

**BEFORE THE
PUBLIC UTILITIES COMMISSION OF OHIO**

THE DAYTON POWER AND LIGHT COMPANY D/B/A AES OHIO

CASE NO. 20-0165-EL-RDR

**DIRECT TESTIMONY OF
DAVID J. CRUSEY**

**BEFORE THE
PUBLIC UTILITIES COMMISSION OF OHIO**

**DIRECT TESTIMONY OF
DAVID J. CRUSEY**

**ON BEHALF OF
THE DAYTON POWER AND LIGHT COMPANY D/B/A AES OHIO**

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	OVEC AND ITS GENERATING FACILITIES	3
III.	OVEC REVENUES	5
	A. PJM Capacity Market	6
	B. PJM Energy Markets.....	7
	C. Ancillary Services Market	10
IV.	OVEC CHARGES	11
	A. Fuel Expenses Operational and Maintenance Expenses	12
	B. Capital Expenses	15
V.	FIRST ENERGY SOLUTIONS BANKRUPTCY	16
VI.	CONCLUSION.....	16

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is David J. Crusey. My business address is 1065 Woodman Drive, Dayton Ohio 45432.

Q. By whom are you employed and what is your position?

A. I am employed by the AES Corporation as Senior Director, Risk Management and Continuity for AES US Thermal and Utility businesses.

Q. Would you please describe your educational and professional background?

A. I have a Bachelor of Science in Electrical Engineering and a Master of Business Administration, both from the University of Dayton. I am a CFA charterholder and I have the Financial Risk Manager (FRM) and Energy Risk Professional (ERP) professional designations from the Global Association of Risk Professionals. I have been employed at The Dayton Power and Light Company (d.b.a. "AES Ohio") and AES for over 34 years. I have worked and held various positions in Engineering, Technical Services, Major Accounts, Regulatory, System Operating, Commercial Operations and Risk Management. The majority of my career has been in commercial related functions in wholesale energy including serving as Vice President of Commercial Operations at AES Ohio and Sr. Director Risk Management for US Thermal and Utilities. As Vice President of Commercial Operations for approximately eight years through approximately 2018, I was responsible for the Company's energy commodities and all PJM market related functions including all fuel procurement and transportation contracting, PJM energy and capacity market bidding, and 7x24 generation operations.

1 The Company's spend on fuel (the majority of which was for coal) and transportation was
2 approximately \$300 million per year during that period. For the past five years and
3 currently, I am an Adjunct Finance Professor at the University of Dayton.

4 **Q. What are your responsibilities as Sr. Director, Risk and Business Continuity US?**

5 A. I am responsible for Risk Management for the AES US Utilities and the AES US thermal
6 assets. This includes monitoring energy commodity positions, creating independent
7 position reports, leading all governance activities for the monthly Risk Management
8 Committee meetings related to these businesses, and other various risk and business-
9 related duties. I also serve as AES Ohio's representative on the Ohio Valley Electric
10 Corporation (OVEC) Operating Committee.

11 **Q. Have you previously submitted testimony in any regulatory proceedings?**

12 A. Yes. I have participated in a FERC trial type hearing related to a dispute with one of
13 AES Ohio's municipal customers. I provided written testimony to the Commission in
14 AES Ohio's Fuel Audit case in 2012 that involved the 2011 audit period (Case No. 11-
15 5730-EL-FAC). I also provided written testimony and testified at hearing before the
16 Commission in AES Ohio's 2012 Fuel Audit case, 12-2881-EL-FAC. Further, I provided
17 written testimony to the Commission in AES Ohio's ESP 3 (Case No. 16-0395-EL-SSO;
18 16-0396-EL-ATA; 16-0397-EL-AAM).

19 **Q. What is the purpose of your testimony?**

20 A. The purpose of this testimony is to demonstrate that AES Ohio's actions regarding the
21 revenues and expenses related to OVEC during the November 2018 - December 2019
22 Audit Period were prudent and reasonable.

1 **II. OVEC AND ITS GENERATING FACILITIES**

2 **Q. Please describe OVEC.**

3 A. OVEC was formed in 1952 by regional utilities ("Sponsoring Companies") for the
4 purpose of providing electric service to a uranium enrichment facility in southern Ohio
5 under a power supply agreement between OVEC and the United States of America to
6 serve a Department of Energy ("DOE") facility.

7 The OVEC generation stations are Clifty Creek Station, comprising six coal-fired
8 generating units, each with a capability of approximately 200 MW for a site total of 1,200
9 MW, and Kyger Creek Station, comprising five coal-fired generating units, each with a
10 capability of approximately 199 MW for a site total of 995 MW. The generating
11 capability of all OVEC units totals 2,195 MW. AES Ohio is entitled to 4.9% of this
12 energy and capacity.

13 **Q. Please describe the Inter-Company Power Agreement ("ICPA").**

14 A. On July 10, 1953, OVEC and its Sponsoring Companies signed the ICPA, whereby
15 OVEC agreed to sell and the Sponsoring Companies agreed to purchase certain power
16 and energy produced by OVEC in excess of that required to serve the DOE facility. Each
17 successive amendment to the ICPA has been submitted to the Federal Energy Regulatory
18 Commission ("FERC") as a wholesale power sales agreement under Section 205 of the
19 Federal Power Act. Upon DOE's termination of the power supply agreement with OVEC
20 effective April 30, 2003, the Sponsoring Companies became entitled under the terms of
21 the ICPA to all of OVEC's net power and energy.

22 On March 23, 2011, OVEC filed an Amended and Restated ICPA with FERC,

1 dated September 10, 2010, among OVEC and other parties. (Copy attached at Ex. 1.) No
2 protests or adverse comments were received and the ICPA was accepted for filing by
3 FERC on May 23, 2011. The only substantive change to the ICPA was to extend its term
4 from March 13, 2026, to June 30, 2040

5 The ICPA is a long-term agreement filed at FERC and approved by the
6 Sponsoring Companies. This agreement requires the Sponsoring Companies to pay all of
7 OVEC's costs and grants them the ability to utilize their share of energy and capacity
8 from OVEC.

9 **Q. Please describe OVEC's governance and management structure.**

10 A. OVEC is governed by a Board of Directors that oversees the organization from a strategic
11 level. The Board is comprised of representatives of the owners of OVEC, many of which
12 are Sponsoring Companies. The Board provides strategic direction and oversight to the
13 organization, and certain major decisions require unanimous board approval. I am not a
14 member of the Board, but I have attended the Board meetings regularly, including during
15 the Audit Period.

16 In addition, pursuant to Section 9.05 of the ICPA, OVEC has an Operating
17 Committee that includes ten members, one member for each parent company of a
18 Sponsoring Company and one member from OVEC. The Operating Committee's role is
19 to establish the necessary framework for OVEC's management to conduct its operations
20 on behalf of the Sponsoring Companies, with an approval threshold of two-thirds of its
21 members for certain decisions. The Operating Committee considers, updates, and
22 approves the OVEC Operating Procedures, a document that articulates the decisions of
23 the Operating Committee on matters such as unit commitment practices, minimum

1 generating unit output, and energy scheduling. Copies of the Operating Procedures in
2 effect during the Audit Period are attached as Exs. 2 and 3. The Operating Committee
3 also makes recommendations to the Board regarding major decisions. I was AES Ohio's
4 designated representative on the Operating Committee during the Audit Period, and
5 continue to occupy that role.

6 **Q. Does AES Ohio have the ability to unilaterally control or force the operational**
7 **decisions of OVEC?**

8 A. No. As stated above, the procedures for operating OVEC are set by the Board or by the
9 Operating Committee.

10 **Q. Who manages the OVEC facilities' day-to-day operations?**

11 A. OVEC's employees manage and operate the Kyger Creek and Clifty Creek facilities.
12 None of the Sponsoring Companies' personnel participate in the daily operations or daily
13 decisions of these facilities. The Sponsoring Companies are limited to participation
14 through the Board of Directors and the Operating Committee.

15 **III. OVEC REVENUES**

16 **Q. What revenues does AES Ohio receive associated with the ICPA?**

17 A. As discussed below, AES Ohio receives three types of revenues:

- 18 1. Capacity revenues
- 19 2. Energy revenues
- 20 3. Ancillary Services revenues

Q. Who is responsible for offering AES Ohio's share of energy, capacity and providing ancillary services in the PJM markets?

A. As discussed in more detail below, AES Ohio is responsible for offering its share of OVEC's capacity into the PJM Base Residual Auction and any successive Incremental Auctions. OVEC is responsible, on behalf of all PJM sponsors, for offering the energy and providing any ancillary services from the Clifty Creek and the Kyger Creek units into the PJM energy and ancillary services markets on behalf of the Sponsoring Companies.

A. PJM Capacity Market

Q. Please explain how AES Ohio managed its share of OVEC capacity during the Audit Period.

A. AES Ohio offered its share of OVEC capacity into the PJM Base Residual Auction and subsequent Incremental Auctions, as needed, covering the PJM 2018/2019 Planning Year and the PJM 2019/2020 Planning Year. PJM Planning Years run from June 1st through May 31st of the following year. In both Planning Years, AES Ohio offered its share of OVEC's capacity into the RTO Locational Delivery Area and that capacity cleared in the Base Residual Auction and any Incremental Auction. AES Ohio was thus paid the auction-clearing price for its share of OVEC's capacity during the Audit Period.

Q. Can you describe AES Ohio's bidding strategy for those capacity auctions?

A. Yes, AES Ohio's bidding strategy for its share of the OVEC units was to balance the tradeoffs associated with the potential to earn capacity revenue against the potential costs associated with the penalties that can be assessed by PJM during reliability events for unit non-performance. We also considered the fact that any major changes in OVEC's

1 operations require unanimous approval from the Board as well as considering the PJM
2 single clearing price method used in the capacity market. AES Ohio's units were offered
3 into the capacity auctions at a price that cleared and received the capacity revenue and
4 that also balanced the previously mentioned risks and tradeoffs.

5 **B. PJM Energy Markets**

6 **Q. Please describe the energy markets in PJM.**

7 A. PJM's energy market includes both a day-ahead market and a real-time market. Units
8 that offer day-ahead and clear the market are given a day-ahead energy hourly
9 commitment. The real-time market is used by PJM to compare real-time actual operating
10 performance of the unit against the day-ahead commitment. The real-time market is in
11 essence a balancing market where unit volumes and prices are "settled" or "balanced"
12 against the unit's day-ahead position at the real-time price.

13 **Q. Why is OVEC responsible for offering the energy and ancillary services into the**
14 **PJM markets?**

15 A. After OVEC joined PJM in 2018, the Sponsoring Companies whose generating assets
16 were also in the PJM market met through the Operating Committee to decide the
17 appropriate method to offer the OVEC units into the PJM energy market. It was decided
18 that OVEC would offer the PJM Sponsoring Companies collective share of OVEC's
19 energy into the PJM daily energy market. At that time, each of those Sponsoring
20 Companies were offering their own units into PJM's energy market and were concerned
21 that they might be perceived as having competitively sensitive information if they knew
22 how OVEC's energy would be bid into those markets. In addition, it was more practical

1 for OVEC to offer the PJM sponsors' share collectively into the energy market because of
2 unit status and other information and knowledge required each day to submit the day-
3 ahead offer to PJM every day. For these reasons each sponsor separately and
4 confidentially offers its ownership share of its OVEC units into the PJM base capacity
5 auction once per year and OVEC offers collectively each PJM owners share of energy
6 into the energy market each day. The PJM owners are not involved with OVEC's daily
7 energy market decisions and strategy.

8 **Q. Please explain the concept of unit commitment**

9 A. As part of its daily submission to the PJM day-ahead energy market, OVEC must provide
10 a unit commitment designation for each unit at both of its generating facilities. The
11 designations are limited to Economic, Must-Run, Emergency, or Not Available.
12 Economic units are committed and dispatched by PJM via its economic dispatch model
13 described above. Must-run units, also called self-committed units or self-scheduled units,
14 are committed into the day-ahead market by their owner to run at their economic
15 minimum, although the PJM dispatch model can and does dispatch them at a level above
16 their economic minimum based on market pricing and the units' cost information.

17 **Q. How does OVEC offer and commit its units into the PJM Energy Market?**

18 A. OVEC offers Clifty Creek and Kyger Creek units into the PJM day-ahead energy market
19 consistent with the Operating Committee procedures. With some exceptions, units that
20 are in service and expected to be available in the day-ahead market are offered as Must-
21 Run. Potential exceptions could include unusual non-market related events such as coal
22 shortages and/or some form of force majeure event outside of OVEC's control. During

Ozone Season, Unit 6 at Clifty Creek is assigned an opportunity cost associated with its NOx emissions profile and is offered as Economic.

Q. Is OVEC's use of the must-run commitment during the Audit Period a reasonable market commitment strategy?

A. Yes. OVEC offers the units in the day-ahead PJM energy market and includes all information needed by PJM. The OVEC units during the vast majority of the time are following PJM's economic dispatch signal in the real-time market, which is based on the unit's cost compared to the real-time energy price. Said differently, even though OVEC offers its units as Must Run, the OVEC units still follow PJM's economic price signal and the units are not set at a flat or constant operating level. The Must Run classification in PJM means that a unit owner is committing the unit to the day-ahead market and PJM therefore does not need to consider start-up costs and no-load costs in its day-ahead commitment evaluation. (See AES Ohio's response to Auditor Data Request No. 54 (DPL 20), copy attached at Ex. 4). OVEC's Must Run classification does include an energy offer curve which allows PJM to dispatch the units economically between the units' minimum and maximum capability during the day.

Although the PJM day-ahead market is concerned only with the next operating day, generation owners in PJM evaluate economics for extended periods. OVEC's units, as coal-fired generating units designed for baseload generation, are not capable of instantaneous startup and shutdown and are not designed to be cycled on and off frequently. In addition, shutting off a unit, starting a unit, and ramping a unit to a higher level of output each come with risks and significant costs. As an example, it may be cheaper to keep OVEC units online during a weekend even though prices are generally

1 lower and OVEC may appear to be selling at a loss, because the expense to restart units
2 Monday morning is greater than the loss that would be realized by keeping the units on
3 over the weekend. In addition, and as stated earlier, base load units are designed to run as
4 a "base" resource and are not designed to be cycled on and off or started and ran
5 infrequently like peaking units. Based upon my experience working on the Operating
6 Committee, it is my understanding that it was more economical and prudent to keep these
7 units on even if the economics may appear to be unattractive for short periods of time.

8 In addition, any cycling of a unit comes with operational and financial risk. A
9 unit may fail to start, causing potential damage, additional maintenance expense, and the
10 loss of market revenues. The risk of cycling, while difficult to quantify, must be factored
11 into commitment decisions and the unit commitment selected.

12 **Q. Does OVEC evaluate whether each of its units should be designated as must run in**
13 **PJM's energy markets?**

14 **A.** Yes. For example, as mentioned above, within the Audit Period, OVEC designated Unit
15 6 at Clifty Creek as Economic during the Ozone season. As another example, the
16 demand for energy decreased dramatically in the spring of 2020 during shutdowns
17 associated with COVID-19. In response to that significant change in market conditions,
18 the Sponsoring Companies concluded that it would be prudent and reasonable to offer
19 OVEC units into the PJM energy markets as Economic. OVEC will thus operate its units
20 as Economic within the PJM energy markets when it is prudent and reasonable to do so.

21 **C. Ancillary Services Market**

22 **Q. Can you describe PJM's Ancillary Services Market?**

A. Yes, in general, through those markets, PJM compensates generation providers for providing services that help to ensure reliability, balance and support the bulk electric system.

Q. Did OVEC participate in any of PJM's Ancillary Services Markets during the Audit Period?

A. Yes. OVEC joined PJM in 2018, and has participated in the PJM Synchronized Reserve Market during the Audit Period. While PJM operates additional ancillary services markets, during the Audit Period, OVEC's units were not able to meet all of the technical requirements for all of the ancillary services. AES Ohio received additional revenue associated with OVEC's participation in the Synchronized Reserve Market.

IV. OVEC CHARGES

Q. Can you identify the types of costs that OVEC charges AES Ohio?

A. Yes. Pursuant to Article 5 of the ICPA, OVEC bills AES Ohio for three different types of charges:

1. An Energy Charge, which recovers fuel related expenses. ICPA, ¶5.02.
2. A Demand Charge, which recovers various categories of expenses, including debt expenses, operating expenses, tax expenses, etc. ICPA, ¶5.03.
3. A Transmission Charge, which recovers the costs of purchasing transmission and related services. ICPA, ¶5.04.

In addition, pursuant to Article 7 of the ICPA, OVEC charges AES Ohio for certain capital expenditures.

1 **Q. Does AES Ohio take steps to ensure that those charges are reasonable and prudent?**

2 A. Yes. As an initial matter, a representative of AES Ohio sits on OVEC's Board of
3 Directors and on the Operating Committee. The Board reviews and approves all major
4 decisions of OVEC, and has ultimate oversight responsibility for OVEC's operations.
5 Copies of Board presentation during the Audit Period are attached as Exhibits 5-7, which
6 show the depth of that oversight and review. As I mentioned earlier, while I am not a
7 member of the Board, I did attend the Board meetings during the Audit Period. Board
8 members typically ask questions about presentations given by OVEC to the Board, and
9 the discussions and level of review are extensive and focused on safety, budgeting, cost
10 controls and overall cost of production as outlined in the Board presentations.

11 In addition, pursuant to ICPA ¶9.05, OVEC has an Operating Committee
12 consisting of one member of each of the Sponsoring Companies and one member
13 appointed by OVEC. As mentioned above, I served as AES Ohio's appointee to the
14 Operation Committee during the Audit Period. As discussed above, the Operating
15 Committee reviews and approves OVEC's operating practices, and approves written
16 Operational Procedures for OVEC.

17 **A. Fuel Expenses Operational and Maintenance Expenses**

18 **Q. Are you familiar with how OVEC procures and transports coal to its plants?**

19 A. Yes, at a high level, that is a topic that is discussed at the meetings of the Board of
20 Directors and the Operating Committee.

21 **Q. Are those methods reasonable and prudent?**

A. Yes. Specifically, OVEC contracts with AEP for AEP to manage its coal procurement and transportation contracts. It is reasonable and prudent for OVEC to rely on AEP, since AEP is much larger than OVEC and can take advantage of economies of scale and AEP's experience in purchasing and transporting coal.

AEP will typically issue requests for proposals ("RFP") for coal and transportation for OVEC. Using an RFP process ensures that OVEC is receiving market rates for coal and transportation.

In addition, before OVEC will sign a coal or transportation contract, OVEC will independently review the contract to ensure that the pricing is consistent with published market rates.

Q. Does OVEC enter into contracts at different times and with different suppliers?

A. Yes. Doing so is reasonable and prudent because the practice reduces risks.

Q. Are OVEC's fuel costs reasonable and prudent?

A. Yes. OVEC's fuel costs are reasonable and prudent for several reasons. First, OVEC's use of AEP resources for issuing RFPs and fuel procurement and contracting is prudent and reasonable given AEP's extensive experience in this area. Second, OVEC's use of multiple suppliers and multiple contract periods for coal contracts is also prudent and reasonable because it diversifies risks of supplier non-performance and credit risk. And third, OVEC provides energy cost information in its Board presentations which show OVEC's historic and projected energy costs.

Specifically, energy costs in \$/MWh for a coal plant are made up of approximately 90% fuel, as a coal plant simply converts thermal energy (coal) to

1 electricity. Information that OVEC provided to its Board (again, I attend those meetings)
2 shows that OVEC's energy costs for 2018 and 2019 had decreased over time and were
3 below [REDACTED]. Ex. 7, p. 8. Based upon my knowledge and experience described
4 above, OVEC's energy costs were reasonable and prudent. In addition, the majority of
5 the members of the OVEC Board were also owners of coal plants and were presented the
6 same information at Board meetings. These Board members would have also observed
7 the energy costs (which is effectively coal costs or a proxy for coal costs) for
8 reasonableness and prudence and would have raised any issues if they existed, which I do
9 not recall happening.

10 **Q. What conclusions and insight can you make from the fuel cost history of the OVEC**
11 **plants?**

12 A. That information was provided on a \$/MMBtu basis in response to Request 19 from the
13 Auditor, which is attached at Ex. 8. There are several conclusions that I can make from
14 that Exhibit, which are summarized below:

- 15 • OVEC's fuel cost at Kyger Creek and Clifty Creek have declined from 2015 to
16 2019. In addition, they have declined each year over year except for the last year
17 2019, which shows a slight increase.
- 18 • The differences in the fuel cost, as shown in \$/MMBtu, between Kyger Creek and
19 Clifty Creek is likely due to: 1) the location of each power plant relative to the
20 coal mines it purchased from, which impacts the transportation cost and 2) the
21 qualities of coal being purchased for each plant may be different in term of heat
22 content (MMBtu/lb), sulfur content, moisture content, ash content, chlorine

1 content, and other characteristics, all of which impact the total cost measured in
2 \$/MMBtu.

- 3 • OVEC's use of a diversified coal supplier approach, using shorter term contract
4 periods for coal purchases and their practice of issuing RFPs for coal enabled
5 OVEC to take advantage of a declining coal market and therefore procure lower
6 cost fuel during the Audit Period.
- 7 • The data in Exhibit 8 demonstrates that OVEC, with the assistance of AEP as
8 covered in my testimony, is acting prudently and with good business practices to
9 ensure that OVEC's cost are competitive and at market prices.

10 **Q. Are OVEC's operational and maintenance expenses prudent and reasonable?**

11 A. Yes. Those expenses are reviewed and approved by the Board. OVEC monitors its
12 operational and maintenance expenses, which primarily consists of labor, consumables
13 and other power plant operating expenses. In particular, the minutes for the December
14 15, 2018 Board of Directors meeting discuss an OVEC "LEAN Cost Performance"
15 program that significantly reduced OVEC's operating costs. See Ex. 5, pp. 8-11.

16 **B. Capital Expenses**

17 **Q. Can you describe the process that OVEC uses to approve capital projects?**

18 A. Yes. OVEC completes an internal review process that evaluates the cost/benefits of
19 capital projects. Typically, approvals over \$750,000 are submitted to the Board and
20 require majority approval at a Board meeting. There were active discussions of those
21 investments of the Board, and the Board would approve them only if the Board
22 concluded they were necessary and prudent.

1 **Q. Can you identify the OVEC capital expenditures and AES Ohio's share of those**
2 **expenditures during the Audit Period?**

3 A. Yes, that information is attached at Ex. 9.

4 **V. FIRST ENERGY SOLUTIONS BANKRUPTCY**

5 **Q. Can you respond to the comment made by OCC regarding the bankruptcy of First**
6 **Energy Solutions and the amount of its costs that were allocated to AES Ohio by**
7 **OVEC?**

8 A. Yes. After First Energy Solutions declared bankruptcy in 2018, OVEC allocated to AES
9 Ohio 4.9% of First Energy Solutions' share of OVEC's energy and capacity. AES Ohio
10 received any related energy and capacity revenues from PJM for the First Energy share.
11 At no time as a result of the First Energy Solutions bankruptcy did AES Ohio ever own
12 more than its 4.9% ownership of OVEC. OVEC also allocated to AES Ohio the fuel
13 costs associated with that energy, but OVEC did not allocate to AES Ohio the associated
14 demand or capital costs.

15 **VI. CONCLUSION**

16 **Q. Does this conclude your testimony?**

17 A. Yes.

EXHIBIT 1

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

AMENDED AND RESTATED
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,

Indiana, (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 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.

1.012 "Arbitration Board" has the meaning set forth in Section 9.10.

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
---------	--------------------------------------

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.

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*.

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.

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.

ARTICLE 9

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.

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-

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

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 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.

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 (10th) 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

favorable to the such Third Party than those specified in the Offer Notice; 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.

ARTICLE 10

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

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.

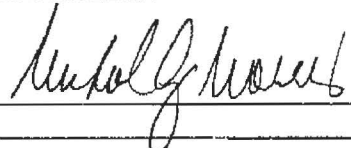
11.03. *Waiver.* No waiver by the Corporation or any Sponsoring Company of any one or more defaults in the performance of any provision of this Agreement shall be construed as a waiver of any other default or defaults, whether of a like kind or different nature.

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 
Its _____

APPALACHIAN POWER COMPANY

By _____
Its _____

**COLUMBUS SOUTHERN POWER
COMPANY**

By _____
Its _____

DUKE ENERGY OHIO, INC.

By _____
Its _____

**INDIANA MICHIGAN POWER
COMPANY**

By _____
Its _____

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

By _____
Its _____

**BUCKEYE POWER GENERATING,
LLC**

By _____
Its _____

**THE DAYTON POWER AND
LIGHT COMPANY**

By _____
Its _____

**FIRSTENERGY GENERATION
CORP.**

By _____
Its _____

**KENTUCKY UTILITIES
COMPANY**


By _____
Its _____

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 _____
Its _____

APPALACHIAN POWER COMPANY

By 
Its _____

**COLUMBUS SOUTHERN POWER
COMPANY**

By _____
Its _____

DUKE ENERGY OHIO, INC.

By _____
Its _____

**INDIANA MICHIGAN POWER
COMPANY**

By _____
Its _____

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

By _____
Its _____

**BUCKEYE POWER GENERATING,
LLC**

By _____
Its _____

**THE DAYTON POWER AND
LIGHT COMPANY**

By _____
Its _____

**FIRSTENERGY GENERATION
CORP.**

By _____
Its _____

**KENTUCKY UTILITIES
COMPANY**

By _____
Its _____

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 _____
Its _____

APPALACHIAN POWER COMPANY

By _____
Its _____

**COLUMBUS SOUTHERN POWER
COMPANY**

By _____
Its _____

DUKE ENERGY OHIO, INC.

By _____
Its _____

**INDIANA MICHIGAN POWER
COMPANY**

By _____
Its _____

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

By _____
Its _____

**BUCKEYE POWER GENERATING,
LLC**

By _____
Its _____

**THE DAYTON POWER AND
LIGHT COMPANY**

By _____
Its _____

**FIRSTENERGY GENERATION
CORP.**

By _____
Its _____

**KENTUCKY UTILITIES
COMPANY**

By _____
Its _____

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 _____
Its _____


APPALACHIAN POWER COMPANY

By _____
Its _____

**COLUMBUS SOUTHERN POWER
COMPANY**

By _____
Its _____

DUKE ENERGY OHIO, INC.

By 
Its VACE PRESCOTT

**INDIANA MICHIGAN POWER
COMPANY**

By _____
Its _____

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

By _____
Its _____

**BUCKEYE POWER GENERATING,
LLC**

By _____
Its _____

**THE DAYTON POWER AND
LIGHT COMPANY**

By _____
Its _____

**FIRSTENERGY GENERATION
CORP.**

By _____
Its _____

**KENTUCKY UTILITIES
COMPANY**

By _____
Its _____

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

**KENTUCKY UTILITIES
COMPANY**

By _____
Its _____

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 _____
Its _____

APPALACHIAN POWER COMPANY

By _____
Its _____

**COLUMBUS SOUTHERN POWER
COMPANY**

By _____
Its _____

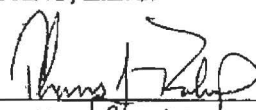
DUKE ENERGY OHIO, INC.

By _____
Its _____

**INDIANA MICHIGAN POWER
COMPANY**

By _____
Its _____

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

By 
Its VICE PRES. DENT

**BUCKEYE POWER GENERATING,
LLC**

By _____
Its _____

**THE DAYTON POWER AND
LIGHT COMPANY**

By _____
Its _____

**FIRSTENERGY GENERATION
CORP.**

By _____
Its _____

**KENTUCKY UTILITIES
COMPANY**

By _____
Its _____

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 _____
Its _____

APPALACHIAN POWER COMPANY

By _____
Its _____

**COLUMBUS SOUTHERN POWER
COMPANY**

By _____
Its _____

DUKE ENERGY OHIO, INC.

By _____
Its _____

**INDIANA MICHIGAN POWER
COMPANY**

By _____
Its _____

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

By _____
Its _____

**BUCKEYE POWER GENERATING,
LLC**

By Anthony J. Chern
Its President & CEO

**THE DAYTON POWER AND
LIGHT COMPANY**

By _____
Its _____

**FIRSTENERGY GENERATION
CORP.**

By _____
Its _____

**KENTUCKY UTILITIES
COMPANY**

By _____
Its _____

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 _____
Its _____

APPALACHIAN POWER COMPANY

By _____
Its _____

**COLUMBUS SOUTHERN POWER
COMPANY**

By _____
Its _____

DUKE ENERGY OHIO, INC.

By _____
Its _____

**INDIANA MICHIGAN POWER
COMPANY**

By _____
Its _____

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

By _____
Its _____

**BUCKEYE POWER GENERATING,
LLC**

By _____
Its _____

**THE DAYTON POWER AND
LIGHT COMPANY**

By *Gary Stephenson*
Its EXECUTIVE VICE PRESIDENT
Gary Stephenson

**FIRSTENERGY GENERATION
CORP.**

By _____
Its _____

**KENTUCKY UTILITIES
COMPANY**

By _____
Its _____

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 _____
Its _____

APPALACHIAN POWER COMPANY

By _____
Its _____

**COLUMBUS SOUTHERN POWER
COMPANY**

By _____
Its _____

DUKE ENERGY OHIO, INC.

By _____
Its _____

**INDIANA MICHIGAN POWER
COMPANY**

By _____
Its _____

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

By _____
Its _____

**BUCKEYE POWER GENERATING,
LLC**

By _____
Its _____

**THE DAYTON POWER AND
LIGHT COMPANY**

By _____
Its _____

**FIRSTENERGY GENERATION
CORP.**

By Mary R. Lerdach
Its President

**KENTUCKY UTILITIES
COMPANY**

By _____
Its _____

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 _____
Its _____

APPALACHIAN POWER COMPANY

By _____
Its _____

**COLUMBUS SOUTHERN POWER
COMPANY**

By _____
Its _____

DUKE ENERGY OHIO, INC.

By _____
Its _____

**INDIANA MICHIGAN POWER
COMPANY**

By _____
Its _____

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

By _____
Its _____

**BUCKEYE POWER GENERATING,
LLC**

By _____
Its _____

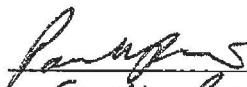
**THE DAYTON POWER AND
LIGHT COMPANY**

By _____
Its _____

**FIRSTENERGY GENERATION
CORP.**

By _____
Its _____

**KENTUCKY UTILITIES
COMPANY**

By 
Its Sr. Vice President

**LOUISVILLE GAS AND ELECTRIC
COMPANY**

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

OHIO POWER COMPANY

By _____
Its _____

**MONONGAHELA 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 _____

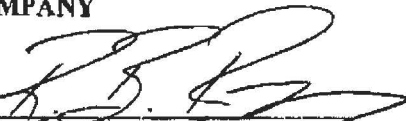
**LOUISVILLE GAS AND ELECTRIC
COMPANY**

By _____
Its _____

OHIO POWER COMPANY

By _____
Its _____

**MONONGAHELA POWER
COMPANY**

By 
Its General Manager, Electric Supply

**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:

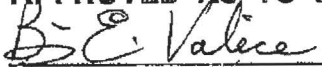

BRIAN E. VALICE
ATTORNEY FOR PENINSULA
GENERATION COOPERATIVE

EXHIBIT 2

Operating Procedures

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Operating Procedures

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Operating Procedures

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Operating Procedures

1. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

2. [REDACTED]

[REDACTED]

[REDACTED]

Operating Procedures

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Operating Procedures

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Operating Procedures

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

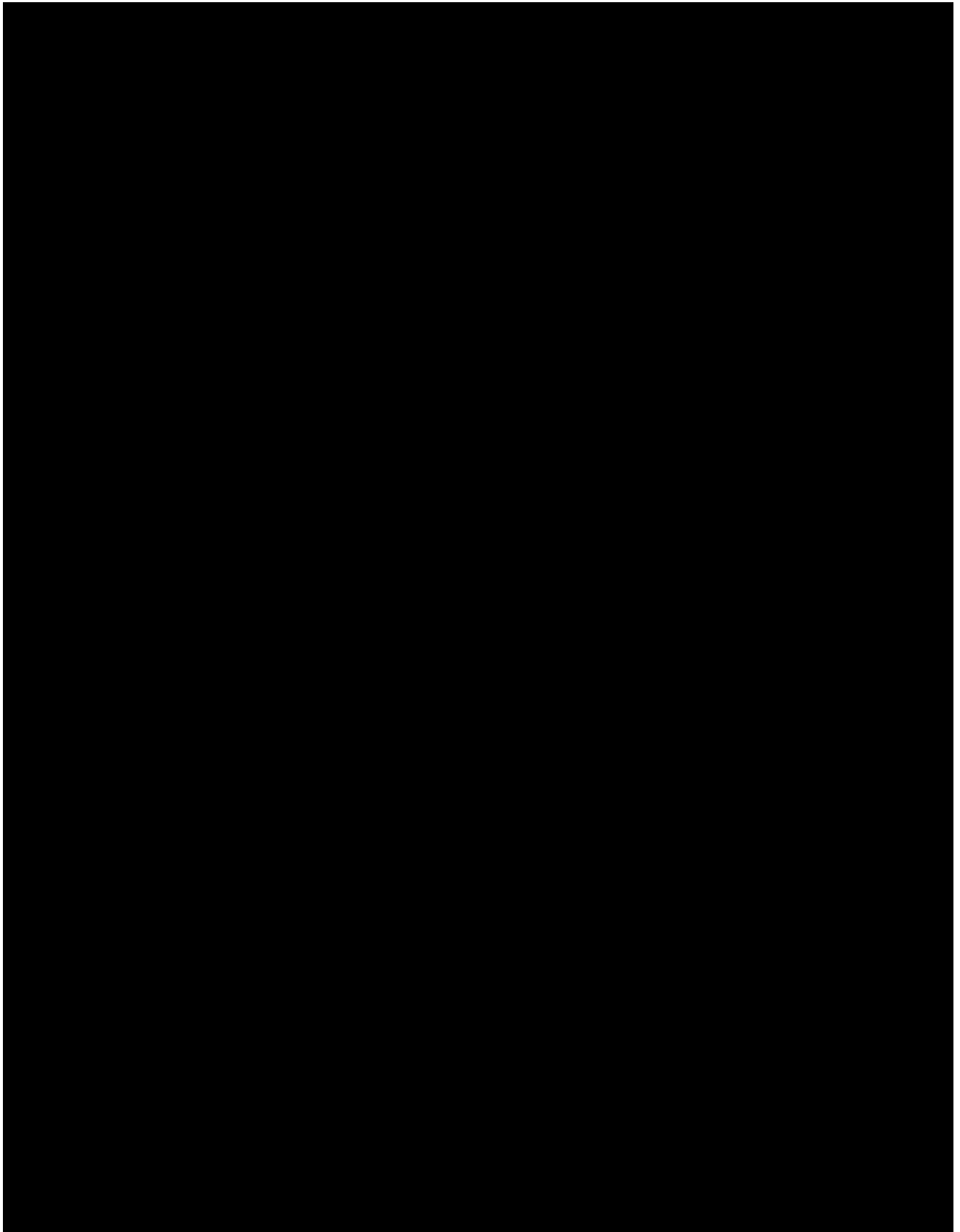
[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

■■■■■

[REDACTED]

██████████

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

EXHIBIT 3

Operating Procedures

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Operating Procedures

[REDACTED]

[REDACTED]

■ [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

■ [REDACTED]

[REDACTED]

[REDACTED]

■ [REDACTED]

Operating Procedures

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Operating Procedures

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Operating Procedures

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Operating Procedures

[REDACTED]

[REDACTED]

■ [REDACTED]

[REDACTED]

■ [REDACTED]

■ [REDACTED]

■ [REDACTED]

■ [REDACTED]

■ [REDACTED]

Operating Procedures

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Operating Procedures

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Operating Procedures

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Operating Procedures

[REDACTED]

[REDACTED]

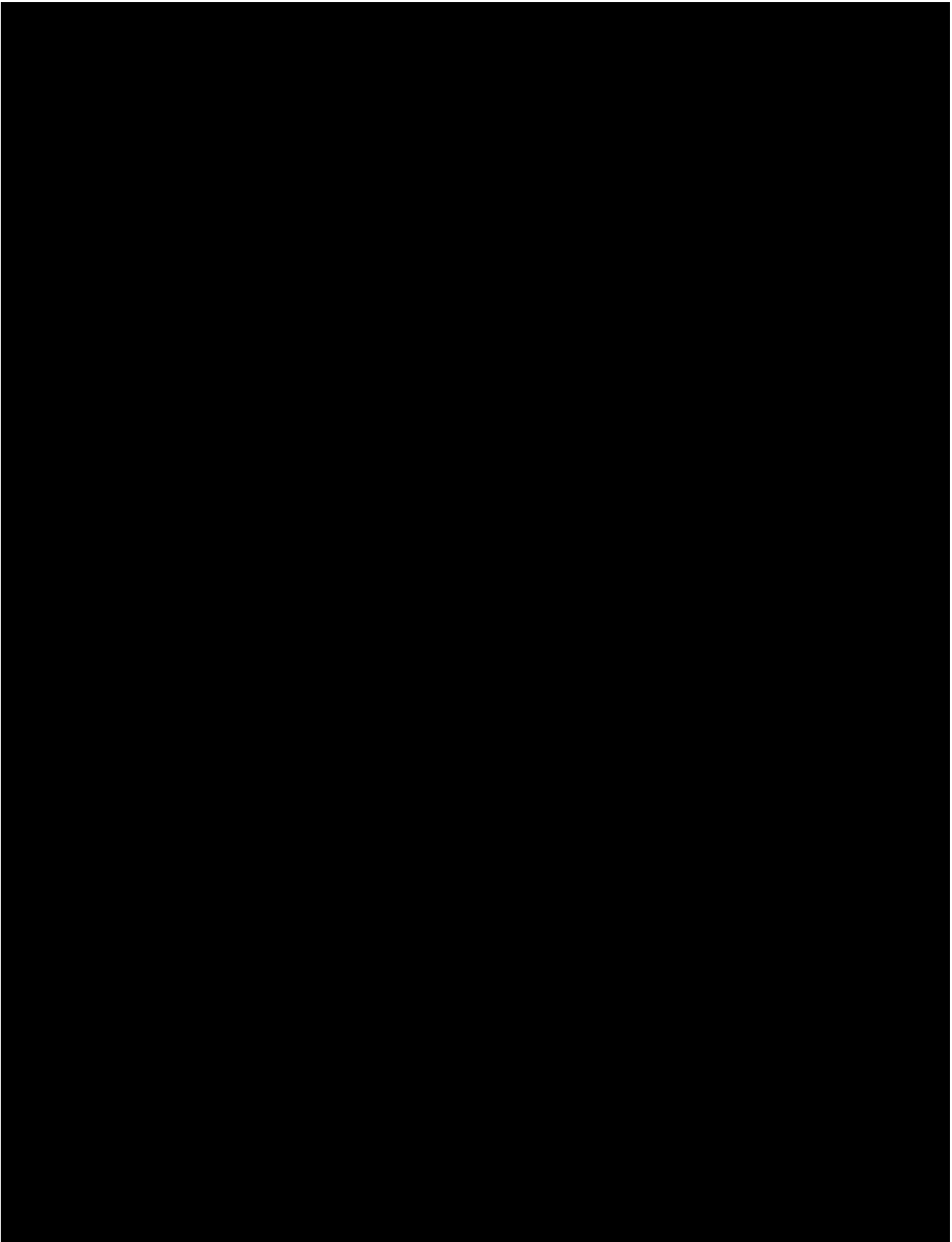
[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

EXHIBIT 4

**DAYTON POWER & LIGHT'S RESPONSE TO
THE PUBLIC UTILITIES COMMISSION OF OHIO'S AUDITOR
VANTAGE'S DATA REQUEST
PUCO CASE NO. 20-0165**

DATA REQUEST

VEC 20 Confirm whether OVEC is offering the plants into PJM as "must-run".

RESPONSE

DP&L objects to this request as beyond the scope of the audit which is to examine costs and credits as received by DP&L either from OVEC or from PJM markets and ensure they are properly recorded for recovered through the Reconciliation Rider. This audit is not an audit of OVEC, its management or policies, all of which are beyond the control of DP&L as a 4.9% shareholder. Without waiving these objections, DP&L response is as provided by OVEC.

Units are offered into the PJM market consistent with the sponsor approved Operating Committee procedures. With one exception, units that are in service and expected to be available in the day-ahead market are offered as "must run". During Ozone Season Unit 6 at Clifty Creek is assigned an opportunity cost associated with its NOx emissions profile and is offered as Economic.

EXHIBIT 5



12/5/18 Boards of Directors' Meeting Presentation

**OHIO VALLEY ELECTRIC CORPORATION (OVEC)
INDIANA-KENTUCKY ELECTRIC CORPORATION (IKEC)
Resolutions of Minutes of Meeting
Board of Director' Meeting
December 5, 2018**

WHEREAS, effective as of the election of the persons specified herein, Ms. Julie Sloat will be resigning as a member of the Board of Directors (Board) of OVEC and as a member of the Executive Committee and any other committees of the Board of OVEC;

WHEREAS, effective as of the election of the persons specified herein, Ms. Lonnie Dieck will be resigning as Assistant Secretary and Assistant Treasurer of OVEC and IKEC; and

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

NOW, THEREFORE, BE IT:

RESOLVED, that, subject to any necessary action by FERC under Section 305 of the Federal Power Act, Mr. Raja Sundararajan be elected a Director of the Board of OVEC and 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. Julie Sloat be appointed as Assistant Secretary and Assistant Treasurer of OVEC and IKEC, and it is further

RESOLVED, that the foregoing resignations, elections and appointments shall be effective as of January 1, 2019.

Raja Sundararajan

Vice President - Regulatory Services, American Electric Power



Raja Sundararajan is vice president, Regulatory Services. In this position, he is responsible for AEP's regulatory activities before 11 state regulatory commissions and the Federal Energy Regulatory Commission (FERC).

Previously, Sundararajan was vice president - Transmission Asset Strategy and Policy for AEP, responsible for the oversight of all Regional Transmission Organization (RTO), Federal Energy Regulatory Commission (FERC), state regulatory and strategic matters related to AEP Transmission.

Sundararajan also served as managing director - Transmission Business Strategy, responsible for executing business plans for AEP Transcos and Joint Venture Development. He also worked to develop, communicate and implement strategies and RTO policies for internal Transmission assets and joint venture projects.

Sundararajan joined AEP in Commercial Operations and held management positions in Treasury and Corporate Finance, primarily responsible for oversight of debt and financing issues related to AEP and its operating companies. He also has served as the managing director of Market Risk, overseeing financial risk and providing independent oversight to AEP Commercial Operations and AEP Energy Partners trading and marketing positions.

He holds a bachelor's degree in mechanical engineering from the Indian Institute of Technology, Madras, India; a master's degree in mechanical engineering from the University of Maryland, and a master's degree in business administration from the University of Michigan.

**OHIO VALLEY ELECTRIC CORPORATION (OVEC)
INDIANA-KENTUCKY ELECTRIC CORPORATION (IKEC)
Resolutions of Minutes of Prior Meetings
Boards of Directors' Meeting
December 5, 2018**

OVEC

RESOLVED, that the Minutes of the Special Meetings of the Board of Directors of this Corporation, held on December 8, 2017, February 21, 2018, April 27, 2018, June 15, 2018, and June 28, 2018, are approved.

IKEC







RESOLVED, that the Minutes of the Special Meetings of the Board of Directors of this Corporation, held on December 8, 2017, February 21, 2018, April 27, 2018, and June 15, 2018, are approved.

AEPSC Service Charges

OHIO VALLEY ELECTRIC CORPORATION (OVEC)
INDIANA-KENTUCKY ELECTRIC CORPORATION (IKEC)
AMERICAN ELECTRIC POWER SERVICE CORPORATION CHARGES
FOR CALENDAR YEAR 2018 PROJECTED THROUGH DECEMBER 31, 2018

	BUDGET FOR 2018			PROJECTED THROUGH 12/31/18			DIFFERENCE OVER (UNDER)
	<u>OVEC</u>	<u>IKEC</u>	<u>TOTAL</u>	<u>OVEC</u>	<u>IKEC</u>	<u>TOTAL</u>	
<u>GENERAL SERVICES</u>							
OPERATION & MAINTENANCE							
WORK MANAGEMENT SYSTEM - MAXIMO CONVERSION							
ENVIRONMENTAL ACTIVITIES							
TRANSMISSION							
FUEL PROCUREMENT AND TRANSPORTATION							
GENERAL ADMINISTRATIVE SERVICES							
OTHER GENERAL SERVICES							
TOTAL GENERAL SERVICES							

OHIO VALLEY ELECTRIC CORPORATION (OVEC)
INDIANA-KENTUCKY ELECTRIC CORPORATION (IKEC)
AMERICAN ELECTRIC POWER SERVICE CORPORATION CHARGES
BUDGET FOR CALENDAR YEAR 2019

	BUDGET FOR 2019		
	<u>OVEC</u>	<u>IKEC</u>	<u>TOTAL</u>
OPERATION & MAINTENANCE			
WORK MANAGEMENT SYSTEM - MAXIMO CONVERSION			
ENVIRONMENTAL ACTIVITIES			
TRANSMISSION			
FUEL PROCUREMENT & TRANSPORTATION			
GENERAL ADMINISTRATIVE SERVICES			
OTHER GENERAL SERVICES			
TOTAL AEPSC GENERAL SERVICES			

**OHIO VALLEY ELECTRIC CORPORATION (OVEC)
INDIANA-KENTUCKY ELECTRIC CORPORATION (IKEC)
AEP Service Corporation 2019 Service Charges
Boards of Directors' Meeting
December 5, 2018**

OVEC

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] million for calendar year 2019.

IKEC

RESOLVED, that the officers of Indiana-Kentucky Electric Corporation may request and obligate Indiana-Kentucky 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 Ohio Valley Electric Corporation, exclusive of services for specific projects previously approved, would aggregate a maximum of [REDACTED] million for calendar year 2019.

OVEC LEAN Cost Performance

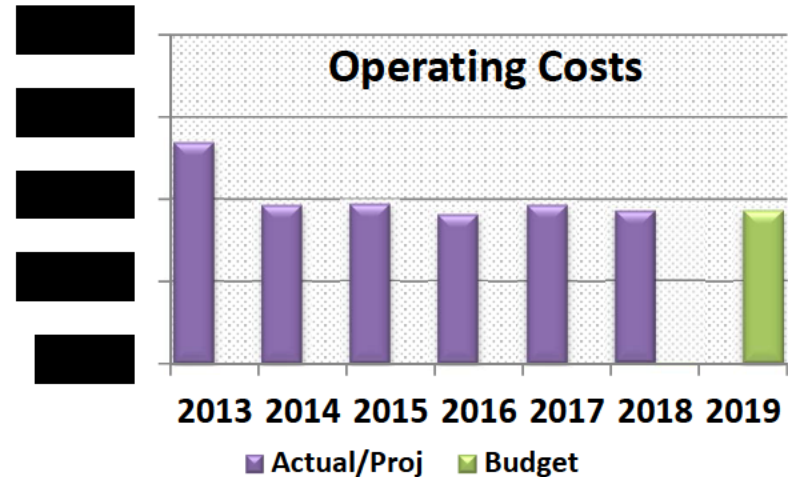
2018 LEAN Cost Structure

Demand Cost – Operating Costs

(CAPEX, O&M, A&G)

Approx. █████ – Reduction from 2013 to 2018

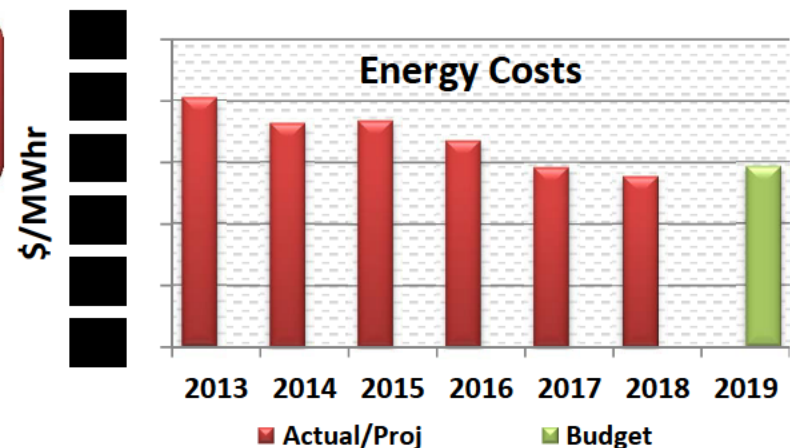
- Held Demand Flat (within █████)
- With efforts in Continuous Improvement and Open Book Leadership improving process, creating efficiencies and savings to offset costs
- Optimizing Operating, Maintenance, and Capital (OMC)
- Absorbing inflation, interest rates, wage increase, and outage scope variation
- Employee Benefit Plan changes
- Staffing Level Adjustments – Approx. █████ reduction from 2012
- Improving Reliability 2015 EFOR █████ to projected 2018 EFOR █████



Energy Cost

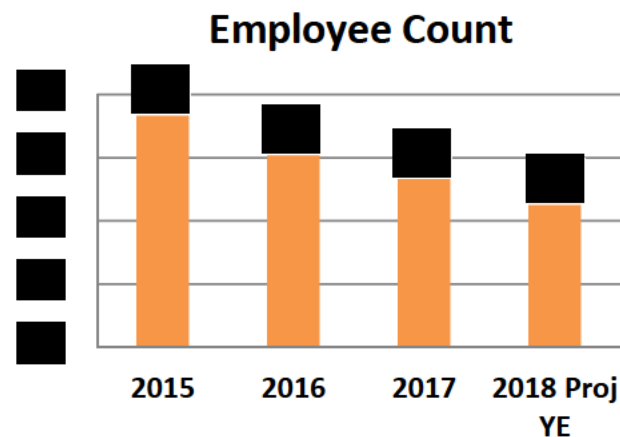
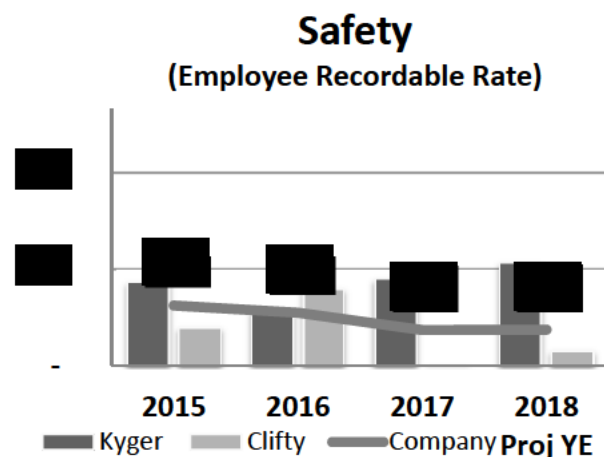
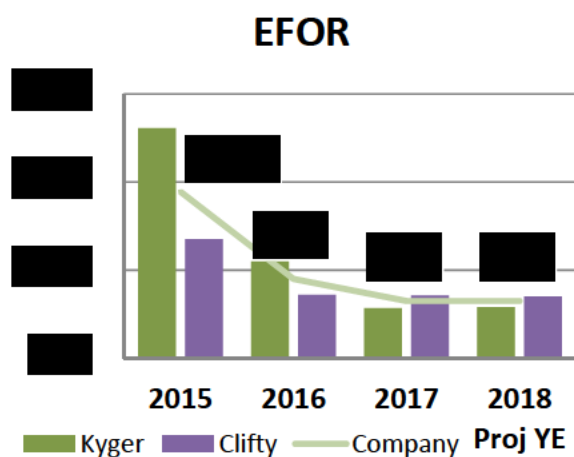
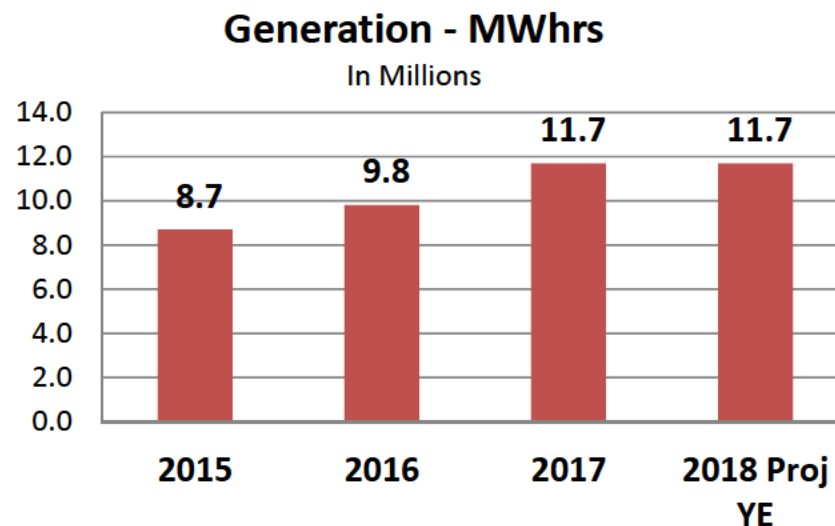
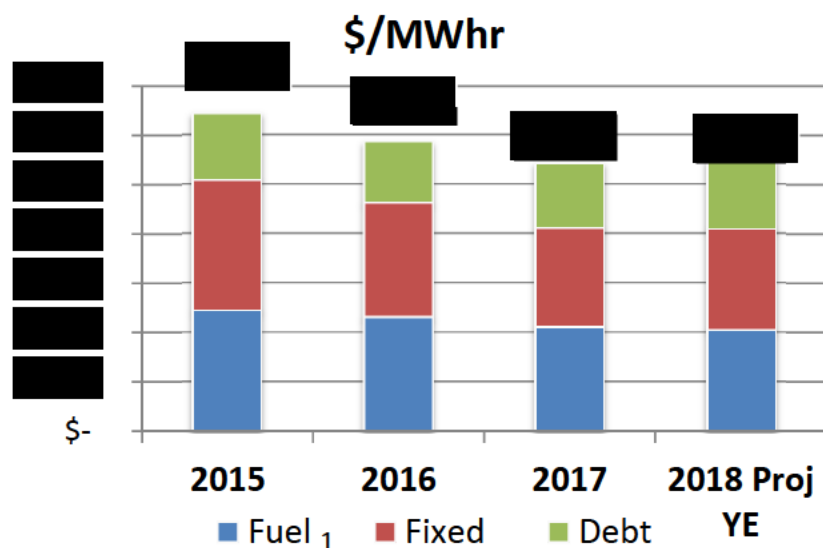
Approx. █████ - Reduction from 2013 to 2018

- Downward Trend in Fuel Costs due to:
- Continuous Improvements - consumable feed rates, improvements around demurrage and reduction of reagents
- Heat Rate Improvement - driven by a cross departmental/location Heat Rate improvement team



In Total OVEC/IKEC's LEAN program has implemented over 3,000 Process Improvements and over █████ in Cost Savings from employee ideas over the past 6 years.

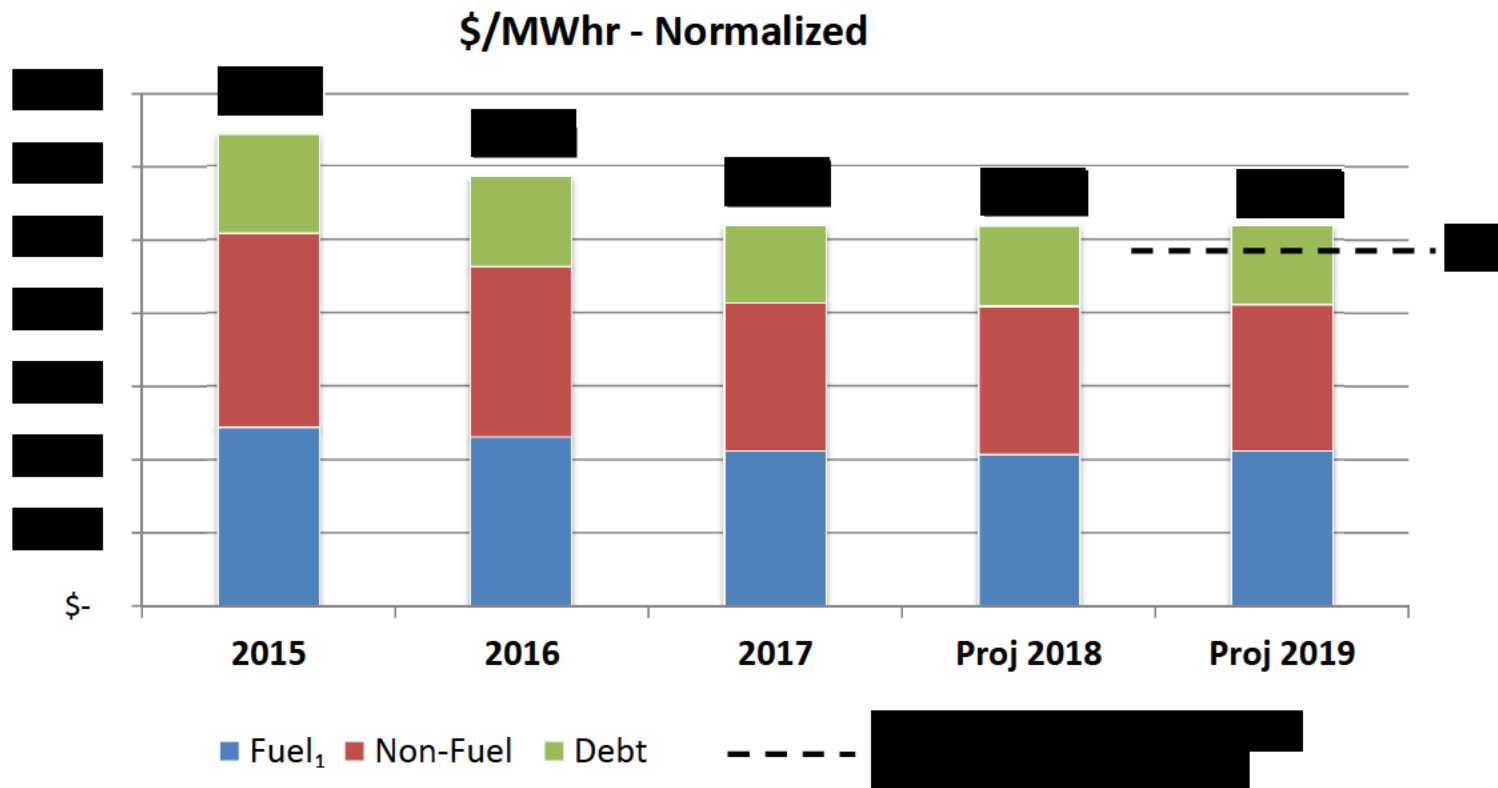
2015 – 2018 Performance



1) Fuel - OVEC's PJM Dispatch Fuel Cost

\$/MWhr – Normalized

(excluding event driven costs)



Excludes non-traditional or event driven costs – debt reserve, increased finance cost, legal and other expenses due to Sponsor event

1) [Redacted]

Environmental Compliance Update



Review of 2018 Ozone NO_x Performance

Both plants successfully operated within their NO_x emission targets again in 2018. In addition, OVEC-IKEC generated more megawatts during the 2018 Ozone Season compared to 2017 (and prior 5-year average) by applying lessons learned from 2017.

- Total [REDACTED] increase in Ozone Season generation in 2018;
- Unit 6 dispatched [REDACTED] more days in 2018 Ozone Season [REDACTED] days in 2017 vs [REDACTED] days in 2018);
- Ozone Season emission rates at/near historical lows (average emission rate between [REDACTED] and [REDACTED] lb/mmBtu for SCR controlled units)



Status of Ozone Season Legal Action: US EPA denied Maryland Ozone NAAQS 126 Petition (and Delaware petitions) in October 2018. Maryland, Delaware and NGO's filed requests for review with the D.C. Circuit Court in November 2018. UARG filed a Motion to Intervene. New York 126 Petition pending, expecting EPA to deny as well.

Environmental Compliance Update

- **MATS Compliance Status**

- **Clifty Creek:** Continued to maintain compliance with all MATS obligations;
- **Kyger Creek:** Continued to maintain substantial compliance with PM and SO₂ limits, [REDACTED]

- [REDACTED]
- JBR12 experienced [REDACTED];
- [REDACTED]
- [REDACTED]
- [REDACTED]



Environmental Policy Update

Effluent Limitation Guidelines (ELG) 2018 Update

- EPA is continuing to revise the ELG Rule requirements for FGD wastewater and bottom ash transport water. Revised draft rule may not be available until early 2019, final rule targeted for late 2019 or early 2020.
 - Impact of changes in political, regulatory, or legal climate may impact risk and cost from future EPA requirements;
 - OVEC-IKEC remains optimistic EPA will add some flexibility into the rule for the size of units and/or for flexibility allowing limited discharges from bottom ash pond impoundments – e.g., high rainfall or maintenance activities;
 - OVEC-IKEC anticipates there may be a continued opportunity to secure some relief from the original overly stringent FGD WWTP final effluent limits that would have required biological treatment; and
 - Dry fly ash conversion at Kyger Creek remains a compliance obligation.

Next Steps for ELG compliance

- **Kyger Creek:** Continue with Dry Fly Ash conversion analysis
 - Requested a compliance date of December 31, 2023 in NPDES Permit renewal filed on November 1, 2018.
- **Clifty Creek:** File permit modification request once new ELG Rule is issued.

Environmental Policy Update

316(b) Update

- Section 122.21(r) of the 316(b) rules require submittal of comprehensive studies and recommendations on cooling water intake structure upgrades
 - **Kyger Creek:** Report submitted with the NPDES permit renewal package filed November 1, 2018;
 - **Clifty Creek:** Report being finalized and will be submitted in early 2019.
 - Both reports request consultation with state regulatory agencies and their subsequent site-specific determination of what constitutes BAT consistent with Section 125.98(f) of the 316(b) Rule; and
 - State agency determination will be requested before developing detailed costs and establishing a schedule for cooling water system intake upgrades.



Environmental Policy Update

Coal Combustion Residual (CCR) Update

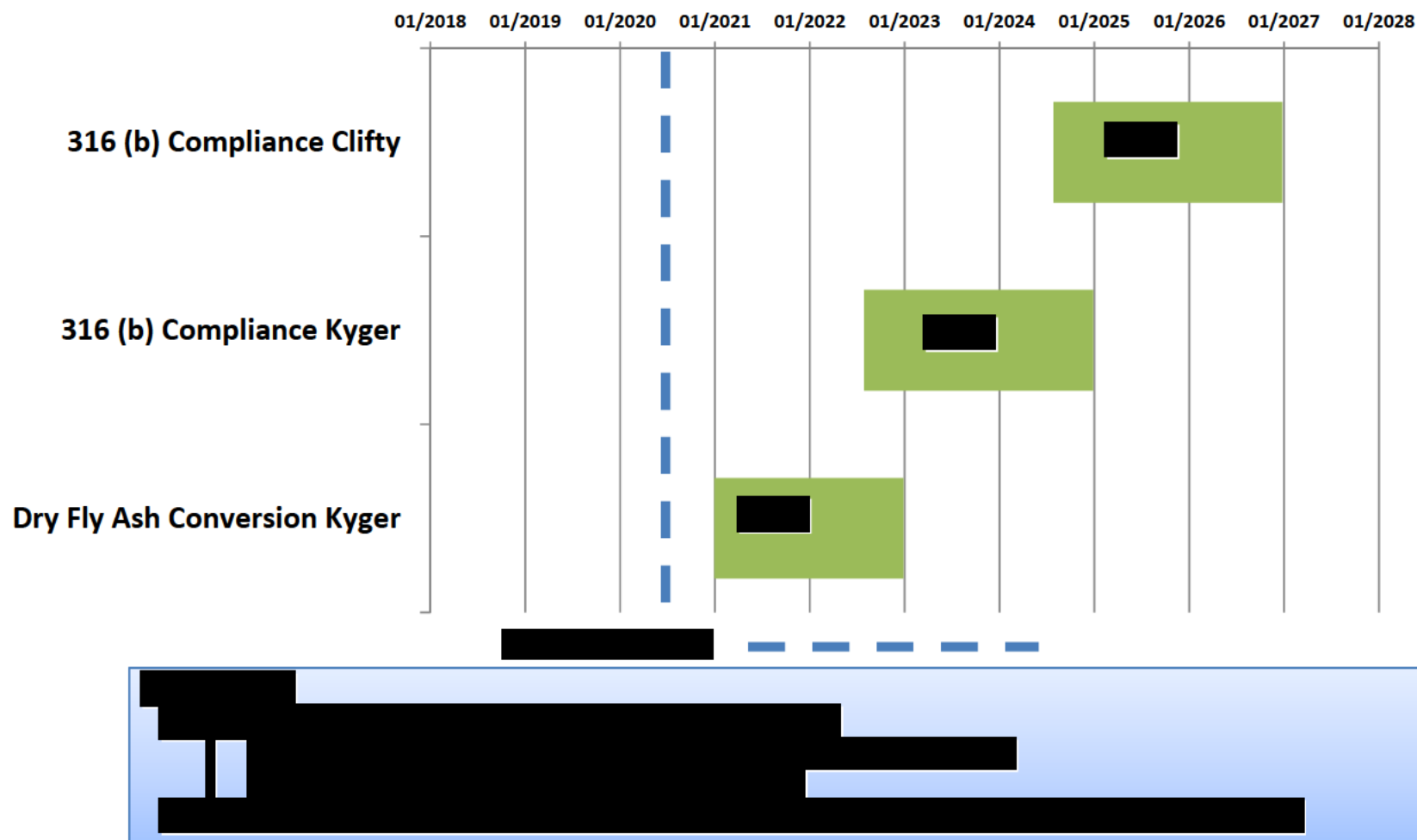
- Portions of the CCR Rule are being reconsidered and additional rulemaking is expected.
 - Reconsideration may introduce the risk of higher compliance costs.
- On August 21, 2018, the D.C. Circuit Court issued a decision regarding multiple issues contained in the CCR Rule that had been brought by multiple petitioners, including USWAG, environmental groups, and EPA.
 - The Court ruled that EPA's decisions to exempt legacy impoundments at closed facilities, allow unlined surface impoundments to continue to operate, and to classify surface impoundments with two feet of compacted clay as "lined ponds" were arbitrary and capricious;
 - EPA did not file a request for reconsideration; and
 - The industry is expecting EPA to begin a new rule making addressing the Court's decision, which we anticipate will contain new requirements for these CCR surface impoundments.

OVEC CCR Compliance Status/Next Steps


- Meeting all CCR recordkeeping, reporting and monitoring requirements YTD;
- Groundwater monitoring system in place, background data collected, and detection monitoring continues;
- Some statistical increases in data have been observed, alternative source demonstrations were conducted;
- Assessment monitoring at two of our CCR surface impoundments has been initiated; and
- OVEC continues to work with our Qualified Professional Engineer, our state regulatory agencies, and our trade associations on regulatory issues while we await further action from EPA on CCR Rule revisions.

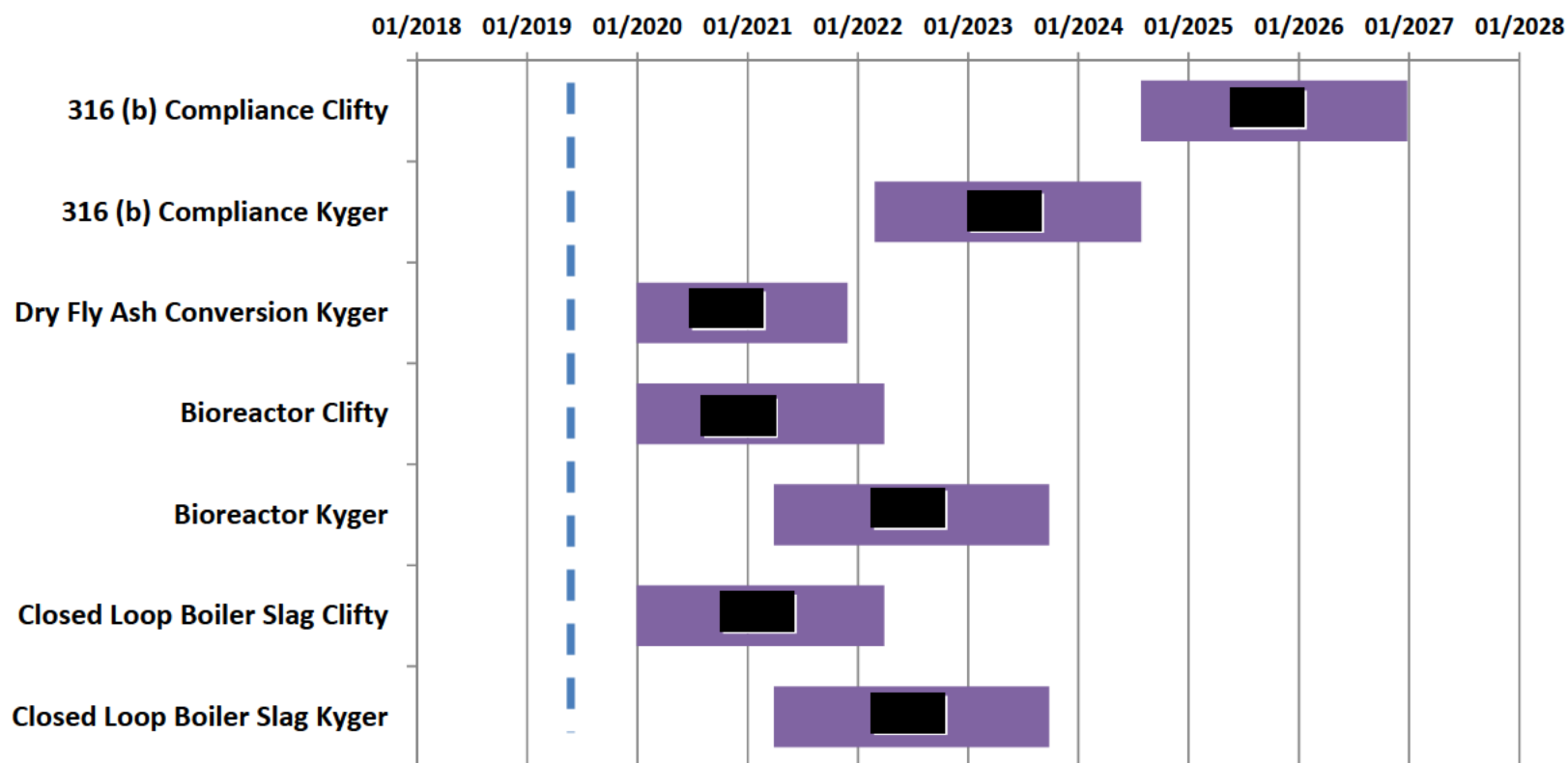
Projected Environmental Investment

 M Best Case – Timeline

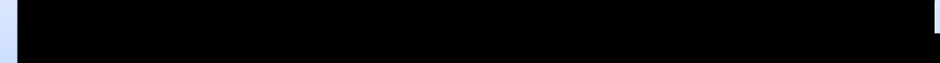



Projected Environmental Investment

 Potential Case – Timeline



Assumptions:



 best technology

Current Gypsum and CCR Sales

- **Kyger Creek:**

- Kyger Creek now selling the bulk of Gypsum production (greater than [REDACTED]) via off-site trucking.
 - [REDACTED]
- Kyger Creek sales of boiler slag continue (HARSCO).

- **Clifty Creek:**

- Clifty Creek now selling Gypsum via a short-term trucking contract to local wallboard manufacturer.
 - [REDACTED]
- [REDACTED]

Gypsum and CCR sales positively impact Energy Costs and improve unit dispatch. Longer-term cost savings possible from avoided landfill expansions.



Longer-Term Opportunities/Compliance Obligations

- **Fly Ash at Kyger**
 - Researching partnerships in fly ash marketing and in Capital Investment
Impact: Possible reduction in Dry Fly Ash conversion costs at Kyger Creek and improved opportunities to market dry fly ash
- **Gypsum:**
 - Establishment of long-term gypsum transport/loading solutions at both plants
- **Clean Power Plan (CPP)**
 - On August 21, 2018, EPA proposed Affordable Clean Energy (ACE) Rule as an alternative to the CPP.
 - Industry generally supports the ACE rule (legal, inside the fence, etc.). Comment deadline was October 31, 2018, final rule possible in mid to late 2019;
 - Anticipate the formal repeal of CPP shortly before or concurrent with issuance of final ACE rule; and
 - Compliance obligations to be determined at State level.
- **Future Environmental Obligations**
 - Impact of changes in political, regulatory, or legal climate may impact risk and cost from future EPA requirements

Construction Budget



2019 Construction Budget

(requesting BOD approval)

Year	Loc	Project Name	Amount	IRR%	Paybk
2019	KCP	U#1-5, FGD, & Simulator Ovation Controls Replacement (2 of 2)			
2019	KCP	U#2 1st Baffle Wall Replacement			
2019	CCP	U#1-6 Station 1 Barge Unloader Rebuild			
2019	CCP	U#1-6, FGD, & Simulator Ovation Controls Replacement (1 of 2)			
2019	CCP	U#5 Bus and Middle Air Blast Circuit Breaker Replacement (7/8 of 17)			
2019		Minor Projects (under \$500k)			
2019		Contingency Fund			
2019 Total					

2019 Projects Economic Metrics

Range:

Internal Rate of
Return (IRR)

Target: > [redacted]

Avg: [redacted]

Payback Period

Target: < [redacted] yrs

Avg: [redacted] yrs

2019 Construction Projects highlight continued replacement of original boiler tubing to address current and future reliability issues with an additional focus on replacement of obsolete unit controls.

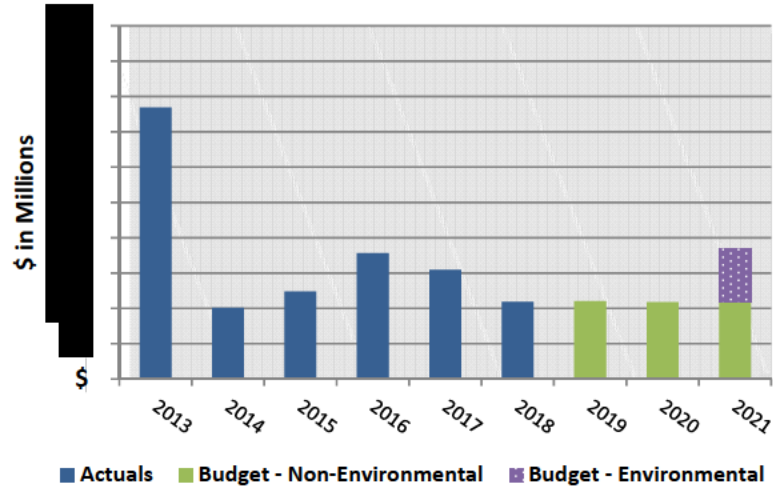
Examples of Projects Delayed due to Prioritization and Risk Evaluation

- Baffle Wall Replacements
- Generator Rewinds



2020-2021 Construction Budget Forecast

Historic and Projected Construction Costs



2020-2021 Construction Budget Forecast:

To minimize the requirement for long-term debt financing, 2020-2021 Construction Forecast has been adjusted to provide funding for upcoming Environmental Projects to minimize the impact on total Demand Cost.

Projected Non-Environmental Construction Projects will be reviewed and prioritized based on reliability impact and related economic benefit.

OVEC/IKEC Construction Forecast

Year	Loc	Project Name	Amount
2020	CCP	U#1-6, FGD, & Simulator Ovation Controls Replacement (2 of 2)	
2020	KCP	U#3 1st Baffle Wall Replacement	
2020	CCP	U#5 SSH Inlet Element - Material and Labor	
2020	CCP	Bus and Middle Air Blast Circuit Breaker Replacement (9/10 of 17)	
2020		Minor Projects (under \$500k)	
2020		Contingency Fund	
		2020 Total Non-Environmental	
		Environmental Project Funding	
		2020 Grand Total	
2021	KCP	U#1 1st Baffle Wall	
2021	CCP	U#2 SSH Inlet Element - Material and Labor	
2021	SYS	X530 Switchyard Bypass Project	
2021	CCP	U#1-6 Coal Yard Controls Replacement (1 of 3)	
2021	CCP	Bus and Middle Air Blast Circuit Breaker Replacement (11/12 of 17)	
2021		Minor Projects (under \$500k)	
2021		Contingency Fund	
		2021 Total Non-Environmental	
		Environmental Project Funding	
		2021 Grand Total	

**OHIO VALLEY ELECTRIC CORPORATION (OVEC)
INDIANA-KENTUCKY ELECTRIC CORPORATION (IKEC)
OVEC-IKEC Construction Budget
Boards of Directors' Meeting
December 5, 2018**

OVEC-IKEC






RESOLVED, that the OVEC-IKEC Construction Budget for 2019, indicating estimated total expenditures of [REDACTED] for Replacements of property, and [REDACTED] for Management Reserve, which totals [REDACTED], is approved.

Report on Operating Activities

Open Book Leadership (OBL) Scoreboard Update – YTD Performance

OVEC /IKEC – OBL Plant Scoreboards									
			Kyger Creek Plant			Clifty Creek Plant			
			2017	2018		2017	2018		
			Actual	Target	Oct YTD Actual	Actual	Target	Oct YTD Actual	
Safety	Recordable Rate (YTD)		<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
	DART Rate (YTD)		<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
	Contractor Recordable Rate (YTD)		<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
Environmental Compliance	MATS (Mercury, Particulate Matter, Acid Gases)		<div></div>	<div></div>	<div></div>	Compliance	Compliance	Compliance	
	NOx Tons (Ozone Season)		<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
Drivers of Critical Number Total Production Power Cost \$/MWhr	Reliability	EFOR	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
		Commercial Availability	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
	Energy Cost	Heat Rate	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
		Fuel Cost Total Fuel/ Net Gen	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
	Demand Cost	O&M	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
	Continuous Improvement	Process Improvements	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	

OVEC 2018 Strategic Plan - Corporate

Mission Objective	Initiative ¹	Tactical Actions ^{2,3}
 Zero Harm	Improve Safety Culture	Define, Communicate and Execute the Safety Action Plan
		Contractor Oversight and Safety Standardization
	Improved Clearance Procedure Adherence	
	First Line Supervisor Field Observation and Guidance	
	Improve Use of HPI Tools	Application Based Training
 Provider of Choice	Increase Reliability, Reduce EFOR and Optimize Commercial Availability	Focus Around Process Ownership and Process Health
	Improve Heat Rate	Cross Functional Heat Rate Team
	Improve Fiscal Responsibility	Financial Education - Including Specific Events that Have Impacted Our Business
 Culture of Engagement	Improve Communication Processes	Determine What the Team Wants
		Communication Conducted in Small Groups in a Face-to-Face Format
	Build Culture of Accountability	Clearly Defined and Communicated Job Expectations Followed by Feedback and Coaching with Balanced Recognition
 Operational Excellence	Improvement Through Culture Surveys, Assessment and Action Planning	Communicate Survey/Assessment Results, Associated Actions and Outcomes
	Improved Team Performance	Develop Cross-Functional Workforce, Where Applicable
	Employee Development	Skill and Knowledge Assessment to Enhance Development Plans Among All Departments
		Assignment of Designated Position Backup, Where Applicable
 Continuous Improvement	Successful WAM Implementation	Workforce Teams Embrace WAM Team Training to Facilitate the Transition from Asset Suite to Maximo
	Optimize Continuous Improvement Process (CIP) and Open Book Leadership (OBL)	Increase Workforce Engagement
	Root Cause Analysis (RCA) Focus	Implement Standards and Create Use Guidelines
	Standard Work Focus	Promote Standard Work Development, Utilization and Modification

1 - Initiative is a broad reaching generalized need.

2 - Tactical Action is a specific action to achieve a desired goal.

3 - Possible additional Tactical Actions to be determined by Business Unit.

OVEC 2018 Strategic Plan – Clifty Creek

Mission Objective	Initiative ¹	Tactical Actions ^{2, 3}
Zero Harm	Improve Safety Culture	Housekeeping Standard Developed and Communicated
		Use of Close Call Incidents to Improve Hazard Awareness
	Improved Clearance Procedure Adherence	Conduct Clearance Training (Written and Practical Demonstrations) Prior to Annual Outages
	First Line Supervisor Field Observation and Guidance	Utilize Field Observations to Coach and Promote Safety Goals
Provider of Choice	Improve Use of HPI Tools	Develop Scenarios From Past Events to Educate HPI Use and Importance
	Increase Reliability, Reduce EFOR and Optimize Commercial Availability	Participate in OVEC JBR Reliability Group
	Improve Heat Rate	Identify and Use Operational Improvements (CO2 Monitors) to Achieve Heat Rate Goal
Culture of Engagement	Improve Fiscal Responsibility	Communicate Outage Costs of Specific Events to All Departments
	Improve Communication Processes	Communications Conducted in Small Groups in a Face-to-Face Format
	Build Culture of Accountability	Build on Job Expectations Through Coaching and Skill Building of Front-Line Supervisors
Operational Excellence	Improvement Through Culture Surveys, Assessment and Action Planning	Communicate Survey Results and Focus on Action Items and Responses
	Improve Team Performance	Development of Cross-Functional Work: Operations (AEO work scope)
	Employee Development	Utilize Learning Assessments After Face-to-Face Training Sessions to Gauge Understanding
Continuous Improvement	Successful WAM Implementation	Transition Work Scheduling From Weekly to Daily with Operations/Maintenance Team Approach
	Optimize Continuous Improvement Process (CIP) and Open Book Leadership (OBL)	Review CIP Stand-Up Meetings for Improvements and Engagement
	Root Cause Analysis (RCA) Focus	Use RCA for Sustainable Corrections to Process and Equipment Problems
	Standard Work Focus	Improve Existing Standard Work Procedures Using Post-Job Feedback

Clifty Creek Plant's Strategic Plan **aligns directly** with OVEC's Corporate Strategic Plan's Mission Objectives and Initiatives

3 Top Areas of Success

3 Top Areas of Opportunity

OVEC 2018 Strategic Plan – Kyger Creek

Mission Objective	Initiative ¹	Tactical Actions ^{2, 3}
Zero Harm	Improve Safety Culture	Implement Program to Raise Awareness of Work Place Ergonomics and Need for Improvement
	Improved Clearance Procedure Adherence	Conduct Clearance Training Prior to Annual Outages and Infield-Observations Focused on Individuals Role in the Process
	First Line Supervisor Field Observation and Guidance	Verify In-Field Observations and Coaching by Supervisors to Ensure Quality, Consistency and Effectiveness
	Improve Use of HPI Tools	Application Based Training, with Video and Hands-On Examples and Case Studies
Provider of Choice	Increase Reliability, Reduce EFOR and Optimize Commercial Availability	Develop Top 10 List of Unavailability Events For Communication and Focus on Improvement
	Improve Heat Rate	Monthly Review and Recommendations for Improvement by Cross Functional Team
	Improve Fiscal Responsibility	Build Greater Understanding of Cost and Cost Control at the Supervisor Level
Culture of Engagement	Improve Communication Processes	Communication Conducted in Small Groups with Face-to-Face Format
	Build Culture of Accountability	Clearly Defined and Communicated Job Expectations
	Improvement Through Culture Surveys, Assessment and Action Planning	Communicate Survey Results Timely and Work with Team on Developing Actions to Improve as Needed
Operational Excellence	Improve Team Performance	Develop Cross-Functional Workforce: Departments Develop Shared Tasks with Consistent Clearance Requirements
	Employee Development	Skill and Knowledge Assessment to Enhance Development Plans Among Departments
	Successful WAM Implementation	Workforce Teams Embrace WAM Team Training to Facilitate the Transition from Asset Suite to Maximo
Continuous Improvement	Optimize Continuous Improvement Process (CIP) and Open Book Leadership (OBL)	Increase Workforce Engagement with Additional Targeted CIP Training
	Root Cause Analysis (RCA) Focus	Develop Guidelines and Increase Number of Employees Trained
	Standard Work Focus	Promote Standard Work Development, Utilization and Modification

Kyger Creek Plant's Strategic Plan **aligns directly** with OVEC's Corporate Strategic Plan's Mission Objectives and Initiatives

3 Top Areas of Success

3 Top Areas of Opportunity

**Treasurer's Report
Boards of Directors' Meeting
December 5, 2018**

Page 31

OVEC Power Cost Projections

Ohio Valley Electric Corporation
Projected Inter-Company Power Agreement (ICPA) Billable Cost Summary
Calendar Year 2018
in thousands of dollars

	Budget 2018	Projected 2018	Dollar Over/(Under)	Percentage Over/(Under)
Generation Sales				
Estimated Delivered Power Sales from OVEC Generation (MWhr)				
Projected Energy Use Factor %				
Projected Net Capacity Factor %				
Generation Costs (Energy and Generation Operating Costs)				
Energy Charge				
Projected Coal Cost (delivered)				
Projected Allowance Cost (based on projected weighted average inventory)				
Projected Other Fuel-Related Costs (reagents, fuel oil & coal handling less byproduct s				
Total Projected Energy Costs				
Projected Energy Costs - \$/MWhr				
Generation Operating Costs (Demand Charge)				
Projected Annual Capital Improvement Costs (ICPA Component A)				
Projected Operation and Maintenance Costs (ICPA Component B)				
Projected Administration and General Costs (ICPA Component B)				
Projected Taxes (ICPA Component C)				
Projected ROE Costs (ICPA Component D)				
Total Projected Generation Operating Costs (ICPA Components A, B, C, & D)				
Projected Generation Operating Costs (Demand Charge) - \$/MWhr				
Projected Total Generation Costs (Energy and Operating Costs) - \$/MWhr				
Transmission Costs				
Transmission Operating Costs (Demand Charge)				
Projected Annual Capital Improvement Costs (ICPA Component A) - Transmission				
Projected Transmission and Dispatch Costs (ICPA Component B)				
Projected Administration and General Costs (ICPA Component B) - Transmission				
Projected Total Transmission Costs				
Projected Transmission Costs - \$/MWhr				
Non-Operating Costs (Debt and Obligations)				
Non-Operating Cost (Demand Charge)				
Projected Debt Expense and Short-Term Debt Costs (ICPA Component A)				
Projected Long-Term Debt Costs (ICPA Component A)				
Projected Advance Billing of Debt Service - Debt Reserve (ICPA Component A)				
Projected Postretirement Benefit Obligation (ICPA Component E)				
Projected Decommissioning and Demolition Obligation (ICPA Component F)				
Total Projected Non-Production Demand Costs (ICPA Components A, E, & F)				
Projected Non-Operating Costs - \$/MWhr				
Total Billable Costs (Energy and Demand Charge)				
Summary of ICPA Billable Power Costs				
Grand Total Projected Energy Costs				
Grand Total Projected Demand Costs				
Grand Total Projected ICPA Billable Costs				
Dividend				
Projected Dividend				
Summary of ICPA Billable Power Production Costs Less Projected Dividend				
Total Projected Power Production Costs Less Projected Dividend				
Projected Billable Costs (Energy and Demand) - \$/MWhr				

Ohio Valley Electric Corporation
Projected Inter-Company Power Agreement (ICPA) Billable Cost Summary
Calendar Years 2019 - 2021
in thousands of dollars

2019 2020 2021

Generation Sales

Estimated Delivered Power Sales from OVEC Generation (MWhr)
Projected Energy Use Factor %
Projected Net Capacity Factor %

Generation Costs (Energy and Generation Operating Costs)

Energy Charge

Projected Coal Cost (delivered)
Projected Allowance Cost (based on projected weighted average inventory)
Projected Other Fuel-Related Costs (reagents, fuel oil & coal handling less byproduct sales)
Total Projected Energy Costs

Projected Energy Costs - \$/MWhr

Generation Operating Costs (Demand Charge)

Projected Annual Capital Improvement Costs (ICPA Component A) - *Includes Best Case \$65 M Env. Improvements*
Projected Operation and Maintenance Costs (ICPA Component B)
Projected Administration and General Costs (ICPA Component B)
Projected Taxes (ICPA Component C)
Projected ROE Costs (ICPA Component D)
Total Projected Generation Operating Costs (ICPA Components A, B, C, & D)

Projected Generation Operating Costs (Demand Charge) - \$/MWhr

Projected Total Generation Costs (Energy and Operating Costs) - \$/MWhr

Transmission Costs

Transmission Operating Costs (Demand Charge)

Projected Annual Capital Improvement Costs (ICPA Component A) - *Transmission*
Projected Transmission and Dispatch Costs (ICPA Component B)
Projected Administration and General Costs (ICPA Component B) - *Transmission*
Projected Total Transmission Costs

Projected Transmission Costs - \$/MWhr

Non-Operating Costs (Debt and Obligations)

Non-Operating Cost (Demand Charge)

Projected Debt Expense and Short-Term Debt Costs (ICPA Component A)
Projected Long-Term Debt Costs (ICPA Component A) - *Does not include incremental financing*
Projected Advance Billing of Debt Service - Debt Reserve (ICPA Component A)
Projected Postretirement Benefit Obligation (ICPA Component E)
Projected Decommissioning and Demolition Obligation (ICPA Component F)
Total Projected Non-Production Demand Costs (ICPA Components A, E, & F)

Projected Non-Operating Costs - \$/MWhr

Total Billable Costs (Energy and Demand Charge)

Summary of ICPA Billable Power Costs

Grand Total Projected Energy Costs
Grand Total Projected Demand Costs
Grand Total Projected ICPA Billable Costs

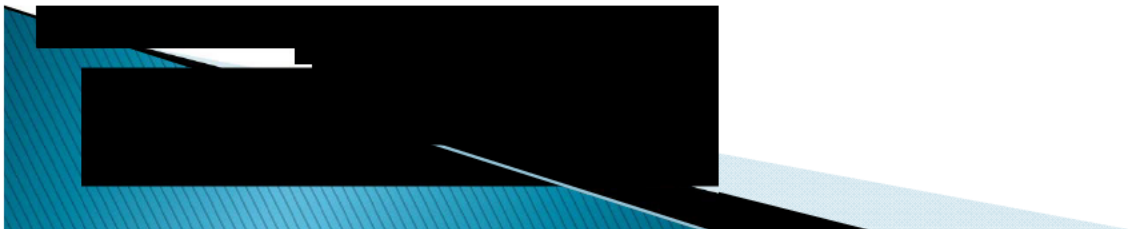
Projected Billable Costs (Energy and Demand) - \$/MWhr

EXHIBIT 6

OVEC-IKEC

Boards of Directors' Update

August 1, 2019



Environmental Update

Review of Ozone NO_x Performance

- ▶ To date, OVEC–IKEC ozone season NO_x performance has been excellent. Both plants are operating near historically low NO_x emission rates, and we are on track to be at or below the Company's NO_x ozone season emission targets for 2019.

ELG Environmental Regulatory Update

Effluent Limitations Guidelines Update

- EPA issued final ELG Postponement Rule in September 2017 for FGD Wastewater (FGDWW) and bottom ash transport water (BATW).
- EPA delayed the original compliance window for both wastewaters by two years, leaving the remainder of ELG Rule in tact.
- A new draft rule revising effluent limits was expected by December 2018 and a final rule by December 2019. However, the new rule's issuance has been delayed.
- Timely issuance of the new draft rule by end of 2018 would have given us an opportunity to improve forecast, costs and timing of required investment. The delay in issuing a draft rule will delay refinement in updated compliance cost estimates.
- Indications are that EPA may issue a new rule with some additional flexibility/optionality.

ELG Legal Update

United States Court of Appeals for the 5th Circuit Decision on eNGO legal challenge of portions of ELG Rule

- Unfavorable court decision issued on 4/12/19.
- The Court determined EPA was “arbitrary and capricious” in its ELG rule determinations relative to legacy wastewater and landfill leachate.
- The Court vacated and remanded these portions of the rule back to EPA for further consideration.
- EPA did not file appeal, and will need to update record
- This may ultimately result in additional treatment and compliance costs for the industry.

■

■

ELG Environmental Compliance Update

➤ Clifty Creek

- Permit Modification Request was filed with IDEM to remove the April 1, 2022 ELG compliance dates for FGDWW and BATW. IDEM has not taken any formal action.
- IDEM is expected to act on modification request when EPA completes its new rule determining new compliance dates and/or new BAT limits

■ [REDACTED]

➤ Kyger Creek

- NPDES Permit Renewal Application was filed in October 2018. OEPA is still working to draft a renewal NPDES permit.
- Updated engineering evaluation of dry fly ash conversion has been completed. [REDACTED] estimate range has been narrowed to [REDACTED]. Updated economic [REDACTED] termination now under way.

CCR Environmental Compliance Update

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



[Redacted text block]



[Redacted text block]



[Redacted text block]



[Redacted text block]



[Redacted text block]



[Redacted text block]

316(b) Environmental Compliance Update

Kyger Creek

- 316(b) Section 122.21(r) reports were completed and submitted to Ohio EPA as part of the NPDES permit renewal application in November 2018.
- OEPA has not taken action on 316(b) report or the NPDES permit renewal. [REDACTED]

Clifty Creek

- 316(b) Section 122.21(r) report filed with IDEM in January 2019.
- IDEM to act on cooling system upgrades next permit cycle (i.e. during the 2022 NPDES permit renewal).

Clean Power Plan (CPP)/Affordable Clean Energy (ACE) Rule Update

- USEPA repealed CPP and in a separate action issued ACE Rule on July 8, 2019. Both actions will undergo legal challenges.
- ACE rule becomes effective on September 6, 2019.
 - Inside the fence line Heat Rate Improvements at the unit level is defined as the Best System of Emissions Reduction (BSER).
 - States have three years from ACE effective date to submit implementation plans.
 - States have a lot of flexibility in crafting state implementation plans; however, ACE is somewhat inflexible regarding EGU compliance options.
 - No emissions trading and no fleet, facility or common stack averaging

Gypsum and Ash Beneficial Reuse

Kyger Creek

- Majority of gypsum continues to be sold for wallboard production.
- Pursuing environmental permitting for the installation of on-site barge loading system, gypsum currently being trucked off site.
- Boiler slag sales are above forecast (Harsco).
- Evaluating system modifications to comply with possible CCR/ELG requirements.

Clifty Creek

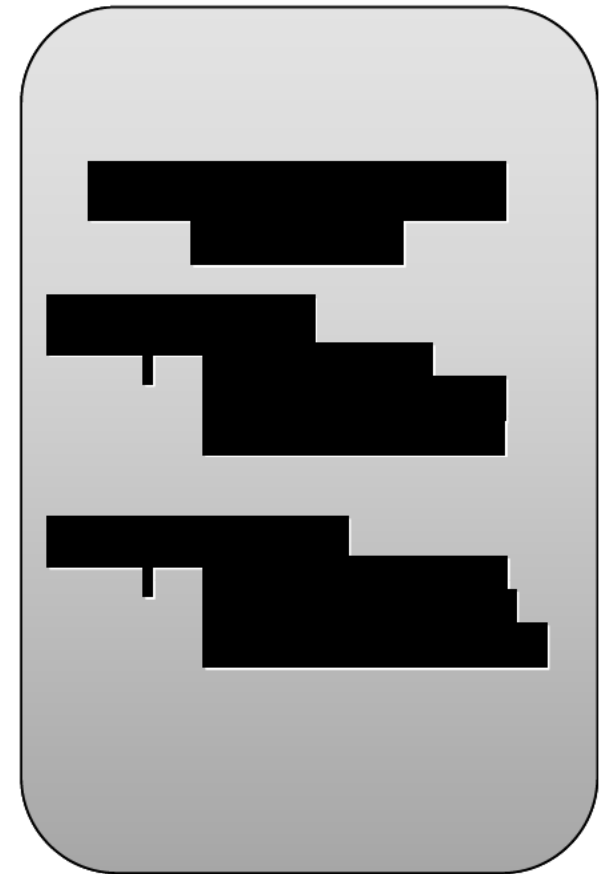
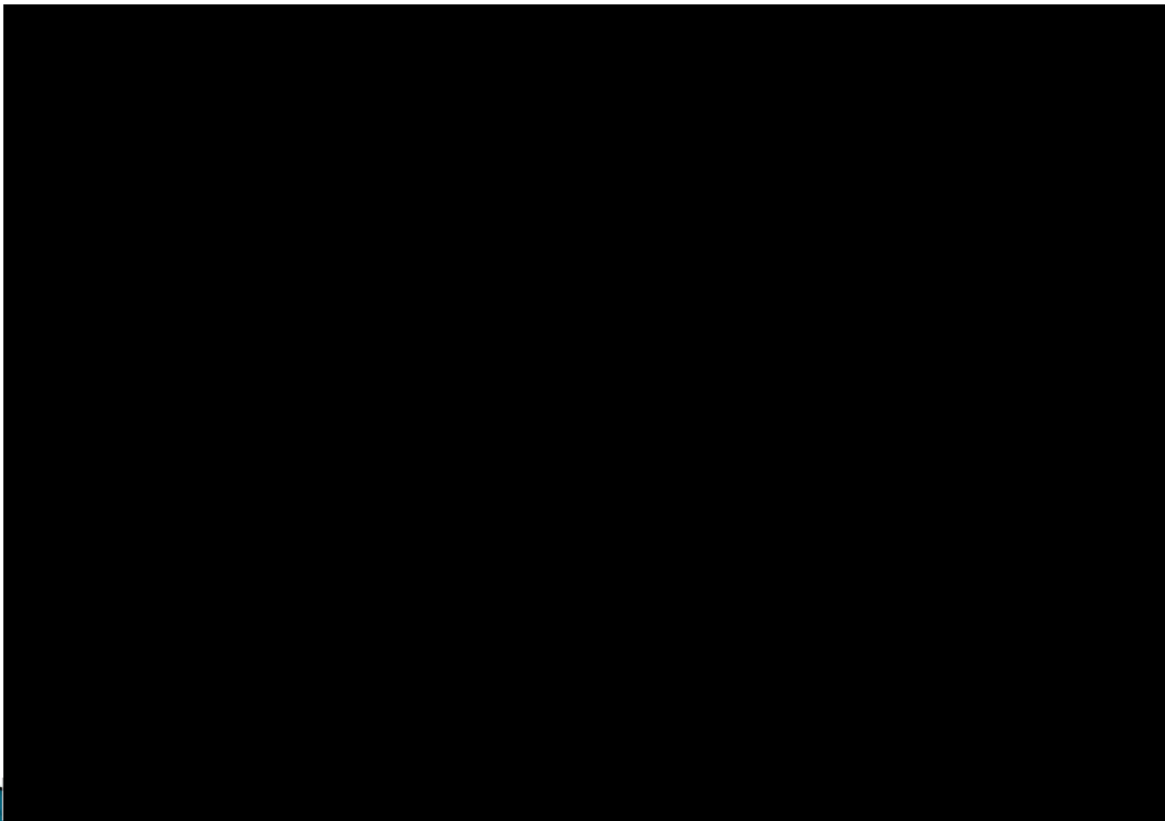
- [REDACTED]
- [REDACTED]
- [REDACTED] environmental permitting for the installation of on-site barge loading system, gypsum currently being trucked off site.
- Fly ash marketing efforts continue, but no significant sales.

Benefits for both Plants:

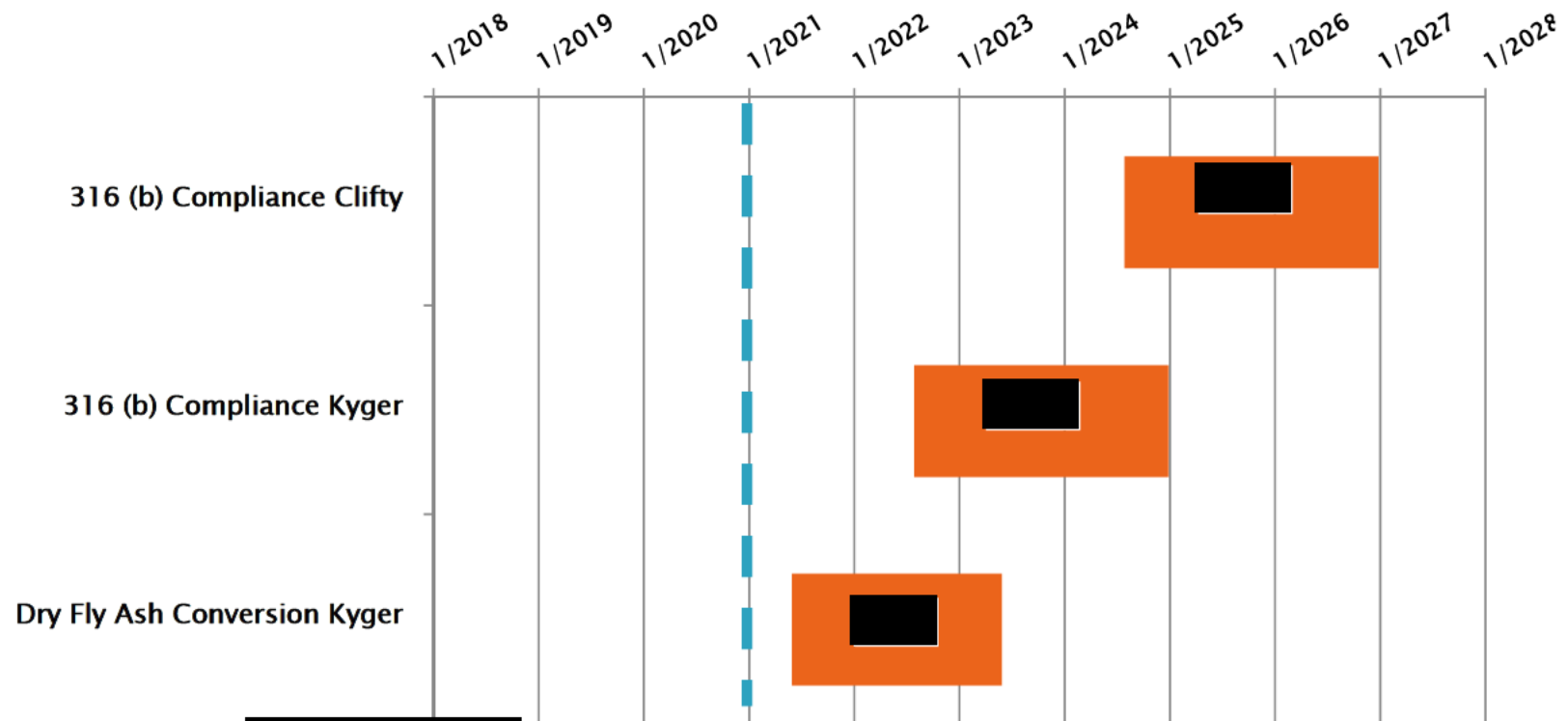
- Reduced fuel costs, reduced future landfill expansion costs, reduced future environmental compliance risks.

Projected Environmental Investment

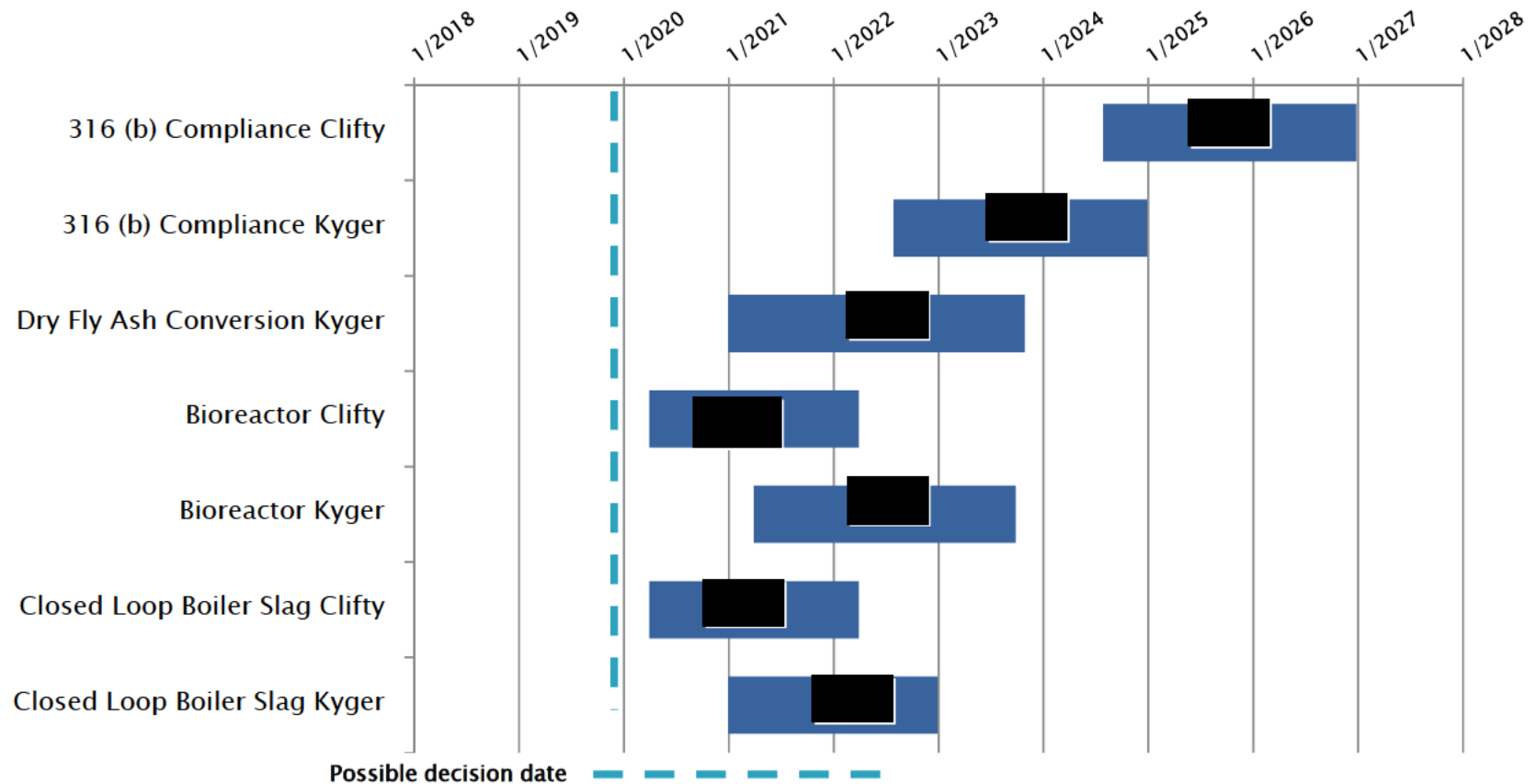
OVEC continues to challenge and evaluate current
Environmental Project Cost Projections



Projected Environmental Investment



Projected Environmental Investment

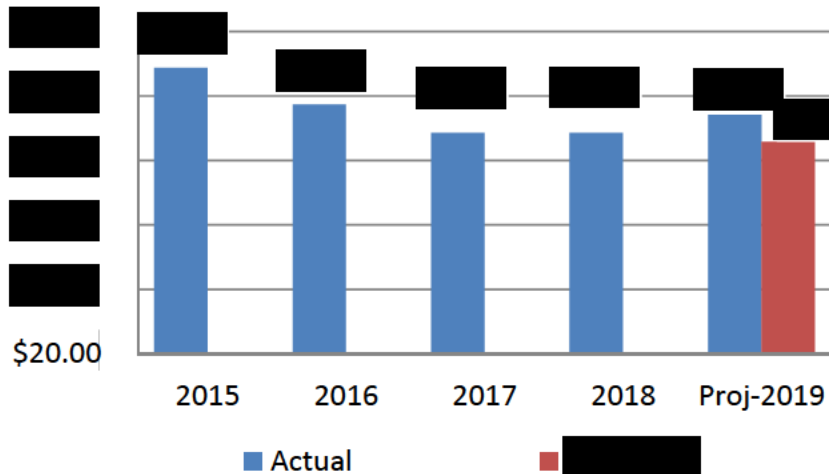


Mid-Year Operational and Financial Performance Update

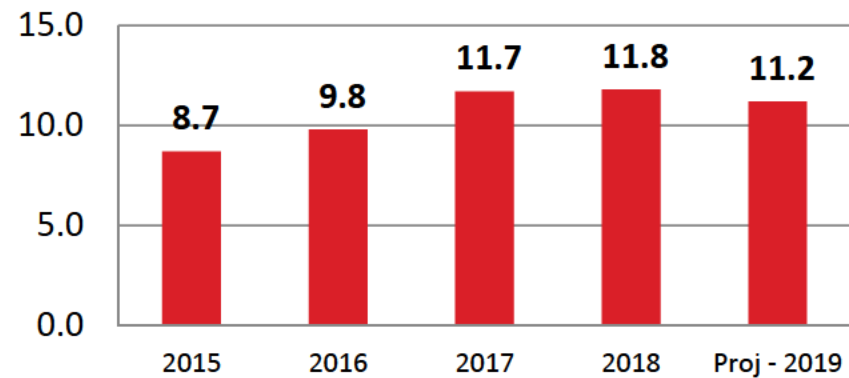


2015 – 2019 Performance

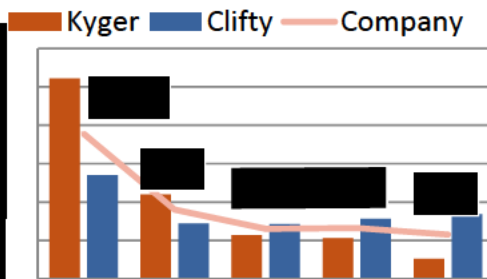
Total Power Cost - \$/MWhr



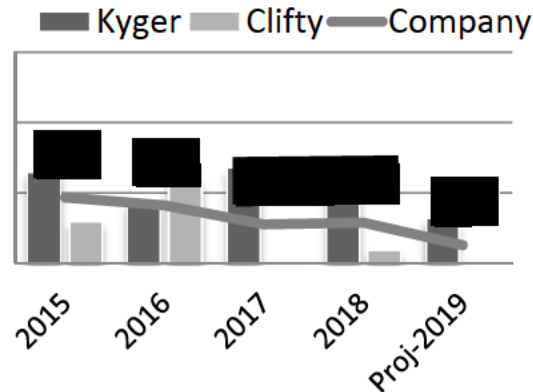
**Generation - MWhrs
In Millions**



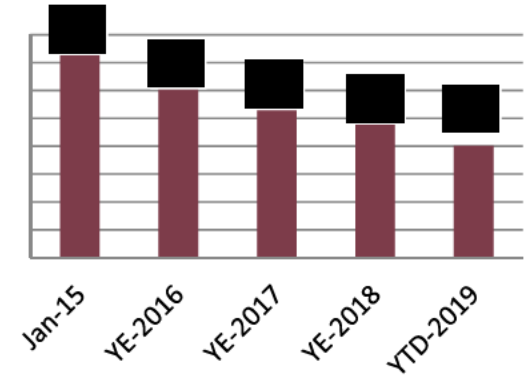
EFOR



**Safety
(Employee Recordable Rate)**



Employee Count



	Cost	O&M
	Continuous Improvement	Process Improvements ₁

ments include standard work development

Future Focused

Metrics are key drivers to Critical Number – \$/MWhr

OVEC Power Cost 2019

2019 Power Cost \$/MWhr			
	Budget	Projection	Variance
Generation (MWhr)			
Energy			
Operating Cost			
Generation Cost			
Transmission Cost			
Non- Operating Cost			
Total Billable Cost			
Total On-Going Cost*			

EXHIBIT 7



Boards of Directors' Meeting Presentation
December 12, 2019

Information included in the presentation consists of projections and budgets and are thus inherently subject to change.

**OHIO VALLEY ELECTRIC CORPORATION (OVEC)
INDIANA-KENTUCKY ELECTRIC CORPORATION (IKEC)
Resolutions of Minutes of Prior Meetings
Boards of Directors' Meeting
December 12, 2019**

OVEC

RESOLVED, that the Minutes of the Special Meeting of the Board of Directors of this Corporation, held on December 5, 2018, are approved.

IKEC

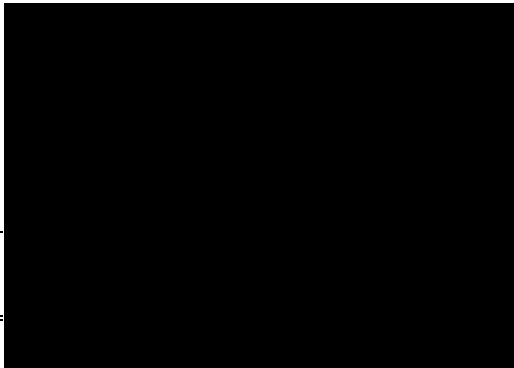
RESOLVED, that the Minutes of the Special Meeting of the Board of Directors of this Corporation, held on December 5, 2018, are approved.

AEPSC Service Charges

OHIO VALLEY ELECTRIC CORPORATION (OVEC)
INDIANA-KENTUCKY ELECTRIC CORPORATION (IKEC)
AMERICAN ELECTRIC POWER SERVICE CORPORATION CHARGES
FOR CALENDAR YEAR 2019 PROJECTED THROUGH DECEMBER 31, 2019

	BUDGET FOR 2019			PROJECTED THROUGH 12/31/2019			DIFFERENCE
	<u>OVEC</u>	<u>IKEC</u>	<u>TOTAL</u>	<u>OVEC</u>	<u>IKEC</u>	<u>TOTAL</u>	<u>OVER (UNDER)</u>
<u>GENERAL SERVICES</u>							
OPERATION & MAINTENANCE							
WORK MANAGEMENT SYSTEM - MAXIMO CONVERSION							
ENVIRONMENTAL ACTIVITIES							
TRANSMISSION							
FUEL PROCUREMENT AND TRANSPORTATION							
NERC/CIP AND CYBER SECURITY							
GENERAL ADMINISTRATIVE SERVICES							
OTHER GENERAL SERVICES							
TOTAL GENERAL SERVICES							

OHIO VALLEY ELECTRIC CORPORATION (OVEC)
INDIANA-KENTUCKY ELECTRIC CORPORATION (IKEC)
AMERICAN ELECTRIC POWER SERVICE CORPORATION CHARGES
BUDGET FOR CALENDAR YEAR 2020

BUDGET FOR 2020			
	<u>OVEC</u>	<u>IKEC</u>	<u>TOTAL</u>
OPERATION & MAINTENANCE			
WORK MANAGEMENT SYSTEM - MAXIMO CONVERSION			
ENVIRONMENTAL ACTIVITIES			
TRANSMISSION			
FUEL PROCUREMENT & TRANSPORTATION			
NERC/CIP AND CYBER SECURITY			
GENERAL ADMINISTRATIVE SERVICES			
OTHER GENERAL SERVICES			
TOTAL AEPSC GENERAL SERVICES			

**OHIO VALLEY ELECTRIC CORPORATION (OVEC)
INDIANA-KENTUCKY ELECTRIC CORPORATION (IKEC)
AEP Service Corporation 2020 Service Charges
Boards of Directors' Meeting
December 12, 2019**

OVEC

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 or support services 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 or support services previously approved, would aggregate a maximum of [REDACTED] million for calendar year 2020.

IKEC

RESOLVED, that the officers of Indiana-Kentucky Electric Corporation may request and obligate Indiana-Kentucky Electric Corporation to pay for general services, exclusive of services for specific projects or support services 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 Ohio Valley Electric Corporation, exclusive of services for specific projects or support services previously approved, would aggregate a maximum of [REDACTED] million for calendar year 2020.

OVEC LEAN Cost Performance

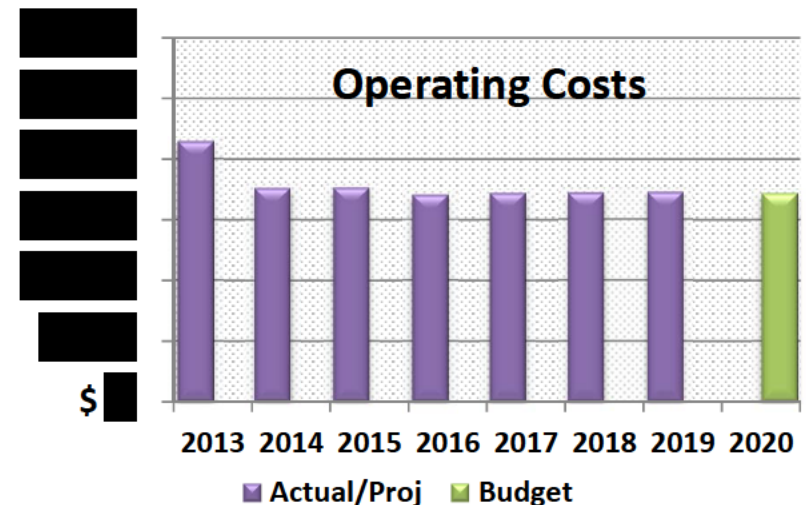
OVEC-IKEC – Sustaining Cost Reductions through LEAN / Continuous Improvement

Demand Cost – Operating Costs

(Non Env - CAPEX, O&M, A&G)

Approx. [REDACTED] – Reduction from 2013 to 2020

- Major Cost Structure Shift due to:
 - Continuous Improvement & Open Book Leadership Savings
 - Optimizing Operating, Maintenance, and Capital (OMC)
 - Employee Benefit Plan changes
 - Staffing Level Adjustments – Approx. [REDACTED] reduction from 2012
- Held Demand Flat (within [REDACTED])
 - With efforts in Continuous Improvement and Open Book Leadership improving processes, creating efficiencies and savings to offset costs
 - Absorbing inflation, general wage increases, and outage scope variation
 - Improving Reliability 2015 EFOR [REDACTED] to projected 2019 YTD EFOR [REDACTED]



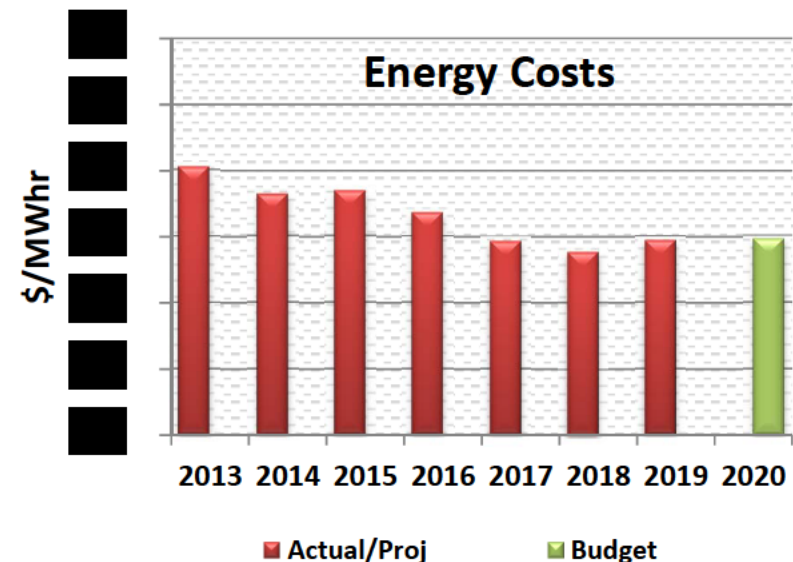
In Total OVEC/IKEC's LEAN program has implemented over [REDACTED] Process Improvements and over [REDACTED] in Cost Savings from employee ideas over the past 7 years.

OVEC-IKEC – Sustaining Cost Reductions through LEAN / Continuous Improvement

Energy Cost

Approx. █ per MWhr - Reduction from 2013 to 2020

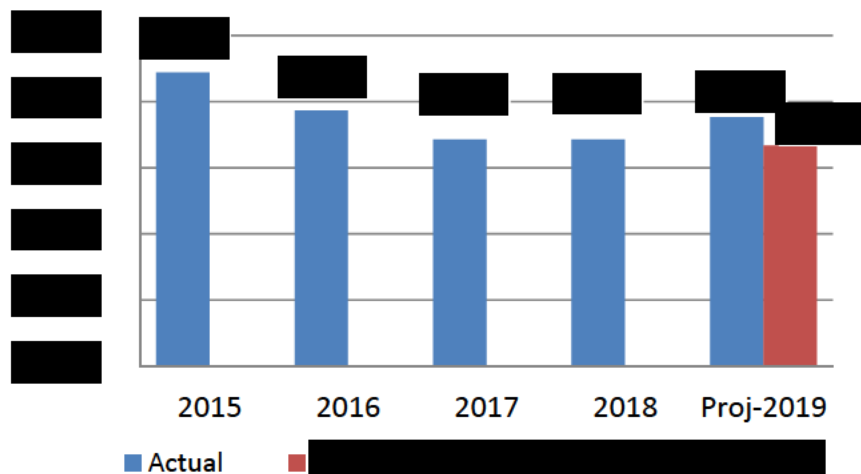
- **Downward Trend in Fuel Costs due to:**
 - Continuous Improvements - consumable feed rates, improvements around demurrage and reduction of reagents.
 - Beneficial Reuse of by-products (Gypsum, Bottom Ash, etc)
 - Lower Energy Cost continues to drive OVEC's utilization in a depressed energy market
- **2020 Fuel:**
 - Procurement - 100% Committed for Kyger and Clifty
 - Inventory - 11/30/2019
 - Kyger - 47 Days
 - Clifty - 49 Days
 - Diversification – Multiple suppliers for both Kyger and Clifty



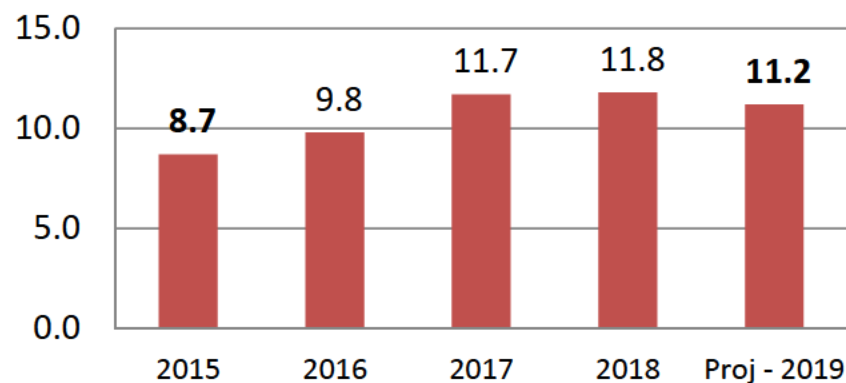
In Total OVEC/IKEC's LEAN program has implemented over █ Process Improvements and over █ in Cost Savings from employee ideas over the past 7 years.

2015 – 2019 Performance

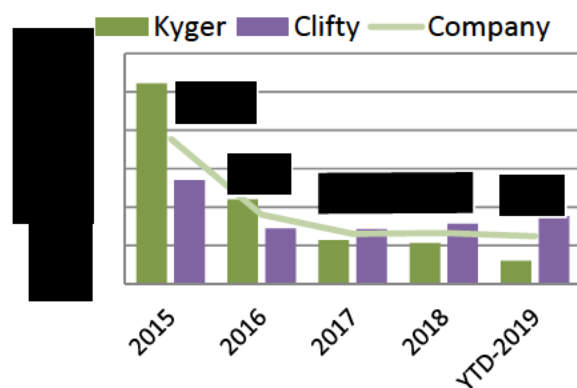
Total Power Cost - \$/MWhr



**Generation - MWhrs
In Millions**

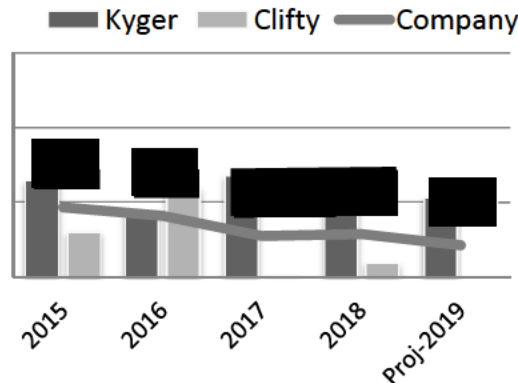


EFOR

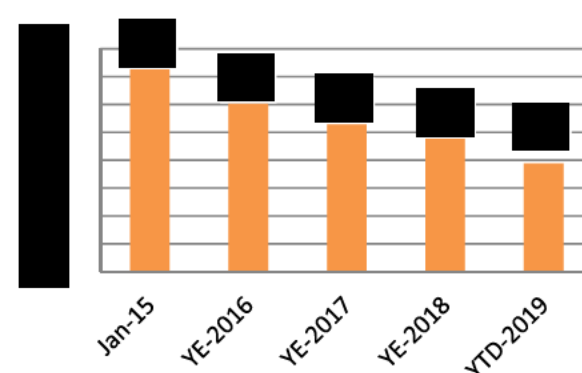


Safety

(Employee Recordable Rate)



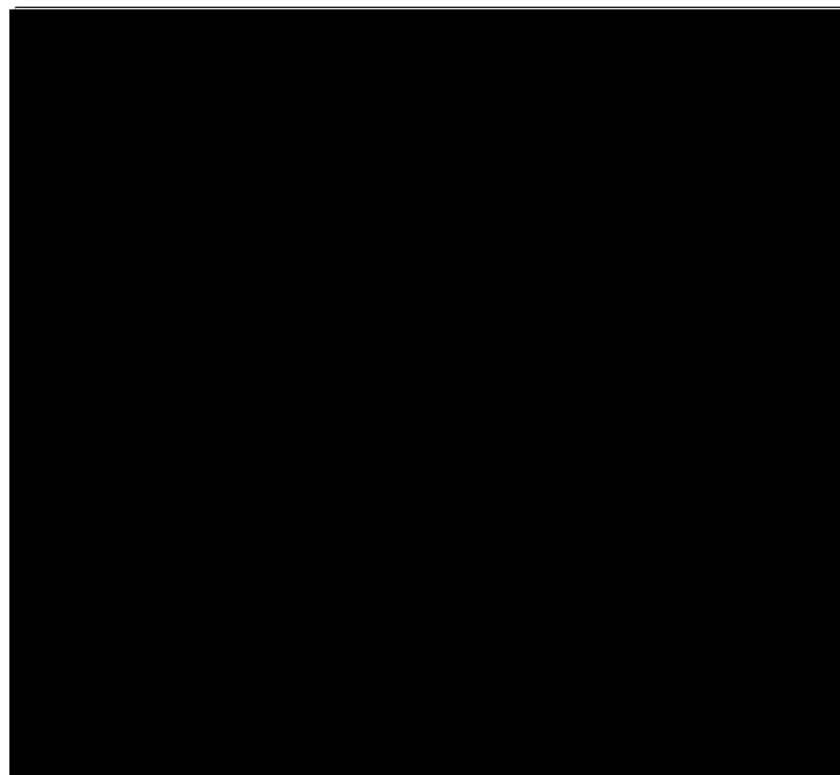
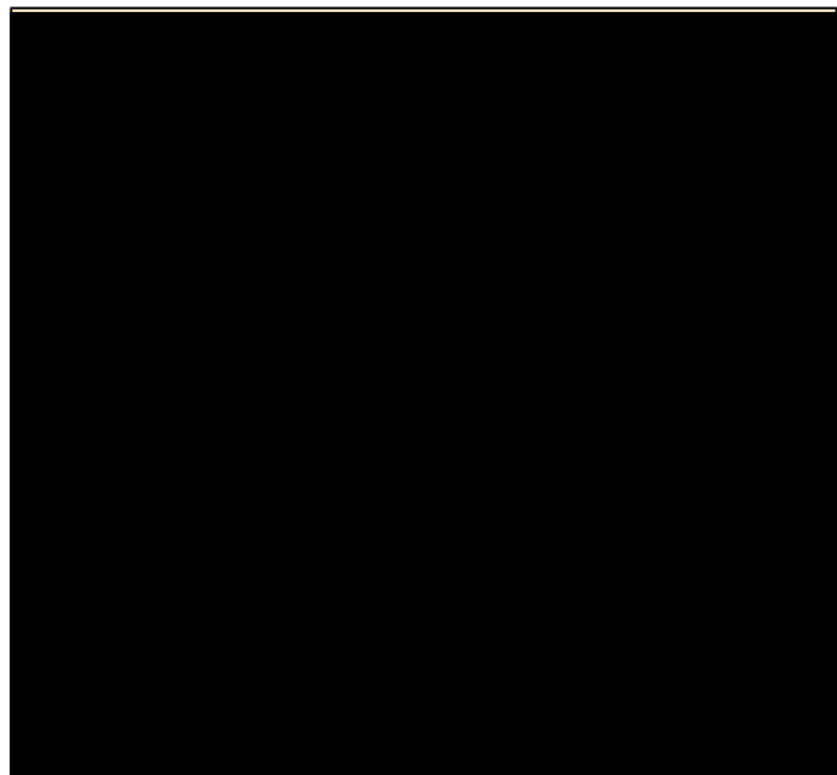
Employee Count



Environmental Update

Review of Ozone NO_x Performance and Overall Environmental Compliance

- OVEC-IKEC ozone season NO_x performance in 2019 was excellent. Both plants continue to operate at near historically low NO_x emission rates. D.C. Circuit Court remanded CSAPR Update rule back to EPA – additional reductions on state caps is possible as remediation mechanism.
- Section 126 petition litigation (Maryland and New York) that pose some future legal risk for both CC and KC.



CCR Environmental Compliance Update

- OVEC-IKEC has following sites that meet the definition of a CCR Unit
 - Landfill – Kyger [REDACTED]
 - Landfill – Clifty ([REDACTED])
 - Bottom Ash Pond – Clifty [REDACTED]
 - Fly Ash Pond - Kyger [REDACTED]
 - Bottom Ash Pond – Kyger [REDACTED]
 - Landfill Run-off Collection Pond - Clifty [REDACTED]
- [REDACTED]
- We continue to work with our Qualified Professional Engineer on compliance activities while evaluating the impact of the proposed new revisions to the CCR rule.
- Public meetings on the CCR ponds and optionality on next steps were held on November 6 (for Kyger) and November 7 (Clifty).
- Any pond closure requirements will be funded through decommissioning and demolition reserves.

CCR PART A Closure Proposal

issued November 4, 2019

- **OVEC-IKEC has four unlined CCR surface impoundment systems**
 - Fly Ash Pond – Kyger
 - Bottom Ash Pond – Kyger
 - Bottom Ash Pond – Clifty
 - Landfill Run-off Collection Pond - Clifty
- **EPA CCR Part A Closure proposal:** All unlined impoundments to cease placement of all wastes (both CCR and non-CCR) as soon as “technically feasible,” which EPA further clarifies as an obligation to do what is possible in the shortest achievable time.
- EPA also proposes a fundamental shift in how the rule will be enforced with limited exceptions, approval for ceasing placement of wastes beyond a default date of August 31, 2020 will be required from EPA (or state agency with CCR implementation approval).

CCR PART A Closure Proposal

issued November 4, 2019 (continued)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

ELG Environmental Regulatory Update

Effluent Limitations Guidelines Update

- EPA issued final ELG Postponement Rule in September 2017 for FGD Wastewater (FGDWW) and bottom ash transport water (BATW).
- A new draft EPA rule revising effluent limits was published in the Federal Register on November 22, 2019. There will be a 60-day comment period running through January 21, 2020, and the rule is expected to become final in the summer of 2020.
- The proposed rule keeps similar BAT limits for Bottom Ash Transport Water with a compliance date no later than December 31, 2023 (near closed-loop system).
- FGD BAT limits were modified. Physical/chemical treatment followed by biological treatment and ultrafiltration to be implemented by no later than December 31, 2025 (lower Hg and Nitrate-nitrite limits, higher Se limits).
- CCR rule modifications may impact timeline for ELG compliance.

ELG Legal Update

U.S. Court of Appeals for the 5th Circuit Decision 4/12/19 remanding and vacating portions of ELG Rule

- The Court determined EPA was “arbitrary and capricious” in its ELG rule determinations relative to legacy wastewater and landfill leachate.
- The Court vacated and remanded these portions of the rule back to EPA for further consideration.
- EPA did not file appeal, and will need to update record. The proposed November 22, 2019 ELG Rule did not address the legal issues surrounding these two wastewater discharges.

ELG Environmental Compliance Update

Clifty Creek

- FGD Wastewater Treatment: With the proposed draft ELG and CCR rule revisions issued in November, a modification request seeking additional time for FGD wastewater treatment (Bioreactor) will be prepared.
- Bottom Ash Pond: Proposed ELG rule and proposed CCR rule will now likely become part of a holistic compliance plan that will involve a near Closed-Loop Ash Handling System, initiation of bottom ash pond closure, and the installation of a new lined treatment system for the miscellaneous non-CCR wastewaters that are currently co-managed in the Clifty Bottom Ash Pond complex.
- IDEM Permitting: Original NPDES Permit Modification Request filed to remove/amend the April 1, 2022, ELG compliance dates for FGDWW and BATW will need updated. In discussions with IDEM on request.

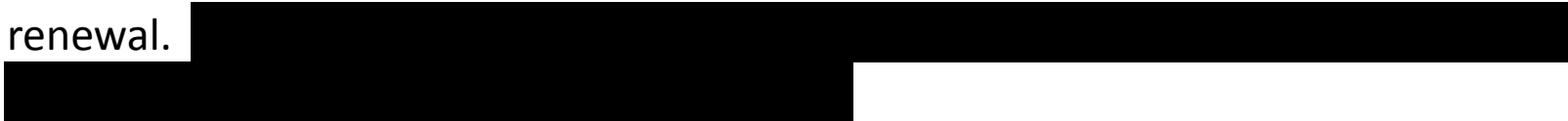
ELG Environmental Compliance Update

Kyger Creek

- South Fly Ash Pond: Engineering evaluation of Dry Fly Ash Conversion [REDACTED]
- Proposed new CCR rule also requires discontinuing placement of CCR into pond and ultimate pond closure.
 - Miscellaneous non-CCR wastewaters also require different management.
- Bottom Ash Pond: Proposed ELG rule and proposed CCR rule to drive a holistic compliance plan that will involve a near Closed-Loop Ash Handling System and ash pond closure.
- FGD Wastewater Treatment: Additional treatment technology to include biological treatment (Bioreactor).
- The plant NPDES Permit Renewal Application was filed in October 2018. Draft renewal permit is still pending.

316(b) Environmental Compliance Update

Kyger Creek

- 316(b) Section 122.21(r) reports were completed and submitted to Ohio EPA as part of the NPDES permit renewal application in November 2018.
 - Ohio EPA has not taken action on, either the 316(b) report or the NPDES permit renewal.
- 

Clifty Creek

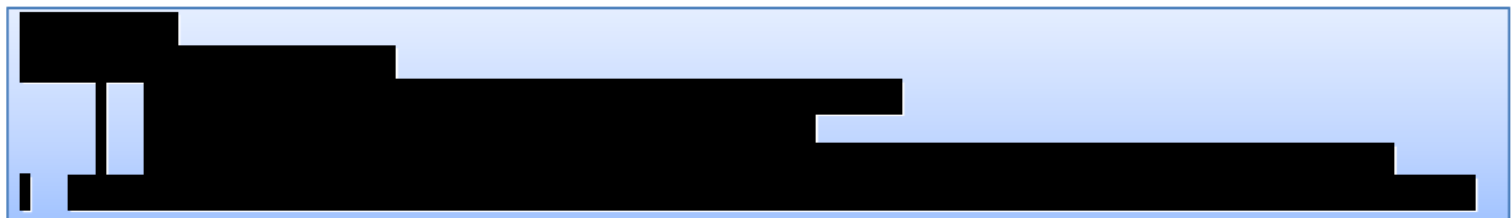
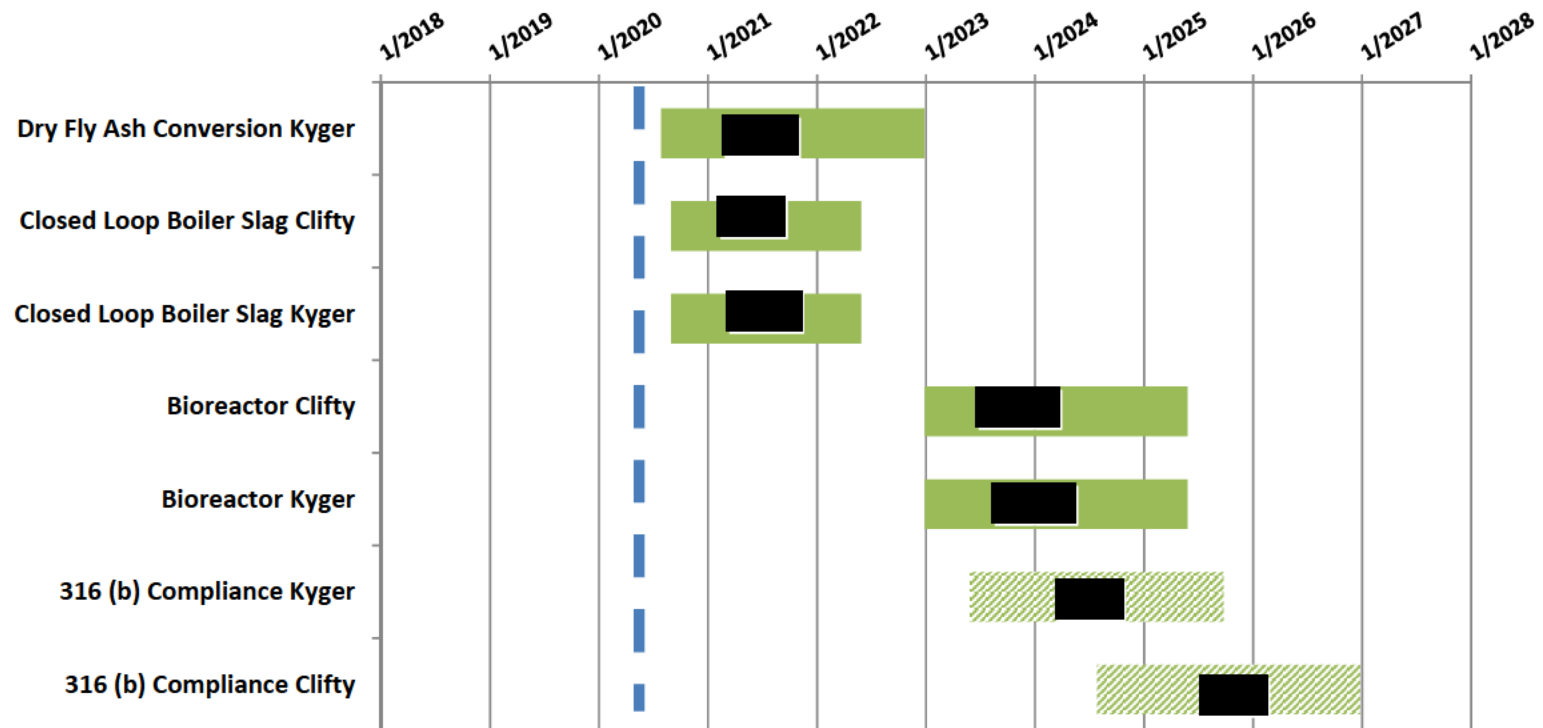
- 316(b) Section 122.21(r) report filed with IDEM in January 2019.
- IDEM to act on cooling system upgrades next permit cycle (i.e. during the 2022 NPDES permit renewal).

Clean Power Plan (CPP)/Affordable Clean Energy (ACE) Rule Update

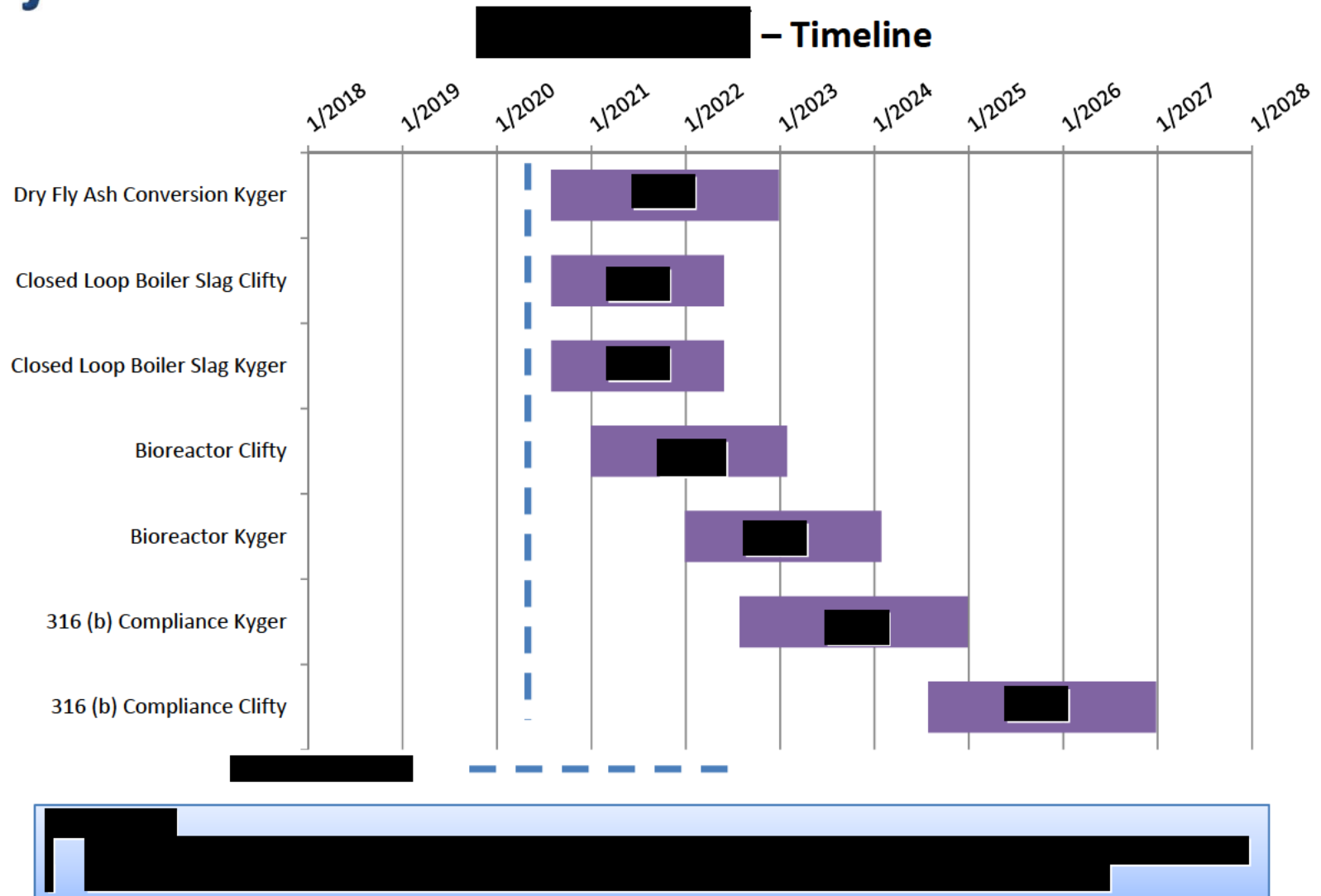
- U.S. EPA repealed CPP and in a separate action issued ACE Rule on July 8, 2019. Both actions are undergoing legal challenges.
- ACE Rule became effective on September 6, 2019.
 - Inside the fence line Heat Rate Improvements at the unit level is defined as the Best System of Emissions Reduction (BSER).
 - States have three years from ACE effective date to submit implementation plans.
 - States have a lot of flexibility in crafting state implementation plans; however, ACE is somewhat inflexible regarding EGU compliance options.
 - No emissions trading and no fleet, facility or common stack averaging.
- OVEC is working with other state utilities, as well as, Ohio EPA and IDEM on a state implementation program.

Projected Environmental Investment

██████████ – Timeline



Projected Environmental Investment



Gypsum and Ash Beneficial Reuse


Kyger Creek

- Majority of gypsum continues to be sold for wallboard production.
- Pursuing environmental permitting for the installation of on-site barge loading system; gypsum currently being trucked off site.
- Boiler slag sales are above forecast (Harsco).
- Evaluating system modifications to comply with CCR/ELG requirements.

Clifty Creek

- Majority of gypsum being sold for wallboard production.
- Pursuing environmental permitting for the installation of on-site barge loading system; gypsum currently being trucked off site.
- Fly ash marketing efforts continue – with some limited sales.

Benefits for both Plants:

- Reduced fuel costs, reduced future landfill expansion costs, reduced future environmental compliance risks.
- 
- A large black rectangular redaction box covers the text in this section.

Construction Budget



2020 Construction Budget

(requesting BOD approval)

Year	Loc	Project Name	Amount	IRR%	Paybk
2020	CCP	CC1-6, FGD, & Simulator Ovation Controls Replacement			
2020	KCP	KC3 1st Baffle Wall Replacement			
2020	CCP/KCP	CEMS and PM Monitor Replacement			
2020	CCP/KCP	Mercury Sorbent Trap Monitoring Replacement			
2020	CCP	Bus and Middle Air Blast Circuit Breaker Replacement (9/10 of 17)			
2020		Minor Projects (under \$500k)			
2020		Contingency Fund			
2020 Total					

2020 Projects Economic Metrics Range:

Internal Rate of
Return (IRR)

Target: [REDACTED]

Avg: [REDACTED]

Payback Period

Target: [REDACTED]

Avg: [REDACTED]

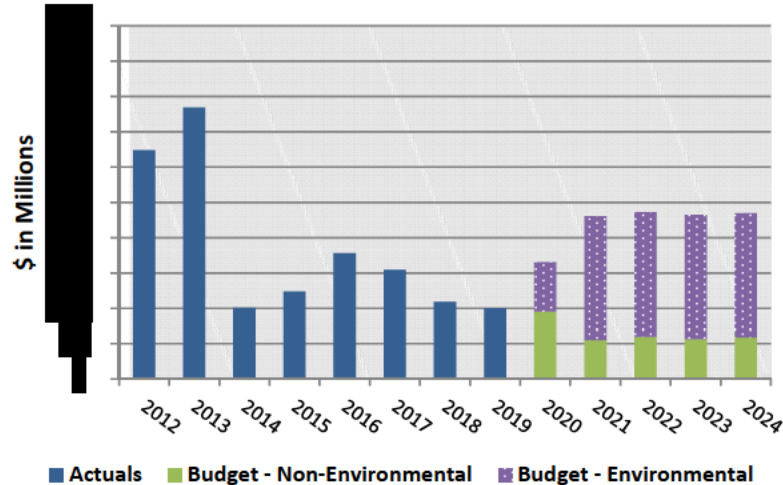
2020 Construction Projects highlight continued replacement of original boiler tubing to address current and future reliability issues with an additional focus on replacement of obsolete unit controls.

Examples of Projects Delayed due to Prioritization and Risk Evaluation

- Baffle Wall Replacements
- Generator Rewinds

Construction Budget Forecast

Historic and Projected Construction Costs



Construction Budget Forecast:

To minimize the requirement for long-term debt financing, the Construction Forecast has been adjusted to provide funding for upcoming Environmental Projects to minimize the impact on total Demand Cost.

Projected Non-Environmental Construction Projects will continued to be reviewed and prioritized based on reliability impact and related economic benefit.

Environmental Funding assumes best case funding requirements and seeking board approval for funding in early 2020.

OVEC/IKEC Construction Forecast

Year	Loc	Project Name	Amount
2021	KCP	KC1 1st Baffle Wall Replacement	
2021	KCP	Units 1 & 2 FD VFD Replacement	
2021	CCP	Bus and Middle Air Blast Circuit Breaker Replacement (11/12 of 17)	
2021		Minor Projects (under \$500k)	
2021		Contingency Fund	
2021 Total Non-Environmental			
Environmental Project Funding			
2021 Grand Total			
2022	KCP	KC4 1st Baffle Wall Replacement	
2022	CCP	Coal Yard Controls Replacement (1 of 3)	
2022	CCP	Bus and Middle Air Blast Circuit Breaker Replacement (13/14 of 17)	
2022	KCP	KC4 FD VFD Replacement	
2022		Minor Projects (under \$500k)	
2022		Contingency Fund	
2022 Total Non-Environmental			
Environmental Project Funding			
2022 Grand Total			
2023	CCP	CC6 1st Baffle Wall Replacement	
2023	CCP	Coal Yard Controls Replacement (2 of 3)	
2023	CCP	Bus and Middle Air Blast Circuit Breaker Replacement (15/16 of 17)	
2023		Minor Projects (under \$500k)	
2023		Contingency Fund	
2023 Total Non-Environmental			
Environmental Project Funding			
2023 Grand Total			
2024	KCP	Boiler Feedpump Softstart (1 of 2)	
2024	SYS	X530 Switchyard Bypass Project	
2024	CCP	Coal Yard Controls Replacement (3 of 3)	
2024	KCP	Unit 3 & 5 FD VFD Replacement	
2024		Minor Projects (under \$500k)	
2024		Contingency Fund	
2024 Total Non-Environmental			
Environmental Project Funding			
2024 Grand Total			

**OHIO VALLEY ELECTRIC CORPORATION (OVEC)
INDIANA-KENTUCKY ELECTRIC CORPORATION (IKEC)
OVEC-IKEC Construction Budget
Boards of Directors' Meeting
December 12, 2019**

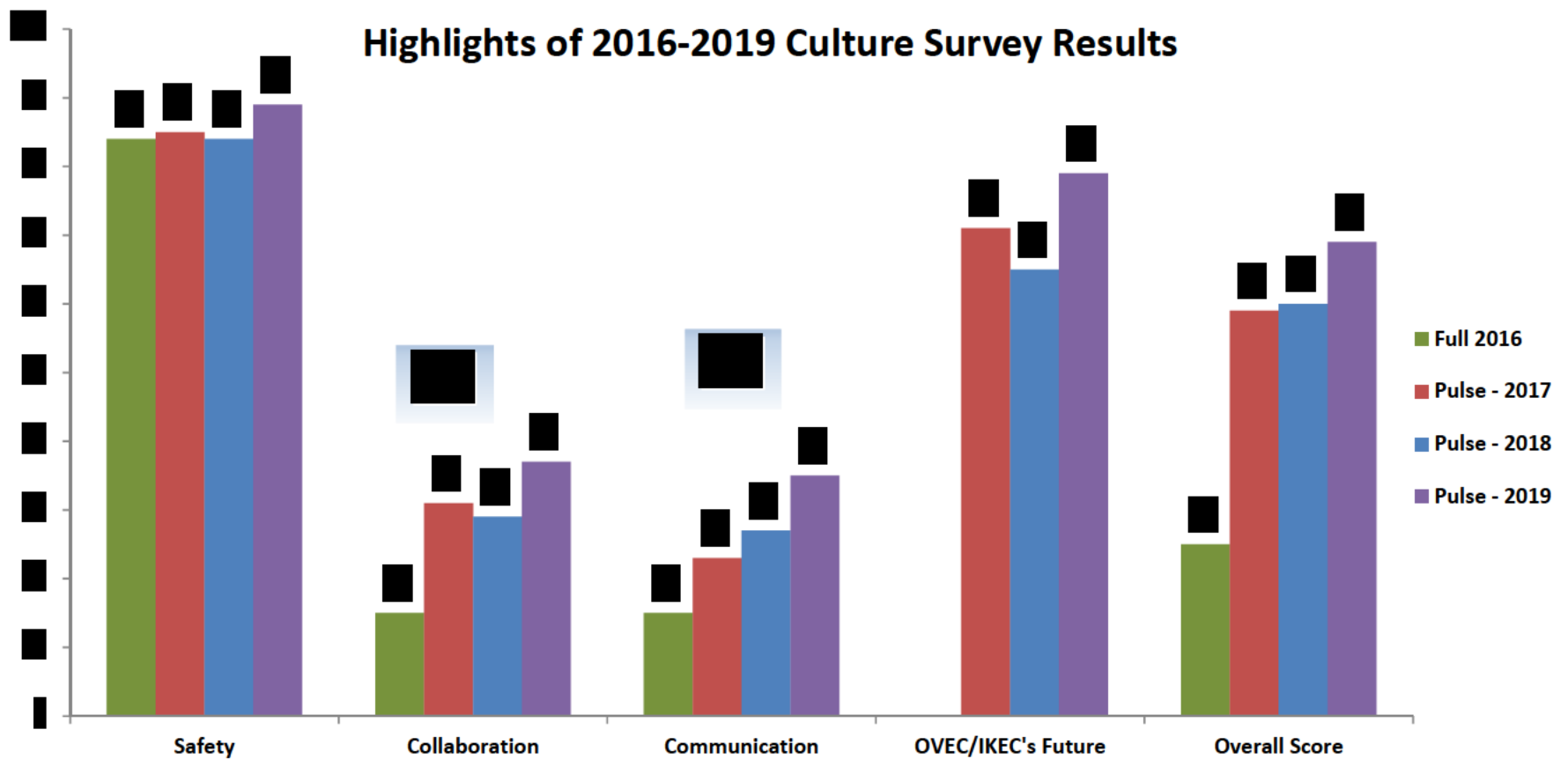
OVEC-IKEC

RESOLVED, that the OVEC-IKEC Construction Budget for 2020, indicating estimated total expenditures of [REDACTED] for Replacements of property, and [REDACTED] for Management Reserve, which totals [REDACTED] is approved.

Report on Operating Activities

Culture Survey Results – May 2019

- Participation remained strong at [REDACTED] with questions focused on Communication and Collaboration
- Utilizing results to update locational culture improvement action plans



Open Book Leadership (OBL) Scoreboard Update –YTD 2019

OVEC /IKEC – OBL Plant Scoreboards									
		Kyger Creek Plant				Clifty Creek Plant			
		2018	2019			2018	2019		
		Actual	Target	Oct YTD Actual		Actual	Target	Oct YTD Actual	
Safety	Recordable Rate: Employee								
	Recordable Rate: Contractor								
	DART Rate: Employee								
	DART Rate: Contractor								
Environmental Compliance	MATS (Mercury, Particulate Matter, Acid Gases)								
	NOx Tons (Ozone Season)								
Drivers of Critical Number Total Production Power Cost \$/MWhr	Reliability	EFOR							
		Commercial Availability							
	Energy Cost	Heat Rate ₁							
		Fuel Cost Total Fuel/ Net Gen							
	Demand Cost	O&M							
	Continuous Improvement	Process Improvements ₂							

- Reviewed at Plant Huddles (weekly)
- Future Focused
- Highlight Opportunities for Improvement
- Metrics are key drivers to Critical Number - \$/MWhr

OVEC 2019 Strategic Plan - Corporate

Mission Objective	Initiative ¹	Tactical Actions ^{2,3}
Zero Harm	Improve Safety Culture	Define, Communicate and Execute the Safety Action Plan; Locations to Develop Specific Safety Actions to Support the Plan
		Make Safety Personal
	Integrate Contractors into OVEC/IKEC Safety Culture	Contractor Oversight and Safety Standardization
	Improve In-Field Observation Process	Revise Field Observation Form and Refresh Organizational Training
	Improve Understanding and Use of HPI Tools	In-Field Training and Building Skill
Provider of Choice	Increase Reliability, Reduce EFOR, MOF and Optimize Commercial Availability	Focus Around Process Ownership and Process Health
	Improve Heat Rate	Cross-Functional Heat Rate Team
		Focused Heat Rate Communication Based on Job Classification
	Identify and Optimize Core Business	
	Improve Fiscal Responsibility	Financial Education - Provide Leadership with Materials to Inform Employees of Corporate Finances
Culture of Engagement	Improve Communication Processes	Determine What the Team Wants, How and From Whom
		Communication Conducted in Small Groups in a Face-to-Face Format
		Communicate Results, Associated Actions and Outcomes
	Strengthen Accountability	Clearly Defined and Communicated Job Expectations Followed by Feedback and Coaching with Balanced Recognition
Operational Excellence	Improved Team Performance	Develop Cross-Functional Workforce, Where Efficiency and Value Are Added
	Employee Development	Skill and Knowledge Assessment to Enhance Development Plans Among All Levels of the Organization
	Successful WAM Implementation	Workforce Teams Embrace WAM Team Training to Facilitate the Transition from Asset Suite to Maximo
Continuous Improvement	Optimize Continuous Improvement Process (CIP) and Open Book Leadership (OBL)	Incorporate a Quality Metric to Measure Engagement
	Root Cause Analysis (RCA) Focus	Validate Standards and Use Guidelines and Create a Measure of Usage and Application
	Standard Work Focus	Promote Standard Work Development, Utilization, Modification and Accessibility; and Track Corporate Performance

1 - Initiative is a broad reaching generalized need.

2 - Tactical Action is a specific action to achieve a desired goal.

3 - Possible additional Tactical Actions to be determined by Business Unit.

OVEC 2019 Strategic Plan – Kyger Creek

Mission Objective	Initiative ¹	Tactical Actions ^{2, 3}
Zero Harm	Improve Safety Culture	Minimize the Risk of Musculoskeletal Disorder Injuries (Life Movements) Through Training, JSA Reviews, and In-Field Observations
	Integrate Contractors into OVEC/IKEC Safety Culture	Conducted Weekly Safety and Housekeeping Walk downs with Contractor and Plant Personal During Outages
	Improve In-Field Observation Process	Revise Field Observation Form and Provide Refresh Training
	Improve Understanding and Use of HPI Tools	Conduct Plant Wide OBLD Challenges Focused HPI Tool Use and Awareness
Provider of Choice	Increase Reliability, Reduce EFOR, MOF and Optimize Commercial Availability	Identify and provide Expectations to System Owners, Equipment Owners and Engineering Support for Process Ownership and Process Health
	Improve Heat Rate	Monthly Meetings Conducted with Focus on Review of Previous Monthly Heat Rate and Identification of Opportunities to Improve Performance
	Identify and Optimize Core Business	Create Departmental Teams to Evaluate Core vs. Non-Core Functions
	Improve Fiscal Responsibility	Improve Financial Reporting to Provide Detail Analysis to All Responsibility Areas
Culture of Engagement	Improve Communication Processes	Do Frequent Informational and Feedback Meetings in Each Department in Small Groups
	Strengthen Accountability	Personal Development Plans Reviewed with Every Employee, Including Hourly Employee Personal Development Plans
Operational Excellence	Improve Team Performance	Development of Cross-Functional Workforce with Goal of Developing One Task Per Department
	Employee Development	Develop Updated Training Requirements Based on 2018 Skill and Knowledge Assessment Results
	Successful WAM Implementation	Support WAM Team Training Efforts to Facilitate the Transition to Maximo
Continuous Improvement	Optimize Continuous Improvement Process (CIP) and Open Book Leadership (OBL)	Implementing and Tracking Quality Business Challenges
	Root Cause Analysis (RCA) Focus	Create Repository for RCAs and Schedule Quality Training and Refreshers
	Standard Work Focus	Promote Standard Work Development, Utilization, Modification, and Accessibility with Focus on More Crew Involvement

Kyger Creek Plant's Strategic Plan **aligns directly** with OVEC's Corporate Strategic Plan's Mission Objectives and Initiatives

2 Top Areas of Success

2 Top Areas of Opportunity

OVEC 2019 Strategic Plan – Clifty Creek

Mission Objective	Initiative ¹	Tactical Actions ^{2,3}
Zero Harm	Improve Safety Culture	Make Safety Personal with Banners and Reminders Throughout the Year
	Integrate Contractors into OVEC/IKEC Safety Culture	Contractor Field Observations to Gauge Compliance and Sustaining Actions
	Improve In-Field Observation Process	Refresher Training on Revised Field Observation Form
	Improve Understanding and Use of HPI Tools	Utilize Field Observations to Reinforce the Importance of HPI Tool Use
Provider of Choice	Increase Reliability, Reduce EFOR, MOF and Optimize Commercial Availability	Focus Around Process Ownership and Process Health to Eliminate Rework in Operating, Maintaining and Repairing Equipment
	Improve Heat Rate	Focused Heat Rate Communication "What Can I Do To Improve Heat Rate?"
	Identify and Optimize Core Business	Review Plant Processes to Define Core Functions
	Improve Fiscal Responsibility	Financial Education - Inform Employees on Corporate Finances to Explain the "Why"
Culture of Engagement	Improve Communication Processes	Third Party Consulting (Best Performance Solutions) Assisting to Improve Communication and Ownership in Work Management Process
	Strengthen Accountability	Personal Development Plans Reviewed with Every Exempt Employee
Operational Excellence	Improve Team Performance	Development of Cross-Functional Workforce with Continued Focus on Operations and Maintenance Cross-Functional Tasks
	Employee Development	Identify and Communicated Job Classifications/Positions Desired Skills and Knowledge
	Successful WAM Implementation	Support WAM Team Training Efforts to Facilitate the Transition to Maximo
Continuous Improvement	Optimize Continuous Improvement Process (CIP) and Open Book Leadership (OBL)	Kaizens to Review and Updated Plant OBL Scoreboard to Engage Team on Critical Metrics
	Root Cause Analysis (RCA) Focus	Create RCA Guidance Document and Central Storage Location
	Standard Work Focus	Promote Standard Work Development, Utilization, Modification, and Accessibility with Tracking Performance

Clifty Creek Plant's Strategic Plan **aligns directly** with OVEC's Corporate Strategic Plan's Mission Objectives and Initiatives

2 Top Areas of Success

2 Top Areas of Opportunity

Treasurer's Report

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

Treasurer's Report
Boards of Directors' Meeting
December 12, 2019

OVEC

IKEC

Consolidated

CASH AND INVESTMENTS

Cash and Short-Term Investments
DOE Settlement Reserve Account
Debt Reserve Account
Total Cash and Investments at October 31, 2019

PLANT DECOMMISSIONING & DEMOLITION (D&D) FUND

Total D&D Assets at October 31, 2019

EMPLOYEE BENEFIT PLAN ASSETS

Pension Plan
Supplemental Pension & Savings Plan
Union Retiree Medical VEBA Trust
Retiree Medical VEBA Trust
Retiree Life Insurance VEBA Trust
401(h)
Total Benefit Plan Assets at October 31, 2019

EQUITY

Common Stock, 100,000 shares outstanding
Retained Earnings
Total Equity at October 31, 2019
(OVEC's ownership of IKEC's Capital Stock (17,000 shares) is eliminated in consolidation.)

LONG-TERM DEBT

SHORT-TERM DEBT

Total Short-Term Debt Outstanding at October 31, 2019

CORPORATE UNSECURED CREDIT RATINGS

Fitch (rating affirmed July 24, 2019)	BBB-, Stable Outlook
Moody's (rating affirmed December 13, 2018)	Ba1, Stable Outlook
Standard & Poor's (rating affirmed July 15, 2019)	BB+, Negative Outlook

FINANCING COMPLETED FOR 2019

Revolving Line of Credit [REDACTED] 1Q 2019
Refinanced 2019 Maturities/Expiring Agreements [REDACTED] Tax-Exempt bonds - 3Q 2019, avg interest cost of [REDACTED] Amortizing [REDACTED]

FINANCING PLAN FOR 2020

Refinance [REDACTED] Tax-Exempt bonds - 1Q 2020, potential annual interest cost savings [REDACTED] (included in power cost projections)
Economic Refinance or Refunding of remaining 2017 Financing (2017A) [REDACTED] - 2Q/3Q 2020 [REDACTED]

OVEC Power Cost Projections

Ohio Valley Electric Corporation
Projected Inter-Company Power Agreement (ICPA) Billable Cost Summary
Calendar Year 2019
in thousands of dollars

	Budget 2019	Projected 2019	Over/(Under)	Percentage Over/(Under)
Generation Sales				
Estimated Delivered Power Sales from OVEC Generation (MWhr)				
Projected Energy Use Factor %				
Projected Net Capacity Factor %				
Generation Costs (Energy and Generation Operating Costs)				
Energy Charge				
Projected Coal Cost (delivered)				
Projected Allowance Cost (based on projected weighted average inventory)				
Projected Other Fuel-Related Costs (reagents, fuel oil & coal handling less byproduct sales)				
Total Projected Energy Costs				
Projected Energy Costs - \$/MWhr				
Generation Operating Costs (Demand Charge)				
Projected Annual Capital Improvement Costs (ICPA Component A)				
Projected Operation and Maintenance Costs (ICPA Component B)				
Projected Administration and General Costs (ICPA Component B)				
Projected Taxes (ICPA Component C)				
Projected ROE Costs (ICPA Component D)				
Total Projected Generation Operating Costs (ICPA Components A, B, C, & D)				
Projected Generation Operating Costs (Demand Charge) - \$/MWhr				
Projected Total Generation Costs (Energy and Operating Costs) - \$/MWhr				
Transmission Costs				
Transmission Operating Costs (Demand Charge)				
Projected Annual Capital Improvement Costs (ICPA Component A) - Transmission				
Projected Transmission and Dispatch Costs (ICPA Component B)				
Projected Administration and General Costs (ICPA Component B) - Transmission				
Projected Total Transmission Costs				
Projected Transmission Costs - \$/MWhr				
Non-Operating Costs (Debt and Obligations)				
Non-Operating Cost (Demand Charge)				
Projected Debt Expense and Short-Term Debt Costs (ICPA Component A)				
Projected Long-Term Debt Costs (ICPA Component A)				
Projected Advance Billing of Debt Service - Debt Reserve (ICPA Component A)				
Projected Postretirement Benefit Obligation (ICPA Component E)				
Projected Decommissioning and Demolition Obligation (ICPA Component F)				
Total Projected Non-Production Demand Costs (ICPA Components A, E, & F)				
Projected Non-Operating Costs - \$/MWhr				
Total Billable Costs (Energy and Demand Charge)				
Summary of ICPA Billable Power Costs				
Grand Total Projected Energy Costs				
Grand Total Projected Demand Costs				
Grand Total Projected ICPA Billable Costs				
Projected Billable Costs (Energy and Demand) - \$/MWhr				
Projected On Going Billable Costs - Excluding Non-Traditional Costs \$/MWhr				

Ohio Valley Electric Corporation
Projected Inter-Company Power Agreement (ICPA) Billable Cost Summary
Calendar Years 2020 - 2024
Costs in thousands of dollars

	2020	2021	2022	2023	2024
Generation Sales					
Estimated Delivered Power Sales from OVEC Generated Power (MWhr)					
Projected Energy Use Factor %					
Projected Net Capacity Factor %					
<u>Generation Costs (Energy and Generation Operating Costs)</u>					
Energy Charge					
Projected Coal Cost (delivered)					
Projected Allowance Cost (based on projected weighted average inventory)					
Projected Other Fuel-Related Costs (reagents, fuel oil & coal handling less byproduct sales)					
Total Projected Energy Costs					
Projected Energy Costs - \$/MWhr					
Generation Operating Costs (Demand Charge)					
Projected Annual Capital Improvement Costs (ICPA Component A) -					
Projected Operation and Maintenance Costs (ICPA Component B)					
Projected Administration and General Costs (ICPA Component B)					
Projected Taxes (ICPA Component C)					
Projected ROE Costs (ICPA Component D)					
Total Projected Generation Operating Costs (ICPA Components A, B, C, & D)					
Projected Generation Operating Costs (Demand Charge) - \$/MWhr					
Projected Total Generation Costs (Energy and Operating Costs) - \$/MWhr					
<u>Transmission Costs</u>					
Transmission Operating Costs (Demand Charge)					
Projected Annual Capital Improvement Costs (ICPA Component A) - <i>Transmission</i>					
Projected Transmission and Dispatch Costs (ICPA Component B)					
Projected Administration and General Costs (ICPA Component B) - <i>Transmission</i>					
Projected Total Transmission Costs					
Projected Transmission Costs - \$/MWhr					
<u>Non-Operating Costs (Debt and Obligations)</u>					
Non-Operating Cost (Demand Charge)					
Projected Debt Expense and Short-Term Debt Costs (ICPA Component A)					
Projected Long-Term Debt Costs (ICPA Component A) -					
Projected Advance Billing of Debt Service - Debt Reserve (ICPA Component A)					
Projected Postretirement Benefit Obligation (ICPA Component E)					
Projected Decommissioning and Demolition Obligation (ICPA Component F)					
Total Projected Non-Production Demand Costs (ICPA Components A, E, & F)					
Projected Non-Operating Costs - \$/MWhr					
<u>Total Billable Costs (Energy and Demand Charge)</u>					
Summary of ICPA Billable Power Costs					
Grand Total Projected Energy Costs					
Grand Total Projected Demand Costs					
Grand Total Projected ICPA Billable Costs					
Projected Billable Costs (Energy and Demand) - \$/MWhr					

EXHIBIT 8

Confidential & Business Sensative Information

19 - Task 2

Fuel cost history for the OVEC plants in tons of coal and \$/mmbtu for the last 5 years.

Kyger

Tons
\$/mmbtu

--

Clifty

Tons
\$/mmbtu

--

EXHIBIT 9

Request 39 Task 1

Listing of all OVEC capital expenditures during the last 2 years. Include a description of the expenditure, the total dollar amount and the DPL allocation of the capital expenditure.

Capital Expenditures 2018 & 2019

Plan Year	Location	Project	Description	DPL 4.9%
2018	Kyger Creek	Unit #5 Bafflewall Replacement	replace Bafflewall Tubes in the 1st Bafflewall of Unit #5 Boiler. (Changed to Unit#2)	
2018	Clifty Creek	Unit #2 Primary Furnace Floor	replace Floor Tubes and install new refractory in Unit #2 Boiler.	
2018	Clifty Creek	Unit #2 Bafflewall Replacement	replace Bafflewall Tubes in the 1st Bafflewall of Unit #2 Boiler.	
2018	Kyger Creek	Unit #5 Ash Hopper Rebuild	project delayed and with reduced scope.	
2018	Clifty Creek	2 Air Blast Circuit Breakers	replace two (2) obsolete air blast circuit breakers with new gas insulated circuitbreakers.	
2018		Minor Projects (<500k)		
	Kyger Creek	Ovation (1 of 2)	Ovation is the control system for the plant, includes hardware/software to control all five (5) units, FGD, and simulator	
	Clifty Creek	Flyash Silo 46 PLC	replace Obsolete PLC Controls on Flyash Silo	
	System Office	EMC Network	replace Network Backup and Recovery	
	System Office	Dell Server	Intrusion Detection Log Management Server/Software	
	System Office	Fire Escape	second Floor Office Fire Escape	
	System Office	System Intrusion Detection	network Intrusion Detection	
2018		Contingency Fund/Excess Funds		
	Kyger Creek	Unit #1 Retube Condensor	Unit 1 Retube moved up from 2019 due to excess funding available and prioritization of work. Replacement of tubing the condenser on unit 1.	
Plan Year	Location	Project	Description	DPL 4.9%
2019	Kyger Creek	Ovation Controls (2 of 2)	Ovation is the control system for the plant, includes hardware/software to control all five (5) units, FGD, and simulator.	
2019	Kyger Creek	Unit #2 Bafflewall Replacement	replace Bafflewall Tubes in the 1st Bafflewall of Unit #2 Boiler.	
2019	Clifty Creek	Station #1 Barge Unloader Rebuild	rebuild one of two coal barge unloading stations used to unload coal.	
2019	Clifty Creek	Ovation Controls (1 of 2)	Ovation is the control system for the plant, includes hardware/software to control all six (6) units, FGD, and simulator.	
2019	Clifty Creek	2 Air Blast Circuit Breakers	replace two (2) obsolete air blast circuit breakers with new gas insulated circuitbreakers.	
2019		Minor Projects (<500k)		
	Clifty Creek	U#6 Slagblower Controls	replace Obsolete PLC Controls on Unit#6 Slagblower	
	System Office	Virtual Env	Corporate Virtual Environment	
	Clifty Creek	U#1 Slagblower Controls	replace Obsolete PLC Controls on Unit#1 Slagblower	
	System Office	Core Switch	Corporate Network - Core Switch	
	System Office	Servers	Corporate Network - Servers	
	System Office	NEI	Corporate Network Endpoint Identity	
	System Office	Firewall	Corporate Network Firewall	
2019		Contingency Fund		

* Actual Capital Costs as of 4/22/2020. Some projects completed in the following

**This foregoing document was electronically filed with the Public Utilities
Commission of Ohio Docketing Information System on**

9/12/2023 4:16:57 PM

in

Case No(s). 20-0165-EL-RDR

Summary: Testimony of David J. Crusey electronically filed by Mr. Jeffrey S.
Sharkey on behalf of The Dayton Power and Light Company.