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## Section 1: 8-K (8-K)

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

FORM 8-K

CURRENT REPORT

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

Date of Report (Date of earliest event reported): December 19, 2016

<u>Commission File Number</u>	<u>Registrant; State of Incorporation; Address; and Telephone Number</u>	<u>I.R.S. Employer Identification No.</u>
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

**the following provisions (see General Instruction A.2.):**

Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

## Item 2.03 Creation of a Direct Financial Obligation or an Obligation under an Off-Balance Sheet Arrangement of a Registrant.

As previously disclosed, FirstEnergy Corp. (FE) committed to make revolving loans available to its subsidiary FirstEnergy Solutions Corp. (FES) of \$500 million and additional secured credit support of up to \$200 million (Surety Credit Support) under a Credit Agreement, dated as of December 6, 2016, among FE, as lender, FES, as borrower, and FES' subsidiaries, FirstEnergy Generation, LLC (FG) and FirstEnergy Nuclear Generation, LLC (NG), as guarantors (New FES Secured Facility). Each of FG and NG, agreed to deliver First Mortgage Bonds (FMBs) in the total aggregate principal amount of \$700 million to FE as a condition to the initial borrowing by FES. As of the date hereof, there are no amounts drawn under the FES Secured Facility and Surety Credit Support.

On December 19, 2016, NG issued \$450 million aggregate principal amount of its first mortgage bonds due December 31, 2018 (NG FMBs) under the Sixth Supplemental Indenture, dated as of December 19, 2016 (Sixth Supplemental Indenture), to the Open-End Mortgage, General Mortgage Indenture and Deed of Trust, dated as of June 1, 2009, by and between NG and The Bank of New York Mellon Trust Company, N.A. (BNYMTC), as trustee. The NG FMBs are secured primarily by a valid first lien on substantially all of NG's property used, or to be used, in connection with the generation and production of electric energy, subject to certain exceptions. Also on December 19, 2016, FG issued \$250 million aggregate principal amount of its first mortgage bonds due December 31, 2018 (FG FMBs) under the Ninth Supplemental Indenture, dated as of December 19, 2016 (Ninth Supplemental Indenture and together with the Sixth Supplemental Indenture, the Supplemental Indentures), to the Open-End Mortgage, General Mortgage Indenture and Deed of Trust, dated as of June 19, 2008, by and between FG and BNYMTC, as trustee, and pledged to FirstEnergy. The FG FMBs are secured primarily by a valid first lien on substantially all of FG's property used, or to be used, in connection with the generation and production of electric energy, subject to certain exceptions. The FMBs of each company will bear interest on the sum of the Outstanding Credits (as defined in the applicable Supplemental Indenture) and outstanding Reimbursement Obligations (as defined in the applicable Supplemental Indenture) at the same rate as the new FES Secured Facility, provided, however, that the interest on the FMBs will not exceed 10% per annum. Only an Event of Default (as defined in the Credit Agreement) will cause the acceleration of the FMBs.

## Item 9.01 Financial Statements and Exhibits

(d) Exhibits.

<b>Exhibit No.</b>	<b>Description</b>
4.1	Sixth Supplemental Indenture, dated as of December 19, 2016, to Open-End Mortgage, General Mortgage Indenture and Deed of Trust, dated as of June 1, 2009, by and between FirstEnergy Nuclear Generation, LLC and The Bank of New York Mellon Trust Company, N.A., as trustee
4.1 (a)	Form of First Mortgage Bonds, Collateral Series L of 2016 due 2018 (included in Exhibit 4.1)
4.2	Ninth Supplemental Indenture, dated as of December 19, 2016, to Open-End Mortgage, General Mortgage Indenture and Deed of Trust, dated as of June 19, 2008, by and between FirstEnergy Generation, LLC and The Bank of New York Mellon Trust Company, N.A. (formerly known as The Bank of New York Trust Company, N.A.), as trustee
4.2 (a)	Form of First Mortgage Bonds, Collateral Series E of 2016 due 2018 (included in Exhibit 4.2)

**Forward-Looking Statements:** This Form 8-K includes forward-looking statements based on information currently available to management. Such statements are subject to certain risks and uncertainties. These statements include declarations regarding management's intents, beliefs and current expectations. These statements typically contain, but are not limited to, the terms "anticipate," "potential," "expect," "forecast," "target," "will," "intend," "believe," "project," "estimate," "plan" and similar words. Forward-looking statements involve estimates, assumptions, known and unknown risks, uncertainties and other factors that may cause actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements, which may include the following: the speed and nature of increased competition in the electric utility industry, in general, and the retail sales market in particular; the ability to experience growth in the Regulated Distribution and Regulated Transmission segments; the accomplishment of our regulatory and operational goals in connection with our transmission investment plan, including, but not limited to, the proposed transmission asset transfer to Mid-Atlantic Interstate Transmission, LLC, and the effectiveness of our strategy to reflect a more regulated business profile; changes in assumptions regarding economic conditions within our territories, assessment of the reliability of our transmission system, or the availability of capital or other resources supporting identified transmission investment opportunities; the impact of the regulatory process and resulting outcomes on the matters at the federal level and in the various states in which we do business including, but not limited to, matters related to rates and the Electric Security Plan IV; the impact of the federal regulatory process on Federal Energy Regulatory Commission (FERC)-regulated entities and transactions, in particular FERC regulation of wholesale energy and capacity markets, including PJM Interconnection, L.L.C. (PJM) markets and FERC-jurisdictional wholesale transactions; FERC regulation of cost-of-service rates, including FERC Opinion No. 531's revised Return on Equity methodology for FERC-jurisdictional wholesale generation and transmission utility service; and FERC's compliance and enforcement activity, including compliance and enforcement activity related to North American Electric Reliability Corporation's mandatory reliability standards; the uncertainties of various cost recovery and cost allocation issues resulting from American Transmission Systems, Incorporated's realignment into PJM; economic or weather conditions affecting future sales and margins such as a polar vortex or other significant weather events, and all associated regulatory events or actions; changing energy, capacity and commodity market prices including, but not limited to, coal, natural gas and oil prices, and their availability and impact on margins and asset valuations, including without limitation impairments thereon; the risks and uncertainties at the Competitive Energy Services (CES) segment, including FirstEnergy Solutions Corp. and its subsidiaries and FirstEnergy Nuclear Operating Company, related to continued depressed wholesale energy and capacity markets, and the viability and/or success of strategic business alternatives, such as potential CES generating unit asset sales, the potential conversion of the remaining generation fleet from competitive operations to a regulated or regulated-like construct or the potential need to deactivate additional generating units; the risks and uncertainties associated with a lack of viable alternative strategies regarding the CES segment, thereby causing FES to seek protection under the bankruptcy laws and the losses, liabilities and claims arising from such bankruptcy proceeding; the continued ability of our regulated utilities to recover their costs; costs being higher than anticipated and the success of our policies to control costs and to mitigate low energy, capacity and market prices; other legislative and regulatory changes, and revised environmental requirements, including, but not limited to, the effects of the United States Environmental Protection Agency's Clean Power Plan, Coal Combustion Residuals regulations, Cross-State Air Pollution Rule and Mercury and Air Toxics Standards programs, including our estimated costs of compliance, Clean Water Act (CWA) waste water effluent limitations for power plants, and CWA 316(b) water intake regulation; the uncertainty of the timing and amounts of the capital expenditures that may arise in connection with any litigation, including New Source Review litigation, or potential regulatory initiatives or rulemakings (including that such initiatives or rulemakings could result in our decision to deactivate or idle certain generating units); the uncertainties associated with the deactivation of older regulated and competitive units, including the impact on vendor commitments, such as long-term fuel and transportation agreements, and as it relates to the reliability of the transmission grid, the timing thereof; the impact of other future changes to the operational status or availability of our generating units and any capacity performance charges associated with unit unavailability; adverse regulatory or legal decisions and outcomes with respect to our nuclear operations (including, but not limited to, the revocation or non-renewal of necessary licenses, approvals or operating permits by the Nuclear Regulatory Commission or as a result of the incident at Japan's Fukushima Daiichi Nuclear Plant); issues arising from the indications of cracking in the shield building at Davis-Besse; the risks and uncertainties associated with litigation, arbitration, mediation and like proceedings, including, but not limited to, any such proceedings related to vendor commitments, such as long-term fuel and transportation agreements; the impact of labor disruptions by our unionized workforce; replacement power costs being higher than anticipated or not fully hedged; the ability to comply with applicable state and federal reliability standards and energy efficiency and peak demand reduction mandates; changes in customers' demand for power, including, but not limited to, changes resulting from the implementation of state and federal energy efficiency and peak demand reduction mandates; the ability to accomplish or realize anticipated benefits from strategic and financial goals, including, but not limited to, the ability to continue to reduce costs and to successfully execute our financial plans designed to improve our credit metrics and strengthen our balance sheet through, among other actions, our cash flow improvement plan and other proposed capital raising initiatives; our ability to improve electric commodity margins and the impact of, among other factors, the increased cost of fuel and fuel transportation on such margins; changing market conditions that could affect the measurement of certain liabilities and the value of assets held in our Nuclear Decommissioning Trusts, pension trusts and other trust funds, and cause us and/or our subsidiaries to make additional contributions sooner, or in amounts that are larger than currently anticipated; the impact of changes to significant accounting policies; the ability to access the public securities and other capital and credit markets in accordance with our financial plans, the cost of such capital and overall condition of the capital and credit markets affecting us and our subsidiaries; further actions that may be taken by credit rating agencies that could negatively affect us and/or our subsidiaries' access to financing, increase the costs thereof, increase requirements to post additional collateral to support, or

accelerate payments under outstanding commodity positions, letters of credit and other financial guarantees, and the impact of these events on the financial condition and liquidity of FirstEnergy and/or its subsidiaries, specifically the subsidiaries within the CES segment; the risks and uncertainties surrounding FirstEnergy's need to obtain waivers from its bank group under FirstEnergy's credit facilities caused by a debt to total capitalization ratio, as defined under each of such credit facilities, in excess of 65% resulting from impairment charges or other events at CES; changes in national and regional economic conditions affecting us, our subsidiaries and/or our major industrial and commercial customers, and other counterparties with which we do business, including fuel suppliers; the impact of any changes in tax laws or regulations or adverse tax audit results or rulings; issues concerning the stability of domestic and foreign financial institutions and counterparties with which we do business; the risks associated with cyber-attacks and other disruptions to our information technology system that may compromise our generation, transmission and/or distribution services and data security breaches of sensitive data, intellectual property and proprietary or personally identifiable information regarding our business, employees, shareholders, customers, suppliers, business partners and other individuals in our data centers and on our networks; and the risks and other factors discussed from time to time in our United States Securities and Exchange Commission (SEC) filings, and other similar factors. Dividends declared from time to time on FirstEnergy Corp.'s common stock during any period may in the aggregate vary from prior periods due to circumstances considered by FirstEnergy Corp.'s Board of Directors at the time of the actual declarations. A security rating is not a recommendation to buy or hold securities and is subject to revision or withdrawal at any time by the assigning rating agency. Each rating should be evaluated independently of any other rating. The foregoing factors should not be construed as exhaustive and should be read in conjunction with the other cautionary statements and risks that are included in our filings with the SEC, including but not limited to the most recent Annual Report on Form 10-K, any subsequent Quarterly Reports on Form 10-Q and Current Reports on Form 8-K. New factors emerge from time to time, and it is not possible for management to predict all such factors, nor assess the impact of any such factor on our business or the extent to which any factor, or combination of factors, may cause results to differ materially from those contained in any forward-looking statements. FirstEnergy expressly disclaims any current intention to update, except as required by law, any forward-looking statements contained herein as a result of new information, future events or otherwise.



Exhibit Index

Exhibit No.	Description
4.1	Sixth Supplemental Indenture, dated as of December 19, 2016, to Open-End Mortgage, General Mortgage Indenture and Deed of Trust, dated as of June 1, 2009, by and between FirstEnergy Nuclear Generation, LLC and The Bank of New York Mellon Trust Company, N.A., as trustee
4.1 (a)	Form of First Mortgage Bonds, Collateral Series L of 2016 due 2018 (included in Exhibit 4.1)
4.2	Ninth Supplemental Indenture, dated as of December 19, 2016, to Open-End Mortgage, General Mortgage Indenture and Deed of Trust, dated as of June 19, 2008, by and between FirstEnergy Generation, LLC and The Bank of New York Mellon Trust Company, N.A. (formerly known as The Bank of New York Trust Company, N.A.), as trustee
4.2 (a)	Form of First Mortgage Bonds, Collateral Series E of 2016 due 2018 (included in Exhibit 4.2)

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## Section 2: EX-4.1 (EXHIBIT 4.1)

Exhibit 4.1  
EXECUTION VERSION

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**SIXTH SUPPLEMENTAL INDENTURE**

\_\_\_\_\_

**FIRSTENERGY NUCLEAR GENERATION, LLC**

**TO**

**THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A.**  
**as Trustee**

\_\_\_\_\_

**Dated as of December 19, 2016**

\_\_\_\_\_

**Providing among other things for**

**First Mortgage Bonds, Collateral Series L of 2016 due 2018**

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**Supplemental to Open-End Mortgage, General Mortgage  
Indenture and Deed of Trust, Dated as of June 1, 2009**

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**THIS SIXTH SUPPLEMENTAL INDENTURE** (this “*Supplemental Indenture*”), dated as of December 19, 2016, between FIRSTENERGY NUCLEAR GENERATION, LLC (formerly known as FirstEnergy Nuclear Generation Corp.), a limited liability company organized and existing under the laws of the State of Ohio (hereinafter called the “*Company*”), and THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., a national banking association organized and existing under the laws of the United States of America, as Trustee (hereinafter called the “*Trustee*”) under the Open-End Mortgage, General Mortgage Indenture and Deed of Trust, dated as of June 1, 2009 (hereinafter called the “*Original Indenture*”) with the Company.

W I T N E S S E T H:

**WHEREAS**, the Company has heretofore duly executed and delivered to the Trustee the Original Indenture to secure Bonds of the Company, issuable in series, from time to time, in the manner and subject to the conditions set forth, and without limit as to principal amount except as provided in the Original Indenture which Original Indenture has been filed for record in the filing offices set forth on Schedule 1 attached hereto and incorporated herein by reference; and

**WHEREAS**, the Company has heretofore executed and delivered to the Trustee a First Supplemental Indenture supplementing the Original Indenture dated as of June 15, 2009 (the “*First Supplemental Indenture*”), a Second Supplemental Indenture supplementing the Original Indenture dated as of June 30, 2009 (the “*Second Supplemental Indenture*”), a Third Supplemental Indenture supplementing the Original Indenture dated as of December 1, 2009 (the “*Third Supplemental Indenture*”), a Fourth Supplemental Indenture supplementing the Original Indenture dated as of February 14, 2012 (the “*Fourth Supplemental Indenture*”), a Fifth Supplemental Indenture supplementing the Original Indenture dated as of August 15, 2016 (the “*Fifth Supplemental Indenture*”) and the Original Indenture, which, as supplemented by the aforementioned First Supplemental Indenture, Second Supplemental Indenture, Third Supplemental Indenture, Fourth Supplemental Indenture, Fifth Supplemental Indenture and this Supplemental Indenture and any other indentures supplemental to the Original Indenture, is herein referred to as the “*Indenture*”; and

**WHEREAS**, the Company, by appropriate corporate action in conformity with the terms of the Indenture, has duly determined to create a new series of Bonds under the Indenture, consisting of \$450,000,000 in aggregate principal amount to be designated as “*First Mortgage Bonds, Collateral Series L of 2016 due 2018*” (hereinafter referred to as the “*bonds of December 2016 Collateral Series*”), which shall bear interest at the rate per annum set forth in, subject to certain redemption rights and obligations set forth in, and will otherwise be in the form and have the terms and provisions provided for in this Supplemental Indenture; and

**WHEREAS**, the bonds of December 2016 Collateral Series and the Trustee’s certificate of authentication to be endorsed thereon shall be substantially in the form included in **Exhibit A** hereto; and

**WHEREAS**, the bonds of December 2016 Collateral Series shall be delivered to the Lender as a condition to an initial Extension of Credit; and

**WHEREAS**, it is provided in the Indenture, among other things, that the Company shall execute and file with the Trustee and the Trustee, at the request of the Company, when required by the Indenture, shall join in the execution of indentures supplemental thereto, and which thereafter shall form a part thereof, for the purpose, among others of providing for the creation of any series of Bonds and specifying the form and provisions of the Bonds of such series; and

**WHEREAS**, the Company deems it advisable to enter into this Supplemental Indenture for the purposes of establishing the form, terms and provisions of the bonds of December 2016 Collateral Series as provided and contemplated by Sections 2.01(a) and 3.01(b) of the Indenture, and the Company has requested and hereby requests the Trustee to join in the execution of this Supplemental Indenture; and

**WHEREAS**, all acts and things have been done and performed which are necessary to make this Supplemental Indenture, when duly executed and delivered, a valid, binding and legal instrument in accordance with its terms and for the purposes herein expressed; and the execution and delivery of this Supplemental Indenture have been in all respects duly authorized.

**NOW THEREFORE**, in consideration of the premises and in further consideration of the sum of One Dollar in lawful money of the United States of America paid to the Company by the Trustee at or before the execution and delivery of this Supplemental Indenture, the receipt whereof is hereby acknowledged, and of other good and valuable consideration, it is agreed by and between the Company and the Trustee as follows:

## **ARTICLE I**

### **DEFINITIONS**

#### **SECTION 1.01** *Terms Incorporated by Reference.*

Except for the terms defined in this Supplemental Indenture, all capitalized terms used in this Supplemental Indenture have the respective meanings set forth in the Original Indenture.

#### **SECTION 1.02** *Additional Definitions.*

**“Authorized Representative”** means any duly elected or appointed officer of the Lender.

**“bonds of December 2016 Collateral Series”** means the bonds of Collateral Series L.

**“Borrower”** means FirstEnergy Solutions Corp., an Ohio corporation, as borrower under the Credit Agreement.

**“Credit Agreement”** means that certain Credit Agreement, dated as of December 6, 2016, among the Borrower, the Company and FirstEnergy Generation, LLC (“**FG**”), as Guarantors, and the Lender, as may be amended, restated, supplemented or otherwise modified from time to time.

“**Interest Payment Date**” shall have the meaning assigned to such term in the form of bond of December 2016 Collateral Series.

“**Lender**” means FirstEnergy Corp., an Ohio corporation, as lender under the Credit Agreement.

“**Mandatory Commitment Reduction**” means any reduction of the Commitment made under the Credit Agreement pursuant to Section 2.06(b) of the Credit Agreement.

“**Nuclear FMB Ratio**” means the ratio of the outstanding aggregate maximum principal amount of bonds of December 2016 Collateral Series of the Company to the sum of the then current Commitment and Surety Credit Support Cap of the Lender, initially, 450,000,000: 700,000,000.

“**Voluntary Commitment Reduction**” means any reduction of the Commitment made under the Credit Agreement pursuant to Section 2.06(a) of the Credit Agreement.

The terms “**Advances**,” “**Commitment**,” “**Extension of Credit**,” “**Guarantor**,” “**Note**,” “**Outstanding Credits**” “**Reimbursement Obligation**,” “**Surety Credit Support**” and “**Surety Credit Support Cap**” shall have the respective meanings assigned to those terms in the Credit Agreement.

SECTION 1.03. *Rules of Construction.* All references to any agreement refer to such agreement as modified, varied, supplemented, amended or restated from time to time by the parties thereto (including any permitted successors or assigns) in accordance with its terms.

## ARTICLE II

### BONDS

SECTION 2.01. *Designation and Issuance of Bonds.* The bonds of December 2016 Collateral Series shall be designated, as hereinbefore recited, as the Company’s “**First Mortgage Bonds, Collateral Series L of 2016 due 2018**” and, subject to the provisions of the Indenture, shall be limited to the aggregate principal amount of Four Hundred Fifty Million Dollars (\$450,000,000). The bonds of December 2016 Collateral Series are to be issued and secured by the Lien of the Indenture.

SECTION 2.02. *Form, Date, Maturity Date, Interest Rate and Interest Payment Dates of Bonds.* (a) The definitive bonds of December 2016 Collateral Series shall be in engraved, lithographed, printed or typewritten form and shall be registered bonds without coupons, and such bonds and the Trustee’s certificate of authentication to be endorsed thereon shall be substantially in the form included in Exhibit A hereto. The bonds of December 2016 Collateral Series shall be dated as provided in Section 3.03 of the Indenture.

(b) The bonds of December 2016 Collateral Series shall bear interest as provided in the form of the bond of December 2016 Collateral Series, and such provisions are incorporated at this place as though set forth in their entirety. The interest rate and maturity date of the bonds of December 2016 Collateral Series shall be as set forth in the form of the bond of December 2016 Collateral Series; provided, however, such interest rate or rates on the bonds of December 2016 Collateral Series shall not exceed ten percent (10%) per annum (calculated on the basis of a year of 360 days for the actual days elapsed). The bonds of December 2016 Collateral Series shall bear interest until the principal thereof shall be paid in full.

(c) The interest on the bonds of December 2016 Collateral Series so payable on any Interest Payment Date shall, subject to the exceptions provided in Section 3.07 of the Indenture, and to the provisions of Section 2.04 of this Supplemental Indenture, be paid to the person in whose name such Bond is registered on such Interest Payment Date.

SECTION 2.03. *Bonds Issued as Collateral Security.* The bonds of December 2016 Collateral Series shall be issued, delivered, and pledged to, and registered in the name of, the Lender under the Credit Agreement in order to secure and provide for, and as collateral security for, the due and punctual payment of the Outstanding Credits and Reimbursement Obligations arising thereunder.

SECTION 2.04. *Credit for Payments of the Advances and Reimbursement Obligations and Adjustment of the Commitment.*

(a) Any payment made in respect of the Borrower's obligations under the Credit Agreement with respect to the payment of (i) unpaid principal on the Advances of or (ii) unpaid interest on the Advances of the Credit Agreement shall be deemed a payment in respect of (x) principal of or (y) interest on, respectively, the bonds of December 2016 Collateral Series, but any such payment of principal shall not reduce the principal amount of the bonds of December 2016 Collateral Series unless, and then only to the extent, the amount available to be advanced under the Commitment is irrevocably reduced concurrently with such payment pursuant to a Voluntary Commitment Reduction or a Mandatory Commitment Reduction. The obligation of the Borrower to make payments with respect to the principal of and interest on the bonds of December 2016 Collateral Series shall be fully satisfied and discharged to the extent that, at any time that any such payment shall be due, the Borrower shall have paid fully all the Outstanding Credits and Reimbursement Obligations, and the Commitments shall have been terminated.

(b) The Trustee may conclusively presume that the obligation of the Borrower to pay the principal of, and interest on, the bonds of December 2016 Collateral Series, as the same shall become due and payable, has been credited in accordance with this Section 2.04 unless and until it shall have received a written notice (including a telecopy or other form of written communication) from an Authorized Representative of the Lender stating that payment of Advances or interest thereon due under the Credit Agreement or the Note has become due and payable and has not been fully paid and specifying the amount of funds required to make such payment.

(c) Any payment made in respect of the Borrower's obligations under the Credit Agreement with respect to the payment of (i) unpaid principal on the Reimbursement Obligations of or (ii) unpaid interest on the Reimbursement Obligations or Surety Credit Support fees payable under Section 2.05 of the Credit Agreement shall be deemed a payment in respect of (x) principal of or (y) interest on, respectively, the bonds of December 2016 Collateral Series, but any such payment of principal shall not reduce the principal amount of the bonds of December 2016 Collateral Series unless, and then only to the extent, the Surety Credit Support Cap is irrevocably reduced concurrently with such payment. The obligation of the Borrower to make payments with respect to the principal of and interest on the bonds of December 2016 Collateral Series shall be fully satisfied and discharged to the extent that, at any time that any such payment shall be due, the Borrower shall have paid fully all the Outstanding Credits and Reimbursement Obligations, and the Commitments shall have been terminated.

(d) The Trustee may conclusively presume that the obligation of the Borrower to pay the principal of, and interest on, the bonds of December 2016 Collateral Series, as the same shall become due and payable, has been credited in accordance with this Section 2.04 unless and until it shall have received a written notice (including a telecopy or other form of written communication) from an Authorized Representative of the Lender stating that payment of Reimbursement Obligations, interest thereon or Surety Credit Support fees due under the Credit Agreement has become due and payable and has not been fully paid and specifying the amount of funds required to make such payment.

(e) The Trustee shall have no duty to monitor whether any payments required to be made under the Credit Agreement have, in fact, been paid.

SECTION 2.05. *Execution of Bonds.* The bonds of December 2016 Collateral Series shall be executed on behalf of the Company in accordance with Section 3.03 of the Indenture.

SECTION 2.06. *Medium and Places of Payment of Principal of, and Interest on, the Bonds; Transferability and Exchangeability.* The principal of, and the interest on, the bonds of December 2016 Collateral Series shall be payable in any coin or currency of the United States of America which at the time of payment is legal tender for the payment of public and private debts, and such principal and interest shall be payable at the office or agency of the Company in the City of Cleveland, State of Ohio. The Corporate Trust Office of the Trustee shall serve as the initial location of such office. Subject to the limitations provided herein, the bonds of December 2016 Collateral Series shall be transferable and exchangeable, in the manner provided in Sections 3.05 and 3.06 of the Indenture, at said office or agency. The bonds of December 2016 Collateral Series shall not be transferable except (i) to a permitted successor or assignee to the Lender under the Credit Agreement, (ii) in connection with the exercise of the rights and remedies of the holder thereof consequent upon an "*Event of Default*" as defined in the Credit Agreement, or (iii) as may be necessary to comply with a final order of a court of competent jurisdiction in connection with any bankruptcy or reorganization proceeding of the Company. No charge shall be made by the Company to the registered owner of any bond of December 2016 Collateral Series for the registration of transfer of such Bond or for the exchange thereof for

Bonds of the same series of other authorized denominations, except, in the case of any transfer, a charge sufficient to reimburse the Company for any stamp or other tax or governmental charge required to be paid by the Company or the Trustee.

SECTION 2.07. *Denominations and Numbering of Bonds.* The bonds of December 2016 Collateral Series shall be issued in the denomination of \$1,000 and any integral multiple thereof. The bonds of December 2016 Collateral Series shall each be numbered R-1 and consecutively upwards.

SECTION 2.08. *Temporary Bonds.* Until definitive bonds of December 2016 Collateral Series are ready for delivery, there may be authenticated and issued in lieu of any thereof and subject to all of the provisions, limitations, and conditions set forth in Section 3.04 of the Indenture, temporary registered bonds of December 2016 Collateral Series without coupons.

SECTION 2.09. *Mandatory Redemption.* The bonds of December 2016 Collateral Series shall be subject to mandatory redemption as provided in the form thereof.

SECTION 2.10. *Confirmation of Lien.* The Company, for the equal and proportionate benefit and security of the holders of all Bonds at any time issued under the Indenture, hereby confirms the lien and security interest of the Indenture upon, and hereby grants, bargains, sells, releases, conveys, assigns, transfers, mortgages, pledges, sets over and confirms to the Trustee, and grants to the Trustee a security interest in, the Mortgaged Property, including all additional property heretofore made subject to the Indenture by virtue of one or more supplemental indentures.

### **ARTICLE III**

#### **EVENTS OF DEFAULT**

SECTION 3.01. Notwithstanding Section 10.01 of the Original Indenture, the sole Event of Default with respect to the bonds of December 2016 Collateral Series shall be the occurrence of an "Event of Default" as defined by the Credit Agreement.

### **ARTICLE IV**

#### **MISCELLANEOUS**

SECTION 4.01. Except as herein otherwise expressly provided, no duties, responsibilities or liabilities are assumed, or shall be construed to be assumed, by the Trustee by reason of this Supplemental Indenture; the Trustee shall not be responsible in any manner whatsoever for or in respect of the validity or sufficiency of this Supplemental Indenture or for or in respect of the recitals herein or in the bonds of December 2016 Collateral Series (except the Trustee's authentication certificate), all of which are made by the Company solely; and this Supplemental Indenture is executed and accepted by the Trustee, subject to all the terms and conditions set forth

in the Indenture, as fully to all intents and purposes as if the terms and conditions of the Indenture were herein set forth at length.

SECTION 4.02. As supplemented by this Supplemental Indenture, the Indenture is in all respects ratified and confirmed, and the Indenture as herein defined, and this Supplemental Indenture, shall be read, taken and construed as one and the same instrument.

SECTION 4.03. Nothing in this Supplemental Indenture contained shall or shall be construed to confer upon any person other than a Holder of Bonds issued under the Indenture, the Company and the Trustee any right or interest to avail himself of any benefit under any provision of the Indenture or of this Supplemental Indenture.

SECTION 4.04. This Supplemental Indenture may be simultaneously executed in several counterparts and all such counterparts executed and delivered, each as an original, shall constitute but one and the same instrument.

[Remainder of this page intentionally left blank.]





STATE OF OHIO )

)ss.:

COUNTY OF Summit )

On the 19<sup>th</sup> day of December, 2016, personally appeared before me, a Notary Public in and for the said County and State aforesaid, Jason J. Lisowski, to me known and known to me to be the Controller and Treasurer of FIRSTENERGY NUCLEAR GENERATION, LLC, the limited liability company which executed the foregoing instrument, and who severally acknowledged that he did sign such instrument as such Controller and Treasurer of FIRSTENERGY NUCLEAR GENERATION, LLC, the same is his free act and deed and the free and company act and deed of said limited liability company.

IN WITNESS WHEREOF, I have hereunto set my hand and seal the 19<sup>th</sup> day of December, 2016.

*/s/ Michele A. Buchtel*

\_\_\_\_\_  
Michele A Buchtel , Notary Public

Commission Expires 8/28/21

[NOTARIAL SEAL] Michele A. Buchtel

Notary Public

State of Ohio

Recorded in Summit County

My Comm. Exp. 08/28/2021

*Signature Page to Sixth Supplemental Indenture  
FirstEnergy Nuclear Generation, LLC*

STATE OF Illinois )  
 )ss.:  
COUNTY OF Cook )

On the 19<sup>th</sup> day of December, 2016, personally appeared before me, a Notary Public in and for the said County and State aforesaid, Lawrence M. Kusch, to me known and known to me to be a Vice President of THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., the national banking association which executed the foregoing instrument, and who severally acknowledged that he did sign such instrument as such Vice President for and on behalf of said national banking association and that the same is his free act and deed and the free and corporate act and deed of said national banking association.

IN WITNESS WHEREOF, I have hereunto set my hand and seal the 19<sup>th</sup> day of December, 2016.

*/s/ Colleen Sketch*

---

Colleen Sketch, Notary Public  
Commission Expires May 20, 2017

[OFFICIAL SEAL] Colleen Sketch

Notary Public – State of Illinois

My Commission Expires May 20, 2017

*Signature Page to Sixth Supplemental Indenture  
FirstEnergy Nuclear Generation, LLC*

The Bank of New York Mellon Trust Company, N.A. hereby certifies that its precise name and address as Trustee is:

The Bank of New York Mellon Trust Company, N.A.  
Global Corporate Trust  
1660 West 2<sup>nd</sup> Street, Suite 830  
Cleveland, Ohio 44113

THE BANK OF NEW YORK MELLON TRUST  
COMPANY, N.A.

By: /s/ Lawrence M. Kusch

Name: Lawrence M. Kusch

Title: Vice President

*Signature Page to Sixth Supplemental Indenture  
FirstEnergy Nuclear Generation, LLC*

THIS INSTRUMENT PREPARED BY:

Lucas F. Torres  
Akin Gump Strauss Hauer & Feld LLP  
One Bryant Park  
New York, NY 10036

**Exhibit A**

[FORM OF FIRST MORTGAGE BOND OF BONDS OF DECEMBER 2016 COLLATERAL SERIES L]

THIS BOND IS NOT TRANSFERABLE EXCEPT (I) TO A PERMITTED SUCCESSOR OR ASSIGNEE OF THE LENDER UNDER THE CREDIT AGREEMENT (AS DEFINED BELOW), (II) IN CONNECTION WITH THE EXERCISE OF THE RIGHTS AND REMEDIES OF THE HOLDER HEREOF CONSEQUENT UPON AN "EVENT OF DEFAULT" AS DEFINED IN THE CREDIT AGREEMENT REFERRED TO HEREIN OR (III) AS MAY BE NECESSARY TO COMPLY WITH A FINAL ORDER OF A COURT OF COMPETENT JURISDICTION IN CONNECTION WITH ANY BANKRUPTCY OR REORGANIZATION PROCEEDING OF THE COMPANY.

**FIRSTENERGY NUCLEAR GENERATION, LLC**

First Mortgage Bond, Collateral Series L of 2016 due 2018

**Due December 31, 2018**

[\$\_\_\_\_\_]

No. R-\_\_

FIRSTENERGY NUCLEAR GENERATION, LLC (formerly known as FirstEnergy Nuclear Generation Corp.), a limited liability company of the State of Ohio (herein, together with its successors and assigns, the "**Company**"), for value received promises to pay to FirstEnergy Corp., an Ohio corporation (the "**Lender**"), under that certain Credit Agreement, dated as of December 6, 2016, among FirstEnergy Solutions Corp., an Ohio corporation, as Borrower (the "**Borrower**"), the Company and FirstEnergy Generation, LLC, an Ohio limited liability company ("**FG**"), as Guarantors, and the Lender (such Credit Agreement, as amended from time to time, hereinafter the "**Credit Agreement**"), or permitted assigns, on December 31, 2018, the principal sum of [ ] Dollars or, at any time (if less), such lesser principal amount as is equal to the product of the Nuclear FMB Ratio and the aggregate of the sum of (a) the Outstanding Credits at such time, plus (b) the aggregate unpaid principal amount of all Reimbursement Obligations that are outstanding under the Credit Agreement at such time, and to pay interest on said principal amount from the date hereof at such rate or rates per annum on each day as shall cause the amount of interest payable on the Bonds of this series on an Interest Payment Date (as hereinafter defined) to equal the sum of the amount of accrued interest on such Outstanding Credits and outstanding Reimbursement Obligations plus the amount of accrued Surety Credit Support fees pursuant to Section 2.05 of the Credit Agreement payable on such Interest Payment Date; **provided, however**, that such interest rate or rates shall not exceed ten percent (10%) per annum (calculated on the basis of a year of 360 days for the actual days elapsed). Said interest shall accrue hereon until the principal hereof shall be paid in full, subject to Section 2.04 of the Sixth Supplemental Indenture dated as of December 19, 2016 (as amended, supplemented, modified or restated, the "**Supplemental Indenture**"), executed and delivered by the Company to the Trustee (as hereinafter defined), which provides for certain credits towards payment of principal of, and interest on, the Bonds of this series. Interest shall accrue on the Bonds of this series from the date of issuance hereof, and the payment thereof shall be credited as provided in Section 2.04(a) and (c) of the Supplemental Indenture unless and until the Trustee receives the notice contemplated by Section 2.04(b) or (d) of the Supplemental Indenture, whereupon the interest on the Bonds of this series shall become and remain due and payable until such time as the Trustee receives a further written notice (including a teletype or other form of written telecommunication) from an Authorized Representative of the Lender stating that such payments need not continue. The interest on each Bond of this series so payable on any Interest Payment Date shall, subject to the exceptions provided in Section 3.07 of the Indenture (as hereinafter defined) and to the provisions of Section 2.04 of the Supplemental Indenture, be paid to the person in whose name such Bond is registered on the date of such payment. The principal of, and the interest on, this Bond shall be payable at the office or agency of the Company in the City of Cleveland, State of Ohio in any coin or currency of the United States of America which at the time of payment is legal tender for the payment of public and private debts.

As used herein, “**Interest Payment Date**” shall mean the applicable date for the payment of accrued interest on Outstanding Credits plus outstanding Reimbursement Obligations and accrued Surety Credit Support Fee under the Credit Agreement and the terms “**Advances**,” “**Commitment**,” “**Guarantor**,” “**Note**,” “**Outstanding Credits**,” “**Reimbursement Obligation**,” and “**Surety Credit Support**,” and “**Surety Credit Support Cap**” shall have the respective meanings set forth in the Credit Agreement.

This Bond is one of an issue of Bonds of the Company known as its First Mortgage Bonds, issued and to be issued in one or more series under and secured by an Open-End Mortgage, General Mortgage Indenture and Deed of Trust, dated as of June 1, 2009, duly executed by the Company to The Bank of New York Mellon Trust Company, N.A., a national banking association organized and existing under the laws of the United States of America, as Trustee (the “**Trustee**”), and indentures supplemental thereto, heretofore or hereafter executed, including the Sixth Supplemental Indenture dated as of December 19, 2016 (as amended, supplemented, modified or restated, the “**Supplemental Indenture**”), to which Open-End Mortgage, General Mortgage Indenture and Deed of Trust and all indentures supplemental thereto (collectively referred to as the “**Indenture**”) reference is hereby made for a description of the property mortgaged and pledged, the nature and extent of the security, the terms and conditions upon which such Bonds are, and are to be, issued and secured, and the rights of the owners of such Bonds and the Trustee in respect of such security. As provided in the Indenture, such Bonds may be in various principal sums, are issuable in series, may mature at different times, may bear interest at different rates and may otherwise vary as therein provided; and this Bond is one Bond of a series entitled “**First Mortgage Bonds, Collateral Series L of 2016 due 2018**,” created by the Supplemental Indenture, as provided for in the Indenture, and authorized for issuance in an aggregate principal amount of up to \$450,000,000.

Any payment of Advances and Reimbursement Obligations made by or on behalf of the Borrower in respect of the Credit Agreement shall be deemed a payment in respect of this Bond, but such payment shall not reduce the principal amount of this Bond then in effect unless the amount available to be advanced under the Commitment is irrevocably reduced concurrently with such payment pursuant to a Voluntary Commitment Reduction or a Mandatory Commitment Reduction or an irrevocable reduction to the Surety Credit Support Cap. The obligation of the Borrower to make payments with respect to the principal of and interest on the bonds of December 2016 Collateral Series shall be fully satisfied and discharged to the extent that, at any time that any such payment shall be due, the Borrower shall have paid fully all the Outstanding Credits and Reimbursement Obligations, and the Commitments shall have been terminated. In the event that all of the Borrower’s obligations under the Credit Agreement have been discharged and the Note shall have been cancelled, this Bond shall be deemed paid in full and the Holder shall surrender this Bond to the Trustee for cancellation.

The Bonds of this series shall be redeemed promptly, without notice, by the Company in whole at 100% of the principal amount thereof plus accrued interest to the date of redemption (the “**Redemption Price**”) following receipt by the Trustee of written demand for redemption (a “**Redemption Demand**”) from an Authorized Representative of the Lender under the Credit Agreement stating that (i) all of the Advances or Reimbursement Obligations under the Credit Agreement have become or have been declared to be immediately due and payable as a result of the occurrence and continuance of an “**Event of Default**” under the Credit Agreement and (ii) that the Lender has demanded payment thereof from the Borrower; provided that the Bonds of this series shall be redeemed automatically by the Company, without notice (other than to the Trustee), in whole at the Redemption Price, if the Advances and Reimbursement Obligations under the Credit Agreement have become immediately due and payable as a result of the occurrence of an “**Event of Default**” under the Credit Agreement with respect to the Borrower or any Subsidiaries (as defined in the Credit Agreement) under Section 6.01(f) of the Credit Agreement. Such redemption shall be effected on the fifth Business Day (a) following receipt by the Trustee of the Redemption Demand, if such Redemption Demand is required, or (b) the occurrence of an “**Event of Default**” under the Credit Agreement with respect to the Borrower or any Subsidiaries (as defined in the Credit Agreement) under Section 6.01(f) of the Credit Agreement. Any payment of the Redemption Price made to the Lender shall constitute a payment by the Borrower in respect of the Outstanding Credits and the Reimbursement Obligations under the Credit Agreement. A Redemption Demand shall be rescinded and shall be null and void for all purposes of the Indenture upon receipt by the Trustee, no later than the Business Day prior to the date fixed for redemption, of a written notice from the Lender withdrawing said Redemption Demand.

For the avoidance of doubt, in accordance with Section 2.19 of the Credit Agreement, the Holder acknowledges that the obligations of the Borrower, each Guarantor party thereto, including the Company and FG, under the Credit Agreement and any Loan Document defined therein shall not constitute “**FES Indebtedness**” or “**Genco Indebtedness**” for purposes of Section 2 of each of the 2007 Guaranties (defined herein). Accordingly, the Holder acknowledges that the obligations of the Company under this Bond shall not constitute “**FES Indebtedness**” or “**Genco Indebtedness**” as defined in Section 2 of each of the 2007 Guaranties, and shall not be entitled to the benefits of any of the 2007 Guaranties. The acknowledgments, representations and

agreements in this paragraph are those of the Holder alone and not the Trustee. The Trustee provides no acknowledgment, representation or agreement with respect to the treatment of the obligations of the Borrower and the Guarantors under the Credit Agreement and the related Loan Documents.

The term “**2007 Guaranties**” shall mean, collectively (i) the Guaranty, dated as of March 26, 2007, of the Borrower with respect to certain indebtedness of Company, (ii) the Guaranty, dated as of March 26, 2007, of the Borrower with respect to certain indebtedness of FG (as defined below), (iii) the Guaranty, dated as of March 26, 2007, of the Company with respect to certain indebtedness of the Borrower and (iv) the Guaranty, dated as of March 26, 2007, of FG with respect to certain indebtedness of the Borrower.

No recourse shall be had for the payment of the principal of or premium, or interest, if any, on this Bond, or any part hereof, or for any claim based hereon or otherwise in respect hereof, or of the indebtedness represented hereby, or upon any obligation, covenant or agreement under the Indenture, against any incorporator, stockholder, officer or director, as such, past, present or future of the Company or of any predecessor or successor corporation (either directly or through the Company or a predecessor or successor corporation), whether by virtue of any Constitutional provision, statute or rule of law, or by the enforcement of any assessment or penalty or otherwise, all such liability of incorporators, stockholders, officers and directors being released by the registered owner hereof by the acceptance of this Bond and being likewise waived and released by the terms of the Indenture.

This Bond is nontransferable except to effect transfer (i) to any permitted successor or assignee of the Lender under the Credit Agreement, (ii) in connection with the exercise of the rights and remedies of the holder hereof consequent upon an “**Event of Default**” as defined in the Credit Agreement, or (iii) as may be necessary to comply with a final order of a court of competent jurisdiction in connection with any bankruptcy or reorganization proceeding of the Company. But this Bond is exchangeable by the registered holder hereof, in person or by attorney duly authorized, at the Corporate Trust Office of the Trustee, any such permitted transfer or exchange to be made in the manner and upon the conditions prescribed in the Indenture, upon the surrender and cancellation of this Bond and the payment of any applicable taxes and fees required by law, and upon any such transfer or exchange a new registered Bond or Bonds of the same series and tenor, will be issued to the authorized transferee, or the registered holder, as the case may be. The Company and the Trustee may deem and treat the person in whose name this Bond is registered as the absolute owner for the purpose of receiving payment of or on account of the principal and interest due hereon and for all other purposes.

This Bond shall not be valid until authenticated by the manual signature of the Trustee, or a successor Trustee or Authenticating Agent appointed pursuant to the Indenture.

[Remainder of this page intentionally left blank.]

IN WITNESS WHEREOF, the Company has caused this Bond to be executed in its name by the manual or facsimile signature of an Authorized Executive Officer and attested by the manual or facsimile signature of another Authorized Executive Officer.

Dated: December 19, 2016

FIRSTENERGY NUCLEAR GENERATION, LLC

By: \_\_\_\_\_  
Name: Jason J. Lisowski  
Title: Controller and Treasurer

Attest:

---

Kelley E. Mendenhall  
Vice President and Corporate Secretary

[FORM OF TRUSTEE'S AUTHENTICATION CERTIFICATE]

TRUSTEE'S AUTHENTICATION CERTIFICATE

This is one of the Bonds of the series designated therein referred to in the within-mentioned Indenture.

THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., as  
Trustee

By: \_\_\_\_\_  
Authorized Signatory

**Schedule 1**

**Filing Offices For the Original Indenture**

<b>Plant</b>	<b>Jurisdiction/Filing Office</b>	<b>Recording Information</b>	<b>Date filed</b>
Davis Besse	Office of the County Recorder of Ottawa County, Ohio	OR Volume 1278, Page 204	June 12, 2009
Perry	Office of the County Recorder of Lake County, Ohio	Document # 2009R015200	June 12, 2009
Beaver Valley	Office of the County Recorder of Beaver County, Pennsylvania	Instrument No. 3346070	June 12, 2009

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**Section 3: EX-4.2 (EXHIBIT 4.2)**

**Exhibit 4.2**  
EXECUTION VERSION

**FIRSTENERGY GENERATION, LLC**

**TO**

**THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A.  
as Trustee**

\_\_\_\_\_  
**Dated as of December 19, 2016**

\_\_\_\_\_  
**Providing among other things for**

**First Mortgage Bonds, Collateral Series E of 2016 due 2018**

\_\_\_\_\_  
**Supplemental to Open-End Mortgage, General Mortgage  
Indenture and Deed of Trust, Dated as of June 19, 2008**



**THIS NINTH SUPPLEMENTAL INDENTURE** (this “**Supplemental Indenture**”), dated as of December 19, 2016, between FIRSTENERGY GENERATION, LLC (formerly known as FirstEnergy Generation Corp.), a limited liability company organized and existing under the laws of the State of Ohio (hereinafter called the “**Company**”), and THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., a national banking association organized and existing under the laws of the United States of America, as Trustee (hereinafter called the “**Trustee**”) under the Open-End Mortgage, General Mortgage Indenture and Deed of Trust, dated as of June 19, 2008 (hereinafter called the “**Original Indenture**”) with the Company.

W I T N E S S E T H:

**WHEREAS**, the Company has heretofore duly executed and delivered to the Trustee the Original Indenture to secure Bonds of the Company, issuable in series, from time to time, in the manner and subject to the conditions set forth, and without limit as to principal amount except as provided in the Original Indenture which Original Indenture has been filed for record in the filing offices set forth on Schedule 1 attached hereto and incorporated herein by reference; and

**WHEREAS**, the Company has heretofore executed and delivered to the Trustee a First Supplemental Indenture supplementing the Original Indenture dated as of June 25, 2008 (the “**First Supplemental Indenture**”), a Second Supplemental Indenture supplementing the Original Indenture dated as of March 1, 2009 (the “**Second Supplemental Indenture**”), a Third Supplemental Indenture supplementing the Original Indenture dated as of March 31, 2009 (the “**Third Supplemental Indenture**”), a Fourth Supplemental Indenture supplementing the Original Indenture dated as of June 15, 2009 (the “**Fourth Supplemental Indenture**”), a Fifth Supplemental Indenture supplementing the Original Indenture dated as of June 30, 2009 (the “**Fifth Supplemental Indenture**”), a Sixth Supplemental Indenture supplementing the Original Indenture dated as of December 1, 2009 (the “**Sixth Supplemental Indenture**”), a Seventh Supplemental Indenture supplementing the Original Indenture dated as of February 14, 2012 (the “**Seventh Supplemental Indenture**”), an Eighth Supplemental Indenture supplementing the Original Indenture dated as of August 15, 2016 (the “**Eighth Supplemental Indenture**”) and the Original Indenture, which, as supplemented by the aforementioned First Supplemental Indenture, Second Supplemental Indenture, Third Supplemental Indenture, Fourth Supplemental Indenture, Fifth Supplemental Indenture, Sixth Supplemental Indenture, Seventh Supplemental Indenture, Eighth Supplemental Indenture and this Supplemental Indenture and any other indentures supplemental to the Original Indenture, is herein referred to as the “**Indenture**”; and

**WHEREAS**, the Company, by appropriate corporate action in conformity with the terms of the Indenture, has duly determined to create a new series of Bonds under the Indenture, consisting of \$250,000,000 in aggregate principal amount to be designated as “First Mortgage Bonds, Collateral Series E of 2016 due 2018” (hereinafter referred to as the “**bonds of December 2016 Collateral Series**”), which shall bear interest at the rate per annum set forth in, subject to certain redemption rights and obligations set forth in, and will otherwise be in the form and have the terms and provisions provided for in this Supplemental Indenture; and

**WHEREAS**, the bonds of December 2016 Collateral Series and the Trustee's certificate of authentication to be endorsed thereon shall be substantially in the form included in Exhibit A hereto; and

**WHEREAS**, the bonds of December 2016 Collateral Series shall be delivered to the Lender as a condition to an initial Extension of Credit; and

**WHEREAS**, it is provided in the Indenture, among other things, that the Company shall execute and file with the Trustee and the Trustee, at the request of the Company, when required by the Indenture, shall join in the execution of indentures supplemental thereto, and which thereafter shall form a part thereof, for the purpose, among others of providing for the creation of any series of Bonds and specifying the form and provisions of the Bonds of such series; and

**WHEREAS**, the Company deems it advisable to enter into this Supplemental Indenture for the purposes of establishing the form, terms and provisions of the bonds of December 2016 Collateral Series as provided and contemplated by Sections 2.01(a) and 3.01(b) of the Indenture, and the Company has requested and hereby requests the Trustee to join in the execution of this Supplemental Indenture; and

**WHEREAS**, all acts and things have been done and performed which are necessary to make this Supplemental Indenture, when duly executed and delivered, a valid, binding and legal instrument in accordance with its terms and for the purposes herein expressed; and the execution and delivery of this Supplemental Indenture have been in all respects duly authorized.

**NOW THEREFORE**, in consideration of the premises and in further consideration of the sum of One Dollar in lawful money of the United States of America paid to the Company by the Trustee at or before the execution and delivery of this Supplemental Indenture, the receipt whereof is hereby acknowledged, and of other good and valuable consideration, it is agreed by and between the Company and the Trustee as follows:

## **ARTICLE I**

### **DEFINITIONS**

#### **SECTION 1.01** *Terms Incorporated by Reference.*

Except for the terms defined in this Supplemental Indenture, all capitalized terms used in this Supplemental Indenture have the respective meanings set forth in the Original Indenture.

#### **SECTION 1.02** *Additional Definitions.*

**"Authorized Representative"** means any duly elected or appointed officer of the Lender.

**"bonds of December 2016 Collateral Series"** means the bonds of Collateral Series E.

“**Borrower**” means FirstEnergy Solutions Corp., an Ohio corporation, as borrower under the Credit Agreement.

“**Credit Agreement**” means that certain Credit Agreement, dated as of December 6, 2016, among the Borrower, the Company and FirstEnergy Nuclear Generation, LLC (“**NG**”), as Guarantors, and the Lender, as may be amended, restated, supplemented or otherwise modified from time to time.

“**Fossil FMB Ratio**” means the ratio of the outstanding aggregate maximum principal amount of bonds of December 2016 Collateral Series of the Company to the sum of the then current Commitment and Surety Credit Support Cap of the Lender, initially, 250,000,000: 700,000,000.

“**Interest Payment Date**” shall have the meaning assigned to such term in the form of bond of December 2016 Collateral Series.

“**Lender**” means FirstEnergy Corp., an Ohio corporation, as lender under the Credit Agreement.

“**Mandatory Commitment Reduction**” means any reduction of the Commitment made under the Credit Agreement pursuant to Section 2.06(b) of the Credit Agreement.

“**Voluntary Commitment Reduction**” means any reduction of the Commitment made under the Credit Agreement pursuant to Section 2.06(a) of the Credit Agreement.

The terms “**Advances**,” “**Commitment**,” “**Extension of Credit**,” “**Guarantor**,” “**Note**,” “**Outstanding Credits**” “**Reimbursement Obligation**,” “**Surety Credit Support**” and “**Surety Credit Support Cap**” shall have the respective meanings assigned to those terms in the Credit Agreement.

SECTION 1.03. *Rules of Construction.* All references to any agreement refer to such agreement as modified, varied, supplemented, amended or restated from time to time by the parties thereto (including any permitted successors or assigns) in accordance with its terms.

## ARTICLE II

### BONDS

SECTION 2.01. *Designation and Issuance of Bonds.* The bonds of December 2016 Collateral Series shall be designated, as hereinbefore recited, as the Company’s “**First Mortgage Bonds, Collateral Series E of 2016 due 2018**” and, subject to the provisions of the Indenture, shall be limited to the aggregate principal amount of Two Hundred Fifty Million Dollars (\$250,000,000.00). The bonds of December 2016 Collateral Series are to be issued and secured by the Lien of the Indenture.

SECTION 2.02. *Form, Date, Maturity Date, Interest Rate and Interest Payment Dates of Bonds.* (a) The definitive bonds of December 2016 Collateral Series shall be in engraved, lithographed, printed or typewritten form and shall be registered bonds without coupons, and such

bonds and the Trustee's certificate of authentication to be endorsed thereon shall be substantially in the form included in Exhibit A hereto. The bonds of December 2016 Collateral Series shall be dated as provided in Section 3.03 of the Indenture.

(b) The bonds of December 2016 Collateral Series shall bear interest as provided in the form of the bond of December 2016 Collateral Series, and such provisions are incorporated at this place as though set forth in their entirety. The interest rate and maturity date of the bonds of December 2016 Collateral Series shall be as set forth in the form of the bond of December 2016 Collateral Series; provided, however, such interest rate or rates on the bonds of December 2016 Collateral Series shall not exceed ten percent (10%) per annum (calculated on the basis of a year of 360 days for the actual days elapsed). The bonds of December 2016 Collateral Series shall bear interest until the principal thereof shall be paid in full.

(c) The interest on the bonds of December 2016 Collateral Series so payable on any Interest Payment Date shall, subject to the exceptions provided in Section 3.07 of the Indenture, and to the provisions of Section 2.04 of this Supplemental Indenture, be paid to the person in whose name such Bond is registered on such Interest Payment Date.

**SECTION 2.03. *Bonds Issued as Collateral Security.*** The bonds of December 2016 Collateral Series shall be issued, delivered, and pledged to, and registered in the name of, the Lender under the Credit Agreement in order to secure and provide for, and as collateral security for, the due and punctual payment of the Outstanding Credits and Reimbursement Obligations arising thereunder.

**SECTION 2.04. *Credit for Payments of the Advances and Reimbursement Obligations and Adjustment of the Commitment.***

(a) Any payment made in respect of the Borrower's obligations under the Credit Agreement with respect to the payment of (i) unpaid principal on the Advances of or (ii) unpaid interest on the Advances of the Credit Agreement shall be deemed a payment in respect of (x) principal of or (y) interest on, respectively, the bonds of December 2016 Collateral Series, but any such payment of principal shall not reduce the principal amount of the bonds of December 2016 Collateral Series unless, and then only to the extent, the amount available to be advanced under the Commitment is irrevocably reduced concurrently with such payment pursuant to a Voluntary Commitment Reduction or a Mandatory Commitment Reduction. The obligation of the Borrower to make payments with respect to the principal of and interest on the bonds of December 2016 Collateral Series shall be fully satisfied and discharged to the extent that, at any time that any such payment shall be due, the Borrower shall have paid fully all the Outstanding Credits and Reimbursement Obligations, and the Commitments shall have been terminated.

(b) The Trustee may conclusively presume that the obligation of the Borrower to pay the principal of, and interest on, the bonds of December 2016 Collateral Series, as the same shall become due and payable, has been credited in accordance with this Section 2.04 unless and until it shall have received a written notice (including a telecopy or other form of written communication) from an Authorized Representative of the Lender stating that payment of Advances or interest

thereon due under the Credit Agreement or the Note has become due and payable and has not been fully paid and specifying the amount of funds required to make such payment.

(c) Any payment made in respect of the Borrower's obligations under the Credit Agreement with respect to the payment of (i) unpaid principal on the Reimbursement Obligations of or (ii) unpaid interest on the Reimbursement Obligations or Surety Credit Support fees payable under Section 2.05 of the Credit Agreement shall be deemed a payment in respect of (x) principal of or (y) interest on, respectively, the bonds of December 2016 Collateral Series, but any such payment of principal shall not reduce the principal amount of the bonds of December 2016 Collateral Series unless, and then only to the extent, the Surety Credit Support Cap is irrevocably reduced concurrently with such payment. The obligation of the Borrower to make payments with respect to the principal of and interest on the bonds of December 2016 Collateral Series shall be fully satisfied and discharged to the extent that, at any time that any such payment shall be due, the Borrower shall have paid fully all the Outstanding Credits and Reimbursement Obligations, and the Commitments shall have been terminated.

(d) The Trustee may conclusively presume that the obligation of the Borrower to pay the principal of, and interest on, the bonds of December 2016 Collateral Series, as the same shall become due and payable, has been credited in accordance with this Section 2.04 unless and until it shall have received a written notice (including a telecopy or other form of written communication) from an Authorized Representative of the Lender stating that payment of Reimbursement Obligations, interest thereon or Surety Credit Support fees due under the Credit Agreement has become due and payable and has not been fully paid and specifying the amount of funds required to make such payment.

(e) The Trustee shall have no duty to monitor whether any payments required to be made under the Credit Agreement have, in fact, been paid.

SECTION 2.05. *Execution of Bonds.* The bonds of December 2016 Collateral Series shall be executed on behalf of the Company in accordance with Section 3.03 of the Indenture.

SECTION 2.06. *Medium and Places of Payment of Principal of, and Interest on, the Bonds; Transferability and Exchangeability.* The principal of, and the interest on, the bonds of December 2016 Collateral Series shall be payable in any coin or currency of the United States of America which at the time of payment is legal tender for the payment of public and private debts, and such principal and interest shall be payable at the office or agency of the Company in the City of Cleveland, State of Ohio. The Corporate Trust Office of the Trustee shall serve as the initial location of such office. Subject to the limitations provided herein, the bonds of December 2016 Collateral Series shall be transferable and exchangeable, in the manner provided in Sections 3.05 and 3.06 of the Indenture, at said office or agency. The bonds of December 2016 Collateral Series shall not be transferable except (i) to a permitted successor or assignee to the Lender under the Credit Agreement, (ii) in connection with the exercise of the rights and remedies of the holder thereof consequent upon an "Event of Default" as defined in the Credit Agreement, or (iii) as may be necessary to comply with a final order of a court of competent jurisdiction in connection with any bankruptcy or

reorganization proceeding of the Company. No charge shall be made by the Company to the registered owner of any bond of December 2016 Collateral Series for the registration of transfer of such Bond or for the exchange thereof for Bonds of the same series of other authorized denominations, except, in the case of any transfer, a charge sufficient to reimburse the Company for any stamp or other tax or governmental charge required to be paid by the Company or the Trustee.

SECTION 2.07. *Denominations and Numbering of Bonds.* The bonds of December 2016 Collateral Series shall be issued in the denomination of \$1,000 and any integral multiple thereof. The bonds of December 2016 Collateral Series shall each be numbered R-1 and consecutively upwards.

SECTION 2.08. *Temporary Bonds.* Until definitive bonds of December 2016 Collateral Series are ready for delivery, there may be authenticated and issued in lieu of any thereof and subject to all of the provisions, limitations, and conditions set forth in Section 3.04 of the Indenture, temporary registered bonds of December 2016 Collateral Series without coupons.

SECTION 2.09. *Mandatory Redemption.* The bonds of December 2016 Collateral Series shall be subject to mandatory redemption as provided in the form thereof.

SECTION 2.10. *Confirmation of Lien.* The Company, for the equal and proportionate benefit and security of the holders of all Bonds at any time issued under the Indenture, hereby confirms the lien and security interest of the Indenture upon, and hereby grants, bargains, sells, releases, conveys, assigns, transfers, mortgages, pledges, sets over and confirms to the Trustee, and grants to the Trustee a security interest in, the Mortgaged Property, including all additional property heretofore made subject to the Indenture by virtue of one or more supplemental indentures.

### **ARTICLE III**

#### **EVENTS OF DEFAULT**

SECTION 3.01. Notwithstanding Section 10.01 of the Original Indenture, the sole Event of Default with respect to the bonds of December 2016 Collateral Series shall be the occurrence of an “Event of Default” as defined by the Credit Agreement.

### **ARTICLE IV**

#### **MISCELLANEOUS**

SECTION 4.01. Except as herein otherwise expressly provided, no duties, responsibilities or liabilities are assumed, or shall be construed to be assumed, by the Trustee by reason of this Supplemental Indenture; the Trustee shall not be responsible in any manner whatsoever for or in respect of the validity or sufficiency of this Supplemental Indenture or for or in respect of the recitals herein or in the bonds of December 2016 Collateral Series (except the Trustee’s authentication certificate), all of which are made by the Company solely; and this Supplemental

Indenture is executed and accepted by the Trustee, subject to all the terms and conditions set forth in the Indenture, as fully to all intents and purposes as if the terms and conditions of the Indenture were herein set forth at length.

SECTION 4.02. As supplemented by this Supplemental Indenture, the Indenture is in all respects ratified and confirmed, and the Indenture as herein defined, and this Supplemental Indenture, shall be read, taken and construed as one and the same instrument.

SECTION 4.03. Nothing in this Supplemental Indenture contained shall or shall be construed to confer upon any person other than a Holder of Bonds issued under the Indenture, the Company and the Trustee any right or interest to avail himself of any benefit under any provision of the Indenture or of this Supplemental Indenture.

SECTION 4.04. This Supplemental Indenture may be simultaneously executed in several counterparts and all such counterparts executed and delivered, each as an original, shall constitute but one and the same instrument.

[Remainder of this page intentionally left blank.]

IN WITNESS WHEREOF, FIRSTENERGY GENERATION, LLC, party of the first part hereto, and THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., party of the second part hereto, have caused these presents to be executed in their respective names as of the day and year first above written.

FIRSTENERGY GENERATION, LLC

By: /s/ Jason J. Lisowski

Jason J. Lisowski

Controller and Treasurer

THE BANK OF NEW YORK MELLON TRUST  
COMPANY, N.A., as Trustee

By: /s/ Lawrence M. Kusch

Name: Lawrence M. Kusch

Title: Vice President



STATE OF OHIO )

)ss.:

COUNTY OF Summit )

On the 19<sup>th</sup> day of December, 2016, personally appeared before me, a Notary Public in and for the said County and State aforesaid, Jason J. Lisowski, to me known and known to me to be the Controller and Treasurer of FIRSTENERGY GENERATION, LLC, the limited liability company which executed the foregoing instrument, and who severally acknowledged that he did sign such instrument as such Controller and Treasurer of FIRSTENERGY GENERATION, LLC, the same is his free act and deed and the free and company act and deed of said limited liability company.

IN WITNESS WHEREOF, I have hereunto set my hand and seal the 19<sup>th</sup> day of December, 2016.

*/s/ Michele A Buchtel*

Michel A. Buchtel, Notary Public

Commission Expires 8/28/21

[NOTARIAL SEAL] Michele A. Buchtel

Notary Public

State of Ohio

Recorded in Summit County

My Comm. Exp. 08/28/2021

*Signature Page to Ninth Supplemental Indenture  
FirstEnergy Generation, LLC*

STATE OF Illinois )  
 )ss.:  
COUNTY OF Cook )

On the 19<sup>th</sup> day of December, 2016, personally appeared before me, a Notary Public in and for the said County and State aforesaid, Lawrence M. Kusch, to me known and known to me to be a Vice President of THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., the national banking association which executed the foregoing instrument, and who severally acknowledged that he did sign such instrument as such Vice President for and on behalf of said national banking association and that the same is his free act and deed and the free and corporate act and deed of said national banking association.

IN WITNESS WHEREOF, I have hereunto set my hand and seal the 19<sup>th</sup> day of December, 2016.

*/s/ Colleen Sketch*

Colleen Sketch , Notary Public

Commission Expires May 20, 2017

[OFFICIAL SEAL] Colleen Sketch

Notary Public – State of Illinois

My Commission Expires May 20, 2017

The Bank of New York Mellon Trust Company, N.A. hereby certifies that its precise name and address as Trustee is:

The Bank of New York Mellon Trust Company, N.A.  
Global Corporate Trust  
1660 West 2<sup>nd</sup> Street, Suite 830  
Cleveland, Ohio 44113

THE BANK OF NEW YORK MELLON TRUST  
COMPANY, N.A.

By: /s/ Lawrence M. Kusch

Name: Lawrence M. Kusch

Title: Vice President

THIS INSTRUMENT PREPARED BY:

Lucas F. Torres  
Akin Gump Strauss Hauer & Feld LLP  
One Bryant Park  
New York, NY 10036

[FORM OF FIRST MORTGAGE BOND OF BONDS OF DECEMBER 2016 COLLATERAL SERIES E]

THIS BOND IS NOT TRANSFERABLE EXCEPT (I) TO A PERMITTED SUCCESSOR OR ASSIGNEE OF THE LENDER UNDER THE CREDIT AGREEMENT (AS DEFINED BELOW), (II) IN CONNECTION WITH THE EXERCISE OF THE RIGHTS AND REMEDIES OF THE HOLDER HEREOF CONSEQUENT UPON AN "EVENT OF DEFAULT" AS DEFINED IN THE CREDIT AGREEMENT REFERRED TO HEREIN OR (III) AS MAY BE NECESSARY TO COMPLY WITH A FINAL ORDER OF A COURT OF COMPETENT JURISDICTION IN CONNECTION WITH ANY BANKRUPTCY OR REORGANIZATION PROCEEDING OF THE COMPANY.

**FIRSTENERGY GENERATION, LLC**

First Mortgage Bond, Collateral Series E of 2016 due 2018

**Due December 31, 2018**

[\$\_\_\_\_\_] No. R-\_\_

FIRSTENERGY GENERATION, LLC (formerly known as FirstEnergy Generation Corp.), a limited liability company of the State of Ohio (herein, together with its successors and assigns, the "**Company**"), for value received promises to pay to FirstEnergy Corp., an Ohio corporation (the "**Lender**"), under that certain Credit Agreement, dated as of December 6, 2016, among FirstEnergy Solutions Corp., an Ohio corporation, as Borrower (the "**Borrower**"), the Company and FirstEnergy Nuclear Generation, LLC, an Ohio limited liability company ("**NG**"), as Guarantors, and the Lender (such Credit Agreement, as amended from time to time, hereinafter the "**Credit Agreement**"), or permitted assigns, on December 31, 2018, the principal sum of [ ] Dollars or, at any time (if less), such lesser principal amount as is equal to the product of the Fossil FMB Ratio and the aggregate of the sum of (a) the Outstanding Credits at such time, plus (b) the aggregate unpaid principal amount of all Reimbursement Obligations that are outstanding under the Credit Agreement at such time, and to pay interest on said principal amount from the date hereof at such rate or rates per annum on each day as shall cause the amount of interest payable on the Bonds of this series on an Interest Payment Date (as hereinafter defined) to equal the sum of the amount of accrued interest on such Outstanding Credits and outstanding Reimbursement Obligations plus the amount of accrued Surety Credit Support fees pursuant to Section 2.05 of the Credit Agreement payable on such Interest Payment Date; provided, however, that such interest rate or rates shall not exceed ten percent (10%) per annum (calculated on the basis of a year of 360 days for the actual days elapsed). Said interest shall accrue hereon until the principal hereof shall be paid in full, subject to Section 2.04 of the Ninth Supplemental Indenture dated as of December 19, 2016 (as amended, supplemented, modified or restated, the "**Supplemental Indenture**"), executed and delivered by the Company to the Trustee (as hereinafter defined), which provides for certain credits towards payment of principal of, and interest on, the Bonds of this series. Interest shall

accrue on the Bonds of this series from the date of issuance hereof, and the payment thereof shall be credited as provided in Section 2.04(a) and (c) of the Supplemental Indenture unless and until the Trustee receives the notice contemplated by Section 2.04(b) or (d) of the Supplemental Indenture, whereupon the interest on the Bonds of this series shall become and remain due and payable until such time as the Trustee receives a further written notice (including a telecopy or other form of written telecommunication) from an Authorized Representative of the Lender stating that such payments need not continue. The interest on each Bond of this series so payable on any Interest Payment Date shall, subject to the exceptions provided in Section 3.07 of the Indenture (as hereinafter defined) and to the provisions of Section 2.04 of the Supplemental Indenture, be paid to the person in whose name such Bond is registered on the date of such payment. The principal of, and the interest on, this Bond shall be payable at the office or agency of the Company in the City of Cleveland, State of Ohio in any coin or currency of the United States of America which at the time of payment is legal tender for the payment of public and private debts.

As used herein, “**Interest Payment Date**” shall mean the applicable date for the payment of accrued interest on Outstanding Credits plus outstanding Reimbursement Obligations and accrued Surety Credit Support Fee under the Credit Agreement and the terms “**Advances**,” “**Commitment**,” “**Guarantor**,” “**Note**,” “**Outstanding Credits**” “**Reimbursement Obligation**,” and “**Surety Credit Support**” and “**Surety Credit Support Cap**” shall have the respective meanings set forth in the Credit Agreement.

This Bond is one of an issue of Bonds of the Company known as its First Mortgage Bonds, issued and to be issued in one or more series under and secured by an Open-End Mortgage, General Mortgage Indenture and Deed of Trust, dated as of June 19, 2008, duly executed by the Company to The Bank of New York Mellon Trust Company, N.A., a national banking association organized and existing under the laws of the United States of America, as Trustee (the “**Trustee**”), and indentures supplemental thereto, heretofore or hereafter executed, including the Ninth Supplemental Indenture dated as of December 19, 2016 (as amended, supplemented, modified or restated, the “**Supplemental Indenture**”), to which Open-End Mortgage, General Mortgage Indenture and Deed of Trust and all indentures supplemental thereto (collectively referred to as the “**Indenture**”) reference is hereby made for a description of the property mortgaged and pledged, the nature and extent of the security, the terms and conditions upon which such Bonds are, and are to be, issued and secured, and the rights of the owners of such Bonds and the Trustee in respect of such security. As provided in the Indenture, such Bonds may be in various principal sums, are issuable in series, may mature at different times, may bear interest at different rates and may otherwise vary as therein provided; and this Bond is one Bond of a series entitled “First Mortgage Bonds, Collateral Series E of 2016 due 2018,” created by the Supplemental Indenture, as provided for in the Indenture, and authorized for issuance in an aggregate principal amount of up to \$250,000,000.

Any payment of Advances and Reimbursement Obligations made by or on behalf of the Borrower in respect of the Credit Agreement shall be deemed a payment in respect of this Bond, but such payment shall not reduce the principal amount of this Bond then in effect unless the amount available to be advanced under the Commitment is irrevocably reduced concurrently with such payment pursuant to a Voluntary Commitment Reduction or a Mandatory Commitment Reduction or an irrevocable reduction to the Surety Credit Support Cap. The obligation of the Borrower to

make payments with respect to the principal of and interest on the bonds of December 2016 Collateral Series shall be fully satisfied and discharged to the extent that, at any time that any such payment shall be due, the Borrower shall have paid fully all the Outstanding Credits and Reimbursement Obligations, and the Commitments shall have been terminated. In the event that all of the Borrower's obligations under the Credit Agreement have been discharged and the Note shall have been cancelled, this Bond shall be deemed paid in full and the Holder shall surrender this Bond to the Trustee for cancellation.

The Bonds of this series shall be redeemed promptly, without notice, by the Company in whole at 100% of the principal amount thereof plus accrued interest to the date of redemption (the "**Redemption Price**") following receipt by the Trustee of written demand for redemption (a "**Redemption Demand**") from an Authorized Representative of the Lender under the Credit Agreement stating that (i) all of the Advances or Reimbursement Obligations under the Credit Agreement have become or have been declared to be immediately due and payable as a result of the occurrence and continuance of an "Event of Default" under the Credit Agreement and (ii) that the Lender has demanded payment thereof from the Borrower; provided that the Bonds of this series shall be redeemed automatically by the Company, without notice (other than to the Trustee), in whole at the Redemption Price, if the Advances and Reimbursement Obligations under the Credit Agreement have become immediately due and payable as a result of the occurrence of an "Event of Default" under the Credit Agreement with respect to the Borrower or any Subsidiaries (as defined in the Credit Agreement) under Section 6.01(f) of the Credit Agreement. Such redemption shall be effected on the fifth Business Day (a) following receipt by the Trustee of the Redemption Demand, if such Redemption Demand is required, or (b) the occurrence of an "Event of Default" under the Credit Agreement with respect to the Borrower or any Subsidiaries (as defined in the Credit Agreement) under Section 6.01(f) of the Credit Agreement. Any payment of the Redemption Price made to the Lender shall constitute a payment by the Borrower in respect of the Outstanding Credits and the Reimbursement Obligations under the Credit Agreement. A Redemption Demand shall be rescinded and shall be null and void for all purposes of the Indenture upon receipt by the Trustee, no later than the Business Day prior to the date fixed for redemption, of a written notice from the Lender withdrawing said Redemption Demand.

For the avoidance of doubt, in accordance with Section 2.19 of the Credit Agreement, the Holder acknowledges that the obligations of the Borrower, each Guarantor party thereto, including the Company and NG, under the Credit Agreement and any Loan Document defined therein shall not constitute "FES Indebtedness" or "Genco Indebtedness" for purposes of Section 2 of each of the 2007 Guaranties (defined herein). Accordingly, the Holder acknowledges that the obligations of the Company under this Bond shall not constitute "FES Indebtedness" or "Genco Indebtedness" as defined in Section 2 of each of the 2007 Guaranties, and shall not be entitled to the benefits of any of the 2007 Guaranties. The acknowledgments, representations and agreements in this paragraph are those of the Holder alone and not the Trustee. The Trustee provides no acknowledgment, representation or agreement with respect to the treatment of the obligations of the Borrower and the Guarantors under the Credit Agreement and the related Loan Documents.

The term "**2007 Guaranties**" shall mean, collectively (i) the Guaranty, dated as of March 26, 2007, of the Borrower with respect to certain indebtedness of Company, (ii) the Guaranty, dated

as of March 26, 2007, of the Borrower with respect to certain indebtedness of NG (as defined below), (iii) the Guaranty, dated as of March 26, 2007, of the Company with respect to certain indebtedness of the Borrower and (iv) the Guaranty, dated as of March 26, 2007, of NG with respect to certain indebtedness of the Borrower.

No recourse shall be had for the payment of the principal of or premium, or interest if any, on this Bond, or any part hereof, or for any claim based hereon or otherwise in respect hereof, or of the indebtedness represented hereby, or upon any obligation, covenant or agreement under the Indenture, against any incorporator, stockholder, officer or director, as such, past, present or future of the Company or of any predecessor or successor corporation (either directly or through the Company or a predecessor or successor corporation), whether by virtue of any Constitutional provision, statute or rule of law, or by the enforcement of any assessment or penalty or otherwise, all such liability of incorporators, stockholders, officers and directors being released by the registered owner hereof by the acceptance of this Bond and being likewise waived and released by the terms of the Indenture.

This Bond is nontransferable except to effect transfer (i) to any permitted successor or assignee of the Lender under the Credit Agreement, (ii) in connection with the exercise of the rights and remedies of the holder hereof consequent upon an "Event of Default" as defined in the Credit Agreement, or (iii) as may be necessary to comply with a final order of a court of competent jurisdiction in connection with any bankruptcy or reorganization proceeding of the Company. But this Bond is exchangeable by the registered holder hereof, in person or by attorney duly authorized, at the Corporate Trust Office of the Trustee, any such permitted transfer or exchange to be made in the manner and upon the conditions prescribed in the Indenture, upon the surrender and cancellation of this Bond and the payment of any applicable taxes and fees required by law, and upon any such transfer or exchange a new registered Bond or Bonds of the same series and tenor, will be issued to the authorized transferee, or the registered holder, as the case may be. The Company and the Trustee may deem and treat the person in whose name this Bond is registered as the absolute owner for the purpose of receiving payment of or on account of the principal and interest due hereon and for all other purposes.

This Bond shall not be valid until authenticated by the manual signature of the Trustee, or a successor Trustee or Authenticating Agent appointed pursuant to the Indenture.

[Remainder of this page intentionally left blank.]

Exhibit A-4



IN WITNESS WHEREOF, the Company has caused this Bond to be executed in its name by the manual or facsimile signature of an Authorized Executive Officer and attested by the manual or facsimile signature of another Authorized Executive Officer.

Dated: December 19, 2016

**FIRSTENERGY GENERATION, LLC**

By: \_\_

Name: Jason J. Lisowski

Title: Controller and Treasurer

Attest:

\_\_\_\_\_  
Kelley E. Mendenhall  
Vice President and Corporate Secretary

*Signature Page to First Mortgage Bond,  
Collateral Series E of 2016 due 2018*

[FORM OF TRUSTEE'S AUTHENTICATION CERTIFICATE]

TRUSTEE'S AUTHENTICATION CERTIFICATE

This is one of the Bonds of the series designated therein referred to in the within-mentioned Indenture.

THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., *as  
Trustee*

By: \_\_  
*Authorized Signatory*

*Signature Page to First Mortgage Bond,  
Collateral Series E of 2016 due 2018*

## Schedule 1

### Filing Offices For the Original Indenture

<b>Plant</b>	<b>Jurisdiction/Filing Office</b>	<b>Recording Information</b>	<b>Date filed</b>
Ashtabula Plant	Ashtabula County - Office of the County Recorder of Ashtabula County, Ohio	Instrument No. 200800007364 Volume 436 Page 1732	06/27/2008
Bay Shore Plant	Lucas County - Office of the County Recorder of Lucas County, Ohio	Instrument No. 20080627-0032756	06/27/2008
Bruce Mansfield Plant	Beaver County - Office of the County Recorder of Beaver County, Pennsylvania	Instrument No. 3326465	06/27/2008
Burger Plant	Belmont County - Office of the County Recorder of Belmont County, Ohio	Instrument No. 200800004786 Volume 0157 Page 172	06/27/2008
Eastlake Plant	Lake County - Office of the County Recorder of Lake County, Ohio	Instrument No. 2008R018408	06/27/2008
Edgewater Plant and West Lorain Plant	Lorain County - Office of the County Recorder of Lorain County, Ohio	Instrument No. 2008-0259135	06/27/2008
Fremont Plant	Sandusky County - Office of the County Recorder of Sandusky County, Ohio	Instrument No. 200800004585 Official Record Book 66 Page 708	06/27/2008
Lake Shore Plant	Cuyahoga County - Office of the County Recorder of Cuyahoga County, Ohio	Instrument No. 200806270329	06/27/2008
Mad River Plant	Clark County - Office of the County Recorder of Clark County, Ohio	Instrument No. 200800010888 Official Record Volume 1852 Page 1946 Instrument No. 200800011009 Official Record Volume 1853 Page 18	06/27/2008 06/30/2008 (Re-recorded)
Richland Plant	Defiance County - Office of the County Recorder of Defiance County, Ohio	Instrument No. 200800003811 Official Record Book 327 Page 482	06/27/2008

## Schedule 1

### Filing Offices For the Original Indenture

<b>Plant</b>	<b>Jurisdiction/Filing Office</b>	<b>Recording Information</b>	<b>Date filed</b>
Sammis Plant	Jefferson County - Office of the County Recorder of Jefferson County, Ohio	Instrument No. 232633 Official Record Volume 851 Page 344	06/27/2008
Seneca Plant	Warren County - Office of the County Recorder of Warren County, Pennsylvania	Instrument No. 2008-2962	06/27/2008
Stryker Plant	Williams County - Office of the County Recorder of Williams County, Ohio	Instrument No. 200800082091 Official Record Book 0240 Page 0516	06/27/2008

Schedule 1-2

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