

BEFORE THE
PUBLIC UTILITIES COMMISSION OF OHIO

THE DAYTON POWER AND LIGHT COMPANY

CASE NO. 16-0395-EL-SSO
CASE NO. 16-0397-EL-AAM
CASE NO. 16-0396-EL-ATA

DIRECT TESTIMONY
OF DAVID J. CRUSEY

OCTOBER 11, 2016

PUBLIC VERSION

- ☐ **MANAGEMENT POLICIES, PRACTICES, AND ORGANIZATION**
- ☐ **OPERATING INCOME**
- ☐ **RATE BASE**
- ☐ **ALLOCATIONS**
- ☐ **RATE OF RETURN**
- ☐ **RATES AND TARIFFS**
- ☒ **OTHER**

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ON BEHALF OF
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I. INTRODUCTION

Q. Please state your name, employer and business address.

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

Q. By whom and in what capacity are you employed?

A. I am employed by AES US Services, LLC, which is the service company that serves The Dayton Power and Light Company ("DP&L" or the "Company").

Q. How long have you been in your present position?

A. I have been employed at The Dayton Power and Light Company ("DP&L" or "The Company") and AES for over 27 years. I have been in my current position since AES acquired DP&L in late 2011, though my responsibilities have changed during this period. Prior to the AES acquisition of DP&L in late 2011, I held the position of Vice President, Commercial Operations for DP&L.

Q. What are your responsibilities in your current position?

A. In my current position I report to the Vice President, Commercial Operations of the AES US SBU. I am currently responsible for the Company's generation scheduling and dispatch function. I am also responsible for the commercial functions related to the Company's generating assets associated with the PJM Regional Transmission Organization ("RTO"). I am also involved in other commercial-related issues for the AES US SBU.

Q. Will you describe briefly your educational and business background?

1 A. Yes. I earned a Bachelor of Science degree in Electrical Engineering and a Master of
2 Business Administration degree, both from the University of Dayton. I am a CFA
3 charterholder and I have also earned the Financial Risk Manager (FRM) and Energy Risk
4 Professional (ERP) professional designations from the Global Association of Risk
5 Professionals. Currently, I am also an adjunct professor at the University of Dayton in
6 the Economics and Finance Department. Prior to the 2011 acquisition of DP&L by AES,
7 I was the Vice President of DP&L's Commercial Operations organization and was
8 responsible for managing the Company's overall energy commodity position, including
9 all coal, natural gas, energy, capacity, emission allowances and renewable energy
10 certificates. I was responsible for the Company's coal and related transportation
11 activities, and for the Company's PJM energy and capacity markets and generation
12 scheduling and dispatch area. I have worked extensively with DP&L's power plant co-
13 owners on fuel and other commercial-related issues. Prior to my time as Vice President,
14 Commercial Operations, I held various management, energy trading and marketing,
15 regulatory and other technical positions at DP&L. I have been actively involved in
16 energy commodity trading and energy marketing throughout my career. In summary,
17 since 1994, my duties and responsibilities at DP&L and AES have been directly involved
18 with commercial wholesale energy and commodity-related issues. Prior to 1994 and
19 when I started at the Company in 1989, I worked in the Company's Engineering,
20 Technical Services, Major Accounts and Regulatory departments.

21 **Q. Have you previously provided testimony before the Public Utilities Commission of**
22 **Ohio ("PUCO" or the "Commission") or the Federal Energy Regulatory**
23 **Commission ("FERC")?**

A. Yes. I have participated in a FERC hearing related to a dispute with one of DP&L's municipal customers. I have provided written testimony to the Commission in DP&L's 2011 Fuel Audit case, 11-5730-EL-FAC. I also provided written testimony and testified at hearing before the Commission in DP&L's 2012 Fuel Audit case, 12-2881-EL-FAC.

Q. What is the purpose of this testimony?

A. The purpose of this testimony is to support and explain DP&L's internal forecasts of commodity and capacity prices and to support the generation dispatch amounts used by Company Witness Jackson.

II. DP&L FORECASTS

Q. Can you identify DP&L's forecasts of commodity and capacity prices?

A. Yes. DP&L's commodity and capacity price forecasts are summarized below.

DP&L Price Forecasts

<u>Commodity</u>	<u>Unit</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>
Power ATC AD Hub	\$/MWh							
11800 ILB Coal (\$/Ton FOB Barge)	\$/Ton							
Natural Gas Henry Hub	\$/MMBtu							
Capacity RPM	\$/MW-Day							

Q. Can you describe how DP&L prepared its forecasts?

A. Yes. DP&L's approach to preparing its energy commodity price forecasts is

Energy commodities markets have different degrees of liquidity, market depth and price transparency for different periods. To obtain the , DP&L used a combination of publicly

1 information, published commodity indices, and information obtained through
2 recent transactions and communications with commodity brokers. For most
3 commodities, we were able to obtain that was sufficiently
4 liquid, transparent, and with enough market depth for

5 For the
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11 **Q. Was this process used for all commodities, and if so, please explain.**

12 A. Yes. The Company's approach used and when
13 they were, in our view, an accurate reflection of the price that could be transacted in the
14 market for each respective commodity with sufficient liquidity and market depth or
15 volume. I discussed above how the Company used , and
16 then developed a price forecast for the remaining
17
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23 **Q. Is the method that DP&L used to prepare those forecasts reasonable?**

1 A. Yes, this method is reasonable for multiple reasons. First, , the
2 Company which by definition are the prices that can be transacted in
3 and therefore reflect the value of the commodity. Second, the Company used
4
5 Third, as I will explain later, the Company's power price forecast used the
6
7 Fourth, of the forecast were based upon or
8 derived The Company's entire seven-year
9 forecast is The Company's
10 forecast is not solely the Company's independent view or opinion of forward market
11 prices.

12 **Q. Can you describe DP&L's projections of natural gas prices?**

13 A. Yes. As I stated earlier,
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15

16 For example, the open interest, which is the
17 total number of contracts that are open or outstanding for trading, on the Intercontinental
18 Exchange ("ICE") trading platform
19
20

21 **Q. Can you describe DP&L's projections of power prices?**

22 A. Yes. For the , the Company at the AEP-Dayton
23 Hub, also referred to as the AD Hub in its forecast. for power are

1 sufficiently liquid, and have a low bid-ask spread for the , so using them
2 is appropriate. The method that the Company

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Q. Can you describe DP&L's projections of coal prices?

A. Yes. Similar to the other commodities, the Company for coal for the

- The of coal for the
- The estimated production cost of coal suppliers based on publicly available information;
- Considerations that coal suppliers will have to compete with other new and additional sources of fuel over
- Considerations that coal suppliers' cost of production sets a long-term "floor" on the price at which they will sell in the market.

The last point is critical in longer-term coal prices. The coal supplier industry has demonstrated price discipline over the long-term by not selling coal at or below their cost

1 of production. for coal are subject to short-term decreases below cost of
2 production due to temporary over-supply, lack of short-term demand or supplier-specific
3 inventory issues. Over the long-term, however, coal suppliers have showed tremendous
4 discipline in shutting down mines that are not profitable. This fact is important when
5 forecasting prices because this discipline puts an
6

7 **Q. Can you describe DP&L's projections of PJM capacity prices?**

8 A. Yes. For each delivery year, PJM's RPM capacity construct holds an auction each May
9 for three years into the future. A delivery year starts June 1st and ends May 31st of the
10 following year. The actual results and prices of the PJM RPM capacity auctions that
11 have already been held were used for the 2017/18, 2018/19, and 2019/20 delivery years.
12 Therefore, the Company used for the of
13 the capacity forecast period. The Company forecasted the capacity values for the
14 remaining using an
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22 **Q. Can you describe DP&L's projections of emission allowance prices?**

1 A. Yes. The Company used

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3 **Q. Are DP&L's price forecasts reasonable?**

4 A. Yes, DP&L's price forecasts are reasonable for several reasons. First and foremost,
5 DP&L uses the

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14 **Q. Are DP&L's projections consistent with other market forecasts?**

15 A. Yes, below is a summary table that compares DP&L's price forecast to the price forecast
16 of PIRA Energy Group, ESAI Energy LLC, and IHS Markit, all of which are well known
17 energy industry consultants.

ATC AD Hub Power (\$/MWh)	2017	2018	2019	2020	2021	2022	2023
PIRA - 5/26/16	\$29.40	\$30.34	\$34.28	\$34.04	\$33.64	\$33.53	\$33.46
ESAI - 6/30/16	\$29.12	\$32.46	\$32.45	\$32.75	\$33.44	\$34.38	\$36.31
DP&L Projection - 6/30/16							

11800 ILB Coal (FOB Barge \$/Ton)	2017	2018	2019	2020	2021	2022	2023
PIRA - 5/26/16	\$35.04	\$35.70	\$36.69	\$37.04	\$37.26	\$37.47	\$37.69
ESAI - 6/30/16	n/a	n/a	n/a	n/a	n/a	n/a	n/a
DP&L Projection - 6/30/16							

Henry Hub NG (\$/MMBtu)	2017	2018	2019	2020	2021	2022	2023
PIRA - 5/26/16	\$2.95	\$3.40	\$4.22	\$4.13	\$4.05	\$4.01	\$3.98
ESAI - 6/30/16	\$3.18	\$3.17	\$3.16	\$3.32	\$3.34	\$3.59	\$3.73
DP&L Projection - 6/30/16							

PJM Capacity (\$/MW-Day)	2017	2018	2019	2020	2021	2022	2023
I H S August 2016				\$140	\$140	n/a	n/a
ESAI - 6/30/16				\$130	\$134	\$151	\$164
DP&L Projection - 6/30/16	\$144	\$159	\$127				

The IHS capacity price forecast for 2020 and 2021 uses the IHS forecast for the 2020/21 delivery year. IHS does not have an updated forecast for the remaining years. The ESAI capacity value for 2020 uses ESAI's forecast for the 2020/21 delivery year. As can be seen from the table,

Q. Was DP&L's internal commodity price forecast prepared for purposes of this case?

A. No, the forecast was not prepared for the purpose of this case, but was instead prepared in the ordinary course of DP&L's business and is what DP&L uses to make business decisions. DP&L considers the forecast to be reliable.

Q. Would you please explain whether the Company itself uses the commodity price forecast?

1 A. Yes. The Company uses the commodity price forecast for its internal budgeting and
2 planning.

3 **Q. Were you involved in the development of the updated commodity curves, and if so,**
4 **to what extent?**

5 A. Yes. I was actively involved in the development of the capacity price forecast, given my
6 experience and current responsibility for the PJM capacity market position at DP&L. I
7 am also familiar with the detailed forecast preparation work for the other energy
8 commodities.

9 **Q. Did the Company use any third party or publicly available information to complete**
10 **its price forecast?**

11 A. Yes. The Company used publicly available information on coal producers to gain insight
12 into the cost of production for suppliers of the type of coal it uses.
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16 **Q. Were the commodity price forecasts provided in your testimony the same forecasts**
17 **used in DP&L's internal budgeting and planning process and the financial schedules**
18 **filed in this case?**

19 A. Yes, for the most part. Some of the price forecasts had minor adjustments made to them
20 to account for transportation cost or basis cost associated with reflecting the value that
21 DP&L receives or pays for each commodity. The power price forecast was completed

1 for the AD Hub because it is the trading location and there is also price transparency at
2 this point. DP&L, however, gets paid for the power from its generators at the generator
3 location. To account for this fact, the Company adjusted the AD Hub price forecast to
4 reflect the price at each generator.

5 **Q. Are the price forecasts that you sponsor used to determine DP&L's generation**
6 **dispatch forecast?**

7 A. Yes.

8 **Q. Please explain the process used to develop the generation dispatch forecast?**

9 A. The commodity price forecasts that I am sponsoring were used as inputs to develop the
10 projected dispatch of each of the Company's plants. The projected generation dispatch
11 was determined by using the forward price estimates included in my testimony as inputs
12 into the Company's dispatch model. The dispatch model includes all of DP&L's plants
13 and related characteristics and simulates plant dispatch over time based on the inputted
14 forward price curves. This plant output or dispatch is then used to develop the projected
15 energy margins that are an input in the Company's financial forecast as sponsored by
16 Company Witness Jackson. Those projected energy margins were calculated by taking
17 the output production volumes of the dispatch model and using them as the inputs into
18 the Company's financial forecasting model.

19 **Q. Were the commodity price forecasts adjusted as part of the process to determine the**
20 **generation dispatch?**

21 A. Yes. Some of the price forecasts had minor adjustments made to them to account for
22 transportation cost or basis cost (locational price differences) associated with reflecting
23 the value that DP&L receives or pays for each commodity. For example, the coal price

1 forecast includes an adjustment for transportation costs to account for the cost incurred in
2 moving the coal from the purchase location to DP&L's plants. Also, the power price
3 forecast was completed for the AD Hub because it is the trading location and there is also
4 price transparency at this point. DP&L, however, gets paid for the power from its
5 generators at the generator location. To account for this, the Company adjusted the AD
6 Hub price forecast to reflect the price at each generator which is where the Company's
7 generators get paid.

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

9 A. Yes, it does.

10 1106095.1

CERTIFICATE OF SERVICE

I certify that a copy of the foregoing testimony has been served via electronic mail

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This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

10/11/2016 3:44:31 PM

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Case No(s). 16-0395-EL-SSO, 16-0396-EL-ATA, 16-0397-EL-AAM

Summary: Testimony Direct Testimony of David J. Crusey - Public Version - October 11, 2016
electronically filed by Mr. Charles J. Faruki on behalf of The Dayton Power and Light
Company