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**BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of The Dayton Power and Light Company for Approval of its Electric Security Plan.	:	Case No. 12-426-EL-SSO
In the Matter of the Application of The Dayton Power and Light Company for Approval of Revised Tariffs.	:	Case No. 12-427-EL-ATA
In the Matter of the Application of The Dayton Power and Light Company for Approval of Certain Accounting Authority.	:	Case No. 12-428-EL-AAM
In the Matter of the Application of The Dayton Power and Light Company for the Waiver of Certain Commission Rules.	:	Case No. 12-429-EL-WVR
In the Matter of the Application of The Dayton Power and Light Company to Establish Tariff Riders.	:	Case No. 12-672-EL-RDR

REDACTED

**PREFILED TESTIMONY
OF
TIMOTHY W. BENEDICT
PLANNING AND MARKET ANALYSIS DIVISION
ENERGY AND ENVIRONMENT DEPARTMENT
PUBLIC UTILITIES COMMISSION OF OHIO**

Staff Exhibit _____

March 11, 2013

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1 1. Q. Please state your name and your business address.

2 A. My name is Timothy W. Benedict, and my business address is 180 East
3 Broad Street, Columbus OH 43215.
4

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

6 A. I am employed as a Utility Specialist in the Division of Planning and
7 Market Analysis, Department of Energy and Environment. My
8 responsibilities include demand forecasting and economic analysis of
9 wholesale and competitive markets.
10

11 3. Q. Please summarize your educational background and work experience.

12 A. I received a B.A. in Economics from the University of Vermont and a
13 M.A. in Economics from Cleveland State University, where I was a
14 graduate teaching and research assistant in the Department of Economics. I
15 have been employed by the Staff of the Public Utilities Commission of
16 Ohio since December 2009.
17

18 4. Q. Have you testified in prior proceedings before the Commission?

19 A. Yes. I have testified before the Commission in Case No. 08-917-EL-SSO
20 (on remand) and have filed written testimony in Case No. 11-346-EL-SSO.
21
22

1 5. Q. What is the purpose of your testimony in this proceeding?

2 A. The purpose of my testimony is to recommend certain adjustments to the
3 financial forecast presented by Dayton Power and Light ("Company") in
4 the second revised testimony of Craig L. Jackson. More specifically, I
5 recommend an adjustment to the Company's wholesale revenue
6 projections, fuel costs, and O&M costs, based on a revised generation
7 dispatch forecast.

8
9 6. Q. How was Staff's revised generation forecast developed?

10 A. Staff has modeled the Company's expected generation output using the
11 Ventyx PROMOD IV ("PROMOD") software. Ventyx is a leading
12 developer and provider of enterprise software products and consulting
13 services to the energy industry. PROMOD is a widely recognized, industry
14 standard nodal production cost model that simulates the commitment and
15 dispatch process of the wholesale energy market. The model considers all
16 of the individual generating stations, transmission lines, and load buses
17 across the Eastern Interconnection, dispatching units in merit order until
18 total demand is met. Staff is licensed to receive simulation-ready
19 powerflow data semi-annually from the software vendor. These models are
20 developed by the Eastern Interconnection Reliability Assessment Group
21 (ERAG) Multiregional Modeling Working Group (MMWG). The
22 Multiregional Modeling Working Group (MMWG) is responsible for

1 developing a library of solved power flow models and associated dynamic
2 simulation models of the Eastern Interconnection. The models are for use
3 by the Regions and their member systems in planning future performance
4 and evaluating current operating conditions of the interconnected bulk
5 electric systems.

6
7 7. Q. What are the advantages to running a nodal powerflow model such as
8 PROMOD for the purposes of forecasting generation output?

9 A. This type of model best approximates the manner in which units are
10 centrally dispatched in merit order in organized wholesale energy markets
11 such as MISO and PJM. [REDACTED]

12 [REDACTED]

13 [REDACTED]

14 [REDACTED]

15 [REDACTED]

16 [REDACTED]

17 [REDACTED]

18 [REDACTED]

19 [REDACTED]

20
21 8. Q. For the purposes of this study, have you made any updates or changes to
22 the simulation-ready powerflow data?

1 A. Yes. Natural gas prices have been updated with current forward prices¹
2 and locational delivery adders to ensure that the model outcomes reflect the
3 historically low natural gas prices that currently prevail. I also reviewed
4 and updated unit retirement dates in order to ensure that all units in Ohio
5 that have notified PJM of a pending retirement are modeled accordingly. I
6 have avoided making significant changes to the model inputs and
7 assumptions unless absolutely necessary, as this may unintentionally
8 introduce bias and potentially compromise the impartiality of the results in
9 a dynamic system. Instead, I have relied upon the independent expertise of
10 the Multiregional Modeling Working Group.

11
12 9. Q. How does your modeled generation output compare to DP&L's generation
13 dispatch forecast?

14 A. Generally speaking, the model outputs indicate higher levels of annual unit
15 generation as compared to the Company's generation dispatch forecast.
16 The following table summarizes my results and presents them alongside the
17 generation dispatch forecast that DP&L presented within the internal
18 documents provided in support of the second revised testimony of Craig L.
19 Jackson.

¹ Forward prices reflect monthly Henry Hub futures as of December 5, 2012, provided by Ventyx Velocity Suite

Generation Asset (MWh)	2013		2014		2015	
	Company	Staff	Company	Staff	Company	Staff
AMPO						
Beckjord Station						
Conesville Station						
East Bend Station						
Hutchings Station						
Killen Station						
Miami Fort Station						
Montpelier Station**						
OVEC weekly						
Stuart Station						
Tait Station 1-3						
Tait Station 4-7						
Zimmer Station						
Generation Asset - Total						

REDACTED

1

2 10. Q. Did Staff make any ex post facto adjustments to the model outputs?

3 A. Yes. According to the Company's 10-Q report filed on 11/6/2012,
4 Hutchings Unit 4 has incurred damage to a rotor and will be deactivated
5 and unavailable for service until at least June 1, 2014. For this reason, I
6 have accepted the Company's output and dispatch cost data as given for the
7 Hutchings Station. Also note that I have also accepted the Company's
8 forecast for the Montpelier Station, which was not modeled by Staff, as
9 well as a line item for 2013 that, as I understand, represents a purchase
10 power contract that is in place with AMP Ohio that will be ending.

11

12 11. Q. What did you do to validate the reasonableness of the generation forecast?

13 A. In addition to comparing my modeling results to those of the Company, I
14 have compared the generation forecasts to historical output levels. The
15 following graphs compare both the Company and Staff's generation

1 forecasts to historical output levels for four of the most significant plants,
2 which together comprise between 75% and 80% of total generation as
3 modeled by Staff. The historical output levels are taken from the EPA's
4 Continuous Emissions Monitoring System ("CEMS") data, and reflect the
5 Company's ownership share of jointly-owned units.

Plant Output: Stuart

REDACTED

Plant Output: Zimmer

REDACTED

Plant Output: Killen

REDACTED

Plant Output: Miami Fort

REDACTED

1 12. Q. What do you believe to be the most important factors that explain the
2 differences in the generation forecasts?

3 A. Having reviewed many of the model inputs of both the Company and Staff,
4 I have found them to be quite similar in most respects. [REDACTED]

5 [REDACTED]

6 [REDACTED]

7 [REDACTED]

8 [REDACTED]

9 [REDACTED]

10 [REDACTED]

11

12

1 13. Q. How did you value the modeled generation output?

2 A. From information provided in the Company's internal documents, I
3 calculated annual revenue per MWh for each unit and applied it to Staff's
4 modeled generation output. This assumes that the generators as I have
5 modeled them will receive the same average annual revenue per MWh as is
6 embedded in the Company's model, with the total revenue for each unit
7 being scaled up or down according to the difference in forecasted
8 generation output.
9

10 14. Q. If you have modeled different levels of generation output, you must also
11 have accounted for differences in fuel costs and O&M costs associated with
12 this output. How was this quantified?

13 A. Additional generation revenues are indeed partially offset by additional fuel
14 and non-fuel O&M costs. I have valued changes in fuel costs and O&M
15 costs in a similar manner as I describe above for valuing changes in
16 generation output. From information provided by the Company, I have
17 imputed annual fuel costs and dispatch costs for each unit in \$/MWh and
18 applied those costs to the modeled changes in generation output. I believe
19 this is a conservative estimate, because as fixed O&M costs are spread over
20 higher levels of output, the average fixed O&M contribution per MWh is
21 reduced, resulting in higher margins per MWh.
22

1 15. Q. What is the magnitude of the adjustments you are supporting?

2 A. The following table depicts the adjustments in wholesale revenue, fuel
3 costs, and O&M costs that I am recommending. Three years of adjustments
4 are presented, consistent with Staff's recommendation that the ESP have a
5 term of three years. Staff witness Mahmud has incorporated these
6 recommendations into his financial analysis.

	2013	2014	2015
Δ Gen Revenues	\$26,361,732	\$95,299,316	\$133,284,915
Δ Fuel Costs	\$22,451,781	\$68,672,886	\$95,342,902
Δ O&M	(\$2,194,654)	\$9,752,771	\$12,918,606
Total	\$6,104,605	\$16,873,659	\$25,023,407

7

8

9 16. Q. Does this conclude your testimony?

10 A. Yes, it does. However, I reserve the right to submit supplemental testi-
11 mony as described herein, as new information subsequently becomes avail-
12 able or in response to positions taken by other parties.

PROOF OF SERVICE

I hereby certify that a true copy of the foregoing Prefiled Testimony of Timothy W. Benedict (Redacted), submitted on behalf of the Staff of the Public Utilities Commission of Ohio, was served via electronic mail, upon the parties listed below, this 11th day of March, 2013.

/s/ Thomas W. McNamee

Thomas W. McNamee
Assistant Attorney General

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