

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**ELECTRONIC APPLICATION OF )**  
**KENTUCKY UTILITIES COMPANY FOR AN ) CASE NO. 2018-00294**  
**ADJUSTMENT OF ITS ELECTRIC RATES )**

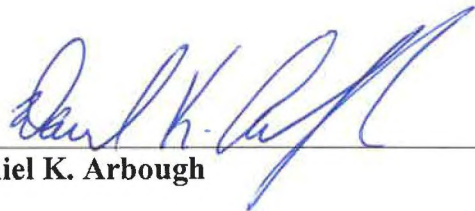
**RESPONSE OF**  
**KENTUCKY UTILITIES COMPANY**  
**TO**  
**SIERRA CLUB'S INITIAL DATA REQUESTS**  
**DATED NOVEMBER 19, 2018**

**FILED: DECEMBER 6, 2018**

**VERIFICATION**

**COMMONWEALTH OF KENTUCKY )**  
**)**  
**COUNTY OF JEFFERSON )**

The undersigned, **Daniel K. Arbough**, being duly sworn, deposes and says that he is Treasurer for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

  
\_\_\_\_\_  
**Daniel K. Arbough**

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 4<sup>th</sup> day of December 2018.

  
\_\_\_\_\_  
Notary Public

My Commission Expires:  
**Judy Schooler**  
**Notary Public, ID No. 603967**  
**State at Large, Kentucky**  
**Commission Expires 7/11/2022**

**VERIFICATION**

**COMMONWEALTH OF KENTUCKY )**  
**)**  
**COUNTY OF JEFFERSON )**

The undersigned, **Lonnie E. Bellar**, being duly sworn, deposes and says that he is Chief Operating Officer for Louisville Gas and Electric Company and Kentucky Utilities Company and an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

  
\_\_\_\_\_  
**Lonnie E. Bellar**

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 6<sup>th</sup> day of December 2018.

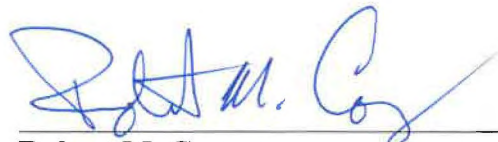
  
\_\_\_\_\_  
Notary Public

My Commission Expires:  
**Judy Schooler**  
**Notary Public, ID No. 603967**  
**State at Large, Kentucky**  
**Commission Expires 7/11/2022**

**VERIFICATION**

**COMMONWEALTH OF KENTUCKY )**  
**)**  
**COUNTY OF JEFFERSON )**

The undersigned, **Robert M. Conroy**, being duly sworn, deposes and says that he is Vice President, State Regulation and Rates, for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

  
\_\_\_\_\_  
**Robert M. Conroy**

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 6<sup>th</sup> day of December 2018.

  
\_\_\_\_\_  
Notary Public

My Commission Expires:  
**Judy Schooler**  
**Notary Public, ID No. 603967**  
**State at Large, Kentucky**  
**Commission Expires 7/11/2022**



VERIFICATION

COMMONWEALTH OF KENTUCKY )  
 )  
COUNTY OF JEFFERSON )

The undersigned, **Christopher M. Garrett**, being duly sworn, deposes and says that he is Controller for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

  
Christopher M. Garrett

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 6<sup>th</sup> day of December 2018.

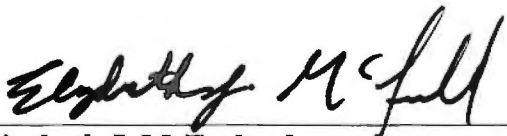
  
Notary Public

My Commission Expires:  
**Judy Schooler**  
**Notary Public, ID No. 603967**  
**State at Large, Kentucky**  
**Commission Expires 7/11/2022**

**VERIFICATION**

**COMMONWEALTH OF KENTUCKY** )  
 )  
**COUNTY OF JEFFERSON** )

The undersigned, **Elizabeth J. McFarland**, being duly sworn, deposes and says that she is Vice President, Customer Services for Louisville Gas and Electric Company and Kentucky Utilities Company and an employee of LG&E and KU Services Company, and that she has personal knowledge of the matters set forth in the responses for which she is identified as the witness, and the answers contained therein are true and correct to the best of her information, knowledge and belief.

  
**Elizabeth J. McFarland**

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 6<sup>th</sup> day of December 2018.

  
Notary Public

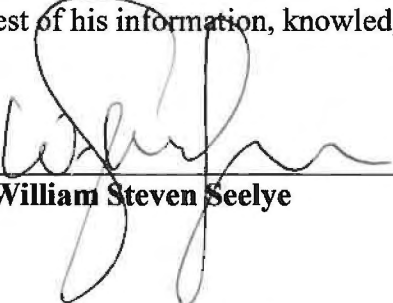
My Commission Expires:

10-16-2020

VERIFICATION

STATE OF NORTH CAROLINA )  
 )  
COUNTY OF BUNCOMBE )

The undersigned, **William Steven Seelye**, being duly sworn, deposes and states that he is a Principal of The Prime Group, LLC, that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

  
\_\_\_\_\_  
**William Steven Seelye**

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 4th day of December 2018.

 (SEAL)  
\_\_\_\_\_  
Notary Public

My Commission Expires:

10/16/22

ANNA SCHLOBOHM  
NOTARY PUBLIC  
BUNCOMBE COUNTY, NC  
MY COMMISSION EXPIRES 10/16/22

**VERIFICATION**

**COMMONWEALTH OF KENTUCKY )**  
**)**  
**COUNTY OF JEFFERSON )**

The undersigned, **David S. Sinclair**, being duly sworn, deposes and says that he is Vice President, Energy Supply and Analysis for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

  
\_\_\_\_\_  
**David S. Sinclair**

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 6<sup>th</sup> day of December 2018.

  
\_\_\_\_\_  
Notary Public

My Commission Expires:

10-16-2020

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 1**

**Responding Witness: David S. Sinclair**

Q-1. Produce an authentic copy of the current OVEC ICPA.

A-1. See attached.

AMENDED AND RESTATED  
INTER-COMPANY POWER AGREEMENT  
DATED AS OF SEPTEMBER 10, 2010

AMONG

OHIO VALLEY ELECTRIC CORPORATION,  
ALLEGHENY ENERGY SUPPLY COMPANY, L.L.C.  
APPALACHIAN POWER COMPANY,  
BUCKEYE POWER GENERATING, LLC,  
COLUMBUS SOUTHERN POWER COMPANY,  
THE DAYTON POWER AND LIGHT COMPANY,  
DUKE ENERGY OHIO, INC.,  
FIRSTENERGY GENERATION CORP.,  
INDIANA MICHIGAN POWER COMPANY,  
KENTUCKY UTILITIES COMPANY,  
LOUISVILLE GAS AND ELECTRIC COMPANY,  
MONONGAHELA POWER COMPANY,  
OHIO POWER COMPANY,  
PENINSULA GENERATION COOPERATIVE, and  
SOUTHERN INDIANA GAS AND ELECTRIC COMPANY

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**INTER-COMPANY POWER AGREEMENT**

THIS AGREEMENT, dated as of September 10, 2010 (the "Agreement"), by and among OHIO VALLEY ELECTRIC CORPORATION (herein called OVEC), ALLEGHENY ENERGY SUPPLY COMPANY, L.L.C. (herein called Allegheny), APPALACHIAN POWER COMPANY (herein called Appalachian), BUCKEYE POWER GENERATING, LLC (herein called Buckeye), COLUMBUS SOUTHERN POWER COMPANY (herein called Columbus), THE DAYTON POWER AND LIGHT COMPANY (herein called Dayton), DUKE ENERGY OHIO, INC. (formerly known as The Cincinnati Gas & Electric Company and herein called Duke Ohio), FIRSTENERGY GENERATION CORP. (herein called FirstEnergy), INDIANA MICHIGAN POWER COMPANY (herein called Indiana), KENTUCKY UTILITIES COMPANY (herein called Kentucky), LOUISVILLE GAS AND ELECTRIC COMPANY (herein called Louisville), MONONGAHELA POWER COMPANY (herein called Monongahela), OHIO POWER COMPANY (herein called Ohio Power), PENINSULA GENERATION COOPERATIVE (herein called Peninsula), and SOUTHERN INDIANA GAS AND ELECTRIC COMPANY (herein called Southern Indiana, and all of the foregoing, other than OVEC, being herein sometimes collectively referred to as the Sponsoring Companies and individually as a Sponsoring Company) hereby amends and restates in its entirety, the Inter-Company Power Agreement dated as of March 13, 2006, as amended by Modification No. 1, dated as of March 13, 2006 (herein called the Current Agreement), by and among OVEC and the Sponsoring Companies.

**WITNESSETH THAT:**

WHEREAS, the Current Agreement amended and restated the original Inter-Company Power Agreement, dated as of July 10, 1953, as amended by Modification No. 1, dated as of June 3, 1966; Modification No. 2, dated as of January 7, 1967; Modification No. 3, dated as of November 15, 1967; Modification No. 4, dated as of November 5, 1975; Modification No. 5, dated as of September 1, 1979; Modification No. 6, dated as of August 1, 1981; Modification No. 7, dated as of January 15, 1992; Modification No. 8, dated as of January 19, 1994; Modification No. 9, dated as of August 17, 1995; Modification No. 10, dated as of January 1, 1998; Modification No. 11, dated as of April 1, 1999; Modification No. 12, dated as of November 1, 1999; Modification No. 13, dated as of May 24, 2000; Modification No. 14, dated as of April 1, 2001; and Modification No. 15, dated as of April 30, 2004 (together, herein called the Original Agreement); and

WHEREAS, OVEC designed, purchased, and constructed, and continues to operate and maintain two steam-electric generating stations, one station (herein called Ohio Station) consisting of five turbo-generators and all other necessary equipment, at a location on the Ohio River near Cheshire, Ohio, and the other station (herein called Indiana Station) consisting of six turbogenerators and all other necessary equipment, at a location on the Ohio River near Madison,

WHEREAS, OVEC also designed, purchased, and constructed, and continues to operate and maintain necessary transmission and general plant facilities (herein called the Project Transmission Facilities) and OVEC established or cause to be established interconnections between the Project Generating Stations and the systems of certain of the Sponsoring Companies; and

WHEREAS, OVEC entered into an agreement, attached hereto as Exhibit A, with Indiana-Kentucky Electric Corporation (herein called IKEC), a corporation organized under the laws of the State of Indiana as a wholly owned subsidiary corporation of OVEC, which has been amended and restated as of the date of this Agreement and embodies the terms and conditions for the ownership and operation by IKEC of the Indiana Station and such portion of the Project Transmission Facilities which are to be owned and operated by it; and

WHEREAS, transmission facilities were constructed by certain of the Sponsoring Companies to interconnect the systems of such Sponsoring Companies, directly or indirectly, with the Project Generating Stations and/or the Project Transmission Facilities, and the Sponsoring Companies have agreed to pay for Available Power, as hereinafter defined, as may be available at the Project Generating Stations; and

WHEREAS, the parties hereto desire to amend and restate in their entirety, the Current Agreement to define the terms and conditions governing the rights of the Sponsoring Companies to receive Available Power from the Project Generating Stations and the obligations of the Sponsoring Companies to pay therefor.

NOW, THEREFORE, the parties hereto agree with each other as follows:

## ARTICLE 1

### DEFINITIONS

1.01. For the purposes of this Agreement, the following terms, wherever used herein, shall have the following meanings:

1.011 "Affiliate" means, with respect to a specified person, any other person that directly or indirectly through one or more intermediaries controls, is controlled by, or is under common control with, such specified person; provided that "control" for these purposes means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of a person, whether through the ownership of voting securities, by contract or otherwise.



1.013 "Available Energy" of the Project Generating Stations means the energy associated with Available Power.

1.014 "Available Power" of the Project Generating Stations at any particular time means the total net kilowatts at the 345-kV busses of the Project Generating Stations which Corporation in its sole discretion will determine that the Project Generating Stations will be capable of safely delivering under conditions then prevailing, including all conditions affecting capability.

1.015 "Corporation" means OVEC, IKEC, and all other subsidiary corporations of OVEC.

1.016 "Decommissioning and Demolition Obligation" has the meaning set forth in Section 5.03(f) hereof.

1.017 "Effective Date" means September 10, 2010, or to the extent necessary, such later date on which Corporation notifies the Sponsoring Companies that all conditions to effectiveness, including all required waiting periods and all required regulatory acceptances or approvals, of this Agreement have been satisfied in form and substance satisfactory to the Corporation.

1.018 "Election Period" has the meaning set forth in Section 9.183(a) hereof.

1.019 "Minimum Generating Unit Output" means 80 MW (net) for each of the Corporation's generation units; provided that such "Minimum Generating Unit Output" shall be confirmed from time to time by operating tests on the Corporation's generation units and shall be adjusted by the Operating Committee as appropriate following such tests.

1.0110 "Minimum Loading Event" means a period of time during which one or more of the Corporation's generation units are operating at below the Minimum Generating Output as a result of the Sponsoring Companies' failure to schedule and take delivery of sufficient Available Energy.

1.0111 "Minimum Loading Event Costs" means the sum of the following costs caused by one or more Minimum Loading Events: (i) the actual costs of any of the Corporation's generating units burning fuel oil; and (ii) the estimated actual additional costs to the Corporation resulting from Minimum Loading Events, including without limitation the incremental costs of additional emissions allowances, reflected in the schedule of charges prepared by the Operating Committee and in effect as of the commencement of any Minimum Loading Event, which schedule may be adjusted from time to time as necessary by the Operating Committee.

1.0112 “Month” means a calendar month.

1.0113 “Nominal Power Available” means an individual Sponsoring Company’s Power Participation Ratio share of the Corporation’s current estimate of the maximum amount of Available Power available for delivery at any given time.

1.0114 “Offer Notice” means the notice required to be given to the other Sponsoring Companies by a Transferring Sponsor offering to sell all or a portion of such Transferring Sponsor’s rights, title and interests in, and obligations under this Agreement. At a minimum, the Offer Notice shall be in writing and shall contain (i) the rights, title and interests in, and obligations under this Agreement that the Transferring Sponsor proposes to Transfer; and (ii) the cash purchase price and any other material terms and conditions of such proposed transfer. An Offer Notice may not contain terms or conditions requiring the purchase of any non-OVEC interests.

1.0115 “Permitted Assignee” means a person that is (a) a Sponsoring Company or its Affiliate whose long-term unsecured non-credit enhanced indebtedness, as of the date of such assignment, has a Standard & Poor’s credit rating of at least BBB- and a Moody’s Investors Service, Inc. credit rating of at least Baa3 (provided that, if the proposed assignee’s long-term unsecured non-credit enhanced indebtedness is not currently rated by one of Standard & Poor’s or Moody, such assignee’s long-term unsecured non-credit enhanced indebtedness, as of the date of such assignment, must have either a Standard & Poor’s credit rating of at least BBB- or a Moody’s Investors Service, Inc. credit rating of at least Baa3); or (b) a Sponsoring Company or its Affiliate that does not meet the criteria in subsection (a) above, if the Sponsoring Company or its Affiliate that is assigning its rights, title and interests in, and obligations under, this Agreement agrees in writing (in form and substance satisfactory to Corporation) to remain obligated to satisfy all of the obligations related to the assigned rights, title and interests to the extent such obligations are not satisfied by the assignee of such rights, title and interests; provided that, in no event shall a person be deemed a “Permitted Assignee” if counsel for the Corporation reasonably determines that the assignment of the rights, title or interests in, or obligations under, this Agreement to such person could cause a termination, default, loss or payment obligation under any security issued, or agreement entered into, by the Corporation prior to such transfer.

1.0116 “Postretirement Benefit Obligation” has the meaning set forth in Section 5.03(e) hereof.

1.0117 “Power Participation Ratio” as applied to each of the Sponsoring Companies refers to the percentage set forth opposite its respective name in the tabulation below:

Company	Power Participation Ratio—Percent
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Allegheny .....	3.01
Appalachian.....	15.69
Buckeye.....	18.00
Columbus .....	4.44
Dayton.....	4.90
Duke Ohio.....	9.00
FirstEnergy.....	4.85
Indiana.....	7.85
Kentucky .....	2.50
Louisville .....	5.63
Monongahela.....	0.49
Ohio Power .....	15.49
Peninsula .....	6.65
Southern Indiana .....	<u>1.50</u>
Total .....	100.0

1.0118 “Tariff” means the open access transmission tariff of the Corporation, as amended from time to time, or any successor tariff, as accepted by the Federal Energy Regulatory Commission or any successor agency.

1.0119 “Third Party” means any person other than a Sponsoring Company or its Affiliate.

1.0120 “Total Minimum Generating Output” means the product of the Minimum Generating Unit Output times the number of the Corporation’s generation units available for service at that time.

1.0121 “Transferring Sponsor” has the meaning set forth in Section 9.183(a) hereof.

1.0122 “Uniform System of Accounts” means the Uniform System of Accounts prescribed by the Federal Energy Regulatory Commission as in effect on January 1, 2004.

## ARTICLE 2

### TRANSMISSION AGREEMENT AND FACILITIES

2.01. *Transmission Agreement.* The Corporation shall enter into a transmission service agreement under the Tariff, and the Corporation shall reserve and schedule transmission service, ancillary services and other transmission-related services in accordance with the Tariff to provide for the delivery of Available Power and Available Energy to the applicable delivery point under this Agreement.

2.02. *Limited Burdening of Corporation's Transmission Facilities.*

Transmission facilities owned by the Corporation, including the Project Transmission Facilities, shall not be burdened by power and energy flows of any Sponsoring Company to an extent which would impair or prevent the transmission of Available Power.

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## ARTICLE 3

[RESERVED]

## ARTICLE 4

## AVAILABLE POWER SUPPLY

4.01. *Operation of Project Generating Stations.* Corporation shall operate and maintain the Project Generating Stations in a manner consistent with safe, prudent, and efficient operating practice so that the Available Power available from said stations shall be at the highest practicable level attainable consistent with OVEC's obligations under Reliability *First* Reliability Standard BAL-002-RFC throughout the term of this Agreement.

4.02. *Available Power Entitlement.* The Sponsoring Companies collectively shall be entitled to take from Corporation and Corporation shall be obligated to supply to the Sponsoring Companies any and all Available Power and Available Energy pursuant to the provisions of this Agreement. Each Sponsoring Company's Available Power Entitlement hereunder shall be its Power Participation Ratio, as defined in *subsection 1.0117*, of Available Power.

4.03. *Available Energy.* Corporation shall make Available Energy available to each Sponsoring Company in proportion to said Sponsoring Company's Power Participation Ratio. No Sponsoring Company, however, shall be obligated to avail itself of any Available Energy. Available Energy shall be scheduled and taken by the Sponsoring Companies in accordance with the following procedures:

4.031 Each Sponsoring Company shall schedule the delivery of all or any portion (in whole MW increments) of its entitlement to Available Energy in accordance with scheduling procedures established by the Operating Committee from time to time.

4.032 In the event that any Sponsoring Company does not schedule the delivery of all of its Power Participation Ratio share of Available Energy, then each such other Sponsoring Company may schedule the delivery of all or any portion (in whole MW increments) of any such unscheduled share of Available Energy (through successive allotments if necessary) in proportion to their Power Participation Ratios.

4.033 Notwithstanding any Available Energy schedules made in accordance with this Section 4.03 and the applicable scheduling procedures, (i) the Corporation shall adjust all schedules to the extent that the Corporation's actual generation output is less than or more than the expected Nominal Power Available to all Sponsoring Companies, or to the extent that the Corporation is unable to obtain sufficient transmission service under the Tariff for the delivery of all scheduled Available Energy; and (ii) immediately following a Minimum Loading Event, any Sponsoring Company causing (in whole or part) such Minimum Loading Event shall have its Available Energy schedules increased after the schedules of the Sponsoring Companies not causing such Minimum Load Event, in accordance with the estimated ramp rates associated with the shutdown and start-up of the Corporation's generation units as reflected in the schedules prepared by the Operating Committee and in effect as of the commencement of any Minimum Loading Event, which schedules may be adjusted from time to time as necessary by the Operating Committee.

4.034 Each Sponsoring Company availing itself of Available Energy shall be entitled to an amount of energy (herein called billing kilowatt-hours of Available Energy) equal to its portion, determined as provided in this Section 4.03, of the total Available Energy after deducting therefrom such Sponsoring Company's proportionate share, as defined in this Section 4.03, of all losses as determined in accordance with the Tariff incurred in transmitting the total of such Available Energy from the 345-kV busses of the Project Generating Stations to the applicable delivery points, as scheduled pursuant to Section 9.01, of all Sponsoring Companies availing themselves of Available Energy. The proportionate share of all such losses that shall be so deducted from such Sponsoring Company's portion of Available Energy shall be equal to all such losses multiplied by the ratio of such portion of Available Energy to the total of such Available Energy. Each Sponsoring Company shall have the right, pursuant to this Section 4.03, to avail itself of Available Energy for the purpose of meeting the loads of its own system and/or of supplying energy to other systems in accordance with agreements, other than this Agreement, to which such Sponsoring Company is a party.

4.035 To the extent that, as a result of the failure by one or more Sponsoring Companies to take its respective Power Participation Ratio share of the applicable Total Minimum Generating Output during any hour, a Minimum Loading Event shall occur, then such one or more Sponsoring Companies shall be assessed charges for any Minimum Loading Event Costs in accordance with Section 5.05.

## ARTICLE 5

### CHARGES FOR AVAILABLE POWER AND MINIMUM LOADING EVENT COSTS

5.01. *Total Monthly Charge.* The amount to be paid to Corporation each month by the Sponsoring Companies for Available Power and Available Energy supplied under this

Agreement shall consist of the sum of an energy charge, a demand charge, and a transmission charge, all determined as set forth in this *Article 5*. Page 9 of 60  
Sinclair

5.02. *Energy Charge*. The energy charge to be paid each month by the Sponsoring Companies for Available Energy shall be determined by Corporation as follows:

5.021 Determine the aggregate of all expenses for fuel incurred in the operation of the Project Generating Stations, in accordance with Account 501 (Fuel), Account 506.5 (Variable Reagent Costs Associated With Pollution Control Facilities) and 509 (Allowances) of the Uniform System of Accounts.

5.022 Determine for such month the difference between the total cost of fuel as described in subsection 5.021 above and the total cost of fuel included in any Minimum Loading Event Costs payable to the Corporation for such month pursuant to Section 8.03. For the purposes hereof the difference so determined shall be the fuel cost allocable for such month to the total kilowatt-hours of energy generated at the Project Generating Stations for the supply of Available Energy. For Available Energy availed of by the Sponsoring Companies, each Sponsoring Company shall pay Corporation for each such month an amount obtained by multiplying the ratio of the billing kilowatt-hours of such Available Energy availed of by such Sponsoring Company during such month to the aggregate of the billing kilowatt-hours of all Available Energy availed of by all Sponsoring Companies during such month times the total cost of fuel as described in this subsection 5.022 for such month.

5.03. *Demand Charge*. During the period commencing with the Effective Date and for the remainder of the term of this Agreement, demand charges payable by the Sponsoring Companies to Corporation shall be determined by the Corporation as provided below in this Section 5.03. Each Sponsoring Company's share of the aggregate demand charges shall be the percentage of such charges represented by its Power Participation Ratio.

The aggregate demand charge payable each month by the Sponsoring Companies to Corporation shall be equal to the total costs incurred for such month by Corporation resulting from its ownership, operation, and maintenance of the Project Generating Stations and Project Transmission Facilities determined as follows:

As soon as practicable after the close of each calendar month the following components of costs of Corporation (eliminating any duplication of costs which might otherwise be reflected among the corporate entities comprising Corporation) applicable for such month to the ownership, operation and maintenance of the Project Generating Stations and the Project Transmission Facilities, including additional facilities and/or spare parts (such as fuel processing plants, flue gas or waste product processing facilities, and facilities reasonably required to enable the Corporation to limit the emission of pollutants or the discharge of wastes in compliance with governmental requirements) and

replacements necessary or desirable to keep the Project Generating Stations and the Project Transmission Facilities in a dependable and efficient operating condition, and any provision for any taxes that may be applicable to such charges, to be determined and recorded in the following manner:

(a) Component (A) shall consist of fixed charges made up of (i) the amounts of interest properly chargeable to Accounts 427, 430 and 431, less the amount thereof credited to Account 432, of the Uniform System of Accounts, including the interest component of any purchase price, interest, rental or other payment under an installment sale, loan, lease or similar agreement relating to the purchase, lease or acquisition by Corporation of additional facilities and replacements (whether or not such interest or other amounts have come due or are actually payable during such Month), (ii) the amounts of amortization of debt discount or premium and expenses properly chargeable to Accounts 428 and 429, and (iii) an amount equal to the sum of (I) the applicable amount of the debt amortization component for such month required to retire the total amount of indebtedness of Corporation issued and outstanding, (II) the amortization requirement for such month in respect of indebtedness of Corporation incurred in respect of additional facilities and replacements, and (III) to the extent not provided for pursuant to clause (II) of this clause (iii), an appropriate allowance for depreciation of additional facilities and replacements.

(b) Component (B) shall consist of the total operating expenses for labor, maintenance, materials, supplies, services, insurance, administrative and general expense, etc., properly chargeable to the Operation and Maintenance Expense Accounts of the Uniform System of Accounts (exclusive of Accounts 501, 509, 555, 911, 912, 913, 916, and 917 of the Uniform System of Accounts), minus the total of all non-fuel costs included in any Minimum Loading Event Costs payable to the Corporation for such month pursuant to Section 8.03, minus the total of all transmission charges payable to the Corporation for such month pursuant to Section 5.04, and plus any additional amounts which, after provision for all income taxes on such amounts (which shall be included in Component (C) below), shall equal any amounts paid or payable by Corporation as fines or penalties with respect to occasions where it is asserted that Corporation failed to comply with a law or regulation relating to the emission of pollutants or the discharge of wastes.

(c) Component (C) shall consist of the total expenses for taxes, including all taxes on income but excluding any federal income taxes arising from payments to Corporation under Component (D) below, and all operating or other costs or expenses, net of income, not included or



specifically excluded in Components (A) or (B) above, including tax adjustments, regulatory adjustments, net losses for the disposition of property and other net costs or expenses associated with the operation of a utility.

(d) Component (D) shall consist of an amount equal to the product of \$2.089 multiplied by the total number of shares of capital stock of the par value of \$100 per share of Ohio Valley Electric Corporation which shall have been issued and which are outstanding on the last day of such month.

(e) Component (E) shall consist of an amount to be sufficient to pay the costs and other expenses relating to the establishment, maintenance and administration of life insurance, medical insurance and other postretirement benefits other than pensions attributable to the employment and employee service of active employees, retirees, or other employees, including without limitation any premiums due or expected to become due, as well as administrative fees and costs, such amounts being sufficient to provide payment with respect to all periods for which Corporation has committed or is otherwise obligated to make such payments, including amounts attributable to current employee service and any unamortized prior service cost, gain or loss attributable to prior service years (“Postretirement Benefit Obligation”); provided that, the amount payable for Postretirement Benefit Obligations during any month shall be determined by the Corporation based on, among other factors, the Statement of Financial Accounting Standards No. 106 (Employers’ Accounting For Postretirement Benefits Other Than Pensions) and any applicable accounting standards, policies or practices as adopted from time to time relating to accruals with respect to all or any portion of such Postretirement Benefit Obligation.

(f) Component (F) shall consist of an amount that may be incurred in connection with the decommissioning, shutdown, demolition and closing of the Project Generating Stations when production of electric power and energy is discontinued at such Project Generating Stations, which amount shall include, without limitation the following costs (net of any salvage credits): the costs of demolishing the plants’ building structures, disposal of non-salvageable materials, removal and disposal of insulating materials, removal and disposal of storage tanks and associated piping, disposal or removal of materials and supplies (including fuel oil and coal), grading, covering and reclaiming storage and disposal areas, disposing of ash in ash ponds to the extent required by regulatory authorities, undertaking corrective or remedial action required by regulatory authorities, and any other costs incurred in putting the facilities



in a condition necessary to protect health or the environment or which are required by regulatory authorities, or which are incurred to fund continuing obligations to monitor or to correct environmental problems which result, or are later discovered to result, from the facilities' operation, closure or post-closure activities ("Decommissioning and Demolition Obligation") provided that, the amount payable for Decommissioning and Demolition Obligations during any month shall be calculated by Corporation based on, among other factors, the then-estimated useful life of the Project Generating Stations and any applicable accounting standards, policies or practices as adopted from time to time relating to accruals with respect to all or any portion of such Decommissioning and Demolition Obligation, and provided further that, the Corporation shall recalculate the amount payable under this Component (F) for future months from time to time, but in no event later than five (5) years after the most recent calculation.

5.04. *Transmission Charge.* The transmission charges to be paid each month by the Sponsoring Companies shall be equal to the total costs incurred for such month by Corporation for the purchase of transmission service, ancillary services and other transmission-related services under the Tariff as reserved and scheduled by the Corporation to provide for the delivery of Available Power and Available Energy to the applicable delivery point under this Agreement. Each Sponsoring Company's share of the aggregate transmission charges shall be the percentage of such charges represented by its Power Participation Ratio.

5.05. *Minimum Loading Event Costs.* To the extent that, as a result of the failure by one or more Sponsoring Companies to take its respective Power Participation Ratio share of the applicable Total Minimum Generating Output during any hour, a Minimum Loading Event shall occur, then the sum of all Minimum Loading Event Costs relating to such Minimum Loading Event shall be charged to such Sponsoring Company or group of Sponsoring Companies that failed take its respective Power Participation Ratio share of the applicable Total Minimum Generating Output during such period, with such Minimum Loading Event Costs allocated among such Sponsoring Companies on a pro-rata basis in accordance with such Sponsoring Company's MWh share of the MWh reduction in the delivery of Available Energy causing any Minimum Loading Event. The applicable charges for Minimum Loading Event Costs as determined by the corporation in accordance with Section 5.05 shall be paid each month by the applicable Sponsoring Companies.

## ARTICLE 6

### Metering of Energy Supplied

6.01. *Measuring Instruments.* The parties hereto shall own and maintain such metering equipment as may be necessary to provide complete information regarding the delivery of power and energy to or for the account of any of the parties hereto; and the ownership and

expense of such metering shall be in accordance with agreements among them. Each party will at its own expense make such periodic tests and inspections of its meters as may be necessary to maintain them at the highest practical commercial standard of accuracy and will advise all other interested parties hereto promptly of the results of any such test showing an inaccuracy of more than 1%. Each party will make additional tests of its meters at the request of any other interested party. Other interested parties shall be given notice of, and may have representatives present at, any test and inspection made by another party.

## ARTICLE 7

### COSTS OF REPLACEMENTS AND ADDITIONAL FACILITIES; PAYMENTS FOR EMPLOYEE BENEFITS; DECOMMISSIONING, SHUTDOWN, DEMOLITION AND CLOSING CHARGES

7.01. *Replacement Costs.* The Sponsoring Companies shall reimburse Corporation for the difference between (a) the total cost of replacements chargeable to property and plant made by Corporation during any month prior thereto (and not previously reimbursed) and (b) the amounts received by Corporation as proceeds of fire or other applicable insurance protection, or amounts recovered from third parties responsible for damages requiring replacement, plus provision for all taxes on income on such difference; provided that, to the extent that the Corporation arranges for the financing of any replacements, the payments due under this Section 7.01 shall equal the amount of all principal, interest, taxes and other costs and expenses related to such financing during any month. Each Sponsoring Company's share of such payment shall be the percentage of such costs represented by its Power Participation Ratio. The term cost of replacements, as used herein, shall include all components of cost, plus removal expense, less salvage.

7.02. *Additional Facility Costs.* The Sponsoring Companies shall reimburse Corporation for the total cost of additional facilities and/or spare parts purchased and/or installed by Corporation during any month prior thereto (and not previously reimbursed), plus provision for all taxes on income on such costs; provided that, to the extent that the Corporation arranges for the financing of any additional facilities and/or spare parts, the payments due under this Section 7.02 shall equal the amount of all principal, interest, taxes and other costs and expenses related to such financing during any month. Each Sponsoring Company's share of such payment shall be the percentage of such costs represented by its Power Participation Ratio.

7.03. *Payments for Employee Benefits.* Not later than the effective date of termination of this Agreement, each Sponsoring Company will pay to Corporation its Power Participation Ratio share of additional amounts, after provision for any taxes that may be applicable thereto, sufficient to cover any shortfall if the amount of the Postretirement Benefit Obligation collected by the Corporation prior to the effective date of termination of the Agreement is insufficient to permit Corporation to fulfill its commitments or obligations with respect to both postemployment benefit obligations under the Statement of Financial Accounting Standards No. 112 and postretirement benefits other than pensions, as determined by Corporation

with the aid of an actuary or actuaries selected by the Corporation based on the terms of the Corporation's then-applicable plans. Page 14 of 60  
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7.04. *Decommissioning, Shutdown, Demolition and Closing.* The Sponsoring Companies recognize that a part of the cost of supplying power to it under this Agreement is the amount that may be incurred in connection with the decommissioning, shutdown, demolition and closing of the Project Generating Stations when production of electric power and energy is discontinued at such Project Generating Stations. Not later than the effective date of termination of this Agreement, each Sponsoring Company will pay to Corporation its Power Participation Ratio share of additional amounts, after provision for any taxes that may be applicable thereto, sufficient to cover any shortfall if the amount of the Decommissioning and Demolition Obligation collected by the Corporation prior to the effective date of termination of the Agreement is insufficient to permit Corporation to complete the decommissioning, shutdown, demolition and closing of the Project Generating Stations, based on the Corporation's recalculation of the Decommissioning and Demolition Obligation in accordance with Section 5.03(f) of this Agreement no earlier than twelve (12) months before the effective date of termination of this Agreement.

## ARTICLE 8

### BILLING AND PAYMENT

8.01. *Available Power, and Replacement and Additional Facility Costs.* As soon as practicable after the end of each month Corporation shall render to each Sponsoring Company a statement of all Available Power and Available Energy supplied to or for the account of such Sponsoring Company during such month, specifying the amount due to the Corporation therefor, including any amounts for reimbursement for the cost of replacements and additional facilities and/or spare parts incurred during such month, pursuant to *Articles 5 and 7* above. Such Sponsoring Company shall make payment therefor promptly upon the receipt of such statement, but in no event later than fifteen (15) days after the date of receipt of such statement. In case any factor entering into the computation of the amount due for Available Power and Available Energy cannot be determined at the time, it shall be estimated subject to adjustment when the actual determination can be made.

8.02. *Provisional Payments for Available Power.* The Sponsoring Companies shall, from time to time, at the request of the Corporation, make provisional semi-monthly payments for Available Power in amounts approximately equal to the estimated amounts payable for Available Power delivered by Corporation to the Sponsoring Companies during each semi-monthly period. As soon as practicable after the end of each semi-monthly period with respect to which Corporation has requested the Sponsoring Companies to make provisional semi-monthly payments for Available Power, Corporation shall render to each Sponsoring Company a separate statement indicating the amount payable by such Sponsoring Company for such semi-monthly period. Such Sponsoring Company shall make payment therefor promptly upon receipt of such statement, but in no event later than fifteen (15) days after the date of receipt of such

statement and the amounts so paid by such Sponsoring Company shall be credited to the account of such Sponsoring Company with respect to future payments to be made pursuant to Articles 5 and 7 above by such Sponsoring Company to Corporation for Available Power.

8.03. *Minimum Loading Event Costs.* As soon as practicable after the end of each month, Corporation shall render to each Sponsoring Company a statement indicating any applicable charges for Minimum Loading Event Costs pursuant to Section 5.05 during such month, specifying the amount due to the Corporation therefor pursuant to *Article 5* above. Such Sponsoring Company shall make payment therefor promptly upon the receipt of such statement, but in no event later than fifteen (15) days after the date of receipt of such statement. In case the computation of the amount due for Minimum Loading Event Costs cannot be determined at the time, it shall be estimated subject to adjustment when the actual determination can be made, and all payments shall be subject to subsequent adjustment.

8.04. *Unconditional Obligation to Pay Demand and Other Charges.* The obligation of each Sponsoring Company to pay its specified portion of the Demand Charge under Section 5.03, the Transmission Charge under Section 5.04, and all charges under *Article 7* for any Month shall not be reduced irrespective of:

(a) whether or not any Available Power or Available Energy are supplied by the Corporation during such calendar month and whether or not any Available Power or Available Energy are accepted by any Sponsoring Company during such calendar month;

(b) the existence of any claim, set-off, defense, reduction, abatement or other right (other than irrevocable payment, performance, satisfaction or discharge in full) that such Sponsoring Company may have, or which may at any time be available to or be asserted by such Sponsoring Company, against the Corporation, any other Sponsoring Company, any creditor of the Corporation or any other Person (including, without limitation, arising as a result of any breach or alleged breach by either the Corporation, any other Sponsoring Company, any creditor of the Corporation or any other Person under this Agreement or any other agreement (whether or not related to the transactions contemplated by this Agreement or any other agreement) to which such party is a party); or

(c) the validity or enforceability against any other Sponsoring Company of this Agreement or any right or obligation hereunder (or any release or discharge thereof) at any time.

## GENERAL PROVISIONS

9.01. *Characteristics of Supply and Points of Delivery.* All power and energy delivered hereunder shall be 3-phase, 60-cycle, alternating current, at a nominal unregulated voltage designated for the point of delivery as described in this *Article 9*. Available Power and Available Energy to be delivered between Corporation and the Sponsoring Companies pursuant to this Agreement shall be delivered under the terms and conditions of the Tariff at the points, as scheduled by the Sponsoring Company in accordance with procedures established by the Operating Committee and in accordance with Section 9.02, where the transmission facilities of Corporation interconnect with the transmission facilities of any Sponsoring Company (or its successor or predecessor); provided that, to the extent that a joint and common market is established for the sale of power and energy by Sponsoring Companies within one or more of the regional transmission organizations or independent system operators approved by the Federal Energy Regulatory Commission in which the Sponsoring Companies are members or otherwise participate, then Corporation and the Sponsoring Companies shall take such action as reasonably necessary to permit the Sponsoring Companies to bid their entitlement to power and energy from Corporation into such market(s) in accordance with the procedures established for such market(s).

9.02. *Modification of Delivery Schedules Based on Available Transmission Capability.* To the extent that transmission capability available for the delivery of Available Power and Available Energy at any delivery point is less than the total amount of Available Power and Available Energy scheduled for delivery by the Sponsoring Companies at such delivery point in accordance with Section 9.01, then the following procedures shall apply and the Corporation and the applicable Sponsoring Companies shall modify their delivery schedules accordingly until the total amount of Available Power and Available Energy scheduled for delivery at such delivery point is equal to or less than the transmission capability available for the delivery of Available Power and Available Energy: (a) the transmission capability available for the delivery of Available Power and Available Energy at the following delivery points shall be allocated first on a pro rata basis (in whole MW increments) to the following Sponsoring Companies up to their Power Participation Ratio share of the total amount of Available Energy available to all Sponsoring Companies (and as applicable, further allocated among Sponsoring Companies entitled to allocation under this Section 9.02(a) in accordance with their Power Participation Ratios): (i) to Allegheny, Appalachian, Buckeye, Columbus, FirstEnergy, Indiana, Monongahela, Ohio Power and Peninsula (or their successors) for deliveries at the points of interconnection between the Corporation and Appalachian, Columbus, Indiana or Ohio Power, or their successors; (ii) to Duke Ohio (or its successor) for deliveries at the points of interconnection between the Corporation and Duke Ohio or its successor; (iii) to Dayton (or its successor) for deliveries at the points of interconnection between the Corporation and Dayton or its successor; and (iv) to Kentucky, Louisville and Southern Indiana (or their successors) for deliveries at the points of interconnection between the Corporation and Louisville or Kentucky, or their successors; and (b) any remaining transmission capability available for the delivery of



Available Power and Available Energy shall be allocated on a pro rata basis (in whole MW increments) to the Sponsoring Companies in accordance with their Power Participation Ratios. Page 17 of 60  
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9.03. *Operation and Maintenance of Systems Involved.* Corporation and the Sponsoring Companies shall operate their systems in parallel, directly or indirectly, except during emergencies that temporarily preclude parallel operation. The parties hereto agree to coordinate their operations to assure maximum continuity of service from the Project Generating Stations, and with relation thereto shall cooperate with one another in the establishment of schedules for maintenance and operation of equipment and shall cooperate in the coordination of relay protection, frequency control, and communication and telemetering systems. The parties shall build, maintain and operate their respective systems in such a manner as to minimize so far as practicable rapid fluctuations in energy flow among the systems. The parties shall cooperate with one another in the operation of reactive capacity so as to assure mutually satisfactory power factor conditions among themselves.

The parties hereto shall exercise due diligence and foresight in carrying out all matters related to the providing and operating of their respective power resources so as to minimize to the extent practicable deviations between actual and scheduled deliveries of power and energy among their systems. The parties hereto shall provide and/or install on their respective systems such communication, telemetering, frequency and/or tie-line control facilities essential to so minimizing such deviations; and shall fully cooperate with one another and with third parties (such third parties whose systems are either directly or indirectly interconnected with the systems of the Sponsoring Companies and who of necessity together with the parties hereto must unify their efforts cooperatively to achieve effective and efficient interconnected systems operation) in developing and executing operating procedures that will enable the parties hereto to avoid to the extent practicable deviations from scheduled deliveries.

In order to foster coordination of the operation and maintenance of Corporation's transmission facilities with those facilities of Sponsoring Companies that are owned or functionally controlled by a regional transmission organization or independent system operator, Corporation shall use commercially reasonable efforts to enter into a coordination agreement with any regional transmission organization or independent system operator approved by the Federal Energy Regulatory Commission that operates transmission facilities that interconnect with Corporation's transmission facilities, and to enter into a mutually agreeable services agreement with a regional transmission organization or independent system operator to provide the Corporation with reliability and security coordination services and other related services.

9.04. *Power Deliveries as Affected by Physical Characteristics of Systems.* It is recognized that the physical and electrical characteristics of the transmission facilities of the interconnected network of which the transmission systems of the Sponsoring Companies, Corporation, and other systems of third parties not parties hereto are a part, may at times preclude the direct delivery at the points of interconnection between the transmission systems of one or more of the Sponsoring Companies and Corporation, of some portion of the energy supplied under this Agreement, and that in each such case, because of said characteristics, some

of the energy will be delivered at points which interconnect the system of one or more of the Sponsoring Companies with systems of companies not parties to this Agreement. The parties hereto shall cooperate in the development of mutually satisfactory arrangements among themselves and with such companies not parties hereto whereby the supply of power and energy contemplated hereunder can be fulfilled.

9.05. *Operating Committee.* There shall be an "Operating Committee" consisting of one member appointed by the Corporation and one member appointed by each of the Sponsoring Companies electing so to do; provided that, if any two or more Sponsoring Companies are Affiliates, then such Affiliates shall together be entitled to appoint only one member to the Operating Committee. The "Operating Committee" shall establish (and modify as necessary) scheduling, operating, testing and maintenance procedures of the Corporation in support of this Agreement, including establishing: (i) procedures for scheduling delivery of Available Energy under Section 4.03, (ii) procedures for power and energy accounting, (iii) procedures for the reservation and scheduling of firm and non-firm transmission service under the Tariff for the delivery of Available Power and Available Energy, (iv) the Minimum Generating Unit Output, and (v) the form of notifications relating to power and energy and the price thereof. In addition, the Operating Committee shall consider and make recommendations to Corporation's Board of Directors with respect to such other problems as may arise affecting the transactions under this Agreement. The decisions of the Operating Committee, including the adoption or modification of any procedure by the Operating Committee pursuant to this Section 9.04, must receive the affirmative vote of at least two-thirds of the members of the Operating Committee, regardless of the number of members of the Operating Committee present at any meeting.

9.06. *Acknowledgment of Certain Rights.* For the avoidance of doubt, all of the parties to this Agreement acknowledge and agree that (i) as of the effective date of the Current Agreement, certain rights and obligations of the Sponsoring Companies or their predecessors under the Original Agreement were changed, modified or otherwise removed, (ii) to the extent that the rights of any Sponsoring Company or their predecessors were thereby changed, modified or otherwise removed as of the effective date of the Current Agreement, such Sponsoring Company may be entitled to rights under applicable law, regulation, rules or orders under the Federal Power Act or otherwise adopted by the Federal Energy Regulatory Commission ("FERC"), (iii) as a result of the elimination as of the effective date of the Current Agreement of the firm transmission service previously provided during the term of the Original Agreement to Sponsoring Companies or their predecessors whose transmission systems were only indirectly connected to the Corporation's facilities through intervening transmission systems by certain Sponsoring Companies or their predecessors whose transmission systems were directly connected to the Corporation's facilities, such Sponsoring Companies or their predecessors whose transmission systems were only indirectly connected to the Corporation's facilities through intervening transmission systems shall have been entitled to such "roll over" firm transmission service for delivery of their entitlement to their Power Participation Ratio share of Surplus Power and Surplus Energy under this Agreement, to the border of such Sponsoring Company system and intervening Sponsoring Company system, as would be accorded a long-

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term firm point-to-point transmission service reservation under the then otherwise applicable FERC Open Access Transmission Tariff (“OATT”), (iv) the obligation of any Sponsoring Company to maintain or expand transmission capacity to accommodate another Sponsoring Company’s “roll over” rights to transmission service for delivery of their entitlement to their Power Participation Ratio share of Surplus Power and Surplus Energy under this Agreement shall be consistent with the obligations it would have for long-term firm point-to-point transmission service provided pursuant to the then otherwise applicable OATT, and (v) the parties shall cooperate with any Sponsoring Company that seeks to obtain and/or exercise any such rights available under applicable law, regulation, rules or orders under the Federal Power Act or otherwise adopted by the FERC.

9.07. *Term of Agreement.* This Agreement shall become effective upon the Effective Date and shall terminate upon the earlier of: (1) June 30, 2040 or (2) the sale or other disposition of all of the facilities of the Project Generating Stations or the permanent cessation of operation of such facilities; provided that, the provisions of *Articles 5, 7 and 8*, this Section 9.07 and Sections 9.08, 9.09, 9.10, 9.11, 9.12, 9.14, 9.15, 9.16, 9.17 and 9.18 shall survive the termination of this Agreement, and no termination of this Agreement, for whatever reason, shall release any Sponsoring Company of any obligations or liabilities incurred prior to such termination.

9.08. *Access to Records.* Corporation shall, at all reasonable times, upon the request of any Sponsoring Company, grant to its representatives reasonable access to the books, records and accounts of the Corporation, and furnish such Sponsoring Company such information as it may reasonably request, to enable it to determine the accuracy and reasonableness of payments made for energy supplied under this Agreement.

9.09. *Modification of Agreement.* Absent the agreement of all parties to this Agreement, the standard for changes to provisions of this Agreement related to rates proposed by a party, a non-party or the Federal Energy Regulatory Commission (or a successor agency) acting sua sponte shall be the “public interest” standard of review set forth in *United Gas Pipeline Co. v. Mobile Gas Serv. Corp.*, 350 U.S. 332 (1956) and *Federal Power Comm’n v. Sierra Pacific Power Co.*, 350 U.S. 348 (1956).

9.10. *Arbitration.* Any controversy, dispute or claim arising out of this Agreement or the refusal by any party hereto to perform the whole or any part thereof, shall be determined by arbitration, in the City of Columbus, Franklin County, Ohio, in accordance with the Commercial Arbitration Rules of the American Arbitration Association or any successor organization, except as otherwise set forth in this Section 9.10.

The party demanding arbitration shall serve notice in writing upon all other parties hereto, setting forth in detail the controversy, dispute or claim with respect to which arbitration is demanded, and the parties shall thereupon endeavor to agree upon an arbitration board, which shall consist of three members (“Arbitration Board”). If all the parties hereto fail so to agree within a period of thirty (30) days from the original notice, the party demanding



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arbitration may, by written notice to all other parties hereto, direct that any members of the Arbitration Board that have not been agreed to by the parties shall be selected by the American Arbitration Association, or any successor organization. No person shall be eligible for appointment to the Arbitration Board who is an officer, employee, shareholder of or otherwise interested in any of the parties hereto or in the matter sought to be arbitrated.

The Arbitration Board shall afford adequate opportunity to all parties hereto to present information with respect to the controversy, dispute or claim submitted to arbitration and may request further information from any party hereto; provided, however, that the parties hereto may, by mutual agreement, specify the rules which are to govern any proceeding before the Arbitration Board and limit the matters to be considered by the Arbitration Board, in which event the Arbitration Board shall be governed by the terms and conditions of such agreement.

The determination or award of the Arbitration Board shall be made upon a determination of a majority of the members thereof. The findings and award of the Arbitration Board shall be final and conclusive with respect to the controversy, dispute or claim submitted for arbitration and shall be binding upon the parties hereto, except as otherwise provided by law. The award of the Arbitration Board shall specify the manner and extent of the division of the costs of the arbitration proceeding among the parties hereto.

9.11. *Liability.* The rights and obligations of all the parties hereto shall be several and not joint or joint and several.

9.12. *Force Majeure.* No party hereto shall be held responsible or liable for any loss or damage on account of non-delivery of energy hereunder at any time caused by an event of Force Majeure. "Force Majeure" shall mean the occurrence or non-occurrence of any act or event that could not reasonably have been expected and avoided by exercise of due diligence and foresight and such act or event is beyond the reasonable control of such party, including to the extent caused by act of God, fire, flood, explosion, strike, civil or military authority, insurrection or riot, act of the elements, or failure of equipment. For the avoidance of doubt, "Force Majeure" shall in no event be based on any Sponsoring Company's financial or economic conditions, including without limitation (i) the loss of the Sponsoring Company's markets; or (ii) the Sponsoring Company's inability economically to use or resell the Available Power or Available Energy purchased hereunder.

9.13. *Governing Law.* This Agreement shall be governed by, and construed in accordance with, the laws of the State of Ohio.

9.14. *Regulatory Approvals.* This Agreement is made subject to the jurisdiction of any governmental authority or authorities having jurisdiction in the premises and the performance thereof shall be subject to the following:

- (a) The receipt of all regulatory approvals, in form and substance satisfactory to Corporation, necessary to permit Corporation to perform all the duties and obligations to be performed by Corporation hereunder.

(b) The receipt of all regulatory approvals, in form and substance satisfactory to the Sponsoring Companies, necessary to permit the Sponsoring Companies to carry out all transactions contemplated herein. Page 21 of 60 Sinclair

9.15. *Notices.* All notices, requests or other communications under this Agreement shall be in writing and shall be sufficient in all respects: (i) if delivered in person or by courier, upon receipt by the intended recipient or an employee that routinely accepts packages or letters from couriers or other persons for delivery to personnel at the address identified above (as confirmed by, if delivered by courier, the records of such courier), (ii) if sent by facsimile transmission, when the sender receives confirmation from the sending facsimile machine that such facsimile transmission was transmitted to the facsimile number of the addressee, or (iii) if mailed, upon the date of delivery as shown by the return receipt therefor.

9.16. *Waiver.* Performance by any party to this Agreement of any responsibility or obligation to be performed by such party or compliance by such party with any condition contained in this Agreement may by a written instrument signed by all other parties to this Agreement be waived in any one or more instances, but the failure of any party to insist in any one or more instances upon strict performance of any of the provisions of this Agreement or to take advantage of any of its rights hereunder shall not be construed as a waiver of any such provisions or the relinquishment of any such rights, but the same shall continue and remain in full force and effect.

9.17. *Titles of Articles and Sections.* The titles of the Articles and Sections in this Agreement have been inserted as a matter of convenience of reference and are not a part of this Agreement.

9.18. *Successors and Assigns.* This Agreement may be executed in any number of counterparts, all of which shall constitute but one and the same document.

9.181 This Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective successors and assigns, but a party to this Agreement may not assign this Agreement or any of its rights, title or interests in or obligations (including without limitation the assumption of debt obligations) under this Agreement, except to a successor to all or substantially all the properties and assets of such party or as provided in Section 9.182 or 9.183, without the written consent of all the other parties hereto.

9.182 Notwithstanding the provisions of Section 9.181, any Sponsoring Company shall be permitted to, upon thirty (30) days notice to the Corporation and each other Sponsoring Company, without any further action by the Corporation or the other Sponsoring Companies, assign all or part of its rights, title and interests in, and obligations under this Agreement to a Permitted Assignee, provided that, the assignee and assignor of the rights, title and interests in, and obligations under, this Agreement have executed an assignment agreement in form and substance acceptable to the Corporation

in its reasonable discretion (including, without limitation, the agreement by the Sponsoring Company assigning such rights, title and interests in, and obligations under, this Agreement to reimburse the Corporation and the other Sponsoring Companies for any fees or expenses required under any security issued, or agreement entered into, by the Corporation as a result of such assignment, including without limitation any consent fee or additional financing costs to the Corporation under the Corporation's then-existing securities or agreements resulting from such assignment).

9.183 Notwithstanding the provisions of Section 9.181, any Sponsoring Company shall be permitted to, subject to compliance with all of the requirements of this Section 9.183, assign all or part of its rights, title and interests in, and obligations under this Agreement to a Third Party without any further action by the Corporation or the other Sponsoring Companies.

(a) A Sponsoring Company (the "Transferring Sponsor") that desires to assign all or part of its rights, title and interests in, and obligations under this Agreement to a Third Party shall deliver an Offer Notice to the Corporation and each other Sponsoring Company. The Offer Notice shall be deemed to be an irrevocable offer of the subject rights, title and interests in, and obligations under this Agreement to each of the other Sponsoring Companies that is not an Affiliate of the Transferring Sponsor, which offer must be held open for no less than thirty (30) days from the date of the Offer Notice (the "Election Period").

(b) The Sponsoring Companies (other than the Transferring Sponsor and its Affiliates) shall first have the right, but not the obligation, to purchase all of the rights, title and interests in, and obligations under this Agreement described in the Offer Notice at the price and on the terms specified therein by delivering written notice of such election to the Transferring Sponsor and the Corporation within the Election Period; provided that, irrespective of the terms and conditions of the Offer Notice, a Sponsoring Company may condition its election to purchase the interest described in the Offer Notice on the receipt of approval or consent from such Sponsoring Company's Board of Directors; provided further that, written notice of such conditional election must be delivered to the Transferring Sponsor and the Corporation within the Election Period and such conditional election shall be deemed withdrawn (as if it had never been provided) unless the Sponsoring Company that delivered such conditional election subsequently delivers written notice to the Transferring Sponsor and the Corporation on or before the tenth (10<sup>th</sup>) day after the expiration of the Election Period that all necessary approval or consent of such Sponsoring Company's Board of Directors have been obtained. To the extent that more than one Sponsoring Company exercises its right to purchase all of the rights, title and interests in, and

obligations under this Agreement described in the Offer Notice in accordance with the previous sentence, such rights, title and interests in, and obligations under this Agreement shall be allotted (successively if necessary) among the Sponsoring Companies exercising such right in proportion to their respective Power Participation Ratios.

(c) Each Sponsoring Company exercising its right to purchase any rights, title and interests in, and obligations under this Agreement pursuant to this Section 9.183 may choose to have an Affiliate purchase such rights, title and interests in, and obligations under this Agreement; provided that, notwithstanding anything in this Section 9.183 to the contrary, any assignment to a Sponsoring Company or its Affiliate hereunder must comply with the requirements of Section 9.182.

(d) If one or more Sponsoring Companies have elected to purchase all of the rights, title and interests in, and obligations under this Agreement of the Transferring Sponsor pursuant to the Offer Notice, the assignment of such rights, title and interests in, and obligations under this Agreement shall be consummated as soon as practical after the delivery of the election notices, but in any event no later than fifteen (15) days after the filing and receipt, as applicable, of all necessary governmental filings, consents or other approvals and the expiration of all applicable waiting periods. At the closing of the purchase of such rights, title and interests in, and obligations under this Agreement from the Transferring Sponsor, the Transferring Sponsor shall provide representations and warranties customary for transactions of this type, including those as to its title to such securities and that there are no liens or other encumbrances on such securities (other than pursuant to this Agreement) and shall sign such documents as may reasonably be requested by the Corporation and the other Sponsoring Companies. The Sponsoring Companies or their Affiliates shall only be required to pay cash for the rights, title and interests in, and obligations under this Agreement being assigned by the Transferring Sponsor.

(e) To the extent that the Sponsoring Companies have not elected to purchase all of the rights, title and interests in, and obligations under this Agreement described in the Offer Notice, the Transferring Sponsor may, within one-hundred and eighty (180) days after the later of the expiration of the Election Period or the deemed withdrawal of a conditional election by a Sponsoring Company under Section 9.183(b) hereof (if applicable), enter into a definitive agreement to, assign such rights, title and interests in, and obligations under this Agreement to a Third Party at a price no less than 92.5% of the purchase price specified in the Offer Notice and on other material terms and conditions no more

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favorable to the such Third Party than those specified in the Offer Notice, **Page 24 of 60**  
provided that such purchases shall be conditioned upon: (i) such Third Party having long-term unsecured non-credit enhanced indebtedness, as of the date of such assignment, with a Standard & Poor's credit rating of at least BBB- and a Moody's Investors Service, Inc. credit rating of at least Baa3 (provided that, if such Third Party's long-term unsecured non-credit enhanced indebtedness is not currently rated by one of Standard & Poor's or Moody, such Third Party's long-term unsecured non-credit enhanced indebtedness, as of the date of such assignment, must have either a Standard & Poor's credit rating of at least BBB- or a Moody's Investors Service, Inc. credit rating of at least Baa3); (ii) the filing or receipt, as applicable, of any necessary governmental filings, consents or other approvals; (iii) the determination by counsel for the Corporation that the assignment of the rights, title or interests in, or obligations under, this Agreement to such Third Party would not cause a termination, default, loss or payment obligation under any security issued, or agreement entered into, by the Corporation prior to such transfer; and (iv) such Third Party executing a counterpart of this Agreement, and both such Third Party and the Sponsoring Company which is assigning its rights, title and interests in, and obligations under, this Agreement executing such other documents as may be reasonably requested by the Corporation (including, without limitation, an assignment agreement in form and substance acceptable to the Corporation in its reasonable discretion and containing the agreement by such Sponsoring Company to reimburse the Corporation and the other Sponsoring Companies for any fees or expenses required under any security issued, or agreement entered into, by the Corporation as a result of such assignment, including without limitation any consent fee or additional financing costs to the Corporation under the Corporation's then-existing securities or agreements resulting from such assignment). In the event that the Sponsoring Company and a Third Party have not entered into a definitive agreement to assign the interests specified in the Offer Notice to such Third Party within the later of one-hundred and eighty (180) days after the expiration of the Election Period or the deemed withdrawal of a conditional election by a Sponsoring Company under Section 9.183(b) hereof (if applicable) for any reason or if either the price to be paid by such Third Party would be less than 92.5% of the purchase price specified in the Offer Notice or the other material terms of such assignment would be more favorable to such Third Party than the terms specified in the Offer Notice, then the restrictions provided for herein shall again be effective, and no assignment of any rights, title and interests in, and obligations under this Agreement may be made thereafter without again offering the same to Sponsoring Companies in accordance with this Section 9.183.

## REPRESENTATIONS AND WARRANTIES

10.01. *Representations and Warranties.* Each Sponsoring Company hereby represents and warrants for itself, on and as of the date of this Agreement, as follows:

(a) it is duly organized, validly existing and in good standing under the laws of its state of organization, with full corporate power, authority and legal right to execute and deliver this Agreement and to perform its obligations hereunder;

(b) it has duly authorized, executed and delivered this Agreement, and upon the execution and delivery by all of the parties hereto, this Agreement will be in full force and effect, and will constitute a legal, valid and binding obligation of such Sponsoring Company, enforceable in accordance with the terms hereof, except as enforceability may be limited by applicable bankruptcy, insolvency, fraudulent conveyance, reorganization, moratorium or other similar laws affecting the enforcement of creditors' rights generally;

(c) Except as set forth in Schedule 10.01(c) hereto, no consents or approvals of, or filings or registrations with, any governmental authority or public regulatory authority or agency, federal state or local, or any other entity or person are required in connection with the execution, delivery and performance by it of this Agreement, except for those which have been duly obtained or made and are in full force and effect, have not been revoked, and are not the subject of a pending appeal; and

(d) the execution, delivery and performance by it of this Agreement will not conflict with or result in any breach of any of the terms, conditions or provisions of, or constitute a default under its charter or by-laws or any indenture or other material agreement or instrument to which it is a party or by which it may be bound or result in the imposition of any liens, claims or encumbrances on any of its property.

## ARTICLE 11

## EVENTS OF DEFAULT AND REMEDIES

11.01. *Payment Default.* If any Sponsoring Company fails to make full payment to Corporation under this Agreement when due and such failure is not remedied within ten (10) days after receipt of notice of such failure from the Corporation, then such failure shall constitute a "Payment Default" on the part of such Sponsoring Company. Upon a Payment Default, the



## Attachment to Response to SC-1 Question No. 1

Corporation may suspend service to the Sponsoring Company that has caused such Payment Default for all or part of the period of continuing default (and such Sponsoring Company shall be deemed to have notified the Corporation and the other Sponsoring Companies that any Available Energy shall be available for scheduling by such other Sponsoring Companies in accordance with Section 4.032). The Corporation's right to suspend service shall not be exclusive, but shall be in addition to all remedies available to the Corporation at law or in equity. No suspension of service or termination of this Agreement shall relieve any Sponsoring Company of its obligations under this Agreement, which are absolute and unconditional.

11.02. *Performance Default.* If the Corporation or any Sponsoring Company fails to comply in any material respect with any of the material terms, conditions and covenants of this Agreement (and such failure does not constitute a Payment Default under Section 11.01), the Corporation (in the case of a default by any Sponsoring Company) and any Sponsoring Company (in the case of a default by the Corporation) shall give the defaulting party written notice of the default ("Performance Default"). To the extent that a Performance Default is not cured within thirty (30) days after receipt of notice thereof (or within such longer period of time, not to exceed sixty (60) additional days, as necessary for the defaulting party with the exercise of reasonable diligence to cure such default), then the Corporation (in the case of a default by any Sponsoring Company) and any Sponsoring Company (in the case of a default by the Corporation) shall have all of the rights and remedies provided at law and in equity, other than termination of this Agreement or any release of the obligation of the Sponsoring Companies to make payments pursuant to this Agreement, which obligation shall remain absolute and unconditional.

11.03. *Waiver.* No waiver by the Corporation or any Sponsoring Company of any one or more defaults in the performance of any provision of this Agreement shall be construed as a waiver of any other default or defaults, whether of a like kind or different nature.

11.04. *Limitation of Liability and Damages.* TO THE FULLEST EXTENT PERMITTED BY LAW, NEITHER THE CORPORATION, NOR ANY SPONSORING COMPANY SHALL BE LIABLE UNDER THIS AGREEMENT FOR ANY CONSEQUENTIAL, INCIDENTAL, PUNITIVE, EXEMPLARY OR INDIRECT DAMAGES, LOST REVENUES, LOST PROFITS OR OTHER BUSINESS INTERRUPTION DAMAGES, BY STATUTE, IN TORT OR CONTRACT, OR OTHERWISE.

[Signature pages follow]

IN WITNESS WHEREOF, the parties hereto have caused this Amended and Restated Inter-Company Power Agreement to be duly executed and delivered by their proper and duly authorized officers as of September 10, 2010.

**OHIO VALLEY ELECTRIC CORPORATION**

By *Michael J. ...*  
Its \_\_\_\_\_

**ALLEGHENY ENERGY SUPPLY COMPANY, L.L.C.**

By \_\_\_\_\_  
Its \_\_\_\_\_

**APPALACHIAN POWER COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**BUCKEYE POWER GENERATING, LLC**

By \_\_\_\_\_  
Its \_\_\_\_\_

**COLUMBUS SOUTHERN POWER COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**THE DAYTON POWER AND LIGHT COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**DUKE ENERGY OHIO, INC.**

By \_\_\_\_\_  
Its \_\_\_\_\_

**FIRSTENERGY GENERATION CORP.**

By \_\_\_\_\_  
Its \_\_\_\_\_

**INDIANA MICHIGAN POWER COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**KENTUCKY UTILITIES COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_



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**OHIO VALLEY ELECTRIC CORPORATION**

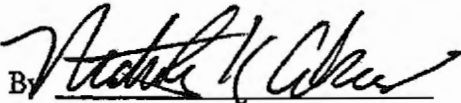
**ALLEGHENY ENERGY SUPPLY COMPANY, L.L.C.**

By \_\_\_\_\_  
Its \_\_\_\_\_

By \_\_\_\_\_  
Its \_\_\_\_\_

**APPALACHIAN POWER COMPANY**

**BUCKEYE POWER GENERATING, LLC**

By   
Its \_\_\_\_\_

By \_\_\_\_\_  
Its \_\_\_\_\_

**COLUMBUS SOUTHERN POWER COMPANY**

**THE DAYTON POWER AND LIGHT COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

By \_\_\_\_\_  
Its \_\_\_\_\_

**DUKE ENERGY OHIO, INC.**

**FIRSTENERGY GENERATION CORP.**

By \_\_\_\_\_  
Its \_\_\_\_\_

By \_\_\_\_\_  
Its \_\_\_\_\_

**INDIANA MICHIGAN POWER COMPANY**

**KENTUCKY UTILITIES COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

By \_\_\_\_\_  
Its \_\_\_\_\_

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**OHIO VALLEY ELECTRIC CORPORATION**

**ALLEGHENY ENERGY SUPPLY COMPANY, L.L.C.**

By \_\_\_\_\_  
Its \_\_\_\_\_

By \_\_\_\_\_  
Its \_\_\_\_\_

**APPALACHIAN POWER COMPANY**


**BUCKEYE POWER GENERATING, LLC**

By \_\_\_\_\_  
Its \_\_\_\_\_

By \_\_\_\_\_  
Its \_\_\_\_\_

**COLUMBUS SOUTHERN POWER COMPANY**

**THE DAYTON POWER AND LIGHT COMPANY**

By   
Its \_\_\_\_\_

By \_\_\_\_\_  
Its \_\_\_\_\_

**DUKE ENERGY OHIO, INC.**

**FIRSTENERGY GENERATION CORP.**

By \_\_\_\_\_  
Its \_\_\_\_\_

By \_\_\_\_\_  
Its \_\_\_\_\_

**INDIANA MICHIGAN POWER COMPANY**

**KENTUCKY UTILITIES COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

By \_\_\_\_\_  
Its \_\_\_\_\_

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**OHIO VALLEY ELECTRIC CORPORATION**

By \_\_\_\_\_  
Its \_\_\_\_\_

**ALLEGHENY ENERGY SUPPLY COMPANY, L.L.C.**

By \_\_\_\_\_  
Its \_\_\_\_\_

**APPALACHIAN POWER COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**BUCKEYE POWER GENERATING, LLC**

By \_\_\_\_\_  
Its \_\_\_\_\_

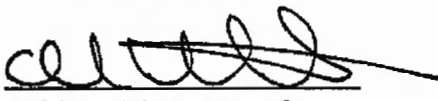
**COLUMBUS SOUTHERN POWER COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**THE DAYTON POWER AND LIGHT COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**DUKE ENERGY OHIO, INC.**

By   
Its VACE PRESIDENT

**FIRSTENERGY GENERATION CORP.**

By \_\_\_\_\_  
Its \_\_\_\_\_

**INDIANA MICHIGAN POWER COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**KENTUCKY UTILITIES COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

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**OHIO VALLEY ELECTRIC CORPORATION**

**ALLEGHENY ENERGY SUPPLY COMPANY, L.L.C.**

By \_\_\_\_\_  
Its \_\_\_\_\_

By \_\_\_\_\_  
Its \_\_\_\_\_

**APPALACHIAN POWER COMPANY**

**BUCKEYE POWER GENERATING, LLC**

By \_\_\_\_\_  
Its \_\_\_\_\_

By \_\_\_\_\_  
Its \_\_\_\_\_

**COLUMBUS SOUTHERN POWER COMPANY**

**THE DAYTON POWER AND LIGHT COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

By \_\_\_\_\_  
Its \_\_\_\_\_

**DUKE ENERGY OHIO, INC.**

**FIRSTENERGY GENERATION CORP.**

By \_\_\_\_\_  
Its \_\_\_\_\_

By \_\_\_\_\_  
Its \_\_\_\_\_

**INDIANA MICHIGAN POWER COMPANY**

**KENTUCKY UTILITIES COMPANY**

By *M. G. Lewis*  
Its *Vice President*

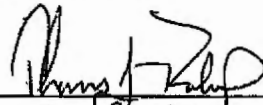
By \_\_\_\_\_  
Its \_\_\_\_\_

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**OHIO VALLEY ELECTRIC CORPORATION**

By \_\_\_\_\_  
Its \_\_\_\_\_

**ALLEGHENY ENERGY SUPPLY COMPANY, L.L.C.**

By   
Its V. J. ZUP  
VICE PRESIDENT

**APPALACHIAN POWER COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**BUCKEYE POWER GENERATING, LLC**

By \_\_\_\_\_  
Its \_\_\_\_\_

**COLUMBUS SOUTHERN POWER COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**THE DAYTON POWER AND LIGHT COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**DUKE ENERGY OHIO, INC.**

By \_\_\_\_\_  
Its \_\_\_\_\_

**FIRSTENERGY GENERATION CORP.**

By \_\_\_\_\_  
Its \_\_\_\_\_

**INDIANA MICHIGAN POWER COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**KENTUCKY UTILITIES COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

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**OHIO VALLEY ELECTRIC CORPORATION**

By \_\_\_\_\_  
Its \_\_\_\_\_

**ALLEGHENY ENERGY SUPPLY COMPANY, L.L.C.**

By \_\_\_\_\_  
Its \_\_\_\_\_

**APPALACHIAN POWER COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**BUCKEYE POWER GENERATING, LLC**

By   
Its President & CEO

**COLUMBUS SOUTHERN POWER COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**THE DAYTON POWER AND LIGHT COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**DUKE ENERGY OHIO, INC.**

By \_\_\_\_\_  
Its \_\_\_\_\_

**FIRSTENERGY GENERATION CORP.**

By \_\_\_\_\_  
Its \_\_\_\_\_

**INDIANA MICHIGAN POWER COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**KENTUCKY UTILITIES COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

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**OHIO VALLEY ELECTRIC CORPORATION**

**ALLEGHENY ENERGY SUPPLY COMPANY, L.L.C.**

By \_\_\_\_\_  
Its \_\_\_\_\_

By \_\_\_\_\_  
Its \_\_\_\_\_

**APPALACHIAN POWER COMPANY**

**BUCKEYE POWER GENERATING, LLC**

By \_\_\_\_\_  
Its \_\_\_\_\_

By \_\_\_\_\_  
Its \_\_\_\_\_

**COLUMBUS SOUTHERN POWER COMPANY**

**THE DAYTON POWER AND LIGHT COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

By *Gary Stephenson*  
Its EXECUTIVE VICE PRESIDENT  
*Gary Stephenson*

**DUKE ENERGY OHIO, INC.**

**FIRSTENERGY GENERATION CORP.**

By \_\_\_\_\_  
Its \_\_\_\_\_

By \_\_\_\_\_  
Its \_\_\_\_\_

**INDIANA MICHIGAN POWER COMPANY**

**KENTUCKY UTILITIES COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

By \_\_\_\_\_  
Its \_\_\_\_\_

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**OHIO VALLEY ELECTRIC CORPORATION**

By \_\_\_\_\_  
Its \_\_\_\_\_

**ALLEGHENY ENERGY SUPPLY COMPANY, L.L.C.**

By \_\_\_\_\_  
Its \_\_\_\_\_

**APPALACHIAN POWER COMPANY.**

By \_\_\_\_\_  
Its \_\_\_\_\_

**BUCKEYE POWER GENERATING, LLC**

By \_\_\_\_\_  
Its \_\_\_\_\_

**COLUMBUS SOUTHERN POWER COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**THE DAYTON POWER AND LIGHT COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**DUKE ENERGY OHIO, INC.**

By \_\_\_\_\_  
Its \_\_\_\_\_

**FIRSTENERGY GENERATION CORP.**

By Mary R. Lerdahl  
Its President

**INDIANA MICHIGAN POWER COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**KENTUCKY UTILITIES COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_



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**OHIO VALLEY ELECTRIC CORPORATION**

**ALLEGHENY ENERGY SUPPLY COMPANY, L.L.C.**

By \_\_\_\_\_  
Its \_\_\_\_\_

By \_\_\_\_\_  
Its \_\_\_\_\_

**APPALACHIAN POWER COMPANY**

**BUCKEYE POWER GENERATING, LLC**

By \_\_\_\_\_  
Its \_\_\_\_\_

By \_\_\_\_\_  
Its \_\_\_\_\_

**COLUMBUS SOUTHERN POWER COMPANY**

**THE DAYTON POWER AND LIGHT COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

By \_\_\_\_\_  
Its \_\_\_\_\_

**DUKE ENERGY OHIO, INC.**

**FIRSTENERGY GENERATION CORP.**

By \_\_\_\_\_  
Its \_\_\_\_\_

By \_\_\_\_\_  
Its \_\_\_\_\_

**INDIANA MICHIGAN POWER COMPANY**

**KENTUCKY UTILITIES COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

By *[Signature]*  
Its *Sr. Vice President*

**LOUISVILLE GAS AND ELECTRIC  
COMPANY**

By *John N. Taylor Jr*  
Its *VP Trans & Generation Services*

**MONONGAHELA POWER  
COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**OHIO POWER COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**SOUTHERN INDIANA GAS AND  
ELECTRIC COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_


**LOUISVILLE GAS AND ELECTRIC  
COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**MONONGAHELA POWER  
COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**OHIO POWER COMPANY**

By  \_\_\_\_\_  
Its \_\_\_\_\_

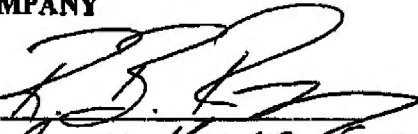
**SOUTHERN INDIANA GAS AND  
ELECTRIC COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**LOUISVILLE GAS AND ELECTRIC  
COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**MONONGAHELA POWER  
COMPANY**

By   
Its GENERAL MANAGER, ELECTRIC SUPPLY

**OHIO POWER COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**SOUTHERN INDIANA GAS AND  
ELECTRIC COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**LOUISVILLE GAS AND ELECTRIC  
COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**MONONGAHELA POWER  
COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_


**OHIO POWER COMPANY**

By \_\_\_\_\_  
Its \_\_\_\_\_

**SOUTHERN INDIANA GAS AND  
ELECTRIC COMPANY**

By Ronald E. Christman  
Its President

**PENINSULA GENERATION COOPERATIVE**

  
By Daniel H. DeCoeur  
Its President

**APPROVED AS TO FORM:**

  
BRIAN E. VALICE  
ATTORNEY FOR PENINSULA  
GENERATION COOPERATIVE

**Allegheny Energy Supply Company, L.L.C.**

**and**

**Monongahela Power Company**

Filing with, or consent or approval of, the Federal Energy Regulatory Commission



**SCHEDULE 10.01(c)**

**Appalachian Power Company**

Filing with, or consent or approval of, the Federal Energy Regulatory Commission

Approval of the Virginia State Corporation Commission

Filing with the Public Service Commission of West Virginia

**SCHEDULE 10.01(c)**

**Buckeye Power Generating, LLC**

None

**Columbus Southern Power Company**

Filing with, or consent or approval of, the Federal Energy Regulatory Commission

**The Dayton Power and Light Company**

Filing with, or consent or approval of, the Federal Energy Regulatory Commission

**Duke Energy Ohio, Inc.**

Filing with, or consent or approval of, the Federal Energy Regulatory Commission

**FirstEnergy Generation Corp.**

Filing with, or consent or approval of, the Federal Energy Regulatory Commission

**SCHEDULE 10.01(c)**

**Indiana Michigan Power Company**

Filing with, or consent or approval of, the Federal Energy Regulatory Commission

Filing with the Indiana Utility Regulatory Commission



**Kentucky Utilities Company**

Filing with, or consent or approval of, the Federal Energy Regulatory Commission

Consent or approval of, or filings or registrations with, the Kentucky Public Service Commission may be required

**Louisville Gas and Electric Company**

Filing with, or consent or approval of, the Federal Energy Regulatory Commission

Consent or approval of, or filings or registrations with, the Kentucky Public Service Commission  
may be required

**SCHEDULE 10.01(c)**

**Ohio Power Company**

Filing with, or consent or approval of, the Federal Energy Regulatory Commission

**SCHEDULE 10.01(c)**

**Peninsula Generation Cooperative**

None

**Southern Indiana Gas and Electric Company**

Filing with, or consent or approval of, the Federal Energy Regulatory Commission

AMENDED AND RESTATED  
POWER AGREEMENT

BETWEEN

OHIO VALLEY ELECTRIC CORPORATION

AND

INDIANA-KENTUCKY ELECTRIC CORPORATION

---

Dated as of September 10, 2010

---

THIS AGREEMENT, dated as of September 10, 2010 by and between OHIO VALLEY ELECTRIC CORPORATION (herein called OVEC) and INDIANA-KENTUCKY ELECTRIC CORPORATION (herein called IKEC), hereby amends and restates in its entirety, the Power Agreement (herein called the Current Agreement), dated March 13, 2006, between OVEC and IKEC.

WITNESSETH THAT:

WHEREAS, IKEC, a wholly owned subsidiary of OVEC, designed, purchased, and constructed, and continues to own, operate and maintain a steam-electric generating station (herein called Indiana Station) consisting of six turbogenerators and all other necessary equipment, at a location on the Ohio River near Madison, Indiana; and

WHEREAS, OVEC designed, purchased, and constructed, and continues to own, operate and maintain a steam-electric generating stations (herein called Ohio Station) consisting of five turbo-generators and all other necessary equipment, at a location on the Ohio River near Cheshire, Ohio (the Ohio Station and the Indiana Station being herein called the Project Generating Stations); and

WHEREAS, OVEC also designed, purchased, and constructed, and continues to operate and maintain necessary transmission and general plant facilities (herein called the Project Transmission Facilities) and OVEC established or cause to be established interconnections between the Project Generating Stations and/or the Project Transmission Facilities, and the systems of certain of the Sponsoring Companies; and

WHEREAS, IKEC owns and operates the portion of the Project Transmission Facilities located in the State of Indiana; and

WHEREAS, IKEC entered into the Current Agreement with OVEC which embodies the terms and conditions for the ownership and operation by IKEC of the Indiana Station and such portion of the Project Transmission Facilities which are to be owned and operated by it; and

WHEREAS, the owners of OVEC or their affiliates that are parties to an Inter-Company Power Agreement, have amended and restated such Inter-Company Power Agreement as of the date hereof, which defines the terms and conditions governing the rights of the "Sponsoring Companies" (as defined thereunder) to receive "Available Power" (as defined thereunder) from the Project Generating Stations and the obligations of the Sponsoring Companies to pay therefor; and

WHEREAS, concurrent with the amendment and restatement of the Inter-Company Power Agreement, IKEC and OVEC hereto desire to amend and restate in their entirety, the Current Agreement in order for IKEC to continue to sell to OVEC any and all power available at the Indiana Station, and energy associated therewith, and to transmit power and energy as provided herein.



## ARTICLE 1

## POWER AND ENERGY TRANSACTIONS

1.01 IKEC shall transmit any and all power generated at the Indiana Station by any of the generating units thereof in commercial operation and deliver such power, together with the energy associated therewith, but less the transmission losses in the facilities of IKEC applicable thereto from the 330 kV busses of the Indiana Station, at the points of delivery hereinafter designated in *Section 1.03* hereof, and sell such power and energy at said points of delivery to OVEC. OVEC shall purchase from IKEC all such power so delivered by IKEC to OVEC at said points of delivery, together with the energy associated therewith, and shall from time to time pay IKEC therefor, amounts which, when added to revenues received by IKEC from other sources, will be sufficient to enable IKEC to pay all of its operating and other expenses, including all income and other taxes and any interest and regular amortization requirements applicable to any indebtedness for borrowed funds incurred by IKEC. For the purposes of this *Section 1.01* the term "operating and other expenses" shall also include, without limitation, all amounts payable to suppliers of fuel requirements (including the handling and shipment thereof) in connection with the cancellation of commitments and the extension of delivery schedules, as well as all expenses accrued to pay for postemployment and postretirement benefits and the costs of the decommissioning, shutdown, demolition and closing of the Project Generating Stations.

1.02 IKEC shall transmit and deliver to OVEC at the points of delivery hereinafter designated in *Section 1.03* hereof, all power and the energy associated therewith supplied to IKEC by Sponsoring Companies at the points of delivery hereinafter designated in *Section 1.03* hereof, less the transmission losses in the facilities of IKEC applicable thereto. IKEC shall transmit and deliver to Sponsoring Companies designated by OVEC at the points of delivery hereinafter designated in *Section 1.03* hereof, all power, and the energy associated therewith, supplied to IKEC by OVEC at the points of delivery hereinafter designated in *Section 1.03* hereof, less the transmission losses in the facilities of IKEC applicable thereto.

1.03 All power and energy sold, purchased, transmitted or delivered hereunder shall be 3-phase, 60-cycle, alternating current, at nominal unregulated voltage, designated for the points of delivery hereinbelow described. Power and energy transmitted, delivered and sold by IKEC to OVEC pursuant to the provisions of *Section 1.01* hereof shall be delivered at the points where the transmission facilities of OVEC and the transmission facilities of IKEC interconnect and title to such power and energy shall pass from IKEC to OVEC at said points. Power and energy supplied to IKEC by a Sponsoring Company for transmission to OVEC pursuant to the provisions of *Section 1.02* hereof, shall be delivered by said Sponsoring Company to IKEC at the points where the transmission facilities of said Sponsoring Company and the transmission facilities of IKEC interconnect and shall be delivered by IKEC to OVEC and title thereto shall pass from said Sponsoring Company to OVEC at the points where the transmission facilities of OVEC and the transmission facilities of IKEC interconnect. Power and energy supplied to IKEC

by OVEC for transmission to a Sponsoring Company pursuant to the provisions of Section 1.02 hereof shall be delivered by OVEC to IKEC at the points where the transmission facilities of OVEC and the transmission facilities of IKEC interconnect and title to such power and energy shall pass from OVEC to said Sponsoring Company at said points. Such power and energy shall be delivered by IKEC to said Sponsoring Company at the points where the transmission facilities of IKEC and the transmission facilities of said Sponsoring Company interconnect.

1.04 The parties hereto shall exercise due diligence and foresight in carrying out all matters related to the providing and operating of their respective power resources so as to minimize to the extent practicable deviations between actual and scheduled deliveries of power and energy among their systems. The parties hereto shall provide and/or install on their respective systems such communication, telemetering, frequency and/or tie-line control facilities essential to so minimizing such deviations; and shall fully cooperate with one another and with third parties (such third parties whose systems are either directly or indirectly interconnected with the systems of the Sponsoring Companies and who of necessity together with the Sponsoring Companies and the parties hereto must unify their efforts cooperatively to achieve effective and efficient interconnected system operation) in developing and executing operating procedures that will enable the parties hereto to avoid to the extent practicable deviations from scheduled deliveries.

1.05 OVEC shall reimburse IKEC for the difference between (a) the total cost of replacements chargeable to property and plant made by IKEC, and the total cost of additional facilities and/or spare parts purchased or installed by Corporation, during any month or prior thereto (and not previously reimbursed) and (b) the amounts paid for by IKEC out of proceeds of fire or other applicable insurance protection, or out of amounts recovered from third parties responsible for damages requiring replacement. OVEC shall pay to IKEC such amount in lieu of the amounts to be paid as above provided, which, after provision for all taxes on income, shall equal the costs of the replacements reimbursable by OVEC to IKEC as above provided. The term cost of replacements, as used herein, shall include all components of costs, plus removal expense, less salvage. The amounts reimbursed by OVEC to IKEC for such replacements shall be accounted for on the books of IKEC in a special balance sheet account provided for such purposes.

## ARTICLE 2

### MISCELLANEOUS

2.01 This Agreement shall become effective on September 10, 2010, or to the extent necessary, such later date on which all conditions to effectiveness, including all required waiting periods and all required regulatory acceptances or approvals, of this Agreement have been satisfied in form and substance satisfactory to OVEC, and shall terminate upon the earlier of: (1) June 30, 2040 or (2) the sale or other disposition of all of the facilities of the Project Generating Stations or the permanent cessation of operation of such facilities.

2.02 No party hereto shall be held responsible or liable for any loss or damage on account of non-delivery of energy hereunder at any time caused by act of God, fire, flood, explosion, strike, civil or military authority, insurrection or riot, act of the elements, failure of equipment, or for any other cause beyond its control.

2.03 This Agreement is made subject to the jurisdiction of any governmental authority or authorities having jurisdiction in the premises and the performance thereof shall be subject to the receipt of all regulatory approvals, in form and substance satisfactory to the parties hereto, necessary to permit the parties hereto to perform all the duties and obligations to be performed by such parties hereunder.

2.04 This Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective successors and assigns, but this Agreement shall not be assigned by either party hereto without the written consent of the other, except (a) to a successor to all or substantially all the properties and assets of such party, or (b) to a trustee under an indenture securing any indebtedness of such party.

2.05 All notices and requests under this Agreement shall be in writing and shall be sufficient in all respects if delivered in person or sent by registered mail addressed to the party to be served at such party's general office or at such other address as such party may from time to time in writing designate.

IN WITNESS WHEREOF the parties hereto have caused this Agreement to be duly executed as of the day and year first above written.

OHIO VALLEY ELECTRIC CORPORATION

By \_\_\_\_\_  
Its

INDIANA-KENTUCKY ELECTRIC CORPORATION

By \_\_\_\_\_  
Its

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 2**

**Responding Witness: David S. Sinclair**

- Q-2. Identify, discuss, and provide any study or analysis that the Company has performed or obtained, subsequent to that relied on in Case Nos. 2011-00099 and 2011-00100 before the Commission, regarding the cost-competitiveness of, or need for, its contractual relationship with OVEC or the power and capacity the Company obtains from the OVEC Units.
- A-2. See the response to AG 1-4(c). In addition, the Companies' share of OVEC was evaluated in the 2018 IRP Reserve Margin Analysis.<sup>1</sup>

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<sup>1</sup> 2018 Integrated Resource Plan is 2018-00348 and is available at:  
[https://psc.ky.gov/PSC\\_WebNet/ViewCaseFilings.aspx?Case=2018-00348](https://psc.ky.gov/PSC_WebNet/ViewCaseFilings.aspx?Case=2018-00348).

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 3**

**Responding Witness: David S. Sinclair**

- Q-3. Identify any and all capital investments or projects that the Company anticipates will be needed for each of the OVEC Units to comply with (while continuing to be able lawfully to operate) all current, anticipated or foreseeable environmental laws, regulations, or other obligations. For each such investments at the OVEC Units:
- a) Describe each such investment/project; its timeline; and the law, regulation, or other obligation it is needed to comply with.
  - b) Describe the decision-maker(s) (with persons or bodies)—within the LG&E/KU, and/or within OVEC and among its member entities, as may be applicable—that must approve such investments;
  - c) For any such investment/project, provide the following in relation thereto:
    - i) In-service date
    - ii) Current or anticipated status of construction
    - iii) Required outage period for installation and interconnection
    - iv) projected capital cost
    - v) fixed O&M cost
    - vi) variable O&M cost
    - vii) effect on unit heat rate
    - viii) effect on unit availability
- A-3.
- a) See the response to Question No. 14.

b) OVEC's Board of Directors would approve these investments. The OVEC board size is currently set at 15 members, with a majority of directors constituting a quorum. Actions are taken by majority of directors present, unless a greater amount is required by law. OVEC's board currently comprises the following directors:

1. Thomas Alban, Buckeye Power
2. Eric Baker, Wolverine
3. Christian Beam, AEP
4. Lonnie Bellar, LG&E and KU
5. Wayne Games, Vectren
6. James Haney, FirstEnergy
7. Lana Hillenbrand, American Electric Power
8. Mark McCullough, AEP
9. Mark Miller, AES
10. Steven Nelson, Buckeye Power
11. Patrick O'Loughlin, Buckeye Power
12. David Pinter, FirstEnergy
13. Julie Sloat, AEP
14. Paul Thompson, LG&E and KU
15. John Verderame, Duke Energy

c)

- i) See the response to part (a).
- ii) None of the projects are under construction. See the projected timelines in the response to Question No. 14.
- iii) The Companies do not have access to this information.
- iv) See the response to part (a).
- v) The Companies do not have access to this information.
- vi) The Companies do not have access to this information.
- vii) The Companies do not have access to this information.
- viii) The Companies do not have access to this information.

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 4**

**Responding Witness: Christopher M. Garrett**

- Q-4. With respect to the OVEC Units, for each month from January 2013 through October 2018, provide the following charges as pertains to the Company:
- a) Total Monthly Charge, pursuant to Article 5.01 of the current ICPA
  - b) Energy Charge, pursuant to Article 5.02 of the ICPA
  - c) Demand Charge, pursuant to Article 5.03 of the ICPA
  - d) Transmission Charge, pursuant to Article 5.04 of the ICPA
- A-4. See attached.



**Kentucky Utilities  
OVEC CHARGES**

FOR THE 12 MONTHS ENDED DECEMBER 31, 2013													
	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	TOTAL
OVEC Energy Charge	\$ 854,572	\$ 583,001	\$ 528,336	\$ 473,664	\$ 588,557	\$ 740,002	\$ 748,614	\$ 660,185	\$ 593,154	\$ 784,206	\$ 700,082	\$ 784,526	\$ 8,038,900
OVEC Demand Charge	577,337	622,317	725,764	974,135	848,729	641,035	519,413	677,216	655,041	785,307	773,125	869,923	8,669,341
OVEC Transmission Charge	34,358	33,843	32,707	31,313	30,868	32,850	34,911	35,664	33,957	32,426	34,334	32,848	400,079
Total OVEC Monthly Charge	1,466,267	1,239,160	1,286,807	1,479,112	1,468,154	1,413,888	1,302,938	1,373,066	1,282,152	1,601,939	1,507,540	1,687,297	17,108,320

FOR THE 12 MONTHS ENDED DECEMBER 31, 2014													
	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	TOTAL
OVEC Energy Charge	\$ 791,298	\$ 694,459	\$ 661,636	\$ 481,869	\$ 486,316	\$ 673,499	\$ 706,236	\$ 696,779	\$ 695,532	\$ 458,282	\$ 609,114	\$ 757,696	\$ 7,712,715
OVEC Demand Charge	415,449	618,289	665,879	736,053	674,227	567,919	500,472	539,386	580,115	705,200	599,694	813,512	7,416,194
OVEC Transmission Charge	35,113	36,750	35,992	35,722	31,473	31,974	34,668	35,110	34,314	34,569	31,105	33,012	409,801
Total OVEC Monthly Charge	1,241,859	1,349,498	1,363,506	1,253,644	1,192,016	1,273,392	1,241,376	1,271,274	1,309,960	1,198,050	1,239,913	1,604,221	15,538,710

FOR THE 12 MONTHS ENDED DECEMBER 31, 2015													
	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	TOTAL
OVEC Energy Charge	\$ 705,470	\$ 476,054	\$ 743,148	\$ 605,938	\$ 477,283	\$ 522,314	\$ 538,141	\$ 653,384	\$ 666,206	\$ 513,667	\$ 435,104	\$ 378,803	\$ 6,715,511
OVEC Demand Charge	615,108	451,527	610,999	798,428	540,368	561,673	616,142	600,817	591,123	756,276	571,334	910,692	7,624,488
OVEC Transmission Charge	35,040	34,792	33,448	34,362	32,207	29,275	32,063	31,874	33,415	32,400	31,502	28,456	388,834
Total OVEC Monthly Charge	1,355,618	962,373	1,387,595	1,438,728	1,049,858	1,113,262	1,186,345	1,286,076	1,290,744	1,302,343	1,037,939	1,317,951	14,728,833

FOR THE 12 MONTHS ENDED DECEMBER 31, 2016													
	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	TOTAL
OVEC Energy Charge	\$ 692,779	\$ 628,126	\$ 475,705	\$ 408,639	\$ 604,589	\$ 726,725	\$ 764,823	\$ 649,166	\$ 672,814	\$ 367,037	\$ 498,360	\$ 672,794	\$ 7,161,557
OVEC Demand Charge	406,683	513,753	545,709	805,583	744,315	380,709	568,017	580,356	501,998	713,730	666,886	857,572	7,285,311
OVEC Transmission Charge	28,097	32,050	31,151	29,534	29,112	31,573	35,169	36,069	35,500	35,521	30,747	32,531	387,055
Total OVEC Monthly Charge	1,127,560	1,173,929	1,052,565	1,243,756	1,378,016	1,139,008	1,368,009	1,265,591	1,210,312	1,116,287	1,195,992	1,562,897	14,833,922

FOR THE 12 MONTHS ENDED DECEMBER 31, 2017													
	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	TOTAL
OVEC Energy Charge	\$ 771,833	\$ 505,332	\$ 564,791	\$ 469,245	\$ 267,247	\$ 474,278	\$ 520,635	\$ 469,157	\$ 309,982	\$ 466,695	\$ 644,353	\$ 592,035	\$ 6,055,585
OVEC Demand Charge	487,082	594,358	862,651	386,147	1,061,228	558,056	656,081	616,663	807,559	799,608	743,275	748,168	8,320,877
OVEC Transmission Charge	36,294	34,826	35,214	37,580	33,162	30,707	34,635	36,079	35,499	31,381	33,065	35,250	413,693
Total OVEC Monthly Charge	1,295,210	1,134,517	1,462,656	892,973	1,361,637	1,063,041	1,211,352	1,121,900	1,153,040	1,297,684	1,420,694	1,375,453	14,790,155

FOR THE 10 MONTHS ENDED DECEMBER 31, 2018											
	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	TOTAL
OVEC Energy Charge	\$ 624,967	\$ 418,225	\$ 616,833	\$ 486,644	\$ 369,264	\$ 517,820	\$ 571,924	\$ 547,790	\$ 452,835	\$ 384,278	\$ 4,990,579
OVEC Demand Charge	499,446	609,696	644,839	906,448	879,586	695,515	651,558	671,685	708,621	829,288	7,096,681
OVEC Transmission Charge	37,640	36,726	34,021	36,462	33,893	31,936	35,061	36,423	35,851	32,954	350,967
Total OVEC Monthly Charge	1,162,052	1,064,647	1,295,692	1,429,555	1,282,742	1,245,271	1,258,543	1,255,897	1,197,308	1,246,519	12,438,227

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 5**

**Responding Witness: David S. Sinclair**

- Q-5. With respect to the OVEC Generating Units, for each month from January 2019 through December 2026, provide the following projected charges as pertains to the Company:
- a) Total Monthly Charge, pursuant to Article 5.01 of the ICPA
  - b) Energy Charge, pursuant to Article 5.02 of the ICPA
  - c) Demand Charge, pursuant to Article 5.03 of the ICPA
  - d) Transmission Charge, pursuant to Article 5.04 of the ICPA
- A-5. See attached. Certain information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.

**OVEC Cost Forecast (\$)  
LG&E and KU Share**

LG&E	1/1/2019	2/1/2019	3/1/2019	4/1/2019	5/1/2019	6/1/2019	7/1/2019	8/1/2019	9/1/2019	10/1/2019	11/1/2019	12/1/2019
Total Monthly Charge	[REDACTED]											
Energy Charge	[REDACTED]											
Demand Charge	[REDACTED]											
Transmission Charge	[REDACTED]											

KU	1/1/2019	2/1/2019	3/1/2019	4/1/2019	5/1/2019	6/1/2019	7/1/2019	8/1/2019	9/1/2019	10/1/2019	11/1/2019	12/1/2019
Total Monthly Charge	[REDACTED]											
Energy Charge	[REDACTED]											
Demand Charge	[REDACTED]											
Transmission Charge	[REDACTED]											

Combined Companies	1/1/2019	2/1/2019	3/1/2019	4/1/2019	5/1/2019	6/1/2019	7/1/2019	8/1/2019	9/1/2019	10/1/2019	11/1/2019	12/1/2019
Total Monthly Charge	[REDACTED]											
Energy Charge	[REDACTED]											
Demand Charge	[REDACTED]											
Transmission Charge	[REDACTED]											

**OVEC Cost Forecast (\$)  
LG&E and KU Share**

	1/1/2020	2/1/2020	3/1/2020	4/1/2020	5/1/2020	6/1/2020	7/1/2020	8/1/2020	9/1/2020	10/1/2020	11/1/2020	12/1/2020
LG&E												
Total Monthly Charge												
Energy Charge												
Demand Charge												
Transmission Charge												
KU												
Total Monthly Charge												
Energy Charge												
Demand Charge												
Transmission Charge												
Combined Companies												
Total Monthly Charge												
Energy Charge												
Demand Charge												
Transmission Charge												

**OVEC Cost Forecast (\$)  
LG&E and KU Share**

	1/1/2021	2/1/2021	3/1/2021	4/1/2021	5/1/2021	6/1/2021	7/1/2021	8/1/2021	9/1/2021	10/1/2021	11/1/2021	12/1/2021
LG&E												
Total Monthly Charge												
Energy Charge												
Demand Charge												
Transmission Charge												
KU												
Total Monthly Charge												
Energy Charge												
Demand Charge												
Transmission Charge												
Combined Companies												
Total Monthly Charge												
Energy Charge												
Demand Charge												
Transmission Charge												

**OVEC Cost Forecast (\$)  
LG&E and KU Share**

	1/1/2022	2/1/2022	3/1/2022	4/1/2022	5/1/2022	6/1/2022	7/1/2022	8/1/2022	9/1/2022	10/1/2022	11/1/2022	12/1/2022
LG&E												
Total Monthly Charge												
Energy Charge												
Demand Charge												
Transmission Charge												
KU												
Total Monthly Charge												
Energy Charge												
Demand Charge												
Transmission Charge												
Combined Companies												
Total Monthly Charge												
Energy Charge												
Demand Charge												
Transmission Charge												

**OVEC Cost Forecast (\$)  
LG&E and KU Share**

LG&E	1/1/2023	2/1/2023	3/1/2023	4/1/2023	5/1/2023	6/1/2023	7/1/2023	8/1/2023	9/1/2023	10/1/2023	11/1/2023	12/1/2023
Total Monthly Charge	[REDACTED]											
Energy Charge	[REDACTED]											
Demand Charge	[REDACTED]											
Transmission Charge	[REDACTED]											

KU	1/1/2023	2/1/2023	3/1/2023	4/1/2023	5/1/2023	6/1/2023	7/1/2023	8/1/2023	9/1/2023	10/1/2023	11/1/2023	12/1/2023
Total Monthly Charge	[REDACTED]											
Energy Charge	[REDACTED]											
Demand Charge	[REDACTED]											
Transmission Charge	[REDACTED]											

Combined Companies	1/1/2023	2/1/2023	3/1/2023	4/1/2023	5/1/2023	6/1/2023	7/1/2023	8/1/2023	9/1/2023	10/1/2023	11/1/2023	12/1/2023
Total Monthly Charge	[REDACTED]											
Energy Charge	[REDACTED]											
Demand Charge	[REDACTED]											
Transmission Charge	[REDACTED]											

**OVEC Cost Forecast (\$)  
LG&E and KU Share**

LG&E	1/1/2024	2/1/2024	3/1/2024	4/1/2024	5/1/2024	6/1/2024	7/1/2024	8/1/2024	9/1/2024	10/1/2024	11/1/2024	12/1/2024
Total Monthly Charge	[REDACTED]											
Energy Charge	[REDACTED]											
Demand Charge	[REDACTED]											
Transmission Charge	[REDACTED]											

KU	1/1/2024	2/1/2024	3/1/2024	4/1/2024	5/1/2024	6/1/2024	7/1/2024	8/1/2024	9/1/2024	10/1/2024	11/1/2024	12/1/2024
Total Monthly Charge	[REDACTED]											
Energy Charge	[REDACTED]											
Demand Charge	[REDACTED]											
Transmission Charge	[REDACTED]											

Combined Companies	1/1/2024	2/1/2024	3/1/2024	4/1/2024	5/1/2024	6/1/2024	7/1/2024	8/1/2024	9/1/2024	10/1/2024	11/1/2024	12/1/2024
Total Monthly Charge	[REDACTED]											
Energy Charge	[REDACTED]											
Demand Charge	[REDACTED]											
Transmission Charge	[REDACTED]											



**OVEC Cost Forecast (\$)  
LG&E and KU Share**

	1/1/2025	2/1/2025	3/1/2025	4/1/2025	5/1/2025	6/1/2025	7/1/2025	8/1/2025	9/1/2025	10/1/2025	11/1/2025	12/1/2025
LG&E												
Total Monthly Charge												
Energy Charge												
Demand Charge												
Transmission Charge												
KU												
Total Monthly Charge												
Energy Charge												
Demand Charge												
Transmission Charge												
Combined Companies												
Total Monthly Charge												
Energy Charge												
Demand Charge												
Transmission Charge												

**OVEC Cost Forecast (\$)  
LG&E and KU Share**

	1/1/2026	2/1/2026	3/1/2026	4/1/2026	5/1/2026	6/1/2026	7/1/2026	8/1/2026	9/1/2026	10/1/2026	11/1/2026	12/1/2026
LG&E												
Total Monthly Charge												
Energy Charge												
Demand Charge												
Transmission Charge												
KU												
Total Monthly Charge												
Energy Charge												
Demand Charge												
Transmission Charge												
Combined Companies												
Total Monthly Charge												
Energy Charge												
Demand Charge												
Transmission Charge												

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 6**

**Responding Witness: David S. Sinclair**

Q-6. Has the Company incurred any charges in connection with Minimum Loading Events, as described in the ICPA Section 5.05, during the period from January 1, 2013, to the present?

a) If so, describe each such charge, including months incurred and amount of such charge.

A-6. No.

a) Not applicable.

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 7**

**Responding Witness: David S. Sinclair**

- Q-7. Provide a record of all funds accrued by OVEC “in connection with the decommissioning, shutdown, demolition and closing” of the OVEC Units as described in Articles 5.03(f) and 7.04 of the ICPA.
- A-7. OVEC’s financial statements, FERC Form 1 reports, and 2017 Annual Report are publicly available on OVEC’s website at <http://ovec.com>.

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 8**

**Responding Witness: David S. Sinclair**

- Q-8. Provide any assessment of the sufficiency of OVEC's funding to support decommissioning, shutdown, demolition and closing of the OVEC Units.
- A-8. See attached. The Companies do not have OVEC's decommissioning and demolition studies, to which the attached letter refers, or any other responsive documents. OVEC's financial statements, FERC Form 1 reports, and 2017 Annual Report are publicly available on OVEC's website at <http://ovec.com>.


 OHIO VALLEY ELECTRIC CORPORATION <sup>Sinclair</sup>

 P. O. Box 16631  
 Columbus, Ohio 43216

September 28, 2017

Members of the Boards	Nicholas K. Akins	Mark C. McCullough
	Thomas Alban	Mark E. Miller
	Eric D. Baker	Steven K. Nelson
	Lonnie E. Bellar	Patrick W. O'Loughlin
	Wayne D. Games	David W. Pinter
	James R. Haney	Julie Sloat
	Lana L. Hillebrand	Toby L. Thomas
	Marc E. Lewis	Paul W. Thompson
	David A. Lucas	John A. Verderame

Ladies and Gentlemen:

As discussed in the Boards of Directors' Update Meeting on July 21, 2017, OVEC initiated an updated Decommissioning and Demolition (D&D) Study. OVEC is required, per the Inter-Company Power Agreement, to update the study at a minimum of every five years, with the last study being completed in 2014. OVEC initiated an updated study in advance of the 2019 revision date as a result of the October 19, 2015 Coal Combustion Residual (CCR) rule's added requirements related to the closure and post-closure care of CCR impoundments. The updated D&D Study was recently completed by an independent third party engineering firm and is being audited by our external auditors with completion at the end of September. The updated study, which assumes a June 2040 plant closure date, resulted in approximately \$40 million per plant of additional projected future D&D costs associated with the requirements contained in the CCR rule. The updated D&D Study will be reviewed with the Environmental Sub-committee members in the upcoming meeting in late October.

OVEC initiated a D&D funding holiday at year-end 2014 due to the prior D&D Study results and the current D&D funding balance at that time. The funding holiday originally was forecasted to end in 2020; however, as a result of the new CCR regulations and the updated study's results, OVEC will end the funding holiday in the 4th quarter 2017. The 2017 billable costs to Sponsors will be approximately \$1.4 million billed pro rata over the final quarter and the 2018 annual billable costs are projected to be approximately \$5.5 million. OVEC will continue to monitor any possible challenges to the CCR rule requirements and other regulations that could impact these forecasted costs and will continue to update the Boards on any changes. Please contact me at 614-716-2860/raosborne@aep.com with general questions or Mike Brown at 740-289-7299/mbrown@ovec.com on specific CCR questions.

Sincerely,

A handwritten signature in black ink, appearing to read "RAO", with a long horizontal flourish extending to the right.

Robert A. Osborne

RAO:gln

c: J. Baumann  
J. D. Brodt  
B. E. Chisling  
R. D. Cook  
J. J. Cooper  
D. Crusey

L. L. Dieck  
M. Sebourn  
D. J. Sensius  
T. Stoner  
J. Swez  
B. Warner

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests**  
**Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 9**

**Responding Witness: David S. Sinclair**

- Q-9. For each of the years 2013 through 2017, and each month in 2018 to date, and for each of the OVEC Units, identify the:
- a) Capacity factor
  - b) Availability
  - c) Heat rate
  - d) Forced outage rate
  - e) Unforced outage rate
  - f) Fixed operating and maintenance ("O&M") cost
  - g) Variable O&M cost
  - h) Fuel cost
  - i) Environmental capital cost
  - j) Non-environmental capital cost
  - k) Depreciation cost
  - l) Return on equity
  - m) Interest expense
  - n) Taxes
- A-9 The Companies do not have access to OVEC's detailed corporate, accounting, or operating information. OVEC's financial statements, FERC Form 1 reports, and



2017 Annual Report are publicly available on OVEC’s website at <http://ovec.com>. The Companies possess certain relevant historical OVEC data, primarily consolidated at either the station level or the OVEC combined level as indicated below.

- a) The OVEC combined capacity factors through 2017 are shown in the following table. The Companies do not have OVEC’s capacity factors for 2018. However, OVEC’s monthly net generation through September 2018 is publicly available from the U.S. Energy Information Administration Form EIA-923, which can be found at <https://www.eia.gov/electricity/data/eia923/>.

	Capacity Factor
2013	55.4%
2014	60.4%
2015	47.1%
2016	52.5%
2017	63.2%

- b) OVEC’s combined equivalent availability for 2013 through 2017 is shown on p. 38 of OVEC’s publicly available 2017 Annual Report. The Companies do not have the availability figures for 2018.
- c) OVEC’s combined heat rate for 2013 through 2017 is shown on p. 38 of OVEC’s publicly available 2017 Annual Report. The Companies have OVEC’s historical station-level heat rates shown in the following table.

Heat Rate (Btu/kWh)	Kyger Creek	Clifty Creek
2015	10,577	10,768
2016	10,815	10,992
2017	10,501	10,741
January through June 2018	10,658	10,505

- d) The following table shows the equivalent forced outage rates (“EFOR”) for OVEC’s units and stations that are available to the Companies.

EFOR	2013	2014	2015	2016	2017	2018 Jan-Oct
Clifty Creek 1	10.1%	14.5%	7.3%	NA	NA	NA
Clifty Creek 2	7.2%	8.4%	9.5%	NA	NA	NA
Clifty Creek 3	19.1%	25.9%	16.0%	NA	NA	NA
Clifty Creek 4	19.2%	12.4%	12.6%	NA	NA	NA
Clifty Creek 5	6.8%	11.7%	10.3%	NA	NA	NA
Clifty Creek 6	15.5%	16.2%	24.8%	NA	NA	NA
Clifty Creek Station	9.3%	14.1%	26.1%	7.5%	7.1%	7.5%
Kyger Creek 1	12.6%	9.4%	16.4%	NA	NA	NA
Kyger Creek 2	8.7%	17.8%	25.5%	NA	NA	NA
Kyger Creek 3	13.2%	20.2%	19.7%	NA	NA	NA
Kyger Creek 4	4.2%	12.1%	45.5%	NA	NA	NA
Kyger Creek 5	8.9%	11.5%	22.5%	NA	NA	NA
Kyger Creek Station	12.7%	14.2%	13.5%	9.3%	5.7%	5.3%

- e) The Companies do not have the information requested.
- f) See the aforementioned publicly available OVEC financial statements, FERC Form 1 reports, and 2017 Annual Report. The Companies are not aware of a reported distinction between OVEC’s historical “Fixed” and “Variable” O&M costs. The following table summarizes OVEC’s 2018 monthly operating expenses through October, including fuel cost, O&M, interest charges, and taxes.

2018 Operating Expenses (\$)	Total Fuel Cost	O&M	Total Interest Charges	Taxes
January	27,614,243	9,808,786	6,861,464	813,340
February	23,406,375	10,715,569	6,744,608	911,424
March	25,683,959	12,763,831	6,837,506	1,161,453
April	20,141,733	20,600,950	6,935,416	1,273,719
May	17,311,534	19,905,547	6,870,515	976,327
June	23,669,456	10,917,570	6,801,658	944,216
July	26,912,573	13,678,559	6,958,258	946,566
August	25,856,859	13,316,314	7,054,162	931,284
September	20,562,496	11,830,571	6,629,618	1,212,961
October	15,420,607	16,928,613	6,970,218	702,800

- g) See the response to part (f).

- h) See the response to part (f).
- i) See the aforementioned publicly available OVEC financial statements, FERC Form 1 reports, and 2017 Annual Report. The Companies are not aware of a reported distinction between OVEC's historical "Environmental" and "Non-environmental" capital costs. The Companies do not have access to monthly OVEC financial statements for 2018.
- j) See the response to part (i).
- k) See the response to part (f). The Companies do not have the monthly depreciation figures for 2018.
- l) See the aforementioned publicly available OVEC financial statements. The Companies do not have access to monthly OVEC financial statements for 2018.
- m) See the response to part (f).
- n) See the response to part (f).

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests**  
**Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 10**

**Responding Witness: David S. Sinclair**

- Q-10. For each of the years 2019 through 2030, for each of the OVEC Units, identify each unit's projected:
- a) Capacity factor
  - b) Availability
  - c) Heat rate
  - d) Forced outage rate
  - e) Unforced outage rate
  - f) Fixed O&M cost
  - g) Variable O&M cost
  - h) Fuel cost
  - i) Environmental capital cost
  - j) Non-environmental capital cost
  - k) Depreciation cost
  - l) Return on equity
  - m) Interest expense
  - n) Taxes
- A-10. The Companies do not have the information requested at the OVEC unit level. Some of the information is available for the OVEC units as a whole. Certain

information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.

- a. See attached.
- b. See the response to Question No. 11.
- c. The Companies do not have access to the information requested.
- d. OVEC's forecasted equivalent unplanned outage rate is 10%.
- e. The Companies do not have access to the information requested. See the response to Question No. 11.
- f. See the response to part a.
- g. See the response to part a.
- h. See the response to part a.
- i. See the response to part a.
- j. See the response to part a.
- k. The Companies do not have access to the information requested.
- l. See the response to part a.
- m. See the response to part a.
- n. See the response to part a.

**OVEC Capacity Factor and Cost Forecast (\$000)**

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Capacity Factor												
Fixed O&M												
Variable O&M												
Fuel Cost												
Capital Costs*												
Return on Equity												
Interest Expense												
Taxes												

[Redacted]

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 11**

**Responding Witness: David S. Sinclair**

Q-11. With regard to each of the OVEC Units:

- a) Describe in detail any planned outages for maintenance or repair scheduled between January 1, 2019, and June 1, 2025, including the duration of each such outage and the estimated cost of such maintenance or repairs.
- b) Describe in detail any unplanned outages that have occurred since January 1, 2010, including the duration of each such outage, steps taken to address the cause of each such outage, and the cost of such steps.

A-11.

- a) See attached. Certain information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection. The Companies do not have access to OVEC's projected outage costs beyond 2022 and projected outage schedules beyond 2023.
- b) The Companies do not have access to this information.





**Ohio Valley Electric Corporation - Indiana-Kentucky Electric Corporation  
Unit Outage Schedule - 2019**

Date Issue: 8/7/2018

Issued By: Tim Fulk

		2019 Planned Outages																								
Beginning Date	Ending Date	Days	January	February	March	April	May	June	July	August	September	October	November	December												
<b>Clifty 1</b>			[Redacted]																							
<b>Clifty 2</b>															[Redacted]											
<b>Clifty 3</b>			[Redacted]																							
<b>Clifty 4</b>															[Redacted]											
<b>Clifty 5</b>			[Redacted]																							
<b>Clifty 6</b>															[Redacted]											
<b>Kyger 1</b>			[Redacted]																							
<b>Kyger 2</b>															[Redacted]											
<b>Kyger 3</b>			[Redacted]																							
<b>Kyger 4</b>															[Redacted]											
<b>Kyger 5</b>			[Redacted]																							
															PJM No Fly Zone 6/10/19 - 9/6/19											

Outage	Days	Planned Availability
Clifty Creek	203	90.7%
Kyger Creek	174	90.4%
System	377	90.6%

- |                                    |                                |                                      |                              |
|------------------------------------|--------------------------------|--------------------------------------|------------------------------|
| AB - Air Heater Baskets            | CR - Catalyst Replacement      | ND - NDT Turbine Valve Bodies        | SV - Set Safety Valves       |
| BC - Boiler Chemical Clean         | GH - Generator Inspection - HP | PF - Furnace Floor & 1st Baffle Wall | TH - Turbine Inspection - HP |
| BF - JBR Booster Fan Rebuild       | GL - Generator Inspection - LP | RC - Retube Condenser                | TI - Turbine Inspection - IP |
| BT - Boiler & Turbine Maintenance  | GR - Generator Rewind          | RT - Reheat Tube Replacement         | TL - Turbine Inspection - LP |
| BW - Boiler Water Wall Tubes       | I - Insurance Inspection       | SF - Sloping Floor & Screen Tubes    | TV - Turbine Valves          |
| CH - Thrust Collar Inspection - HP | JB - JBR Inspection            | SO - Strainer Outage                 |                              |
| CL - Thrust Collar Inspection - LP | M - MATS Designated Outage     | SSH - Secondary Superheater Tubes    |                              |

**CONFIDENTIAL INFORMATION REDACTED**

Ohio Valley Electric Corporation - Indiana-Kentucky Electric Corporation  
 Unit Outage Schedule - 2020

Date Issue: 8/7/2018

Beginning Date      City 1      City 2      City 3      Ending Date      Days      January      February      March      April      May      June      July      August      September      October      November      December



Issued By: Tim Fulk

Activity	City 1	City 2	City 3	Ending Date	Days	January	February	March	April	May	June	July	August	September	October	November	December
ND - NDT Turbine Valve Bodies																	
SV - Set Safety Valves																	
FP - Furnace Floor & 1st Barite Wall																	
TH - Turbine Inspection - HP																	
RC - Retheat Condenser																	
RT - Retheat Tube Replacement																	
TL - Turbine Inspection - LP																	
TF - Turbine Inspection - IB																	
RF - Retheat Tube Replacement																	
ST - Stopping Floor & Screen Tubes																	
TV - Turbine Valves																	
SP - Strainer Outage																	
SBH - Secondary Superheater																	
FLY Zone 6/8/20 - 9/4/20																	

Case No. 2018-00294

Attachment 2 to Response to SC-1 Question No. 11(a)

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Sinclair

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**Ohio Valley Electric Corporation - Indiana-Kentucky Electric Corporation  
Unit Outage Schedule - 2021**

Date Issue: 8/7/2018

Issued By: Tim Fulk

		2021 Planned Outages												
Beginning Date	Ending Date	Days	January	February	March	April	May	June	July	August	September	October	November	December
<b>Clifty 1</b>			[Redacted]											
<b>Clifty 2</b>			[Redacted]											
<b>Clifty 3</b>			[Redacted]											
<b>Clifty 4</b>			[Redacted]											
<b>Clifty 5</b>			[Redacted]											
<b>Clifty 6</b>			[Redacted]											
<b>Kyger 1</b>			[Redacted]											
<b>Kyger 2</b>			[Redacted]											
<b>Kyger 3</b>			[Redacted]											
<b>Kyger 4</b>			[Redacted]											
<b>Kyger 5</b>			[Redacted]											
PJM No Fly Zone 6/14/21 to 9/10/21														

<b>Planned Outage Summary</b>		
	Outage Days	Planned Availability
Clifty Creek	169	92.3%
Kyger Creek	138	92.4%
System	307	92.4%

- |                                    |                                |                                      |                              |
|------------------------------------|--------------------------------|--------------------------------------|------------------------------|
| AB - Air Heater Baskets            | CR - Catalyst Replacement      | ND - NDT Turbine Valve Bodies        | SV - Set Safety Valves       |
| BC - Boiler Chemical Clean         | GH - Generator Inspection - HP | PF - Furnace Floor & 1st Baffle Wall | TH - Turbine Inspection - HP |
| BF - JBR Booster Fan Rebuild       | GL - Generator Inspection - LP | RC - Retube Condenser                | TI - Turbine Inspection - IP |
| BT - Boiler & Turbine Maintenance  | GR - Generator Rewind          | RT - Reheat Tube Replacement         | TL - Turbine Inspection - LP |
| BW - Boiler Water Wall Tubes       | I - Insurance Inspection       | SF - Sloping Floor & Screen Tubes    | TV - Turbine Valves          |
| CH - Thrust Collar Inspection - HP | JB - JBR Inspection            | SO - Strainer Outage                 |                              |
| CL - Thrust Collar Inspection - LP | M - MATS Designated Outage     | SSH - Secondary Superheater Tubes    |                              |

**Ohio Valley Electric Corporation - Indiana-Kentucky Electric Corporation  
Unit Outage Schedule - 2022**

Date Issue: 8/7/2018

Issued By: Tim Fulk

			2022 Planned Outages											
Beginning Date	Ending Date	Days	January	February	March	April	May	June	July	August	September	October	November	December
<b>Clifty 1</b>			[Redacted]											
<b>Clifty 2</b>			[Redacted]											
<b>Clifty 3</b>			[Redacted]											
<b>Clifty 4</b>			[Redacted]											
<b>Clifty 5</b>			[Redacted]											
<b>Clifty 6</b>			[Redacted]											
<b>Kyger 1</b>			[Redacted]											
<b>Kyger 2</b>			[Redacted]											
<b>Kyger 3</b>			[Redacted]											
<b>Kyger 4</b>			[Redacted]											
<b>Kyger 5</b>			[Redacted]											
PJM No Fly Zone 6/13/22 to 9/9/22														

	Outage Days	Planned Availability
Clifty Creek	197	91.0%
Kyger Creek	196	89.3%
System	393	90.2%

- |                                    |                                |                                      |                              |
|------------------------------------|--------------------------------|--------------------------------------|------------------------------|
| AB - Air Heater Baskets            | CR - Catalyst Replacement      | ND - NDT Turbine Valve Bodies        | SV - Set Safety Valves       |
| BC - Boiler Chemical Clean         | GH - Generator Inspection - HP | PF - Furnace Floor & 1st Baffle Wall | TH - Turbine Inspection - HP |
| BF - JBR Booster Fan Rebuild       | GL - Generator Inspection - LP | RC - Retube Condenser                | TI - Turbine Inspection - IP |
| BT - Boiler & Turbine Maintenance  | GR - Generator Rewind          | RT - Reheat Tube Replacement         | TL - Turbine Inspection - LP |
| BW - Boiler Water Wall Tubes       | I - Insurance Inspection       | SF - Sloping Floor & Screen Tubes    | TV - Turbine Valves          |
| CH - Thrust Collar Inspection - HP | JB - JBR Inspection            | SO - Strainer Outage                 |                              |
| CL - Thrust Collar Inspection - LP | M - MATS Designated Outage     | SSH - Secondary Superheater Tubes    |                              |



**Ohio Valley Electric Corporation - Indiana-Kentucky Electric Corporation  
Unit Outage Schedule - 2023**

Date Issue: 8/7/2018

Issued By: Tim Fulk

			2023 Planned Outages											
Beginning Date	Ending Date	Days	January	February	March	April	May	June	July	August	September	October	November	December
<b>Clifty 1</b>														
[Outage Bar]														
<b>Clifty 2</b>														
[Outage Bar]														
<b>Clifty 3</b>														
[Outage Bar]														
<b>Clifty 4</b>														
[Outage Bar]														
<b>Clifty 5</b>														
[Outage Bar]														
<b>Clifty 6</b>														
[Outage Bar]														
<b>Kyger 1</b>														
[Outage Bar]														
<b>Kyger 2</b>														
[Outage Bar]														
<b>Kyger 3</b>														
[Outage Bar]														
<b>Kyger 4</b>														
[Outage Bar]														
<b>Kyger 5</b>														
[Outage Bar]														

PJM No Fly Zone 6/13/22 to 9/9/22

<b>Planned Outage Summary</b>		
	Outage Days	Planned Availability
Clifty Creek	182	91.7%
Kyger Creek	149	91.8%
System	332	91.7%

- |                                    |                                |                                      |                              |
|------------------------------------|--------------------------------|--------------------------------------|------------------------------|
| AB - Air Heater Baskets            | CR - Catalyst Replacement      | ND - NDT Turbine Valve Bodies        | SV - Set Safety Valves       |
| BC - Boiler Chemical Clean         | GH - Generator Inspection - HP | PF - Furnace Floor & 1st Baffle Wall | TH - Turbine Inspection - HP |
| BF - JBR Booster Fan Rebuild       | GL - Generator Inspection - LP | RC - Retube Condenser                | TI - Turbine Inspection - IP |
| BT - Boiler & Turbine Maintenance  | GR - Generator Rewind          | RT - Reheat Tube Replacement         | TL - Turbine Inspection - LP |
| BW - Boiler Water Wall Tubes       | I - Insurance Inspection       | SF - Sloping Floor & Screen Tubes    | TV - Turbine Valves          |
| CH - Thrust Collar Inspection - HP | JB - JBR Inspection            | SO - Strainer Outage                 |                              |
| CL - Thrust Collar Inspection - LP | M - MATS Designated Outage     | SSH - Secondary Superheater Tubes    |                              |

**Case No. 2018-00294  
Attachment 2 to Response to SC-1 Question No. 11(a)**

**Page 5 of 5  
Sinclair**

**CONFIDENTIAL INFORMATION REDACTED**

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 12**

**Responding Witness: David S. Sinclair**

Q-12. Identify the currently planned retirement date for each of the OVEC Units.

A-12. There are no planned retirement dates for OVEC's units. It is expected that OVEC will continue to operate the units at least until June 30, 2040, through the term of the Inter-Company Power Agreement.

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 13**

**Responding Witness: David S. Sinclair**

- Q-13. Produce the minutes from each meeting of the OVEC Board of Directors since January 1, 2015.
- A-13. See attached. Proposed final OVEC board minutes as routinely provided to and in the Company's possession are provided. Certain actions of OVEC's board are taken via unanimous written consent, but the Company does not routinely receive or possess completed final versions of such consents. Certain information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.

**OHIO VALLEY ELECTRIC CORPORATION**  
**Minutes of Special Meeting of the**  
**Board of Directors held December 1, 2015**

A Special Meeting of the Board of Directors of **OHIO VALLEY ELECTRIC CORPORATION** (OVEC) was called to order by Mr. Mark C. McCullough at 1 Riverside Plaza, Columbus, Ohio, on Tuesday, December 1, 2015, at 10:00 a.m., pursuant to notice duly given. On a motion duly made, seconded, and unanimously adopted, it was

**RESOLVED**, that in accordance with Article IV, Section 3 of the Code of Regulations of this Corporation, Mr. Mark C. McCullough be elected Chairman of this Meeting on December 1, 2015, in the absence of the President of this Corporation.

Mr. McCullough acted as Chairman of the meeting, and John D. Brodt, Chief Financial Officer, Secretary and Treasurer of the Corporation, acted as Secretary of the Meeting.

Mr. Brodt reported that the following Directors were present for the meeting:

Nicholas K. Akins (Phone)	Mark E. Miller
Thomas Alban	Donald A. Moul
Eric D. Baker (Phone)	Steven K. Nelson
Wayne D. Games	Patrick W. O'Loughlin
James R. Haney	Paul W. Thompson
Lana L. Hillebrand	John A. Verderame
Mark C. McCullough	

Mr. Brodt reported that the Minutes of the Special Meeting of the Board of Directors of this Corporation, held on December 5, 2014, have been sent to each of the Directors. He asked that, if there were no corrections, such minutes be approved in the form in which they were circulated. On a motion duly made, seconded, and unanimously adopted, it was

**RESOLVED**, that the Minutes of the Special Meeting of the Board of Directors of this Corporation, held on December 5, 2014, are approved.

At the request of Mr. McCullough, Mr. Justin Cooper reported on the 2013 – 2016 LEAN Cost Structure cost profile. Mr. Cooper reviewed the results of the 2015 continuous improvements (LEAN) reductions and the operating, maintenance, and capital cost benchmarking budgets. Mr. Cooper reported that OVEC's operating, maintenance, and capital



cost profile was projected to [REDACTED] in 2016 compared with 2013. The energy cost [REDACTED] was expected to be [REDACTED]. Sinclair

Mr. McCullough asked Mr. Robert Osborne to give an update on the boiler floor refractory wastage issue and the replacement of floor tubes. The replacement of floor tubes has occurred on three boilers and four more will be replaced in 2016. Mr. Osborne discussed unit reliability and process health of the units.

Mr. McCullough asked Mr. Clifford Carnes and Ms. Annette Hope to report on operating activities for the Clifty Creek and Kyger Creek Plants, respectively. Mr. Carnes and Ms. Hope reviewed operating statistics and environmental and safety records for 2015 at each plant. Mr. Carnes and Ms. Hope reported on the sustainability of the LEAN process and the Open Book Leadership.

Mr. McCullough asked Mr. Copper to review the 2016 Construction Budget and the 2017-2020 Construction Budget Forecast. Mr. Cooper commented that the 2016 Construction Budget is a [REDACTED] compared with the [REDACTED] annual capital spending prior to implementation of OVEC's LEAN initiative. Mr. Cooper reported that the Construction Budget for 2016 indicates estimated total expenditures of [REDACTED], representing [REDACTED] and [REDACTED].

[REDACTED] On a motion duly made, seconded, and unanimously adopted, it was

**RESOLVED**, that the OVEC-IKEC Construction Budget for 2016, indicating estimated total expenditures of [REDACTED] which totals [REDACTED], is approved.

Mr. McCullough asked Mr. Brown to give an update on the OVEC and IKEC environmental compliance and to report on future environmental capital projects. Mr. Brown reported on Section 316(b) of the Clean Water Act, Coal Combustion Residual (CCR) Rule, and Effluent Limitations Guidelines compliance. Mr. Brown indicated the estimated cost of compliance may reach [REDACTED] during the [REDACTED] time frame. Mr. Brown requested authorization to complete entrainment studies at Kyger Creek and Clifty Creek Stations associated with the initial phase of 316(b) compliance, to perform Phase I engineering studies on the boiler slag complexes and FGD wastewater treatment plant systems, to perform additional analyses using results and findings of Kyger Creek Dry Fly Ash Conversion Project Phase I engineering study, to perform compliance activities and evaluations associated with the CCR Rule at the Kyger Creek and Clifty Creek Stations, and to perform engineering study and

capital work associated with modifications to the Kyger Creek Landfill stackout pad and leachate collections systems. On a motion duly made, seconded, and unanimously adopted, it was

**RESOLVED**, that the Company is authorized to proceed to perform the following environmental compliance activities:

1. Complete entrainment studies and other compliance activities at the Kyger Creek and Clifty Creek Stations associated with the initial phase of 316(b) compliance;
2. Perform Phase I engineering studies on the boiler slag complexes and FGD wastewater treatment plant systems at the Kyger Creek and Clifty Creek Stations to evaluate capital costs and options for compliance with the final version of the Steam Electric Effluent Limitations Guidelines (ELGs);
3. Perform additional analyses using results and findings of Kyger Creek Dry Fly Ash Conversion Project Phase I engineering study relative to the final ELGs;
4. Perform compliance activities and evaluations associated with the CCR Rule at the Kyger Creek and Clifty Creek Stations;
5. Perform engineering study and capital work associated with modifications to the Kyger Creek Landfill stackout pad and leachate collections systems to meet NPDES water quality based limits.

The cost for the scope of work described above is forecasted to be a total of [REDACTED] for 2016 and 2017 inclusive. The results of these studies will be used to refine future environmental capital project costs prior to requesting the Boards' approval to complete each associated environmental capital project.

At the request of Mr. McCullough, Mr. Ken Tamms of the AEP Service Corporation reviewed the merchant plant analysis. A handout was provided to the Board, which indicated that [REDACTED]

At the request of Mr. McCullough, Mr. Charles West of the AEP Service Corporation discussed the coal and transportation contracts. A handout was provided to the Board, and a discussion followed describing the fuel supplies currently at each power plant as well as future commitments. Mr. West discussed [REDACTED] at both plants.

At the request of Mr. McCullough, Mr. Brodt provided information and discussed OVEC's year-to-date power costs estimated for 2015 and projections for 2016-2020. Mr. Brodt stated that based on current estimates OVEC expected to end 2015 with an average power cost of [REDACTED] and an available power use factor of [REDACTED]. Mr. Brodt stated that the

projected average power cost for OVEC power, delivered under the terms of the Inter-Company Power Agreement, ranges from [REDACTED] in 2016 to [REDACTED] in 2020 using an estimated available power use factor of [REDACTED].

Mr. McCullough asked Mr. Scott Cunningham to report on the OVEC Operating Committee. Mr. Cunningham reported that the PJM pseudo-tie was scheduled to start in June 2016 and that the Operating Committee was studying PJM membership for OVEC.

At the request of Mr. McCullough, Mr. Brodt reviewed the 2015 Service Corporation general expenditures, which were expected to be approximately [REDACTED]. Mr. Brodt requested authorization for 2016 general expenditures for services from the AEP Service Corporation up to [REDACTED]. The primary general expenditures are expected to be in the areas of operation and maintenance, environmental activities, fuel procurement, and coal transportation. Mr. Brodt stated that the 2016 Budget is similar to the 2015 Budget except that the 2016 Budget request of [REDACTED]

[REDACTED] On a motion duly made, seconded, and unanimously adopted, it was

**RESOLVED**, that the officers of Ohio Valley Electric Corporation may request and obligate Ohio Valley Electric Corporation to pay for general services, exclusive of services for specific projects previously approved, under the Agreement among American Gas and Electric Service Corporation (now American Electric Power Service Corporation), Ohio Valley Electric Corporation, and Indiana-Kentucky Electric Corporation dated December 15, 1956, in an amount which, when added to amounts paid for general services by Indiana-Kentucky Electric Corporation, exclusive of services for specific projects previously approved, would aggregate a maximum of [REDACTED] for calendar year 2016.

At the request of Mr. McCullough, Mr. Brodt reported on the status of the Corporation's finances. Mr. Brodt distributed to all members present a copy of the Treasurer's Report that included the following statistics:

**OHIO VALLEY ELECTRIC CORPORATION (OVEC)  
INDIANA-KENTUCKY ELECTRIC CORPORATION (IKEC)  
Treasurer's Report  
Boards of Directors' Meeting  
December 1, 2015**

	<u>OVEC</u>	<u>IKEC</u>	<u>Consolidated</u>
<b><u>EQUITY</u></b>			
Common Stock, 100,000 shares outstanding	\$ 10,000,000	\$ 3,400,000	\$ 10,000,000
Retained Earnings	7,771,843	-	7,771,843
Total Equity at October 31, 2015	<u>\$ 17,771,843</u>	<u>\$ 3,400,000</u>	<u>\$ 17,771,843</u>
(OVEC's ownership of IKEC's Capital Stock (17,000 shares) is eliminated in consolidation.)			
<b><u>CASH AND INVESTMENTS</u></b>			
Cash and Short-Term Investments	\$ 11,534,278	\$ -	\$ 11,534,278
Reserve Account - Long Term Investments	78,666,596	-	78,666,596
Total Cash and Investments at October 31, 2015	<u>\$ 90,200,874</u>	<u>\$ -</u>	<u>\$ 90,200,874</u>
<b><u>DIVIDENDS</u></b>			
Total 2015 Dividends	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
<b><u>LONG-TERM DEBT</u></b>			
2006 Senior Unsecured Notes, Series A, 5.80%, due February 15, 2026	\$ 245,132,192	\$ -	\$ 245,132,192
2006 Senior Unsecured Notes, Series B, 6.40% due June 15, 2040	58,583,884	-	58,583,884
2007 Senior Unsecured Notes, Series AA, AB & AC, 5.90%, due February 15, 2026	172,329,341	-	172,329,341
2007 Senior Unsecured Notes, Series BA, BB & BC, 6.50% due June 15, 2040	44,425,396	-	44,425,396
2008 Senior Unsecured Notes, Series A, 5.92%, due February 15, 2026	35,718,051	-	35,718,051
2008 Senior Unsecured Notes, Series B & C, 6.71%, due February 15, 2026	141,148,369	-	141,148,369
2008 Senior Unsecured Notes, Series D & E, 6.91% due June 15, 2040	85,617,277	-	85,617,277
2013 Senior Unsecured Notes, Series A, Floating Rate, due February 15, 2018	100,000,000	-	100,000,000
2009 Tax Exempt Bonds, \$100M Series A-D, Floating Rate, due February 1, 2026	100,000,000	-	100,000,000
2009 Tax Exempt Bonds, \$100M Series E, 5.625%, due October 1, 2019	100,000,000	-	100,000,000
2010 Tax Exempt Bonds, \$100M Series A & B, Floating Rate, due February 1, 2040	100,000,000	-	100,000,000
2012 Tax Exempt Bonds, \$200M Series A, 5%, due June 1, 2039	200,000,000	-	200,000,000
2012 Tax Exempt Bonds, \$100M Series B & C, Floating Rate, due June 1, 2040	100,000,000	-	100,000,000
Total Long-Term Debt Outstanding at October 31, 2015	<u>\$ 1,482,954,510</u>	<u>\$ -</u>	<u>\$ 1,482,954,510</u>
<b><u>SHORT-TERM DEBT</u></b>			
Total Short-Term Debt Outstanding at October 31, 2015	<u>\$ 20,000,000</u>	<u>\$ -</u>	<u>\$ 20,000,000</u>
<b><u>EMPLOYEE BENEFIT PLAN ASSETS</u></b>			
Pension Plan			\$ [REDACTED]
Supplemental Pension & Savings Plan			[REDACTED]
Union Retiree Medical VEBA Trust			[REDACTED]
Retiree Medical VEBA Trust			[REDACTED]
Retiree Life Insurance VEBA Trust			[REDACTED]
401(h) - Retiree Medical			[REDACTED]
Total Benefit Plan Assets at October 31, 2015			<u>\$ [REDACTED]</u>
<b><u>PLANT DECOMMISSIONING &amp; DEMOLITION (D&amp;D) FUND</u></b>			
Total D&D Assets at October 31, 2015	<u>\$ 18,155,970</u>	<u>\$ 25,042,284</u>	<u>\$ 43,198,254</u>

Mr. McCullough asked Mr. Brodt to discuss the OVEC 2015 financing plan. Mr. Brodt reported that OVEC's investment grade ratings of Baa3 (Moody's), BBB- (S&P), and BBB- (Fitch) had been affirmed with stable outlooks. Mr. Brodt stated that [REDACTED]

Mr. McCullough introduced Mr. Bob Bitter of Deloitte & Touche. Mr. Bitter reported that Deloitte & Touche just began its audit to certify the 2015 Financial Statements that would be finalized in April 2016.

Mr. McCullough asked Mr. Brown to discuss the Department of Energy (DOE) Arranged Power Agreement. Mr. Brown stated that DOE is working with a Sponsoring Company to provide power to DOE and end the Arranged Power Agreement with OVEC.

The Board moved to an Executive Session to hear the Human Resources Committee report.

There being no further business to come before the Board, the meeting was adjourned.

  
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Secretary  
OHIO VALLEY ELECTRIC CORPORATION

**OHIO VALLEY ELECTRIC CORPORATION**  
**Minutes of Special Meeting of the**  
**Board of Directors held December 1, 2016**

A Special Meeting of the Board of Directors of **OHIO VALLEY ELECTRIC CORPORATION** (OVEC) was called to order by the President at 1 Riverside Plaza, Columbus, Ohio, on Thursday, December 1, 2016, at 10:00 a.m., pursuant to notice duly given.

Nicholas K. Akins, President of the Corporation, acted as Chairman of the meeting, and John D. Brodt, Chief Financial Officer, Secretary and Treasurer of the Corporation, acted as Secretary of the Meeting.

Mr. Brodt reported that the following Directors were present for the meeting:

Nicholas K. Akins	Mark E. Miller
Thomas Alban	Donald A. Moul
Eric D. Baker	Patrick W. O'Loughlin
Wayne D. Games	Julie Sloat (Phone)
Lana L. Hillebrand	Paul W. Thompson
Mark C. McCullough	John A. Verderame

Mr. Brodt reported that the Minutes of the Special Meeting of the Board of Directors of this Corporation, held on December 1, 2015, have been sent to each of the Directors. He asked that, if there were no corrections, such minutes be approved in the form in which they were circulated. On a motion duly made, seconded, and unanimously adopted, it was

**RESOLVED**, that the Minutes of the Special Meeting of the Board of Directors of this Corporation, held on December 1, 2015, are approved.

At the request of Mr. Akins, Mr. Brodt reviewed the 2016 Service Corporation general expenditures, which were expected to be approximately [REDACTED]. Mr. Brodt requested authorization for 2017 general expenditures for services from the AEP Service Corporation up to [REDACTED]. The primary general expenditures are expected to be in the areas of operation and maintenance, environmental activities, fuel procurement, and coal transportation. Mr. Brodt stated that the 2017 Budget is similar to the 2016 Budget except that the 2017 Budget request of [REDACTED] [REDACTED] [REDACTED] [REDACTED]. The [REDACTED] [REDACTED] in the 2017 Budget is related to [REDACTED] [REDACTED] [REDACTED]

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[REDACTED] [REDACTED]. On a motion duly made, seconded, and  
unanimously adopted, it was

**RESOLVED**, that the officers of Ohio Valley Electric Corporation may request and obligate Ohio Valley Electric Corporation to pay for general services, exclusive of services for specific projects previously approved, under the Agreement among American Gas and Electric Service Corporation (now American Electric Power Service Corporation), Ohio Valley Electric Corporation, and Indiana-Kentucky Electric Corporation dated December 15, 1956, in an amount which, when added to amounts paid for general services by Indiana-Kentucky Electric Corporation, exclusive of services for specific projects previously approved, would aggregate a maximum of [REDACTED] for calendar year 2017.

Mr. Akins asked Mr. Mike Brown to give an update on the OVEC and IKEC environmental compliance status and to report on the work to develop cost estimates for future environmental capital projects. Mr. Brown reported on the status of developing cost estimates to comply with Effluent Limitations Guidelines, which include the construction of two closed loop boiler slag systems, two FGD wastewater ABMet and MBR treatment systems, and Kyger Creek dry fly ash conversion. In addition, Mr. Brown provided an update on cost estimates to comply with Section 316(b) and the Coal Combustion Residual (CCR) rule. OVEC's current environmental capital investment "best-case" cost estimate for these projects is [REDACTED], and the current "worst-case" cost estimate is [REDACTED]. An investment decision for additional funding for conceptual engineering and design will be required by year-end 2017.

At the request of Mr. Akins, Mr. Justin Cooper reported on the 2013 – 2017 LEAN Cost Structure cost profile. Mr. Cooper reviewed the results of the 2016 continuous improvements (LEAN) reductions and the operating, maintenance, and capital cost benchmarking budgets. Mr. Cooper reported that OVEC's operating, maintenance, and capital cost profile was projected to [REDACTED] in 2017 compared with 2013. The energy cost [REDACTED] [REDACTED].

Mr. Akins asked Mr. Cooper to review the 2017 Construction Budget and the 2018-2021 Construction Budget Forecast. Mr. Cooper commented that the 2017 Construction Budget is a [REDACTED] [REDACTED] with the original 2017 budget forecast with prioritization of economic benefit, risk, and fiscal impact. Mr. Akins requested that a list of future high-risk capital budget items be provided at the next meeting. Mr. Cooper reported that the Construction Budget for 2017 indicates estimated total expenditures of [REDACTED], representing



[REDACTED] On a motion duly made, seconded, and unanimously adopted, it was

**RESOLVED**, that the OVEC-IKEC Construction Budget for 2017, indicating estimated total expenditures of [REDACTED]

Mr. Akins asked Mr. Osborne to report on operating activities for the Clifty Creek and Kyger Creek plants. Mr. Osborne reviewed the operating statistics and discussed how the Open Book Leadership scoreboard is being used to track key areas of concern. Mr. Osborne also reviewed the 2016 safety performance statistics and the need to focus on recognizing hazards.

At the request of Mr. Akins, Mr. Ken Tamms of the AEP Service Corporation reviewed the merchant plant analysis. A handout was provided to the Board, which indicated that [REDACTED]

At the request of Mr. Akins, Mr. Brodt provided information and discussed OVEC's year-to-date power costs estimated for 2016 and projections for 2017-2021. Mr. Brodt stated that based on current estimates OVEC expected to end 2016 with an average power cost of [REDACTED] and an available power use factor of [REDACTED]. Mr. Brodt stated that the projected average power cost for OVEC power, delivered under the terms of the Inter-Company Power Agreement, ranges from [REDACTED] to [REDACTED] using an estimated available power use factor of [REDACTED].

Mr. Akins asked Mr. Scott Cunningham to report on the OVEC Operating Committee. Mr. Cunningham reported that the Operating Committee recommended a fuel cost policy revision to use replacement fuel cost versus weighted cost of inventory. This revision is expected to be made during the first quarter 2017. The Operating Committee made no recommendation to the Board to proceed with the integration of the OVEC-IKEC transmission system into PJM.

At the request of Mr. Akins, Mr. Brodt reported on the status of the Corporation's finances. Mr. Brodt distributed to all members present a copy of the Treasurer's Report that included the following statistics:



OHIO VALLEY ELECTRIC CORPORATION (OVEC)  
INDIANA-KENTUCKY ELECTRIC CORPORATION (IKEC)  
Treasurer's Report  
Boards of Directors' Meeting  
December 1, 2016

	<u>OVEC</u>	<u>IKEC</u>	<u>Consolidated</u>
<b><u>EQUITY</u></b>			
Common Stock, 100,000 shares outstanding	\$ 10,000,000	\$ 3,400,000	\$ 10,000,000
Retained Earnings	8,653,536	-	8,653,536
Total Equity at October 31, 2016	<u>\$ 18,653,536</u>	<u>\$ 3,400,000</u>	<u>\$ 18,653,536</u>
<small>(OVEC's ownership of IKEC's Capital Stock (17,000 shares) is eliminated in consolidation.)</small>			
<b><u>CASH AND INVESTMENTS</u></b>			
Cash and Short-Term Investments	\$ 46,793,708	\$ -	\$ 46,793,708
Employee PRB Benefits Reserve Account	77,697,759	-	77,697,759
Total Cash and Investments at October 31, 2016	<u>\$ 124,491,465</u>	<u>\$ -</u>	<u>\$ 124,491,465</u>
<b><u>DIVIDENDS</u></b>			
Total 2016 Dividends	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
<b><u>LONG-TERM DEBT</u></b>			
2006 Senior Unsecured Notes, Series A, 5.80%, due February 15, 2026	\$ 227,600,578	\$ -	\$ 227,600,578
2006 Senior Unsecured Notes, Series B, 6.40% due June 15, 2040	57,576,242	-	57,576,242
2007 Senior Unsecured Notes, Series AA, AB & AC, 5.90%, due February 15, 2040	160,320,832	-	160,320,832
2007 Senior Unsecured Notes, Series BA, BB & BC, 6.50% due June 15, 2040	43,682,246	-	43,682,246
2008 Senior Unsecured Notes, Series A, 5.92%, due February 15, 2026	33,231,842	-	33,231,842
2008 Senior Unsecured Notes, Series B & C, 6.71%, due February 15, 2026	131,104,353	-	131,104,353
2008 Senior Unsecured Notes, Series D & E, 6.81% due June 15, 2040	84,231,146	-	84,231,146
2013 Senior Unsecured Notes, Series A, Floating Rate, due February 15, 2016	100,000,000	-	100,000,000
2009 Tax Exempt Bonds, \$100M Series A-D, Floating Rate, due February 1, 2026	100,000,000	-	100,000,000
2009 Tax Exempt Bonds, \$100M Series E, 5.625%, due October 1, 2019	100,000,000	-	100,000,000
2010 Tax Exempt Bonds, \$100M Series A & B, Floating Rate, due February 1, 2040	100,000,000	-	100,000,000
2012 Tax Exempt Bonds, \$200M Series A, 5%, due June 1, 2039	200,000,000	-	200,000,000
2012 Tax Exempt Bonds, \$100M Series B & C, Floating Rate, due June 1, 2040	100,000,000	-	100,000,000
Total Long-Term Debt Outstanding at October 31, 2016	<u>\$ 1,437,747,039</u>	<u>\$ -</u>	<u>\$ 1,437,747,039</u>
<b><u>SHORT-TERM DEBT</u></b>			
Total Short-Term Debt Outstanding at October 31, 2016	<u>\$ 85,000,000</u>	<u>\$ -</u>	<u>\$ 85,000,000</u>
<b><u>EMPLOYEE BENEFIT PLAN ASSETS</u></b>			
Pension Plan			\$ [REDACTED]
Supplemental Pension & Savings Plan			[REDACTED]
Union Retiree Medical VEBA Trust			[REDACTED]
Retiree Medical VEBA Trust			[REDACTED]
Retiree Life Insurance VEBA Trust			[REDACTED]
401(h)			[REDACTED]
Total Benefit Plan Assets at October 31, 2016			<u>\$ [REDACTED]</u>
<b><u>PLANT DECOMMISSIONING &amp; DEMOLITION (D&amp;D) FUND</u></b>			
Total D&D Assets at October 31, 2016	<u>\$ 19,001,239</u>	<u>\$ 28,239,806</u>	<u>\$ 45,241,045</u>

Mr. Akins introduced Mr. Bob Bitter of Deloitte & Touche. Mr. Bitter reported that Deloitte & Touche just began its audit to certify the 2016 Financial Statements that would be finalized in April 2017.

The Board moved to an Executive Session.

There being no further business to come before the Board, the meeting was adjourned.

  
Secretary  
OHIO VALLEY ELECTRIC CORPORATION

A Special Meeting of the Board of Directors of **OHIO VALLEY ELECTRIC CORPORATION** (OVEC) via teleconference was called to order by the President on Monday, January 30, 2017, at 8:45 a.m., pursuant to notice duly given.

Nicholas K. Akins, President of the Corporation, acted as Chairman of the meeting, and John D. Brodt, Chief Financial Officer, Secretary and Treasurer of the Corporation, acted as Secretary of the meeting.

Mr. Brodt reported that the following Directors were present for the meeting:

Nicholas K. Akins	Mark E. Miller
Thomas Alban	Steven K. Nelson
Eric D. Baker	Patrick W. O'Loughlin
Lee E. Barrett	David W. Pinter
Wayne D. Games	Julie Sloat
Mark C. McCullough	Paul W. Thompson
John N. Voyles, Jr.	

Mr. Akins advised that Donald A. Moul would be resigning from the OVEC and IKEC Boards of Directors and as a member of both Executive Committees, pending the election of his replacement. Mr. Akins recommended that Mr. David W. Pinter, Executive Director, Business Development for FirstEnergy Corp., be nominated to succeed Mr. Moul on both the OVEC and IKEC Boards of Directors and be appointed to the Executive Committees of both OVEC and IKEC. Mr. Akins also recommended that Lee E. Barrett be appointed to the OVEC Executive Committee. On a motion duly made, seconded, and unanimously adopted, it was

**RESOLVED**, that subject to any necessary action by the Federal Energy Regulatory Commission under Section 305 of the Federal Power Act, Mr. David W. Pinter be elected a Director and appointed a member of the Executive Committee of this Corporation; and further

**RESOLVED**, that subject to any necessary action by the Federal Energy Regulatory Commission under Section 305 of the Federal Power Act, Mr. Lee E. Barrett be appointed a member of the Executive Committee of this Corporation.

Mr. Akins asked Mr. Justin Cooper to review the handout, "OVEC in PJM Cost/Benefit Analysis," prepared by the OVEC Operating Committee. Mr. Cooper reported that a [REDACTED]

[REDACTED]

[REDACTED]. He also stated that some costs are approximations and difficult to quantify at this time. The Board provided feedback to Mr. Cooper for OVEC to review the possible additional benefit from energy value from changing the delivery point.

At the request of Mr. Akins, Mr. Brian Chisling, with Simpson Thacher & Bartlett LLP, highlighted the plan of OVEC moving forward with the process of applying for membership in PJM. The motion was duly made and seconded. The resolution was adopted based upon a vote of [REDACTED]

The motion was approved as

**RESOLVED**, that Ohio Valley Electric Corporation is to move forward with the process of applying for membership in PJM to further validate assumptions prior to a final Board vote to join PJM.

There being no further business to come before the Board, the meeting was adjourned.

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Secretary  
**OHIO VALLEY ELECTRIC CORPORATION**

OHIO VALLEY ELECTRIC CORPORATION  
Minutes of Special Meeting of the  
Board of Directors held December 8, 2017

A Special Meeting of the Board of Directors of **OHIO VALLEY ELECTRIC CORPORATION** (OVEC) was called to order by the President at 1 Riverside Plaza, Columbus, Ohio, on Friday, December 8, 2017, at 2:00 p.m., pursuant to notice duly given.

Nicholas K. Akins, President of the Corporation, acted as Chairman of the meeting, and John D. Brodt, Chief Financial Officer, Secretary and Treasurer of the Corporation, acted as Secretary of the Meeting.

Mr. Brodt reported that the following Directors were present for the meeting:

Nicholas K. Akins	Mark C. McCullough
Thomas Alban	Steven K. Nelson
Lonnie E. Beller	Patrick W. O'Loughlin
Wayne D. Games	David W. Pinter (Phone)
James R. Haney (Phone)	Paul W. Thompson
Lana L. Hillebrand	John A. Verderame

Mr. Brodt reported that the Minutes of the Special Meeting of the Board of Directors of this Corporation, held on December 1, 2016, have been sent to each of the Directors. He asked that, if there were no corrections, such minutes be approved in the form in which they were circulated. On a motion duly made, seconded, and unanimously adopted, it was

**RESOLVED**, that the Minutes of the Special Meeting of the Board of Directors of this Corporation, held on December 1, 2016, are approved.

At the request of Mr. Akins, Mr. Brodt reviewed the 2017 Service Corporation general expenditures, which were expected to be approximately [REDACTED]. Mr. Brodt requested authorization for 2018 general expenditures for services from the AEP Service Corporation up to [REDACTED]. The primary general expenditures are expected to be in the areas of operation and maintenance, environmental activities, fuel procurement, and coal transportation. Mr. Brodt stated that the 2018 Budget is similar to the 2017 Budget except that the 2018 Budget request of [REDACTED] [REDACTED] the 2017 Budget request of [REDACTED]. The [REDACTED]  
[REDACTED] [REDACTED] [REDACTED] [REDACTED]

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[REDACTED]. On a motion duly made, seconded, and unanimously adopted, it was

**RESOLVED**, that the officers of Ohio Valley Electric Corporation may request and obligate Ohio Valley Electric Corporation to pay for general services, exclusive of services for specific projects previously approved, under the Agreement among American Gas and Electric Service Corporation (now American Electric Power Service Corporation), Ohio Valley Electric Corporation, and Indiana-Kentucky Electric Corporation dated December 15, 1956, in an amount which, when added to amounts paid for general services by Indiana-Kentucky Electric Corporation, exclusive of services for specific projects previously approved, would aggregate a maximum of [REDACTED] for calendar year 2018.

At the request of Mr. Akins, Mr. Justin Cooper reported on the 2018 LEAN demand costs. Mr. Cooper reviewed the results of the 2017 continuous improvements (LEAN) reductions and the operating, maintenance, and capital cost benchmarking budgets. Mr. Cooper reported that OVEC's operating, maintenance, and capital cost profile was projected to [REDACTED] in 2018 compared with 2013. The energy cost [REDACTED] [REDACTED].

Mr. Akins asked Mr. Mike Brown to give an update on the OVEC and IKEC environmental compliance status and to report on the work to develop cost estimates for future environmental capital projects. Mr. Brown reported that the OVEC and IKEC 2017 ozone season NO<sub>x</sub> performance was better than expected. The 2017 ozone season NO<sub>x</sub> emissions were reduced by approximately [REDACTED] at Kyger Creek and [REDACTED] at Clifty Creek compared with the 2012-2016 average. Mr. Brown reported on the status of developing cost estimates to comply with Effluent Limitations Guidelines, [REDACTED], and Kyger Creek dry fly ash conversion. In addition, Mr. Brown provided an update on cost estimates to comply with Section 316(b) and the Coal Combustion Residual (CCR) rule. OVEC's current environmental capital investment "best-case" cost estimate for these projects is [REDACTED], and the current "worst-case" cost estimate is [REDACTED]. An investment decision for additional funding for conceptual engineering and design will be required by mid-year 2019 to mid-year 2020.

Mr. Akins asked Mr. Cooper to review the 2018 Construction Budget and the 2019-2022 Construction Budget Forecast. Mr. Cooper commented that the 2018 Construction Budget is a [REDACTED] compared with the original 2018 budget forecast with prioritization of

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economic benefit, risk, and fiscal impact. Mr. Cooper reported that the Construction Budget for 2018 indicates estimated total expenditures of [REDACTED], representing [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] On a motion duly made, seconded, and unanimously adopted, it was

**RESOLVED**, that the OVEC-IKEC Construction Budget for 2018, indicating estimated total expenditures of [REDACTED] [REDACTED] [REDACTED]

Mr. Akins asked Mr. Osborne to report on operating activities for the Clifty Creek and Kyger Creek plants. Mr. Osborne reviewed the operating statistics and the results of the 2017 Culture Survey. Mr. Osborne recognized that the Clifty Creek employees completed one year without a recordable injury. Mr. Osborne asked Clifty Creek Plant Manager Cliff Carnes and Kyger Creek Plant Manager Annette Hope to report on the 2017 Strategic Plan for each respective location highlighting three areas of success and three areas of opportunities.

Mr. Akins asked Mr. Scott Cunningham to report on the OVEC Operating Committee. Mr. Cunningham reviewed a projected OVEC-PJM integration timeline of the basic steps OVEC intends to pursue regarding full integration into PJM.

At the request of Mr. Akins, Mr. Brodt reported on the status and timeline of the Corporation's finance activities. Mr. Brodt distributed to all members present a copy of the Treasurer's Report that included the following statistics:

OHIO VALLEY ELECTRIC CORPORATION (OVEC)  
INDIANA-KENTUCKY ELECTRIC CORPORATION (IKEC)  
Treasurer and Finance Report  
Boards of Directors' Meeting  
December 8, 2017

	OVEC	IKEC	Consolidated
<b>CASH AND INVESTMENTS</b>			
Cash and Short-Term Investments	\$ 53,878,779		\$ 53,878,779
Employee PRB Benefits Reserve Account	71,625,576		71,625,576
Debt Reserve Account	20,306,082		20,306,082
Total Cash and Investments at October 31, 2017	<u>\$ 145,810,437</u>		<u>\$ 145,810,437</u>
<b>PLANT DECOMMISSIONING &amp; DEMOLITION (D&amp;D) FUND</b>			
Total D&D Assets at October 31, 2017	<u>\$ 21,892,091</u>	<u>\$ 30,195,452</u>	<u>\$ 52,087,543</u>
<b>EMPLOYEE BENEFIT PLAN ASSETS</b>			
Pension Plan			\$ [REDACTED]
Supplemental Pension & Savings Plan			[REDACTED]
Union Retiree Medical VEBA Trust			[REDACTED]
Retiree Medical VEBA Trust			[REDACTED]
Retiree Life Insurance VEBA Trust			[REDACTED]
Retiree Medical 401(h)			[REDACTED]
Total Benefit Plan Assets at October 31, 2017			<u>\$ [REDACTED]</u>
<b>EQUITY</b>			
Common Stock, 100,000 shares outstanding	\$ 10,000,000	\$ 3,400,000	\$ 10,000,000
Retained Earnings	9,893,759	-	9,893,759
Total Equity at October 31, 2017	<u>\$ 19,893,759</u>	<u>\$ 3,400,000</u>	<u>\$ 19,893,759</u>
(OVEC's ownership of IKEC's Capital Stock (17,000 shares) is eliminated in consolidation.)			
<b>LONG-TERM DEBT</b>			
2006 Senior Unsecured Notes, Series A, 5.80%, due February 15, 2026	\$ 209,037,387		\$ 209,037,387
2006 Senior Unsecured Notes, Series B, 6.40% due June 15, 2040	56,503,080		56,503,080
2007 Senior Unsecured Notes, Series AA, AB & AC, 5.90%, due February 15, 2026	147,593,370		147,593,370
2007 Senior Unsecured Notes, Series BA, BB & BC, 6.50% due June 15, 2040	42,890,007		42,890,007
2008 Senior Unsecured Notes, Series A, 5.92%, due February 15, 2026	30,595,859		30,595,859
2008 Senior Unsecured Notes, Series B & C, 6.71%, due February 15, 2026	120,374,809		120,374,809
2008 Senior Unsecured Notes, Series D & E, 6.91% due June 15, 2040	82,747,579		82,747,579
2017 Senior Unsecured Notes, Series A, Floating Rate, due August 4, 2022	100,000,000		100,000,000
2009 Tax Exempt Bonds, \$100M Series A-D, Floating Rate, due February 1, 2026	75,000,000		75,000,000
2009 Tax Exempt Bonds, \$100M Series E, 5.625%, due October 1, 2019	100,000,000		100,000,000
2010 Tax Exempt Bonds, \$100M Series A & B, Floating Rate, due February 1, 2040	100,000,000		100,000,000
2012 Tax Exempt Bonds, \$200M Series A, 5%, due June 1, 2039	200,000,000		200,000,000
2012 Tax Exempt Bonds, \$100M Series B & C, Floating Rate, due June 1, 2040	100,000,000		100,000,000
Total Long-Term Debt Outstanding at October 31, 2017	<u>\$ 1,364,742,091</u>		<u>\$ 1,364,742,091</u>
<b>SHORT-TERM DEBT</b>			
\$200M Revolving Credit Facility (extension date November 14, 2019)			
Total Short-Term Debt Outstanding at October 31, 2017	<u>\$ 85,000,000</u>		<u>\$ 85,000,000</u>
<b>CORPORATE UNSECURED CREDIT RATINGS</b>			
Standard & Poor's (rating affirmed February 13, 2017)		BBB-, Stable Outlook	
Fitch (rating affirmed November 14, 2017)		BBB-, Negative Outlook	
Moody's (rating downgrade December 20, 2016)		Ba1, Negative Outlook	
<b>FINANCE WORKING GROUP</b>			
[REDACTED]			



At the request of Mr. Akins, Mr. Brodt provided information and discussed OVEC's year-to-date power costs estimated for 2017 and projections for 2018-2022. Mr. Brodt stated that based on current estimates OVEC expected to end 2017 with an average power cost of [REDACTED] and an available power use factor of [REDACTED]. Mr. Brodt stated that the projected average power cost for OVEC power, delivered under the terms of the Inter-Company Power Agreement, ranges from [REDACTED] in 2018 to [REDACTED] in 2022 using an estimated available power use factor of [REDACTED].

Mr. Akins introduced Mr. Bob Bitter of Deloitte & Touche. Mr. Bitter reported that Deloitte & Touche just began its audit to certify the 2017 Financial Statements that would be finalized in April 2018.

The OVEC and IKEC Boards of Directors recognized John D. Brodt for his contributions to the corporations upon his upcoming January 1, 2018, retirement from the Company. On a motion duly made, seconded, and unanimously adopted

**WHEREAS**, John D. Brodt has provided exemplary leadership and guidance to OVEC-IKEC during a period of unprecedented change in the electric utility industry throughout his career; and

**WHEREAS**, John D. Brodt has drawn upon the wisdom and experience he has gained as Secretary and Treasurer/Chief Financial Officer, which enabled him to provide dedicated and effective service to the Company, to the electric utility industry and to his community during a tenure as Secretary and Treasurer/Chief Financial Officer that began in 1988.

**NOW, THEREFORE BE IT**

**RESOLVED**, that John D. Brodt is recognized by the Directors of OVEC and IKEC for his steadfast commitment and superb judgment throughout his years of illustrious service to the Company; and further

**RESOLVED**, that the Directors of OVEC and IKEC hereby acknowledge the important contributions made by John D. Brodt to the success, growth and well-being of the Company during a most challenging period in his history; and further

**RESOLVED**, that the Directors of OVEC and IKEC thank John D. Brodt for his 41 years of service and extend their best wishes upon his upcoming retirement from the Company, along with their sincere desire that his retirement years will be long, enjoyable and fulfilling; and further

**RESOLVED**, that a copy of these resolutions and their preambles shall be delivered to John D. Brodt as an expression of the deep appreciation and hearty good wishes of the Directors of OVEC and IKEC upon his retirement.

Sinclair

The Board moved to an Executive Session.

There being no further business to come before the Board, the meeting was adjourned.

A handwritten signature in black ink, appearing to be "J. G. S.", written over a horizontal line.

Secretary

OHIO VALLEY ELECTRIC CORPORATION

A Special Meeting of the Board of Directors of OHIO VALLEY ELECTRIC CORPORATION (OVEC) via teleconference was called to order by the President on Wednesday, February 21, 2018, at 9:00 a.m., pursuant to notice duly given.

Nicholas K. Akins, President of the Corporation, acted as Chairman of the meeting, and Justin J. Cooper, Chief Financial Officer, Secretary and Treasurer of the Corporation, acted as Secretary of the meeting.

Mr. Cooper reported that the following Directors were present for the meeting:

Nicholas K. Akins	Mark C. McCullough
Thomas Alban	Mark E. Miller
Eric D. Baker	Steven K. Nelson
Lonnie E. Bellar	Patrick W. O'Loughlin
Wayne D. Games	David W. Pinter
James R. Haney	Paul W. Thompson
Lana L. Hillebrand	John A. Verderame

At the request of Mr. Akins, Mr. Brian Chisling, with Simpson Thacher & Bartlett LLP, reviewed the Cost/Benefit Analysis of OVEC integrating into PJM. Mr. Chisling stated that, as specified in such analysis, there would be [REDACTED]

[REDACTED]. On a motion duly made, seconded, and unanimously adopted, it was

**RESOLVED**, that in accordance with the order of the Federal Energy Regulatory Commission (FERC) approving OVEC's application for membership in PJM Interconnection, L.L.C. (PJM), previously provided to the Board (the "FERC PJM Order"), OVEC is hereby authorized and approved to execute and deliver all of the agreements and other documents described therein and otherwise in accordance with the rules and regulations of PJM (together, the "Integration Agreements") in order for OVEC to become a full member of, and fully integrate the OVEC and IKEC generating facilities and transmission system into, PJM; and it is further

**RESOLVED**, that, in furtherance of the foregoing, any Officer of OVEC (each an "Authorized Officer") is hereby authorized, approved and directed in the name of and on behalf of OVEC, to execute and deliver such Integration Agreements with such changes, deletions and additions thereto as deemed appropriate or proper by any such Authorized Officer, the execution and delivery of such Integration Agreements being conclusive evidence of such determination; and it is further

Sinclair

**RESOLVED**, that each Officer of OVEC is authorized and directed to prepare, execute and file, or cause to be prepared, executed and filed, all agreements, certificates, statements, reports, documents, instruments and papers required to be filed by OVEC in accordance with the Integration Agreements, the FERC PJM Order and the PJM tariff and in order for OVEC to comply with all applicable requirements and rules and regulations of PJM, FERC and applicable law and any other administrative or governmental agency (domestic or foreign) in connection with the Integration Agreements, the FERC PJM Order or any other matter relating to PJM integration and to prepare, sign, seal, execute, file, record and deliver such other agreements, certificates, statements, termination and other notices, reports, documents, instruments and papers, from time to time necessary, desirable or appropriate, as may be executed by any such Officer pursuant to the Integration Agreements, the FERC PJM Order, the PJM tariff and these resolutions and the transactions contemplated thereby and hereby, and to do any and all other acts and things, in each case to effectuate the purpose and intent of these resolutions.

There being no further business to come before the Board, the meeting was adjourned.

  
\_\_\_\_\_  
**Secretary**  
**OHIO VALLEY ELECTRIC CORPORATION**

Attachment to Response to SC-1 Question No. 13  
**OHIO VALLEY ELECTRIC CORPORATION**  
**Minutes of Special Meeting of the**  
**Board of Directors' Meeting via Teleconference**  
**April 27, 2018**

A Special Meeting of the Board of Directors of **OHIO VALLEY ELECTRIC CORPORATION** (OVEC) via teleconference was called to order by Mark C. McCullough on Friday, April 27, 2018, at 8:30 a.m., pursuant to notice duly given. On a motion duly made, seconded, and unanimously adopted, it was

**RESOLVED**, that in accordance with Article IV, Section 3 of the Code of Regulations of this Corporation, Mr. Mark C. McCullough be elected Chairman of this Meeting on April 27, 2018 in the absence of the President of this Corporation.

Mr. McCullough acted as Chairman of the meeting, and Justin J. Cooper, Chief Financial Officer, Secretary and Treasurer of the Corporation, acted as Secretary of the meeting.

Mr. Cooper reported that the following Directors were present for the meeting:

Thomas Alban	Mark C. McCullough
Eric D. Baker	Mark E. Miller
Lonnie E. Bellar	Steven K. Nelson
Wayne D. Games	Patrick W. O'Loughlin
James R. Haney	Julie Sloat
Lana L. Hillebrand	Paul W. Thompson
John A. Verderame	

**WHEREAS**, effective as of the election of the persons specified herein, Mr. Nicholas K. Akins will be resigning as a member of the Board of Directors (Board) of each of OVEC and IKEC and as a member of the Executive Committee and as president of OVEC and IKEC;

**WHEREAS**, effective as of the election of the persons specified herein, Mr. Mark C. McCullough will be resigning as a member and Chairman of the Human Resources Committee of OVEC; and

**WHEREAS**, OVEC and IKEC management have recommended to the remaining members of their respective Boards those persons named below to be elected and/or appointed as Directors to the Boards, as officers and/or as members of Committees of OVEC and IKEC as described below.

**NOW, THEREFORE, BE IT:**

**RESOLVED**, that, subject to any necessary action by the Federal Energy Regulatory Commission (FERC) under Section 305 of the Federal Power Act, Mr. Mark C. McCullough be elected as the president of OVEC; and it is further

**Sinclair**

**RESOLVED**, that, subject to any necessary action by FERC, under Section 305 of the Federal Power Act, Mr. Chris T. Beam be elected a Director of the Board of OVEC and appointed as a member of the Human Resources Committee of OVEC; and it is further

**RESOLVED**, that, subject to any necessary action by FERC under Section 305 of the Federal Power Act, Ms. Julie Sloat be appointed as a member of the Executive Committee of OVEC; and it is further

**RESOLVED**, that subject to any necessary action by FERC under Section 305 of the Federal Power Act, Ms. Lana L. Hillebrand be appointed as Chairwoman of the Human Resources Committee of OVEC.

At the request of Mr. McCullough, Mr. Brian Chisling, with Simpson Thacher & Bartlett LLP, [REDACTED]  
[REDACTED]  
[REDACTED]

There being no further business to come before the Board, the meeting was adjourned.

  
\_\_\_\_\_  
Secretary  
**OHIO VALLEY ELECTRIC CORPORATION**

**OHIO VALLEY ELECTRIC CORPORATION  
Minutes of Special Meeting of the  
Board of Directors' Meeting via Teleconference  
June 15, 2018**

A Special Meeting of the Board of Directors of **OHIO VALLEY ELECTRIC CORPORATION (OVEC)** via teleconference was called to order by the President on Friday, June 15, 2018, at 3:00 p.m., pursuant to notice duly given.

Mark C. McCullough, President of the Corporation, acted as Chairman of the meeting, and Justin J. Cooper, Chief Financial Officer, Secretary and Treasurer of the Corporation, acted as Secretary of the meeting.

Mr. Cooper reported that the following Directors were present for the meeting:

Thomas Alban  
Eric D. Baker  
Lonnie E. Bellar  
Mark C. McCullough

Mark E. Miller  
Patrick W. O'Loughlin  
Julie Sloat  
John A. Verderame

At the request of Mr. McCullough, Mr. Brian Chisling, with Simpson Thacher & Bartlett LLP, [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED].

There being no further business to come before the Board, the meeting was adjourned.

  
\_\_\_\_\_  
Secretary  
**OHIO VALLEY ELECTRIC CORPORATION**

A Special Meeting of the Board of Directors of **OHIO VALLEY ELECTRIC CORPORATION** (OVEC) via teleconference was called to order by the President on Thursday, June 28, 2018, at 3:00 p.m., pursuant to notice duly given.

Mark C. McCullough, President of the Corporation, acted as Chairman of the meeting, and Justin J. Cooper, Chief Financial Officer, Secretary and Treasurer of the Corporation, acted as Secretary of the meeting.

Mr. Cooper reported that the following Directors were present for the meeting:

Thomas Alban	Mark C. McCullough
Eric D. Baker	Mark E. Miller
Christian T. Beam	Steven K. Nelson
Lonnie E. Bellar	Patrick W. O'Loughlin
James R. Haney	Julie Sloat
Lana L. Hillebrand	John A. Verderame
Wayne D. Games	

At the request of Mr. McCullough, Mr. Brian Chisling, with Simpson Thacher & Bartlett LLP, [REDACTED]

[REDACTED] After discussion on these topics and related matters by the Board, a motion duly made, seconded, and adopted, it was:

**RESOLVED**, that OVEC's integration into PJM as a full member should proceed, with a target integration date of December 1, 2018; and that certain PJM administrative charges not otherwise payable absent such integration are to be properly allocated to those Sponsoring Companies under the Inter-Company Power Agreement that participate in the PJM market.

There being no further business to come before the Board, the meeting was adjourned.

  
\_\_\_\_\_  
Secretary  
OHIO VALLEY ELECTRIC CORPORATION



**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 14**

**Responding Witness: David S. Sinclair**

- Q-14. Produce any and all presentations made to the OVEC Board of Directors regarding environmental capital projects subsequent to the presentation made on October 22, 2014.
- A-14. Responsive excerpts from presentations made to the OVEC Board of Directors regarding environmental capital projects subsequent to the presentation made on October 22, 2014, and through the end of November 2018, are attached. Certain information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.

**OHIO VALLEY ELECTRIC CORPORATION (OVEC)  
INDIANA-KENTUCKY ELECTRIC CORPORATION (IKEC)  
Agenda  
Boards of Directors' Meeting  
December 1, 2015**



# OVEC Future Environmental Capital Projects – Projected Costs and Power Cost Impact (in thousands of dollars)

Project	Regulatory Driver	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
<b>Landfill Expansions:</b>											
Kyger FGD Landfill - Phase 2 & 3	Landfill Expansion				█	█	█		█	█	█
Clifty FGD Landfill - Phase 2 & 3	Landfill Expansion										█
<b>316 (b) Compliance</b>											
Clifty compliance with 316(b)	316(b) Rule	█	█								
Kyger compliance with 316(b)	316(b) Rule										
<b>Dry Fly Ash Conversion (Kyger)</b>											
Kyger Dry Fly Ash Conversion	ELG										
Kyger New North Settlement Pond - WWT	ELG/CCR Rules										
Kyger South Fly Ash Pond Closure	ELG/CCR Rules										
<b>Other ELG/CCR/NPDES Compliance</b>											
Kyger BioReactor - FGD WWTP	ELG										
Kyger Dry Conversion/Closed Loop Boiler Slag Study & CCR Compliance	ELG/CCR Rules	█	█	█							
Clifty BioReactor - FGD WWTP	ELG										
Clifty Dry Conversion/Closed Loop Boiler Slag Study & CCR Compliance	ELG/CCR Rules	█	█	█							
Kyger Landfill Water Compliance	NPDES										
<b>Total Major Environmental Projects</b>		█	█	█	█	█	█	█	█	█	█

**Impact to OVEC-IKEC Power Cost -**

Long Term Debt Expense -	█	█	█	█	█	█	█	█	█	█	█
<b>Total Debt Expense (ICPA Component A)</b>	█	█	█	█	█	█	█	█	█	█	█
<b>Projected Power Cost \$/MWhr</b>	█	█	█	█	█	█	█	█	█	█	█
Projected Power Cost \$/MWhr	█	█	█	█	█	█	█	█	█	█	█
Projected Power Cost \$/MWhr	█	█	█	█	█	█	█	█	█	█	█

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**OHIO VALLEY ELECTRIC CORPORATION (OVEC)  
INDIANA-KENTUCKY ELECTRIC CORPORATION (IKEC)  
OVEC-IKEC Section 316(b), ELG, Water Quality Standards,  
and CCR Studies and Evaluations  
Boards of Directors' Meeting  
December 1, 2015**

**OVEC-IKEC**

**RESOLVED**, that the Company is authorized to proceed to perform the following environmental compliance activities:

1. Complete entrainment studies and other compliance activities at the Kyger Creek and Clifty Creek Stations associated with the initial phase of 316(b) compliance;
2. Perform Phase I engineering studies on the boiler slag complexes and FGD wastewater treatment plant systems at the Kyger Creek and Clifty Creek Stations to evaluate capital costs and options for compliance with the final version of the Steam Electric Effluent Limitations Guidelines (ELGs);
3. Perform additional analyses using results and findings of Kyger Creek Dry Fly Ash Conversion Project Phase I engineering study relative to the final ELGs;
4. Perform compliance activities and evaluations associated with the CCR Rule at the Kyger Creek and Clifty Creek Stations;
5. Perform engineering study and capital work associated with modifications to the Kyger Creek Landfill stackout pad and leachate collections systems to meet NPDES water quality based limits.

The cost for the scope of work described above is forecasted to be a total of [REDACTED] [REDACTED]. The results of these studies will be used to refine future environmental capital project costs prior to requesting the Boards' approval to complete each associated environmental capital project.

**CONFIDENTIAL INFORMATION REDACTED**

**OHIO VALLEY ELECTRIC CORPORATION  
(OVEC) INDIANA-KENTUCKY ELECTRIC  
CORPORATION (IKEC) Agenda  
Boards of Directors' Meeting  
July 29, 2016**



# Boards of Directors' Informational Meeting

Environmental Compliance Update

July 29, 2016

# Environmental Compliance Update

From December 2015 Board Meeting

- **Implementing Strategy to Refine Capital Forecast for ELG, 316(b) and CCR Compliance activities**
  - ELG rule became effective on January 4, 2016, CCR Rule became effective on October 19, 2016, 316(b) Rule became effective on October 14, 2014
- **Environmental Subcommittee Formed**
  - Two meetings held – June 7 at Clifty Creek and July 19 (conference call), a third meeting will be held in the fall
- **Engineering Studies To Update Capital Forecast Initiated**
  - Project Requirements Established
  - Risk Balanced Technical Options (RBTO) Approach

# Environmental Compliance Update

## Effluent Limitation Guidelines

- **Risk Balanced Technical Options (RBTO) Approach**

- RBTO approach under way for Clifty Creek and Kyger Creek
  - ELG waste streams – Boiler Slag Ponds, FGD Wastewater Streams, Landfill Leachate, and Fly Ash Pond (Kyger only)
  - Water Balance Studies have been initiated – results will be used to increase accuracy of analysis and to augment analytical data used to design required treatment technologies.
- Leveraging AEP Engineering
  - Expect the RBTO approach to be completed sometime this fall. The selected technology options will be reviewed and discussed with the Environmental Subcommittee prior to the Board meeting in December.
  - Technology Options will also allow for a refinement in the capital forecast.
- Phased Approval
  - Projects will be approved in a phased approach.



# Environmental Compliance Update

## Effluent Limitation Guidelines

- **Clifty Creek NPDES Permit Renewal**

- NPDES permit renewal application filing deadline is August 4, 2016.
- The filing will include ELG applicability date justification with a phased approach regarding ELG compliance.
  - Meeting with IDEM on 6/27/16 – discussed RBTO process and schedule.
  - Leveraging UWAG guidance and AEP resources to draft proposed compliance schedule.
- OVEC-IKEC's current draft ELG applicability date justification and schedule requests 65 months to complete all required engineering studies, receive approval to spend capital, procure materials, construct, and then optimize any systems required for compliance.
- First NPDES permit renewal since ELG Rules became final – some uncertainty in how successful we will be in negotiating our preferred timeline to install and optimize selected waste treatment systems.

# Environmental Compliance Update

## Effluent Limitation Guidelines

- **Kyger Creek NPDES Permit Renewal**

- The Kyger Creek Station's NPDES permit renewal application to be filed no later than October 30, 2018.
- It will include ELG applicability date justification, which will propose a phased approach regarding ELG compliance.
  - Discussions have been held with OEPA regarding ELG compliance and we expect the agency to be amenable to the compliance strategy and schedule we intend to propose.
- Kyger wastewater subject to new ELG requirements include:
  - Dry Fly Ash conversion
  - Closed loop system for boiler slag
  - FGD wastewater treatment system (chlorides purge stream) modifications

## Environmental Compliance Update

### 316(b)

- **We are evaluating two 316(b) technologies:**
  - Fish friendly modified traveling water screens and submerged cylindrical screens
    - Equipment assessment to be based on [REDACTED]
    - OVEC-IKEC is also using feedback supplied by Sponsor representatives
- **Clifty Creek and Kyger Creek**
  - Entrainment characterization study plans were filed on January 8, 2015.
  - ORERP entrainment sampling program that is now in its second year.
  - Clifty's entrainment study and supporting information will be filed by January 31, 2018.
  - Kyger's entrainment study and supporting information will be filed by October 30, 2018.
  - Submittal of these plans are a prerequisite for IDEM and OEPA to approve the technology, schedule and compliance date for upgrading cooling water intake systems at each plant.

# Environmental Compliance Update

## CCR

- **We are in the process of evaluating CCR compliance at the Clifty Creek and Kyger Creek Plants.**
  - All required plans, inspections, and submittals have been made in accordance with the Rule.
  - Both plants have installed new monitoring well systems that meet the intent of the Rule and have collected three rounds of background data.
  - Based on current groundwater data, OVEC-IKEC is not expecting any issues regarding the CCR Rule compliance.
  - OVEC-IKEC is actively involved in Indiana and Ohio's efforts to incorporate CCR Rule requirements into their respective State programs.
- **To date, no concerns or complaints have been received regarding either plants' CCR Rule compliance.**

# Environmental Compliance Update

## Opportunities and Risks

- **Opportunities:**

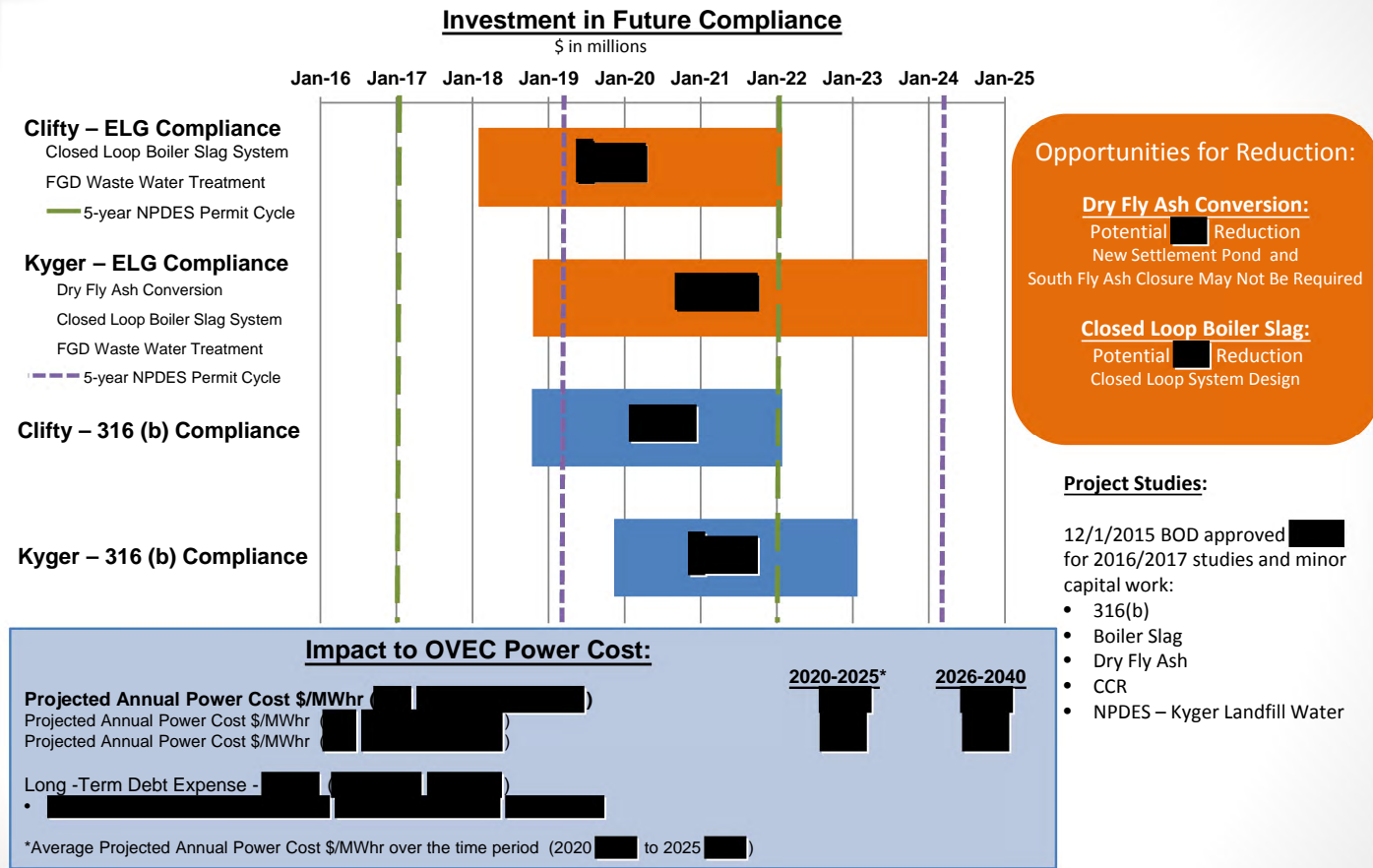
- Engineering analysis from RBTO may allow us to reduce or defer capital costs for:
  - Boiler slag pond relining – both plants
  - Kyger Creek fly ash pond closure and new wastewater treatment system construction

- **Risks:**

- CCR Rule groundwater monitoring data trigger at either site
- Risk related decisions around Kyger Creek fly ash pond (repurpose vs. closure vs. clean closure)

# OVEC Future Environmental Capital Projects

## Timeline of Investments and Power Cost Impact



Investment approval process: Informational meetings prior to Resolution meetings (Mid-2017 to Mid-2018)

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**OHIO VALLEY ELECTRIC CORPORATION (OVEC)  
INDIANA-KENTUCKY ELECTRIC CORPORATION (IKEC)**

**Agenda**

**Boards of Directors' Meeting**

**December 1, 2016**



# OVEC - Environmental Capital Investment

- **Environmental Projects**
    - ELG Compliance
      - Closed Loop Boiler Slag System
      - FGD Wastewater Treatment
      - Dry Fly Ash Conversion (Kyger Only)
    - 316 (b) Compliance
  - **Investment Estimate Prior to Final Rules**
    - Project Costs [REDACTED]
    - Funding Plan - [REDACTED]
      - [REDACTED]
- 
- **Current Estimate: Best Case**
    - Project Costs [REDACTED]
      - Opportunities Identified from Challenging Prior Assumptions:
        - Closed Loop Boiler Slag System – Boiler slag pond partial relining
        - Dry Fly Ash Conversion (Kyger Only) – “Dry Fly Ash Lite” lower capital option
    - [REDACTED]
      - [REDACTED]
  - **Current Estimate: Worst Case**
    - Project Costs [REDACTED]
    - [REDACTED]
      - [REDACTED]
      - [REDACTED]

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## OVEC - Environmental Capital Investment Next Steps

- **ELG Projects – Begin Conceptual Engineering and Design** (with remaining funds)
    - Two Closed Loop Boiler Slag Systems
    - Two FGD Wastewater ABMet and MBR Treatment Systems
    - Dry Fly Ash Conversion (Kyger Only)
  
  - **316 (b) Projects**
    - Complete and File Entrainment Studies – January 31, 2018 (Clifty) and October 30, 2018 (Kyger)
    - Continue Technology Evaluation and include final recommendation with studies
  
  - **CCR Compliance**
    - Complete initial eight rounds of groundwater monitoring
    - Check and adjust if necessary
- 
- **Additional Funding**
    - Mid 2017 to Mid 2018 – additional funding for Conceptual Engineering & Design
    - **Investment Decision** – Year end 2017 to Year end 2018



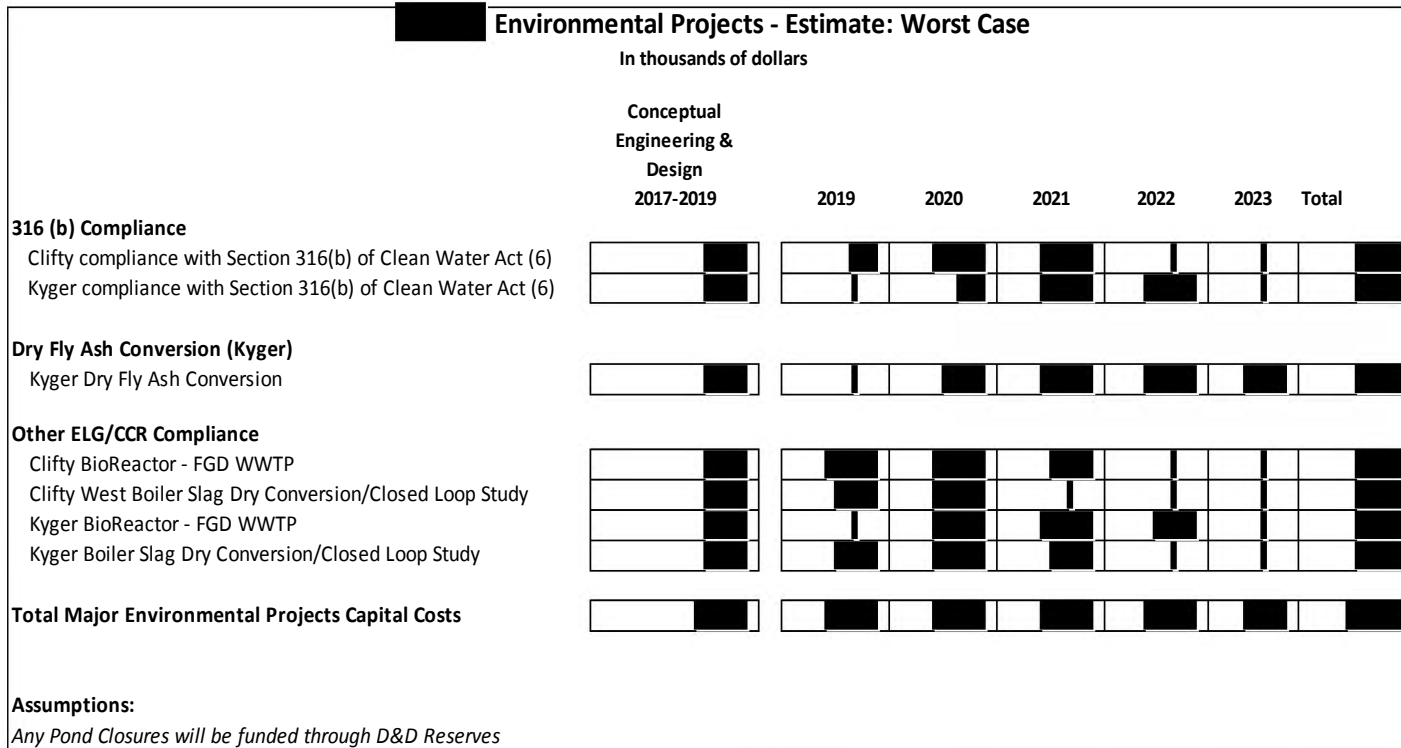
# OVEC - Environmental Capital Investment "Best Case" Cost Estimate

Environmental Projects - Estimate: Best Case							
In thousands of dollars							
	Conceptual Engineering & Design 2017-2019	2019	2020	2021	2022	2023	Total
<b>316 (b) Compliance</b>							
Clifty compliance with Section 316(b) of Clean Water Act (6)	█	█	█	█	█	█	█
Kyger compliance with Section 316(b) of Clean Water Act (6)	█	█	█	█	█	█	█
<b>Dry Fly Ash Conversion (Kyger)</b>							
Kyger Dry Fly Ash Conversion	█	█	█	█	█	█	█
<b>Other ELG/CCR Compliance</b>							
Clifty BioReactor - FGD WWTP	█	█	█	█	█	█	█
Clifty West Boiler Slag Dry Conversion/Closed Loop Study	█	█	█	█	█	█	█
Kyger BioReactor - FGD WWTP	█	█	█	█	█	█	█
Kyger Boiler Slag Dry Conversion/Closed Loop Study	█	█	█	█	█	█	█
<b>Total Major Environmental Projects Capital Costs</b>	█	█	█	█	█	█	█
<b>Assumptions:</b>							
<i>Any Pond Closures will be funded through D&amp;D Reserves</i>							

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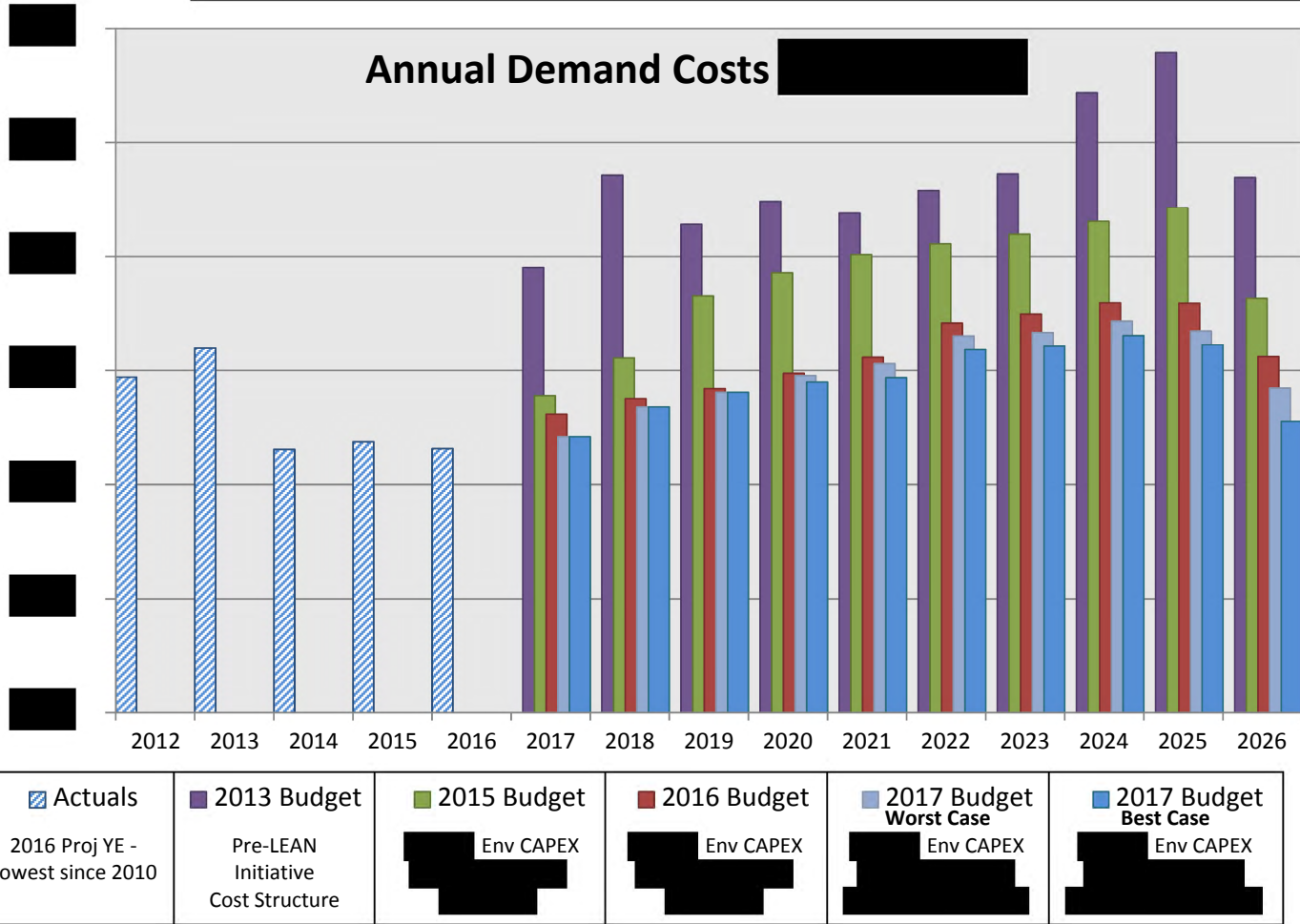
# OVEC - Environmental Capital Investment "Worst Case" Cost Estimate



CONFIDENTIAL INFORMATION REDACTED



# Long Term LEAN Cost Structure - Demand Environmental Investment Impact



\*Demand Costs consist of Operating Costs (Capital, O&M, A&G, T&D), Debt Service (Principle and Interest), and all other non-fuel costs

**CONFIDENTIAL INFORMATION REDACTED**

**OHIO VALLEY ELECTRIC CORPORATION (OVEC)  
INDIANA-KENTUCKY ELECTRIC CORPORATION (IKEC)  
Agenda Boards of Directors' Meeting  
July 21, 2017**

# Regulatory and Litigation Update

## Regulatory Update

- April 12, 2017, EPA Administration granted the industries' petition and signed an administrative "stay" of the rule's compliance deadlines for FGD wastewater, fly ash transport water, and bottom ash transport water, among others.
- On April 24, 2017, the 5<sup>th</sup> Circuit Court granted EPA's motion to hold the ELG litigation in abeyance. The administrative stay expires in mid August. We anticipate the EPA could seek remand at this stage for any portion of the rule they intend to reconsider.
  - The 5<sup>th</sup> Circuit Court granting of a stay has been challenged by the non-governmental organizations.
- June 6, 2017, EPA issued a proposed rule to formally postpone certain compliance dates for the ELG rules applicable to Steam Electric Generating Plants – comments were due on July 6, 2017.

## Regulatory and Legal Next Steps

- EPA has scheduled a public hearing on ELG rule postponement for July 31, 2017.
- EPA should file a motion with the 5th Circuit Court by mid August outlining what it plans to do with the ELG rule and likely ask the court to remand portions of the rule back to EPA for reconsideration.
- EPA should take action on finalizing the proposed rule to postpone ELG compliance dates perhaps as early September.
- The D.C. Circuit Court has set a briefing schedule that runs through September 11, 2017, to hear the legal challenge of the original ELG rule administrative stay. A court decision may not be needed on that legal challenge if EPA separately issues a final rule on the EGL rule compliance date postponement.

# ELG Rule Future

## By the Year End:

- We should have a final ELG compliance date postponement rule and know what wastewater discharges EPA has asked the 5<sup>th</sup> Circuit Court to remand back to the agency for further reconsideration and new rulemaking.
- We should also know if the legal challenge in the D.C. Circuit Court will proceed.
- We should have a clear path forward to approach IDEM and request a Clifty Creek NPDES Permit Modification (ideally an administrative modification) to eliminate the April 1, 2022, ELG applicability dates in the permit.
- Improved forecast on timing of required investment.



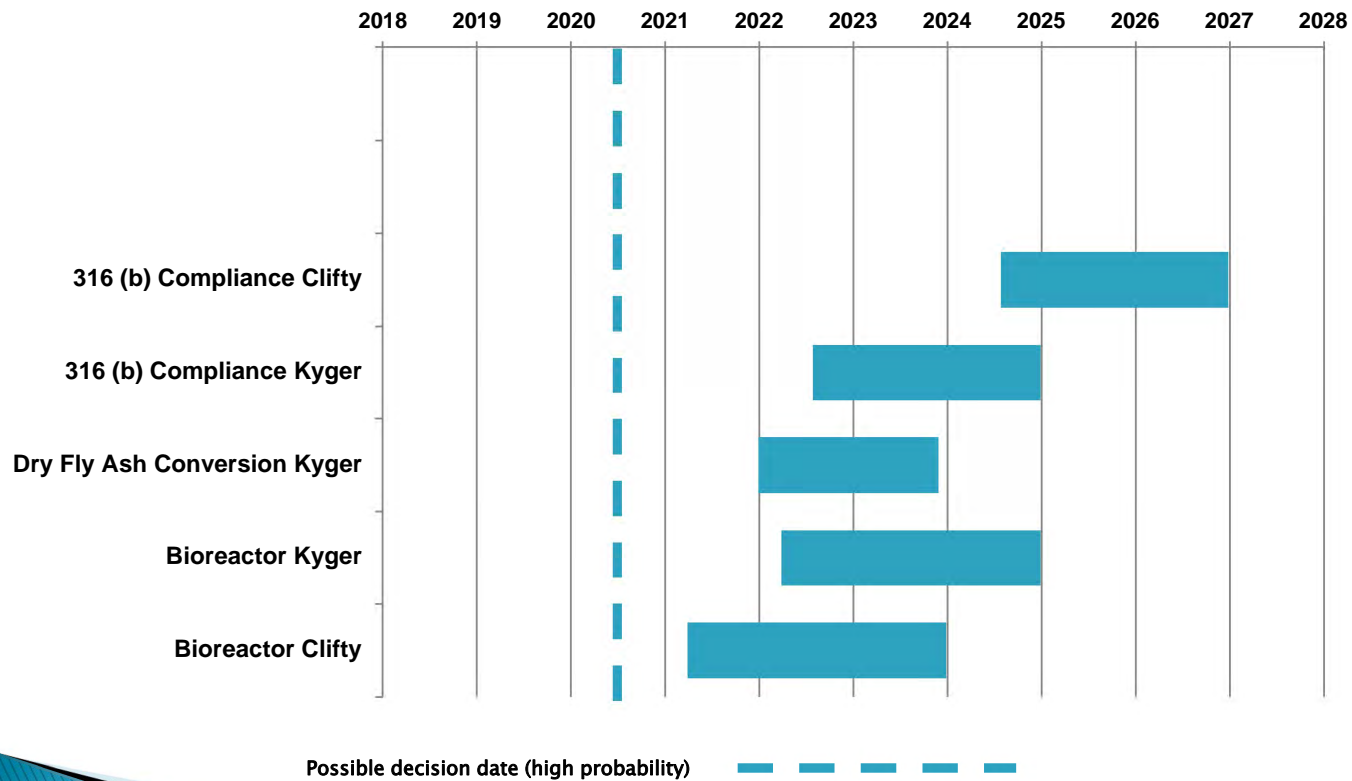
# OVEC – Projected Environmental Capital Investment

- Investment Estimates Prior to Final Rules
  - Original Projected Cost [REDACTED] (2017–2022)
- Current Estimates Range:
  - Best Case [REDACTED]
    - Reduced from [REDACTED]
    - High probability based on current administration and industry feedback
    - Potential reduction of an additional [REDACTED] (based on current administration possible actions)
  - Worst Case [REDACTED]
    - Reduced from [REDACTED]
    - Very low probability based on current administration and industry feedback

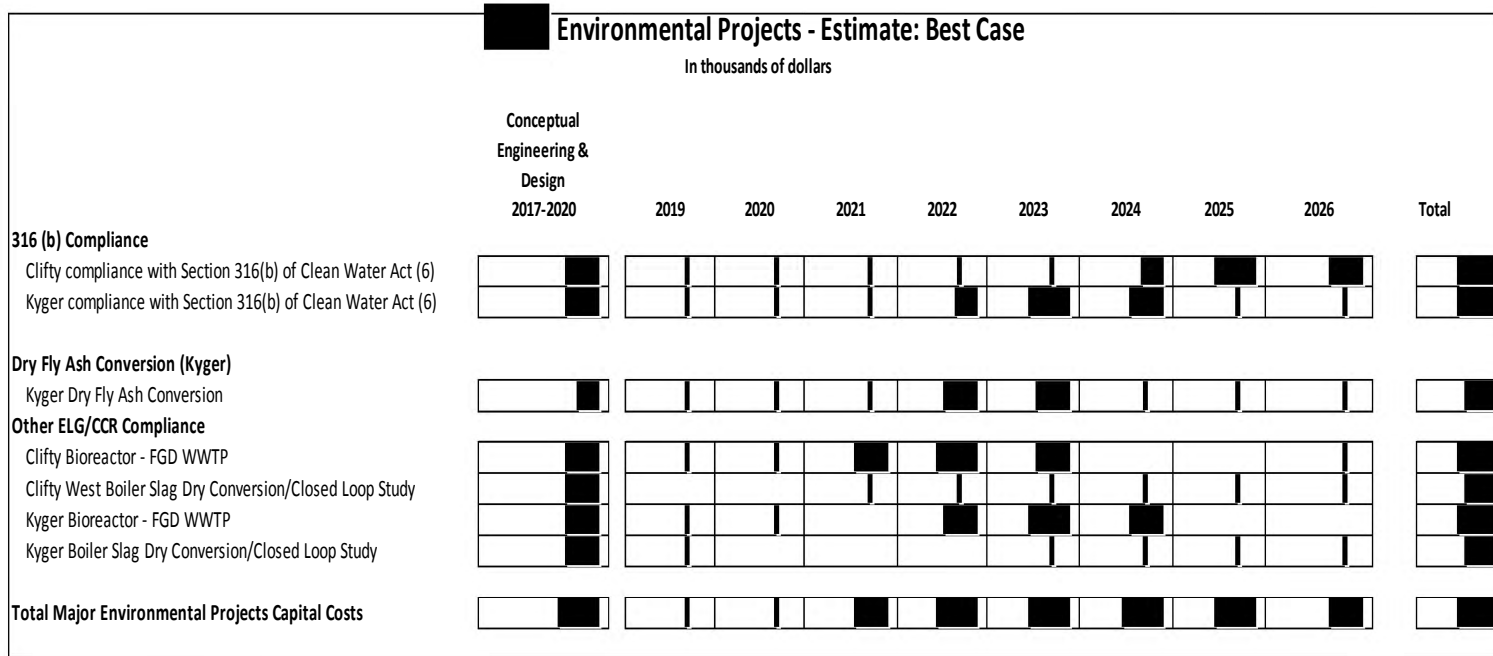
Current stay and reconsideration of ELG rule.  
OVEC BOD Environmental Investment Decision – Current Estimate  
Mid-Year 2018 to Mid-Year 2020  
➤ high probability of 2+ year delay

# OVEC Future Environmental Capital Projects – TIMELINE OF INVESTMENTS – BEST CASE ESTIMATE

## Investments: Future Compliance



# "Best Case" Cost Estimate



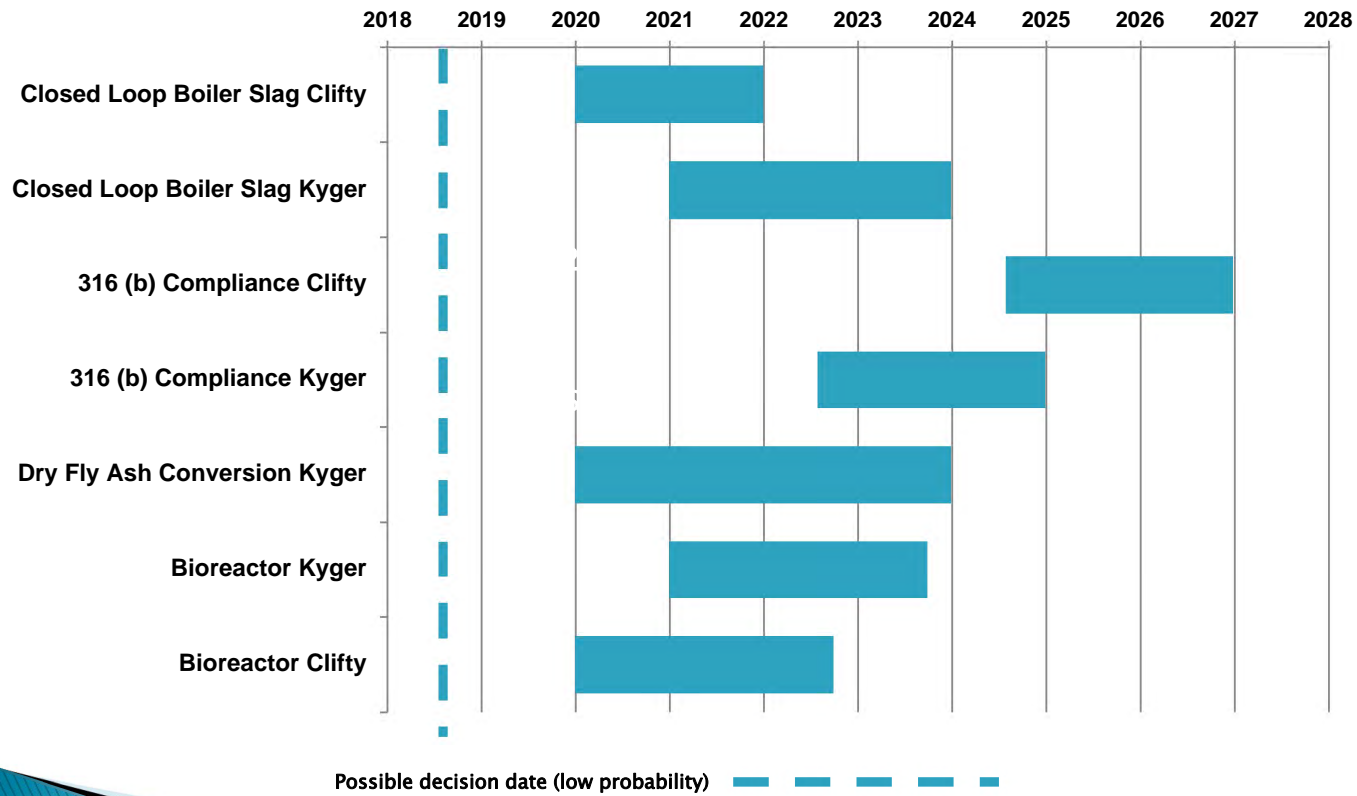
**Assumptions:**  
 Current ELG stay results in a reissue of the rule:  
 • FGD Wastewater Treatment requirements will have less stringent limits  
 • Possible approval of current Wastewater Treatment as best technology  
 • **Potential to Reduce Best Case by an additional** █  
 • Boiler Slag Dry Conversion (Bottom Ash) not required  
 Any pond closure requirements will be funded through decommissioning reserves already collected (current fund █)



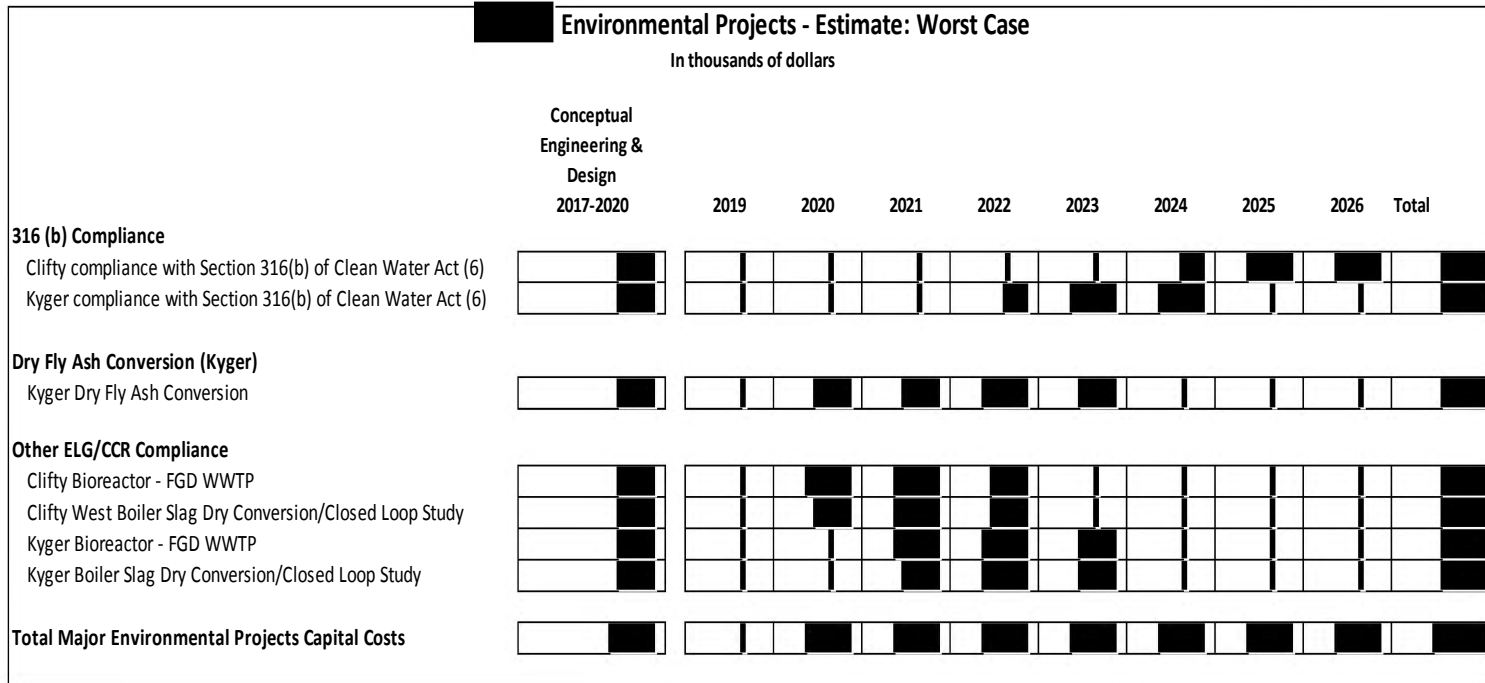
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# OVEC Future Environmental Capital Projects – TIMELINE OF INVESTMENTS – WORST CASE ESTIMATE

## Investments: Future Compliance



# "Worst Case" Cost Estimate



**Assumptions:**  
Any pond closure requirements will be funded through decommissioning reserves already collected (current fund █)

**Potential Future Impacts:**  
Current ELG stay results in a reissue of the rule (as shown in Best Case): █ **Reduction of Worst Case**

- FGD Wastewater Treatment requirements will have less stringent limits
  - Possible approval of current Wastewater Treatment as best technology
    - **Potential to Reduce Worst Case by an additional** █
- Boiler Slag Dry Conversion (Bottom Ash) not required

**OHIO VALLEY ELECTRIC CORPORATION (OVEC)  
INDIANA-KENTUCKY ELECTRIC CORPORATION (IKEC)  
Agenda  
Boards of Directors' Meeting  
December 8, 2017**

# OVEC and IKEC Environmental Compliance Update



# Environmental Policy Update

## Effluent Limitation Guidelines (ELG) Update

### August 2017 ELG Developments

- EPA announces plans to reconsider ELG Rules
- EPA files motion with 5<sup>th</sup> Circuit announcing details and requesting court action
- 5<sup>th</sup> Circuit grants EPA request to sever and hold in abeyance legal challenges to ELGs subject to reconsideration

### September 2017 ELG Developments

- EPA issues Final ELG Postponement Rule
  - EPA to reconsider rule applicability to FGD wastewater (FGDWW) and bottom ash transport water (BATW)
  - Delays initial compliance window for BATW and FGDWW for two years
  - Keeps remainder of ELG rule in tact
  - Announces plans to issue a new rule BATW and FGDWW by late 2020

### Next Steps for ELG compliance

- Continue with Dry Fly Ash conversion analysis for Kyger Creek
  - Economic evaluation with elimination of continued fly ash mediation costs
- File permit modification request for Clifty Creek
- Complete Clifty bioreactor pilot and then defer further action on BATW and FGDWW





# Environmental Policy Update

## **Clean Power Plan Update**

- EPA proposes repeal of current CPP rule
- EPA may consider a replacement rulemaking
  - Industry will be evaluating what could be supported in a replacement rule
  - Goal: to have a lawful, durable, and simple replacement rule

## **Coal Combustion Residual (CCR) Update**

- EPA to reconsider CCR Rule - September 13, 2017
- EPA requests and D.C. Circuit Court approves holding CCR rule litigation in abeyance
- EPA identified what portions of CCR rule it will be reconsidering – November 15, 2017

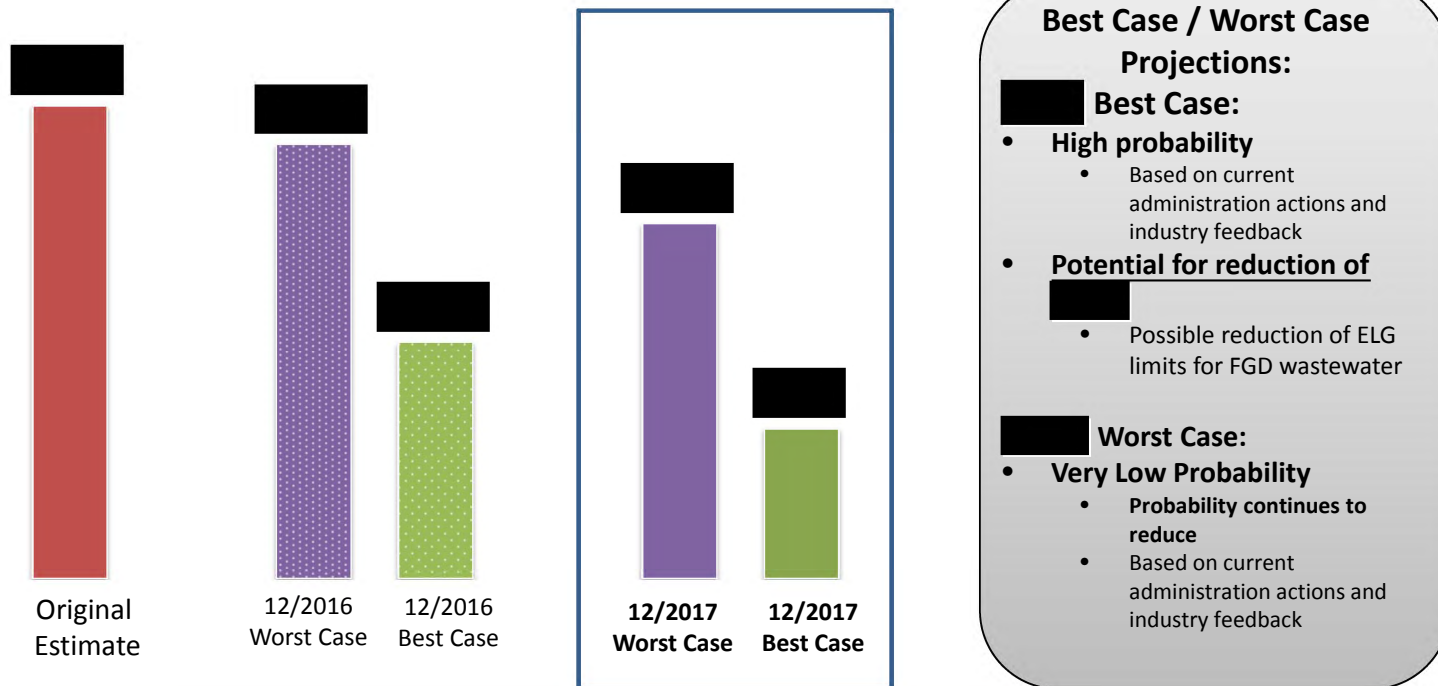
## **OVEC CCR Compliance Status/Next Steps**

- Meeting all CCR requirements YTD
- Groundwater monitoring system in place and all background data collected
- Some statistical increases in data are likely, most to be mitigated with alternative source demonstrations
- Continue to work with QPE on compliance while we await further action from EPA



# Projected Environmental Investment

OVEC continues to challenge and evaluate current Environmental Project Cost Projections

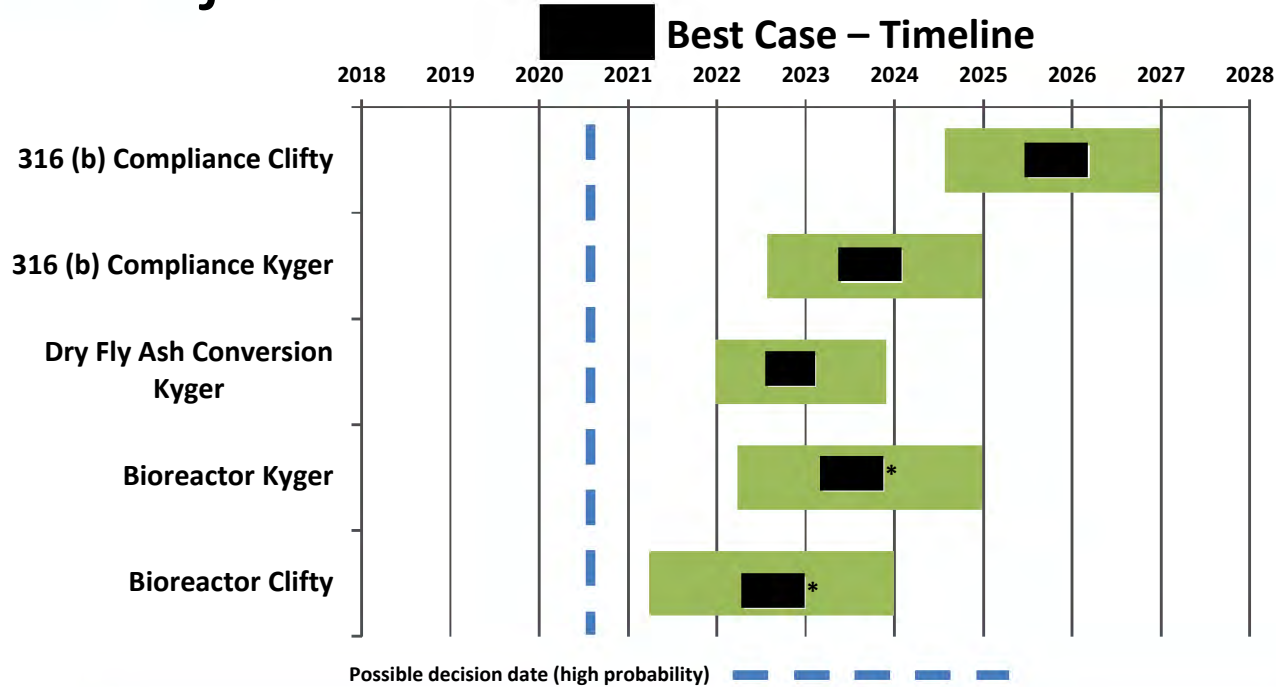


Projected OVEC BOD Environmental Investment Decision:  
Mid-Year 2019 to Mid-Year 2020 (high probability of 2+ year delay)

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# Projected Environmental Investment



**Assumptions:**

Current ELG reconsideration results in a revision of the rule:

- **FGD Wastewater Treatment requirements will have less stringent limits**
  - Possible approval of current Wastewater Treatment as best technology
    - *\*Potential to Reduce Best Case by ██████████\**
- **Boiler Slag Dry Conversion (Bottom Ash) not required**

Any pond closure requirements will be funded through decommissioning reserves

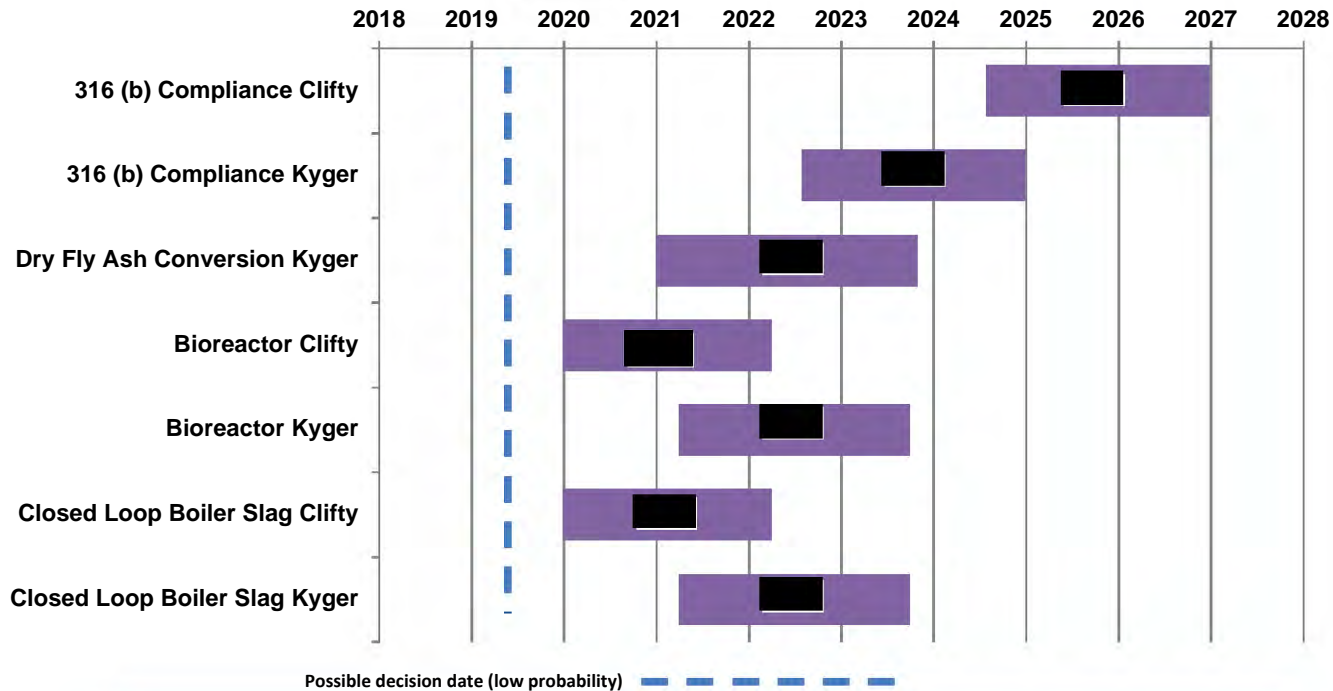
1) Graph excludes approx. ██████████ of conceptual engineering studies for Boiler Slag while reissue of the ELG rule is pending

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# Projected Environmental Investment

## Worst Case – Timeline



**Assumptions:**  
 Current ELG reconsideration results in reaffirming current rule and requirements  
 Any pond closure requirements will be funded through decommissioning reserves

**Potential Future Impacts:**  
 Current ELG reconsideration results in revision of the rule (as shown in Best Case): **Reduction of Worst Case**

- FGD Wastewater Treatment requirements will have less stringent limits
- Boiler Slag Dry Conversion (Bottom Ash) not required

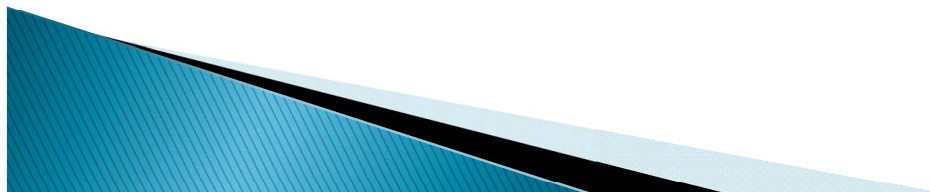
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**OHIO VALLEY ELECTRIC CORPORATION  
(OVEC) INDIANA-KENTUCKY ELECTRIC  
CORPORATION (IKEC) Agenda  
Boards of Directors' Meeting  
August 1, 2018**

# ELG Environmental Regulatory Update

## Effluent Limitations Guidelines Update

- EPA issued final ELG Postponement Rule in September 2017 for FGD Wastewater (FGDWW), bottom ash transport water (BATW).
- Postponement rule includes a two year delay in initial compliance window for FGDWW and BATW, keeps the remainder of ELG rule in tact.
- May 2, 2018 Federal Register Notice on Biennial ELG Report – EPA intends to issue a new draft rule on best available technology (BAT) effluent limits for bottom ash transport water and FGD wastewater by December 2018 and a final rule by December 2019.
- EPA engaging industry to obtain additional data as part of that rulemaking effort.
- EPA issuance of draft rule by end of year will give OVEC an opportunity to improve forecast, costs and timing of required investment.



# ELG Environmental Regulatory Update

## ➤ Clifty Creek

- Permit Modification Request was filed with IDEM to remove the April 1, 2022 ELG compliance dates for FGDWW and BATW.
- IKEC anticipates IDEM will act on request if EPA completes its new rule with new dates and/or new BAT limits.
- Field testing of pilot bioreactor conducted in spring 2018.

## ➤ Kyger Creek

- NPDES Permit Renewal Application to be filed in October 2018 – new permit expected in April 2019.
- Continue evaluation of ELG compliance options and provide update to Board in December 2018.
- Move into next phase of engineering evaluation of dry fly ash conversion options.

# CCR Environmental Regulatory Update

## OVEC-IKEC has two landfills and four ponds that meet the definition of a CCR Unit

- Groundwater analysis from spring of 2018 shows statistically significant increases (SSIs) at the landfill runoff collection pond complex at Clifty Creek and the boiler slag pond at Kyger Creek.
- Currently performing alternative source demonstrations (ASDs) – results available around the end of August.
- Next steps will be driven by ASD results – will work with our Qualified Professional Engineer on compliance activities while waiting on additional EPA action.
- EPA issued new CCR rule harmonizing compliance timeline with ELG and providing some additional compliance flexibility.





# 316(b) Environmental Regulatory Update

## Kyger Creek

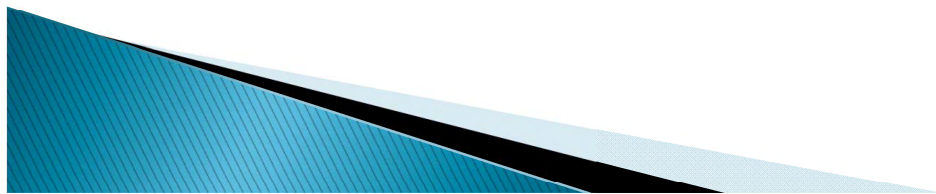
- 316(b) Section 122.21(r) report complete and under peer review.
- Report to be filed with Ohio EPA as part of the NPDES permit renewal application in October 2018.
- Timing of Ohio EPA action expected to be part of permit renewal negotiations.

## Clifty Creek

- 316(b) Section 122.21(r) report nearly complete and will undergo peer review in third/fourth quarter 2018.
- Report to be filed with IDEM by end of January 2019.
- IDEM to act on cooling system upgrades next permit cycle.

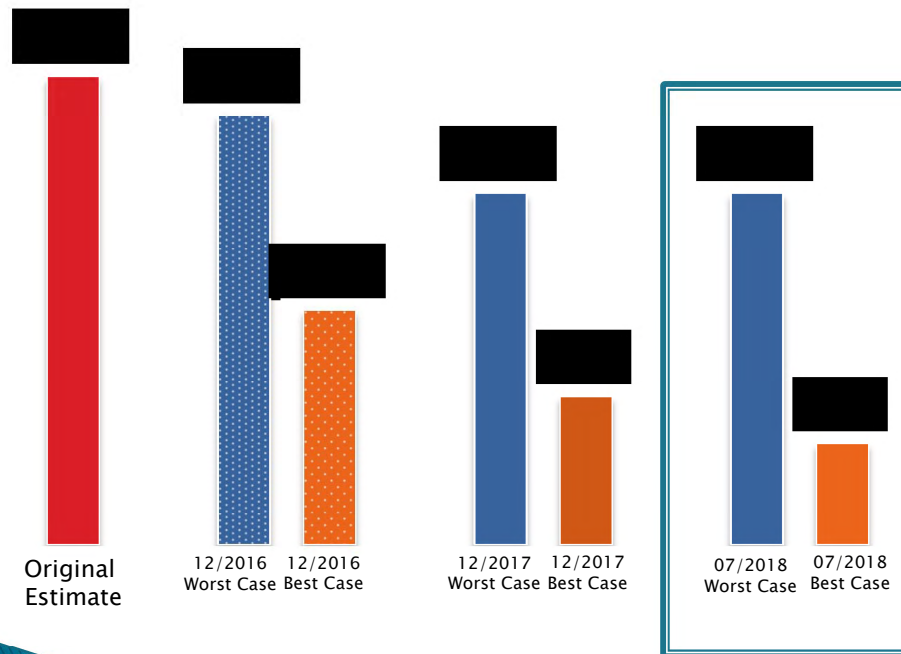
# Clean Power Plan (CPP) Environmental Regulatory Update

- EPA repeal of current CPP pending.
- EPA proposed replacement CPP – lawful, durable and simple – rule at OMB.
- Expect both regulatory actions to take place in second half of 2018.
- D.C. Circuit Court of Appeals has not issued ruling on prior legal challenge.
- Supreme Court “stay” remains in place.



# Projected Environmental Investment

OVEC continues to challenge and evaluate current Environmental Project Cost Projections



**Best Case / Worst Case Projections:**

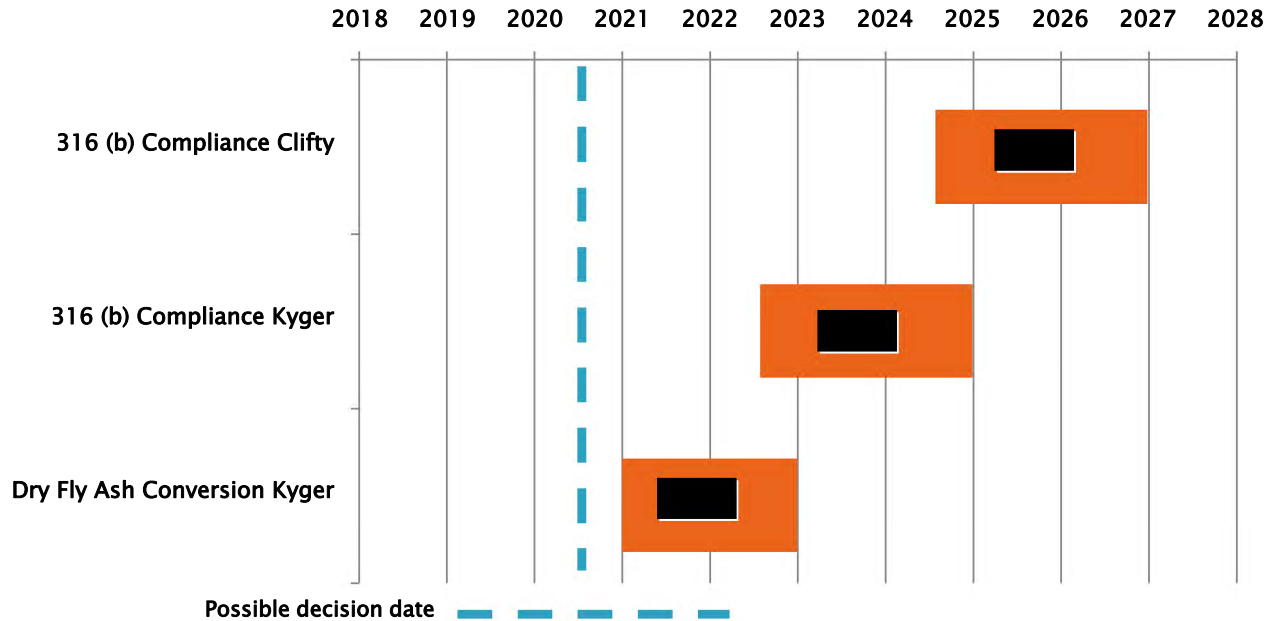
- Best Case:**
  - Based on current administration actions and industry feedback
- Worst Case:**
  - Potential for reduction for Boiler Slag and FGD Wastewater requirements

Projected OVEC BOD Environmental Investment Decision:  
Mid-Year 2019 to Mid-Year 2020

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# Projected Environmental Investment

## Best Case - Timeline



**Assumptions:**

Current ELG reconsideration results in a revision of the rule:

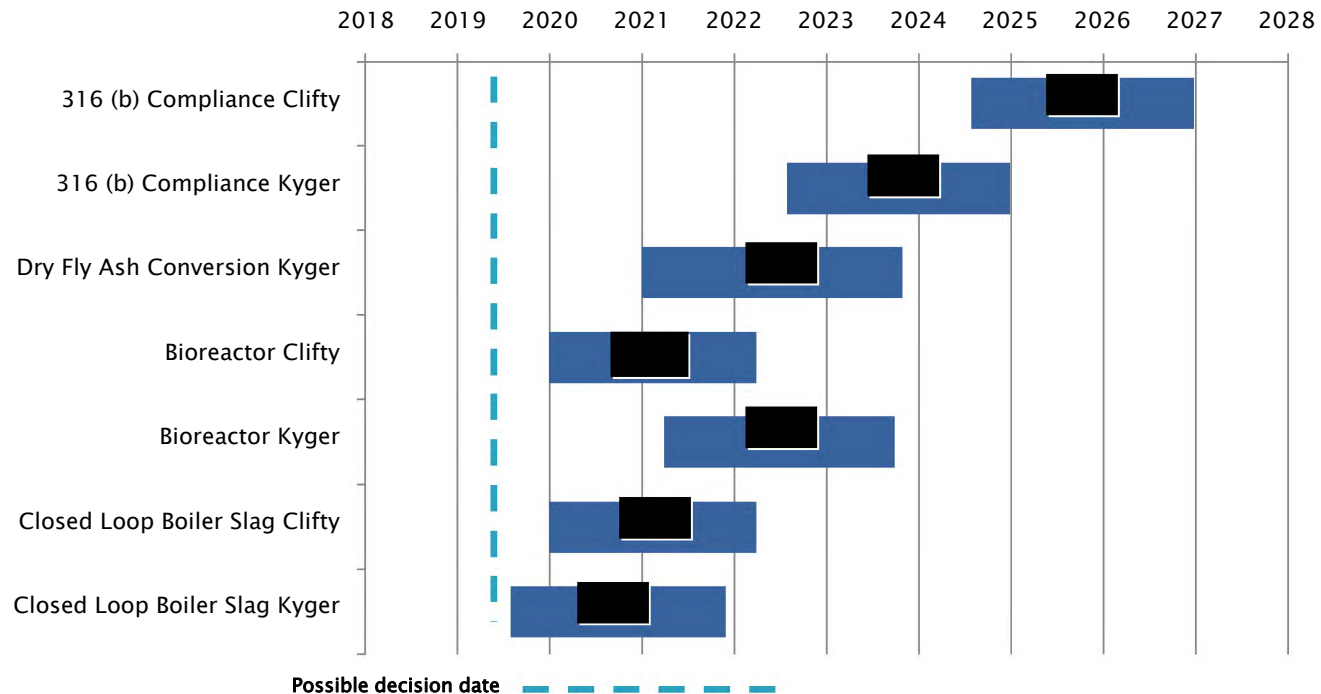
- Current installed FGD Wastewater Treatment considered best technology
- Boiler Slag Dry Conversion (Bottom Ash) not required

Any pond closure requirements will be funded through decommissioning reserves

CONFIDENTIAL INFORMATION REDACTED

# Projected Environmental Investment

## Worst Case - Timeline



**Assumptions:**

- Current ELG reconsideration results in reaffirming current rule and requirements
- Any pond closure requirements will be funded through decommissioning reserves

**Potential Future Impacts:**

- Current ELG reconsideration results in revision of the rule (as shown in Best Case): Up to [Redacted] Reduction of Worst Case
- Current installed FGD Wastewater Treatment considered best technology
- Boiler Slag Dry Conversion (Bottom Ash) not required

CONFIDENTIAL INFORMATION REDACTED

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 15**

**Responding Witness: David S. Sinclair**

- Q-15. For each of the years 2013 through 2017 and 2018 to date, for each of the OVEC Units, identify the forced outage rate.
- A-15. See the response to Question No. 9(d).

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 16**

**Responding Witness: David S. Sinclair**

- Q-16. Confirm or deny, with respect to each coal ash storage unit at Clifty Creek and Kyger Creek, that each coal ash storage unit has transitioned to Assessment Monitoring pursuant to the Coal Combustion Residuals ("CCR") Rule, see generally 40 C.F.R. Part 257; 80 Fed. Reg. 21,302 (Apr. 17, 2015).
- a) If confirmed, provide a list for each coal ash storage unit of all Appendix III constituents for which OVEC found a "statistically significant increase" over background groundwater levels.
  - b) If denied, explain whether (and when, if applicable) such transition is anticipated.
  - c) Provide an estimate of the cost of closure of each coal ash storage unit.
- A-16. The Companies do not maintain or monitor the records for OVEC's ash storage units. However, OVEC's CCR Rule Compliance Data and Information is publicly available on OVEC's website at <http://ovec.com/CCRCompliance.php>.
- a) Not applicable. See the response above and the response to Question No. 14.
  - b) Not applicable. See the response above.
  - c) The Companies do not have access to the requested information.

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 17**

**Responding Witness: Daniel K. Arbough**

- Q-17. Explain whether it is the Company's understanding that, under the ICPA, each of OVEC's Sponsoring Companies, is responsible for guaranteeing OVEC's debt, such as in the event OVEC were to dissolve or to file for bankruptcy.
- a) If not, explain the Company's understanding otherwise, including why the Company does not interpret Article 5.03 of the ICPA to impose such obligation.
  - b) Conversely, if so, explain how the Company reconciles that understanding with the Commission's August 11, 2011, Order in Case Nos. 2011-00099 and 2011-00100, providing (at 3) that "LG&E and KU will not act as guarantors of OVEC's debts nor will they issue securities or other evidence of indebtedness for the purpose of financing their participation in the Amended ICPA."
- A-17. The Company objects to the request to the extent it asserts a legal argument including, but not limited to, regarding outcomes in a bankruptcy proceeding. Without waiver of this objection, the Company replies as follows:
- a) The Company does not agree with the statement that it is responsible for guaranteeing OVEC's debt. Article 5.03 states that the Company will pay the percentage of aggregate demand charges represented by its Power Participation Ratio. Also, Article 9.11 of the ICPA states, "The rights and obligations of the parties hereto shall be several and not joint or joint and several". Consequently, the Company is only obligated to pay to OVEC its pro rata share of a properly calculated Demand Charge. If OVEC fails to make a debt service payment, it is the Company's position that OVEC (or any other party) cannot seek further payment from the Company for such debt amounts so long as the Company's pro rata share has been paid.
  - b) Not applicable.



**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 18**

**Responding Witness: Daniel K. Arbough / Christopher M. Garrett**

Q-18. Reference Attachment to Filing Requirement 807 KAR 5:001 Section 16(7)(k), pp. 56, 96 (Garrett)

- a) Explain the characterization of the Company's investment in OVEC as "not significant."
- b) Without limitation, explain the consistency of that characterization with the Company's assertions that:
  - i) The Company "is conditionally responsible for a pro-rata share of certain OVEC obligations" (and please identify the "certain OVEC obligations" to which the Company refers).
  - ii) The Company "is obligated to pay for its share of OVEC's excess debt service, post-retirement and decommissioning costs, as well as any shortfall from amounts included within a demand charge designed and expected to cover these costs over the term of the contract," with the Company's "proportionate share of OVEC's outstanding debt [being] \$36 million at December 31, 2017."
  - iii) The Company's "maximum exposure and the expiration date of these potential obligations are not presently determinable"

A-18.

- a) KU owns 2.5% of OVEC's common stock. This represents an investment of \$250,000, which the Company deems to be not significant and is excluded from cost of service.
- b) Separate from the investment referenced in part (a) of the question, KU is also a party to a power purchase agreement (ICPA) with OVEC in which KU is contractually entitled to a specified percentage (also 2.5%) of OVEC's output. It is under the ICPA in which KU is responsible for a pro-rata share of certain OVEC obligations, which primarily include OVEC's debt service, post-retirement and decommissioning costs, as well as any shortfall from amounts

included within a demand charge designed and expected to cover these costs over the term of the contract. Because many of the referenced costs relate to future events, the estimated timing, duration and expense of which have significant variability or uncertainty, KU's exposure for obligations under the ICPA is not presently determinable. The statement referenced in part (a) of the question is appropriate as this relates to KU's OVEC investment (ownership) relationship, while the statements quoted in part (b) of the question relate specifically to KU's OVEC ICPA (contractual) relationship.

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 19**

**Responding Witness: David S. Sinclair**

Q-19. Reference LG&E and KU's 2018 Joint Integrated Resource Plan, filed on October 19, 2018, in Case No. 2018-00348.

- a) Discuss the Company's need (or lack thereof), now and each year through 2025, for the capacity provided by the OVEC Units.
- b) Explain the consistency of your response with the fact that the Company forecasts a reserve margin of 23.5% in 2019, and dropping no lower through 2033, while the OVEC Units provide only 152 MW to LG&E and KU relative to the Companies' total reserve margin of approximately 1,500 MW (see 2018 IRP at Vol. I, pp. 5-36).

A-19.

- a) Per the Companies' 2018 Integrated Resource Plan, based on reliability guidelines and the cost of new capacity and maintaining existing capacity, the Companies will target a reserve margin range of 17 to 25 percent for resource planning. The Companies' forecasted reserve margin through 2025 is within this range.
- b) See the response to part (a).

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 20**

**Responding Witness: David S. Sinclair**

- Q-20. Identify and produce any request(s) the Company has issued, from 2015 through the present, for proposals for new or substitute generation capacity (whether or not connected to the question of OVEC).
- a) Identify and produce any responses thereto, if any.
- A-20. From 2015 through the present, the Company has not issued any proposals for new or substitute generation capacity to serve all customers.

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 21**

**Responding Witness: Robert M. Conroy / William Steven Seelye**

Q-21. Reference Robert M. Conroy, p. 15, ll. 12-14, and William Steven Seelye, p. 21, ll. 15-16.

- a) Identify and explain the cause(s) of the change from the residential customer-related cost indicated by the Company's electric cost of service study presented in its 2016 rate case application, \$23.93 per customer per month, to the corresponding figure presented by the Company in this case, \$20.89 per customer per month.

A-21. The Company has not performed an analysis of differences of all cost drivers for the customer charge between the two cost of service studies, but the primary reason that the Company has identified for the decrease is the reduction in income tax rates.

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 22**

**Responding Witness: David S. Sinclair / William Steven Seelye**

Q-22. Reference Robert M. Conroy, p. 17, ll. 14-16.

- a) Once the Company determines the appropriate capacity for a generation asset "based on customers' demands on the total system," please explain how the Company determines whether that generation asset should be a baseload, cycling, or peaking plant.
- b) Is Mr. Conroy's contention that generation and distribution assets are sized based on the same measure of customer demand (e.g., system coincident peak)? If not, please describe in detail the different measures of customer demand that are relied on to size generation and distribution assets.

A-22.

- a) When a need for additional generation capacity is identified, the Companies evaluate different types of resources with varying sizes and operating characteristics to determine the resource mix that is optimal for serving customers at the lowest reasonable cost.
- b) No. Generation assets are planned to meet system demands. Distribution assets are planned to meet customer demands or demands on localized circuits.

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 23**

**Responding Witness: William Steven Seelye / David S. Sinclair**

Q-23. Reference William Steven Seelye, at p.2, ll. 15-16.

- a) Explain, specifically and concretely, what changes/trends Mr. Seelye is alluding to with the testimony that "KU and LG&E are taking steps toward implementing rate changes that will provide appropriate and equitable cost recovery in a changing utility industry."
  - i) Without limitation, address whether the aforementioned changes to which Mr. Seelye alludes refer, in whole or in part, to the increased competition from distributed generation, energy conservation, and energy efficiency that Mr. Seelye explicitly referenced in the prefatory summary of his corresponding testimony in the Company's 2016 rate case application.
  - ii) Without limitation, discuss whether the Company has recently been experiencing "steep declines in their sales per customer," as Mr. Seelye reflected in his 2016 direct testimony that many utilities were.
- b) Please state the number of distributed generation systems currently installed by customers on the Company's system, their aggregate capacity, and the percentage of those systems powered by wind, solar, natural gas, or other resources.
- c) Please provide any forecasts prepared by or for the Company regarding distributed generation growth in its territory.
- d) Please provide the average monthly energy usage for all distributed generation customers, by class, for the latest 12 months for which such data are available.

A-23.

- a)
  - i) The implementation of distributed generation by customers is the principal change to which Mr. Seelye was referring. Without properly structured rates, serving customers with distributed generation creates the possibility

that the utility will not properly recover its cost of service from such customers.

- ii) In his testimony filed in Case Nos. 2016-00370 and 2016-00371, Mr. Seelye did not state that the Company was experiencing steep declines in its sales per customer. He was referring to his experience in other jurisdictions. The declines in usage that the Company is experiencing are addressed in Mr. Sinclair’s direct testimony filed in this proceeding.

b) See table below.

	<b>Net Metering Service</b>	<b>LQF</b>	<b>SQF</b>
<b>Number of Systems</b>			
KU/ODP	230	4	8
LG&E	354	1	0
<b>Nameplate Capacity (kW DC)</b>			
KU/ODP	2,047	2,162	570
LG&E	2,390	787	0
<b>Percentage of Aggregate Capacity by Fuel Type</b>			
KU/ODP			
Hydro	2.4%	0.0%	0.0%
Solar	97.2%	100.0%	100.0%
Wind	0.4%	0.0%	0.0%
LG&E			
Solar	99.9%	100.0%	N/A
Wind	0.1%	0.0%	N/A

- c) See Case Nos. 2018-00294 and 2018-00295 Attachment to Filing Requirement 807 KAR 5:001 Sec. 16(7)(c) Item C at page 15 of 20.



- d) See table below. “Consumption from Grid” is the monthly average amount of energy consumed from the electric grid during periods when customer demand exceeded self-generation. “Energy Supplied to Grid” is the monthly average amount of energy supplied to the electric grid during periods when customer self-generation exceeded demand.

**Average Monthly Values for 12-Months Ending October 2018 (kWh)**

<b>KU/ODP</b>	<b>Net Metering Service</b>		<b>LQF</b>		<b>SQF</b>	
	Consumption from Grid	Energy Supplied to Grid	Consumption from Grid	Energy Supplied to Grid	Consumption from Grid	Energy Supplied to Grid
Commercial	7,695	441	18,369	15,880	53,641	2,794
Industrial	70,889	238	820,876	0	68,194	3,857
Public Authorities	3,035	831	247,600	6,381	7,182	3,800
Residential	1,323	383				
<b>LG&amp;E</b>						
Commercial	4,220	342	104,495	7,320		
Industrial	65,257	0				
Public Authorities	53,823	4				
Residential	1,040	228				

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 24**

**Responding Witness: William Steven Seelye**

Q-24. Reference William Steven Seelye, at p. 2, ll. 16-18.

- a) Explain in detail the “possible future” rates that the Company may develop to address the “emerging technologies,” and describe specifically the technologies referred to there.
  - i) Explain whether such future rates are merely a nascent possibility, or whether the Company is already tangibly preparing and planning to propose such rates.

(1) If the latter, discuss the status and timeline of such plans.

A-24. Possible future rates utilizing a daily Basic Service Charge could include electric vehicle charging rates, temporary service rates, and prepaid metering rates. The Company has no current plans to utilize daily Basic Service Charges in connection with any of these rates.

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 25**

**Responding Witness: Robert M. Conroy / William Steven Seelye**

Q-25. Reference William Steven Seelye, at p. 2 l.19 – p.3, l. 5.

a) Confirm or deny that the question of the accuracy of the specific “variable” and “fixed” sub-rates of the proposed bifurcated RS energy charge, including the extent to which costs are “avoidable,” depends on which net metering policy that the Company happens to implement—in other words, that the extent of any cost avoidability would vary at least in part based on the net metering calculation methods chosen.

i) If denied, explain why.

A-25. Denied. The accuracy of the variable and fixed components of Rate RS has nothing to do with the Company's net metering policy. The variable and fixed components of the rates were derived from the Company's cost of service study.

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 26**

**Responding Witness: Robert M. Conroy / William Steven Seelye**

Q-26. Reference William Steven Seelye, p. 13, ll. 9-16.

a) What RS energy charge would the Company propose in this case if the residential Basic Service Charge remained at \$12.25 per month (or the per-day equivalent)?

A-26. The Company does not agree with the hypothetical scenario of leaving the basic service charge at its present level. The Company is proposing basic service charges and volumetric rates consistent with its cost of service study. With that said, for a residential electric customer, if the basic service charge remained at a daily rate of \$0.40 (equivalent to \$12.25 per month), the energy charge would need to be \$0.09900 per kWh in order to collect the same allocated revenue requirement. See the response to PSC 1-53 for a bill impact analysis schedule (Att\_KU\_PSC\_1-53\_ElecScheduleM\_Forecasted.xlsx) provided in Excel format and adjust the rate design for the values above.

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 27**

**Responding Witness: Counsel / Robert M. Conroy / William Steven Seelye**

Q-27. Reference William Steven Seelye, p. 10, ll. 4-5.

- a) Provide copies of all e-mail communications, internal memoranda, reports, or other documentation of Mr. Seelye's or the Company's consideration of, and decision to, increase the residential Basic Service Charge and/or to change the Basic Service Charge from a per-month to a per-day rate.
- i) Include, without limitation, copies of all presentations to Company management or the Company's Board of Directors regarding the same.

A-27. Objection. The response to this question may require the Company to reveal the contents of communications with counsel and the work product of counsel, which information is protected from disclosure by the attorney-client privilege and the work-product doctrine. To the extent responsive documents exist and are protected from disclosure by the attorney-client privilege or the work-product doctrine, the Company objects to the production of such documents. Without waiving this objection, the Company states that it has not identified any non-privileged responsive documents that are not already in the record.

The Company is filing a privilege log describing the responsive documents the Company is not producing on the ground of attorney-client or work-product privilege.

The Basic Service Charge is discussed in the testimonies of William Steven Seelye and Robert M. Conroy.

- i) The Company did not make any presentations to management or the Board of Directors on the decision to modify the Basic Service Charge (BSC). The Company's rate design philosophy is to develop rates that reflect the cost of providing service whereby fixed costs are recovered through fixed charges and variable costs are recovered through variable charges. The decision to increase the BSC was based on this principle.

**KENTUCKY UTILITIES COMPANY**

**Response to Sierra Club's Initial Data Requests  
Dated November 19, 2018**

**Case No. 2018-00294**

**Question No. 28**

**Responding Witness: Robert M. Conroy / Elizabeth J. McFarland /  
William Steven Seelye**

Q-28. Reference William Steven Seelye, p. 14, ll. 2-16.

- a) Given that the Company already prorates a customer's monthly Basic Service Charge when the customer takes only partial service for a given month, explain how the Company arrived at its determination that it would be easier either for customers to understand, or for the Company to implement, a per-day formatted Basic Service Charge, as opposed to a pro-rated per-month Basic Service Charge.
  - i) Without limitation to such explanation, confirm whether the current/historical pro-ration of the monthly charge, when appropriate, is an automated calculation.
  - ii) Without limitation, confirm whether the Company has ever received customer complaints or other input expressing either confusion regarding the per-month Basic Service Charge, or a preference for a per-day format.
    - (1) If it has, discuss the number and context(s) of such customer input, and provide copies of such feedback (if possible, and redacting customer information if necessary and appropriate).
    - (2) If it has not,
  - iii) Without limitation, confirm whether, conversely, the Company has ever received customer input expressing either a preference for the current per-month charge, or a prediction of confusion regarding the idea of a per-day charge.
  - iv) Identify any other empirical basis/bases, not already discussed, on which on which the Company concludes that the per-day format will enhance ease of customer comprehension.

- v) Explain whether any circumstances have changed that are now motivating the Company's per-day proposal, yet which have not historically been present during the time the Company has been implementing a per-month rate.
- vi) Explain, specifically and concretely, why a per-day rate "may be needed" to "create future optionality for new programs such as electric vehicle rates and prepaid metering," and why a prorated per-month rate could not suffice or would be disadvantageous.

A-28.

- a) It has been Mr. Seelye's experience that customers often have difficulty with the mathematical concept of pro-ration. It is his belief that a daily Basic Service Charge is easier for customers to understand than a mathematical ratio.
  - i) Confirmed. When the number of days billed are between 21 and 36 the customer is charged the full Basic Service Charge amount. When the number of days billed are between 1 and 20 days, or 37+ days the Basic Service Charge is prorated. This is automatically calculated.
  - ii) The Company's customer service personnel recall having communications with customers who have expressed difficulty understanding the concept of prorating Basic Service Charges.
    - (1) The data requested is not readily accessible.
  - iii) The Company does not have any survey data specifically related to the Basic Service Charge.
  - iv) See the response to part a(ii).
  - v) While a daily charge will be easier for customers to understand than the mathematical concept of a pro-rated Basic Service Charge, the only changed circumstances in the electric and gas utility industries that Mr. Seelye is aware of driving the Company to implement daily Basic Service Charges are increased use of pre-paid metering and electric vehicle charging stations.
  - vi) A daily Basic Service Charge will facilitate billing under prepaid metering programs and electric vehicle rates because these two programs are typically utilized for periods of less than a month. For example, under a prepaid metering program, customers can prepay their bills for periods of several days, rather than a full month, making it easier and more understandable to apply a Basic Service Charge that is billed daily.

**KENTUCKY UTILITIES COMPANY**

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**Case No. 2018-00294**

**Question No. 29**

**Responding Witness: William Steven Seelye**

Q-29. Reference William Steven Seelye, p. 16, ll. 4-11.

- a) By “fixed costs associated with poles, transformers, conductors,” explain whether Mr. Seelye referring to just the customer-related portion of those costs or both the customer-related and demand-related portions.
- b) By “fixed costs associated with ... power plants,” explain whether Mr. Seelye referring to the demand-related portions of power plant costs.
- c) Explain what Mr. Seelye means when he states that fixed costs would not be “automatically” reduced with reductions in energy usage.
  - i) Discuss whether reductions in energy usage could lead to reductions in such fixed costs in some other fashion.
- d) Explain whether it Mr. Seelye’s contention that the “fixed costs associated with poles, transformers, conductors” would not be “automatically reduced” with reductions in customer peak demands.
- e) Explain whether it Mr. Seelye’s contention that the “fixed costs associated with ... power plants” would not be “automatically reduced” with reductions in customer peak demands.

A-29.

- a) Mr. Seelye was referring to both fixed customer-related and fixed demand-related distribution costs. Both types of costs are *fixed* and do not vary with changes in kWh usage.
- b) Yes, Mr. Seelye was referring to demand-related costs.
- c) Mr. Seelye is unaware of any fixed costs which would be decreased as a result of reductions in energy usage.



- d) Once transformer and conductor equipment (capacity) is installed on poles or through underground installations, the cost of such equipment is not reduced when customers reduce their demands. However, long-term, durable changes in demand can affect capacity costs over time by affecting the size or quantity of assets deployed.
  
- e) Once generation capacity is installed, then the cost of such capacity is not reduced with the reduction of peak demands. However, long-term, durable changes in demand can affect capacity costs over time by affecting the size or quantity of assets deployed.

**KENTUCKY UTILITIES COMPANY**

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**Case No. 2018-00294**

**Question No. 30**

**Responding Witness: William Steven Seelye**

Q-30. Reference William Steven Seelye, p. 20, ll. 21-22.

- a) Explain whether, if distributed generation allowed the Company to reduce spending in the future on generation, transmission, or distribution capacity, Mr. Seelye would agree that all customers, and not just those who installed the distributed generation, would benefit from such a reduction in spending.
- b) Explain whether, if distributed generation allowed the Company to reduce spending in the future on generation, transmission, or distribution capacity, Mr. Seelye would agree that customers who installed the distributed generation would be subsidizing those customers who had not?

A-30.

- a) Denied. All of a utility's customers may or may not benefit from the reduction in spending in the future on generation, transmission, or distribution capacity due to the installation of behind-the-meter distributed generation by a customer. If net billing or qualifying facility (QF) rates are not properly structured, customers with distributed generation or qualifying facilities may realize benefits through retail rates that exceed the avoided cost associated with the customer's distributed generation.
- b) Denied. Depending on how a utility's net billing rates are structured, a customer with distributed generation could receive subsidies from a utility's other customers.

**KENTUCKY UTILITIES COMPANY**

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**Case No. 2018-00294**

**Question No. 31**

**Responding Witness: William Steven Seelye**

Q-31. Reference William Steven Seelye at p. 19, ll. 4-19.

- a) Identify any instances, of which Mr. Seelye is aware, of public utilities commissions have approved a "three-part rate" for residential customers.
  - i) Conversely, identify any instances, of which Mr. Seelye is aware, of utilities proposing/seeking a three-part rate for residential customers, but not ultimately obtaining approval of and implementing such a rate.
  - ii) Apart from any instances of approval and actual implementation of a three-part rate, identify any other basis on which Mr. Seelye bases his opinion that, "[i]n [his] experience," the two-part rate structures that utilities have historically used for residential customers "is changing in the industry."

A-31.

- a) The Company is not proposing mandatory three-part rates for residential customers in this proceeding. The Kentucky Public Service Commission has approved optional three-part residential rates for both KU and LG&E. Mr. Seelye has not performed research identifying other regulatory commissions that have approved residential demand rates.
  - i) See the response to part a.
  - ii) Some electric utilities in Georgia and South Carolina have implemented mandatory residential demand rates.

**KENTUCKY UTILITIES COMPANY**

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**Case No. 2018-00294**

**Question No. 32**

**Responding Witness: William Steven Seelye**

Q-32. Reference William Steven Seelye, p. 22, ll. 3-11.

- a) Clarify whether Mr. Seelye believes that all costs associated with the “service drop from the transformer” are customer-related. If so, please provide citations to the NARUC Electric Utility Cost Allocation Manual that form the basis for Mr. Seelye’s belief.
- b) Clarify whether Mr. Seelye recommends that all transformer costs, or just the customer-related portion of transformer costs, be recovered through the Basic Service Charge.
- c) If Mr. Seelye recommends that all transformer costs be recovered through the Basic Service Charge, explain why he believes that demand-related transformer costs should be recovered through the Basic Service Charge.

A-32.

- a) The Company will typically install standard service drops that do not vary significantly from one residential customer to another, except depending on whether the customer is served by underground or overhead feeds. The NARUC Electric Utility Cost Allocation Manual states that Account 369 – Services “is generally classified as customer-related.” (Id. at 96.)
- b) Mr. Seelye is not recommending that all transformer costs be recovered through the customer charge.
- c) See the response to part b.

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**Case No. 2018-00294**

**Question No. 33**

**Responding Witness: William Steven Seelye**

Q-33. Reference William Steven Seelye, p. 24, ll. 6-16.

- a) Explain why the Company believes that intra-class subsidies should be avoided, citing all relevant economic literature relied on as the basis for this belief.
- b) Explain whether Mr. Seelye is aware of any economic rationale or ratemaking principle for maintaining intra-class subsidies.
- c) Cite any relevant economic literature relied on as the basis for the assertion that the “rate making principle” for avoiding intra-class subsidies is the recovery of “fixed costs” through fixed charges.
- d) Explain whether it is Mr. Seelye’s contention that demand-related generation, transmission, and distribution costs are “fixed costs.”
  - i) If so, explain whether Mr. Seelye believes that recovering such demand-related fixed costs through energy charges would create intra-class subsidies.
- e) Under the Company’s current rate design for residential customers, explain whether Mr. Seelye believes that demand-related generation, transmission, and distribution costs are, and should be, recovered through the Basic Service Charge or through the energy charge.
- f) Explain whether it is Mr. Seelye’s contention that the fixed costs to serve residential customers with above-average energy usage are equal to the fixed costs to serve customers with below-average energy usage.
- g) Provide copies of all analyses conducted by Mr. Seelye or the Company relied on as the basis for Mr. Seelye’s assertion that residential customers with above-average energy usage are “paying more than their fair share of the utility’s fixed costs” under current rates.

A-33.

- a) The elimination of subsidies, whether inter-class subsidies or intra-class subsidies, is a consequence and a goal of implementing cost-based rates. The cost of service standard for designing rates has been addressed in countless treatises and publications, including Principles of Public Utility Rates by James C. Bonbright. Bonbright states that “one standard of reasonable rates can fairly be said to outrank all others in the importance attached to it by experts and public opinion alike – the standard of cost of service.” (Id., at 67.) The implementation of cost-based rates promote the elimination of both inter- and intra-class subsidies. It is also generally recognized that cost based rates promote economic efficiency.
- b) Mr. Seelye is unaware of any economic rationale or ratemaking principle for maintaining intra-class subsidies on a permanent basis. The principles of rate continuity and gradualism could support temporary deviations from cost of service, but cost of service would still be considered the “gold standard” for designing rates.
- c) See the response to part a. Mr. Seelye’s reliance on cost of service principles is also based on his experience working in the utility industry. The Kentucky Public Service Commission has endorsed cost-based ratemaking on numerous occasions.
- d) Confirmed. Recovering demand related costs through an energy charge rather than through a demand charge will create subsidies when energy billings (kWh multiplied by the energy charge) do not fully cover the sum of (i) the fixed costs of the infrastructure installed to meet the customer’s demand and (ii) variable costs associated with serving the customer.
- e) The Company is not proposing to recover demand-related generation, transmission, and distribution costs through the Basic Service Charge. In fact, the Company is not proposing to recover all customer-related costs through the Basic Service Charge. Mr. Seelye believes that demand-related costs are more properly recovered through demand charges. With a two-part rate consisting of only a customer charge and an energy charge, Mr. Seelye will generally design rates to recover demand-costs through the energy charge. However, there could be particular circumstances that would support doing otherwise.
- f) The question cannot be answered without additional information concerning the customer’s demands. Average customer usage is not a factor that determines the fixed cost incurred to serve a customer. Fixed demand-related costs are driven by a customer’s maximum or peak demand and not by the customer’s average usage.

- g) Mr. Seelye was referring to a rate design that recovers fixed customer-related costs through the energy charge. Recovering fixed customer-related costs through the energy charge, rather than through the customer charge, will result in customers with above-average usage paying more than the average fixed cost of service for their customer class. Complex analysis is unnecessary to support this conclusion; elementary math suffices.

**KENTUCKY UTILITIES COMPANY**

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**Question No. 34**

**Responding Witness: William Steven Seelye**

Q-34. Reference William Steven Seelye, generally.

a) Compare the proposed Basic Service Charges for all rate classes to the full customer-related cost identified for those classes in the cost of service study.

A-34. For the customer costs, see the electric cost of service study provided in response to Kroger-Walmart 1-3. For the proposed Basic Service Charges, see the proposed tariffs submitted in the Company's filing requirements for 807 KAR 5:001 Section 16(1)(b)(3).



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**Question No. 35**

**Responding Witness: Lonnie E. Bellar**

Q-35. Reference Paul W. Thompson, p. 11, ll. 3-4, and Lonnie E. Bellar p. 11, ll. 14-16.

- a) Discuss whether the Company has assessed whether the D.C. Circuit's recent decision in *Util. Solid Waste Activities Grp. v. Env'tl. Prot. Agency*, 901 F.3d 414 (D.C. Cir. 2018), judgment entered, No. 15-1219, 2018 WL 4158384 (D.C. Cir. Aug. 21, 2018)—in which the court held that the Obama-era CCR Rule was unlawfully narrow and lax in multiple regards—has will impact the Company's coal ash storage units and methods, and their compliance status/trajectory vis-à-vis the CCR Rule's standards and obligations as must be modified in light of that decision.
  - i) If so, explain whether the Company anticipates needing to incur any additional expenses in order to comply therewith, above and beyond what was needed to comply with the Rule's standards and obligations prior to the D.C. Circuit's decision.
    - (1) If any such additional expenses, identify them and provide an estimate of their respective costs and timelines.

A-35.

- a) After the CCR Rule became effective in 2015, KU chose to proceed to close all CCR impoundments in anticipation of future groundwater monitoring results necessitating closure. Additionally, KU chose to close inactive impoundments at retired generating stations (Green River, Tyrone and Pineville) as a prudent management measure even though the Rule did not at that time require their closures. All three stations are currently engaged in active construction to either clean close or cap and fill the CCR impoundments on site, following the same criteria found in the CCR Rule. The cost for the impoundment closures within these three sites was included in the ECR documents presented to and approved by the KPSC.
  - i) See the response to part a.
    - (1) See the response to part a.