order accepting the JCP&L formula transmission rate for filing, suspending the transmission rate for five months to become effective June 1, 2017, and establishing hearing and settlement judge procedures. On April 10, 2017, JCP&L requested rehearing of FERC’s decision to suspend the effective date of the formula rate. FERC's order on rehearing remains pending. JCP&L’s rates went into effect on June 1, 2017, subject to refund pending the outcome of the hearing and settlement procedures. On December 21, 2017, JCP&L and certain parties filed a settlement agreement with FERC. The settlement agreement provides for a $135 million stated annual revenue requirement for Network Integration Transmission Service and an average of $20 million stated annual revenue requirement for certain projects listed on the PJM Tariff where the costs are allocated in part beyond the JCP&L transmission zone within the PJM Region. The revenue requirements are subject to a moratorium on additional revenue requirements proceedings through December 31, 2019, other than limited filings to seek recovery for certain additional costs. Also on December 21, 2017, JCP&L filed a motion for authorization to implement the settlement rate on an interim basis. On December 27, 2017, FERC granted the motion authorizing JCP&L to implement the settlement rate effective January 1, 2018, pending a final commission order on the settlement agreement. The settlement agreement is pending at FERC. As a result of the settlement agreement, JCP&L recognized a pre-tax impairment charge of $28 million in the fourth quarter of 2017.

DOE NOPR: Grid Reliability and Resilience Pricing

On September 28, 2017, the Secretary of Energy released a NOPR requesting FERC to issue rules directing RTOs to incorporate pricing for defined “eligible grid reliability and resiliency resources” into wholesale energy markets. Specifically, as proposed, RTOs would develop and implement tariffs providing a just and reasonable rate for energy purchases from eligible grid reliability and resiliency resources and the recovery of fully allocated costs and a fair ROE. The NOPR followed the August 23, 2017, release of the DOE’s study regarding whether federally controlled wholesale energy markets properly recognize the importance of coal and nuclear plants for the reliability of the high-voltage grid, as well as whether federal policies supporting renewable energy sources have harmed the reliability of the energy grid. The DOE requested for the final rules to be effective in January 2018.

On October 2, 2017, FERC established a docket and requested comments on the NOPR. FESC and certain of its affiliates submitted comments and reply comments. On January 8, 2018, FERC issued an order terminating the NOPR proceeding, finding that the NOPR did not satisfy the statutory threshold requirements under the FPA for requiring changes to RTO/ISO tariffs to address resilience concerns. FERC in its order instituted a new administrative proceeding to gather additional information regarding resilience issues, and directed that each RTO/ISO respond to a provided list of questions. There is no deadline or requirement for FERC to act in this new proceeding. At this time, we are uncertain as to the potential impact that final action by FERC, if any, would have on FES and our strategic options, and the timing thereof, with respect to the competitive business.

Competitive Generation Asset Sale

FirstEnergy announced in January 2017 that AE Supply and AGC had entered into an asset purchase agreement with a subsidiary of LS Power, as amended and restated in August 2017, to sell four natural gas generating plants, AE Supply's interest in the Buchanan Generating facility and approximately 59% of AGC's interest in Bath County (1,615 MWs of combined capacity) for an all-cash purchase price of $825 million, subject to adjustments and through multiple, independent closings. On December 13, 2017, AE Supply completed the sale of the natural gas generating plants with net proceeds, subject to post-closing adjustments, of approximately $388 million. The sale of AE Supply's interests in the Bath County hydroelectric power station and the Buchanan Generating facility is expected to generate net proceeds of $375 million and is anticipated to close in the first half of 2018, subject in each case to various customary and other closing conditions, including, without limitation, receipt of regulatory approvals.

As part of the closing of the natural gas generating plants, FE provided the purchaser two limited three-year guarantees totaling $555 million of certain obligations of AE Supply and AGC arising under the amended and restated purchase agreement.

With the sale of the gas plants completed, upon the consummation of the sale of AGC's interest in the Bath County hydroelectric power station or the sale or deactivation of the Pleasants Power Station, AE Supply is obligated under the amended and restated purchase agreement and AE Supply's applicable debt agreements to satisfy and discharge approximately $305 million of currently outstanding senior notes, as well as its $142 million of pollution control notes and AGC's $100 million senior notes, which are expected to require the payment of "make-whole" premiums currently estimated to be approximately $95 million based on current interest rates.

On October 20, 2017, the parties filed an application with the VSCC for approval of the sale of approximately 59% of AGC's interest in the Bath County hydroelectric power station. On December 12, 2017, FERC issued an order authorizing the partial transfer of the related hydroelectric license for Bath County under Part I of the FPA. In December 2017, AGC, AE Supply and MP filed with FERC and AGC and AE Supply filed with the VSCC, applications for approval of AGC redeeming AE Supply’s shares in AGC upon consummation of the Bath County transaction. On February 2, 2018, the VSCC issued an order finding that approval of the proposed stock redemption is not required, and on February 16, 2018, FERC issued an order authorizing the redemption. Upon the consummation of the redemption, AGC will become a wholly-owned subsidiary of MP.

On December 28, 2017, FERC issued an order authorizing the sale of BU Energy’s Buchanan interests. Additional filings have been submitted to FERC for the purpose of amending affected FERC-jurisdictional rates and implementing the transaction once the sales are consummated. There can be no assurance that all regulatory approvals will be obtained and/or all closing conditions will be satisfied or that the remaining transactions will be consummated.

As a result of the amended asset purchase agreement, CES recorded non-cash pre-tax impairment charges of $193 million in 2017, reflecting the $825 million purchase price as well as certain purchase price adjustments based on timing of the closing of the transaction.

PATH Transmission Project

In 2012, the PJM Board of Managers canceled the PATH project, a proposed transmission line from West Virginia through Virginia and into Maryland. As a result of PJM canceling the project, approximately $62 million and approximately $59 million in costs incurred by PATH-Allegheny and PATH-WV, respectively, were reclassified from net property, plant and equipment to a regulatory asset for future recovery. PATH-Allegheny and PATH-WV requested authorization from FERC to recover the costs with a proposed ROE of 10.9% (10.4% base plus 0.5% for RTO membership) from PJM customers over five years. FERC issued an order denying the 0.5% ROE adder for RTO membership and allowing the tariff changes enabling recovery of these costs to become effective on December 1, 2012, subject to hearing and settlement procedures. On January 19, 2017, FERC issued an order reducing the PATH formula rate ROE from 10.4% to 8.11% effective January 19, 2017, and allowing recovery of certain related costs. On February 21, 2017, PATH filed a request for rehearing with FERC, seeking recovery of disallowed costs and requesting that the ROE be reset to 10.4%. The Edison Electric Institute submitted an amicus curiae request for reconsideration in support of PATH. On March 20, 2017, PATH also submitted a compliance filing implementing the January 19, 2017 order. Certain affected ratepayers commented on the compliance filing, alleging inaccuracies in and lack of transparency of data and information in the compliance filing, and requested that PATH be directed to recalculate the refund provided in the filing. PATH responded to these comments in a filing that was submitted on May 22, 2017. On July 27, 2017, FERC Staff issued a letter to PATH requesting additional information on, and edits to, the compliance filing, as directed by the January 19, 2017 order. PATH filed its response on September 27, 2017. FERC orders on PATH's requests for rehearing and compliance filing remain pending.

Market-Based Rate Authority, Triennial Update

The Utilities, AE Supply, FES and certain of its subsidiaries, Buchanan Generation and Green Valley each hold authority from FERC to sell electricity at market-based rates. One condition for retaining this authority is that every three years each entity must file an update with FERC that demonstrates that each entity continues to meet FERC’s requirements for holding market-based rate authority. On December 23, 2016, FESC, on behalf of its affiliates with market-based rate authority, submitted to FERC the most recent triennial market power analysis filing for each market-based rate holder for the current cycle of this filing requirement. On July 27, 2017, FERC accepted the triennial filing as submitted.

Capital Requirements

FirstEnergy’s business is capital intensive, requiring significant resources to fund operating expenses, construction expenditures, scheduled debt maturities and interest payments, dividend payments and contributions to its pension plan.

On January 22, 2018, FirstEnergy announced a $2.5 billion equity issuance, which included $1.62 billion in mandatorily convertible preferred equity with an initial conversion price of $27.42 per share and $850 million of common equity issued at $28.22 per share. The preferred shares will receive the same dividend paid on common stock on an as-converted basis and are non-voting except in certain limited circumstances. The new preferred shares contain an optional conversion for holders beginning in July 2018, and will mandatorily convert in 18-months from the issuance, subject to limited exceptions. Proceeds from the investment were used to reduce holding company debt by $1.45 billion and fund the company’s pension plan by $750 million, with the remainder used for general corporate purposes.

The equity investment allows FirstEnergy to strengthen its balance sheet and supports the company's transition to a fully regulated utility company. By deleveraging the company, the investment will also enable FirstEnergy to enhance its investment grade credit metrics and FirstEnergy does not currently anticipate the need to issue additional equity through at least 2021 outside of its regular stock investment and employee benefit plans.

In addition to this equity investment, FE and its utility and transmission subsidiaries expect their existing sources of liquidity to remain sufficient to meet their respective anticipated obligations. In addition to internal sources to fund liquidity and capital requirements for 2018 and beyond, FE and its utility and transmission subsidiaries expect to rely on external sources of funds. Short-term cash requirements not met by cash provided from operations are generally satisfied through short-term borrowings. Long-term cash needs may be met through the issuance of long-term debt at certain utility and transmission subsidiaries to, among other things, fund capital expenditures and refinance short-term and maturing long-term debt, subject to market conditions and other factors.

FirstEnergy’s unregulated subsidiaries, specifically FES and AE Supply, expect to rely on, in the case of AE Supply, internal sources, an unregulated companies' money pool (which also includes FE, FET, FEV and certain other unregulated subsidiaries of FE but excludes FENOC, FES and its subsidiaries) and proceeds generated from previously disclosed asset sales, subject to closing, and in the case of FES, its current access to a separate unregulated companies' money pool, which includes FE, FES' subsidiaries and FENOC, and a two-year secured line of credit from FE of up to $500 million, as further described below.

FES subsidiaries have debt maturities of $515 million in 2018, (excluding intra-company debt), beginning with a $100 million principal payment due April 2, 2018. Based on FES' current senior unsecured debt rating, capital structure and long-term cash flow projections, the debt maturities are unlikely to be refinanced. Although management continues to explore cost reductions and other options to improve cash flow, these obligations and their impact to liquidity raise substantial doubt about FES' ability to meet its obligations as they come due over the next twelve months and, as such, its ability to continue as a going concern. Furthermore, the inability to obtain legislative support under the Department of Energy's recent NOPR, which was rejected by FERC, limits FES' strategic options to plant deactivations, restructuring its debt and other financial obligations with its creditors, and/or to seek protection under U.S. bankruptcy laws.

In 2016, FirstEnergy satisfied its minimum required funding obligations of $382 million and addressed 2017 funding obligations to its qualified pension plan with total contributions of $882 million (of which $138 million was cash contributions from FES), including $500 million of FE common stock contributed to the qualified pension plan on December 13, 2016. In January 2018, FirstEnergy satisfied its minimum required funding obligations of $500 million and, as discussed above, addressed funding obligations for future years to its qualified pension plan with additional contributions of $750 million.

FirstEnergy's capital expenditures for 2018 are expected to be approximately $2.6 billion to $2.9 billion, excluding CES. Planned capital initiatives are intended to promote reliability, improve operations, and support current environmental and energy efficiency directives.

Capital expenditures for 2017 and anticipated expenditures for 2018 by reportable segment are included below:

Reportable Segment	2017 Actual[1]	2017 Pension/OPEB Mark-to-Market Capital Adjustment	2017 Actual Excluding Pension/OPEB Mark-to-Market Capital Costs	2018 Forecast[2]
	(In millions)			
Regulated Distribution	$1,342	$ (20)	$ 1,362	$1,500 - $1,600
Regulated Transmission	1,032	1	1,031	1,000 - 1,200
CES	279	(1)	280	— [3]
Corporate/Other	99	—	99	100
Total	$2,752	$ (20)	$ 2,772	$2,600 - $2,900

(1) Includes a decrease of approximately $20 million related to the capital component of the pension and OPEB mark-to-market adjustment.
(2) Excludes the capital component for pension and OPEB mark-to-market adjustments, which cannot be estimated.
(3) Planned capital expenditures will be dependent on the outcome of the strategic review of CES.

Additionally, planned capital expenditures for Regulated Distribution includes $1.4 billion to $1.7 billion, annually, 2019 through 2021, while planned capital expenditures for Regulated Transmission are expected to be approximately $1.0 billion to $1.2 billion, annually, 2019 through 2021.

Capital expenditures for 2017 and 2018 forecast by subsidiary are included in the following table.

Operating Company	2017 Actual[1]	2017 Pension/OPEB Mark-to-Market Capital Adjustment	2017 Actual Excluding Pension/OPEB Mark-to-Market Capital Costs	2018 Forecast[2][3]
	(In millions)			
OE	$143	$ (12)	$ 155	$ 160
Penn	55	(1)	56	45
CEI	134	4	130	145
TE	37	(3)	40	50
JCP&L	317	3	314	380
ME	142	(4)	146	185
PN	162	(12)	174	195
MP	269	9	260	280
PE	112	—	112	150
WP	199	(2)	201	260
ATSI	541	—	541	375
TrAIL	45	—	45	55
FES	250	(3)	253	— [4]
AE Supply	34	2	32	— [4]
MAIT	242	(1)	243	400
Other subsidiaries	70	—	70	70
Total	$2,752	$ (20)	$ 2,772	$ 2,750

(1) Includes a decrease of approximately $20 million related to the capital component of the pension and OPEB mark-to-market adjustment.
(2) Excludes the capital component for pension and OPEB mark-to-market adjustments, which cannot be estimated.
(3) 2018 Forecast represents the mid-point of Regulated Distribution and Regulated Transmission's 2018 forecasted capital expenditures.
(4) Planned capital expenditures will be dependent on the outcome of the strategic review of CES.

FirstEnergy's strategy is to focus on investments in its regulated operations. The centerpiece of this strategy is the Energizing the Future transmission plan, pursuant to which FirstEnergy plans to invest $4.0 to $4.8 billion in capital investments from 2018 to 2021, with $4.4 billion in capital investment from 2014 through 2017 to upgrade FirstEnergy's transmission system. This program is focused on projects that enhance system performance, physical security and add operating flexibility and capacity starting with the ATSI system and moving east across FirstEnergy's service territory over time. In total, FirstEnergy has identified over $20 billion in transmission investment opportunities across the 24,500 mile transmission system, making this a continuing platform for investment in the years beyond 2021.

The following table presents scheduled debt repayments for outstanding long-term debt as of December 31, 2017, excluding capital leases for the next five years. PCRBs that are scheduled to be tendered for mandatory purchase prior to maturity are reflected in the applicable year in which such PCRBs are scheduled to be tendered.

	2018	2019-2022	Total
	(In millions)		
FirstEnergy	$1,051	$ 6,008	$7,059

FES	$515	$ 1,948	$2,463

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The following table displays consolidated operating lease commitments as of December 31, 2017.

Operating Leases	FirstEnergy	FES
	(In millions)	
2018	$146	$101
2019	128	97
2020	102	68
2021	124	93
2022	111	91
Years thereafter	1,263	1,131
Total minimum lease payments	$1,874	$1,581

FE and the Utilities and FET and its subsidiaries participate in two separate five-year syndicated revolving credit facilities with aggregate commitments of $5.0 billion (Facilities), which are available through December 6, 2021. FE and the Utilities and FET and its subsidiaries may use borrowings under their Facilities for working capital and other general corporate purposes, including intercompany loans and advances by a borrower to any of its subsidiaries. Generally, borrowings under each of the Facilities are available to each borrower separately and mature on the earlier of 364 days from the date of borrowing or the commitment termination date, as the same may be extended. Each of the Facilities contains financial covenants requiring each borrower to maintain a consolidated debt-to-total-capitalization ratio (as defined under each of the Facilities) of no more than 65%, and 75% for FET, measured at the end of each fiscal quarter.

FirstEnergy had $300 million and $2,675 million of short-term borrowings as of December 31, 2017 and 2016, respectively. FirstEnergy's available liquidity from external sources as of January 31, 2018 was as follows: