

FILE

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BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of : Case Nos. 11-346-EL-SSO
Columbus southern Power Company and : 11-348-EL-SSO
Ohio Power company for Authority to :
Establish a Standard Service Offer :
Pursuant to § 4928.143, Ohio Rev. Code, :
in the Form of an Electric Security Plan. :

In the Matter of the Application of :
Columbus Southern Power Company and : Case Nos. 11-349-EL-AAM
Ohio Power company for Approval of : 11-350-EL-AAM
Certain Accounting Authority. :

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PREFILED TESTIMONY
OF
HISHAM M. CHOUEIKI, PH.D., P.E.
ON BEHALF OF THE STAFF OF
THE PUBLIC UTILITIES COMMISSION OF OHIO
ENERGY & ENVIRONMENT DEPARTMENT
MARKET ANALYSIS & PLANNING DIVISION

STAFF EX. ____

August 4, 2011

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1 **EMPLOYER**

2 1. Q. Please state your name, position, and business address.

3 A. My name is Hisham M. Choueiki. I am employed by the Public Utilities
4 Commission of Ohio (PUCO) as a Senior Energy Specialist. My business
5 address is 180 East Broad Street, Columbus, Ohio 43215.

6 **ACADEMIC BACKGROUND AND PROFESSIONAL EXPERIENCE**

7 2. Q. Please describe your educational background and professional experience.

8 A. I am a Registered Professional Engineer in Ohio. I hold a Bachelor of
9 Science, a Master of Science, and a Philosophy Doctorate, all in Industrial
10 and Systems Engineering, all from the Ohio State University (OSU).

11
12 I currently serve as a Senior Energy/Telecommunications Specialist in the
13 Planning and Market Analysis Division in the Energy and Environment
14 Department at the Public Utilities Commission of Ohio.

15
16 I started my career in government regulation as a Graduate Researcher at
17 the National Regulatory Research Institute while attending graduate school
18 at OSU. My tenure at the PUCO commenced when I joined the Forecasting
19 Division as a Senior Utility Rate Analyst. I was later promoted to a Utility
20 Rate Analyst Manager, an Energy Specialist, and finally to my current
21 position. Between 1996 and 1998, I was on sabbatical from the PUCO, and

1 was a Visiting Assistant Professor in the College of Engineering and
2 Petroleum at Kuwait University where I taught operations research, design
3 of experiments, and forecast modeling, and was also an energy consultant
4 for the Kuwaiti government.

5
6 At the PUCO, I have contributed to numerous rule-making proceedings in
7 gas, electric, and telephone, co-authored several energy forecasting and tel-
8 ecommunications reports, lectured at the PUCO and at national and inter-
9 national technical conferences in the areas of forecast modeling, design of
10 experiments, and artificial neural networks, and have published in peer-
11 reviewed engineering journals.

12
13 3. Q. Please describe some of your present responsibilities at the PUCO.

14 A. I am a technical/policy advisor to PUCO Commissioners and Senior Staff.
15 I have several other major responsibilities, including: a) the development
16 of empirically valid, and logically consistent, short-term and long-term ana-
17 lytical forecasting models for assessing and characterizing the behavior of
18 energy and economic systems in utility service areas in Ohio, and in the
19 United States; and b) the review of the long-term forecast reports of elec-
20 tric distribution utilities in Ohio. I currently serve as the vice chair of the
21 Staff Steering Committee in the Organization of PJM States, Inc. (OPSI),
22 and the co-chair of the Staff Modeling Work Group in the Eastern Inter-

1 connect States Planning Council (EISPC). I also serve as a reviewer for
2 several engineering journals; including *IEEE Transactions on Power*
3 *Systems* and *IEEE Transactions on Neural Networks*.

4
5 4. Q. Have you testified in previous cases at the PUCO?

6 A. Yes, I have testified in long-term forecast hearings, telecommunications
7 alternative regulation hearings, telecommunications merger hearings, and,
8 more recently, in 10-388-EL-SSO.

9 **SCOPE OF TESTIMONY**

10 5. Q. What is the purpose of filing this testimony?

11 A. This testimony is limited in scope. Specifically, I will be deriving the
12 capacity component charges that Staff witness Johnson will use in devel-
13 oping his retail Market Rate Offer (MRO) for the calendar years 2012,
14 2013, and the first five months of calendar year 2014. To the extent that
15 the Commission agrees with Staff's recommendation of increasing the life
16 of the proposed ESP from 29 months to 41 months, I will also be supple-
17 menting the record by including the latest Basic Residual Auction (BRA)
18 results for the 2014/2015 delivery year. These results were released by
19 PJM on May 13, 2011.

1 6. Q. What summary tables will you be sponsoring in your testimony?

2 A. HMC-1 and HMC-2.

3 **CAPACITY COMPONENT CHARGES**

4 7. Q. How did AEP propose to estimate the capacity component charge in its
5 MRO?

6 A. In its MRO development, AEP witness Thomas stated that the capacity
7 component charges would be established based on the rates filed by AEP in
8 Case No. 10-2929-EL-UNC.

9
10 8. Q. Are the capacity charges proposed in case no. 10-2929-EL-UNC market-
11 based rates?

12 A. No, they are not. As a matter of fact, AEP acknowledged in its 10-2929
13 filing that the rates proposed were based on “an alternative mechanism that
14 would more accurately calculate and recover their capacity costs.” In other
15 words, the rates were not market-based but rather cost-based.

16
17 9. Q. In your opinion, is it reasonable to use a cost-based capacity component
18 charge in an retail MRO evaluation?

19 A. No, it is not. To the extent there is a transparent forward capacity price
20 available in the market, such a price should be used in the derivation of a
21 capacity component charge that would then be included in a proposed retail

1 MRO. This logic is no different than the use of the Simple Swap proposed
2 by AEP witness Thomas in the determination of an energy component
3 charge in AEP's proposed retail MRO (Thomas Testimony, LJT-1).
4

5 10. Q. For the period of interest in this case (January 1, 2012 – May 31, 2014), are
6 there transparent forward capacity prices available in the PJM footprint?

7 A. Yes. AEP-Ohio belongs to a region that is often referred to in the PJM
8 footprint as the "RTO" region. The price of capacity in the "RTO" region
9 for the 2011/2012, 2012/2013, and 2013/2014 delivery years¹ cleared at
10 \$116.15/MW-Day, \$16.46/MW-Day, and \$27.73/MW-Day, respectively.²
11

12 11. Q. Have you derived a capacity component charge for every delivery year to
13 be used in the development of the retail MRO in staff witness Johnson's
14 testimony?

15 A. Yes, I have. The assumptions and derivation of all capacity component
16 charges are summarized in HMC-1.
17

¹ A delivery year commences on June 1st and concludes on May 31st of the following year. For example, the 2011/2012 deliver year commences on June 1, 2011 and concludes on May 31, 2012

² <http://www.pjm.com/markets-and-operations/rpm/rpm-auction-user-info.aspx#Item08>.

1 A capacity component charge for the 2011/2012 delivery year that would
2 be billed with every MW-Hour of energy, for example, may be computed
3 by dividing the capacity clearing price (\$116.15/MW-Day) by the product
4 of 24 (24 hours in a day) and AEP-Ohio's load factor estimate.³ The net
5 result is a capacity component charge of \$7.50/MW-Hour.⁴
6

7 12. Q. Since a delivery year is not synchronized with a calendar year, how did you
8 derive the capacity component charges for the period January 2012 to
9 December 2012 and for the period January 2013 to May 2014?

10 A. In order to estimate the capacity component charge for the calendar year
11 2012, the capacity component charge during the last five months of the
12 2011/2012 delivery year (\$7.50/MW-Hour) has to be averaged with the
13 capacity component charge during the first seven months of the 2012/2013
14 delivery year (\$1.06/MW-Hour). The net result, which is a weighted-aver-
15 age, is a capacity component charge of \$3.75/MW-Hour.⁵
16

17 Similarly, to estimate the capacity component charge for the period that
18 includes the calendar year 2013 and the first 5 months of calendar year

3 AEP-Ohio's load factor is estimated at 64.52% (See HMC-2 for derivation).

4 $\$7.50/\text{MW-Hour} = (\$116.15/\text{MW-Day}) / (24 \text{ hours/Day} \times 0.6452).$

5 $\$3.75/\text{MW-Hour} = (5/12) \times (\$7.50/\text{MW-Hour}) + (7/12) \times (\$1.06/\text{MW-Hour}).$

1 2014, the capacity component charge during the last five months of the
2 2012/2013 delivery year (\$1.06/MW-Hour) has to be averaged with the
3 capacity component charge during the entire 2013/2014 delivery year
4 (\$1.79/MW-Hour). The net result, which is also a weighted average, is a
5 capacity component charge of \$1.58/MW-Hour⁶.

6
7 **RPM BRA: RESULTS OF THE 2014/2015 DELIVERY YEAR**

8 13. Q. Can you report the latest rpm basic residual auction results for the
9 2014/2015 delivery year?

10 A. On May 13th, 2011, PJM released the results for the 2014/2015 BRA. The
11 capacity price in the “RTO” region of PJM cleared at \$125.99/MW-Hour.
12 Using the same arithmetic described above, this price translates to a capac-
13 ity component charge of \$8.14/MW-Hour during the 2014/2015 delivery
14 year.

15
16 **SUMMARY AND RECOMMENDATIONS**

17 14. Q. Would you summarize your recommendations?

18 A. It is my recommendation that a market-based capacity charge be derived
19 and, accordingly, used as the capacity component charge in the evaluation

6 \$1.58/MW-Hour = (5/17) x (\$1.06/MW-Hour) + (12/17) x (\$1.79/MW-Hour).

1 of a retail MRO. Given the availability and transparency of forward capac-
2 ity prices in the PJM capacity market, a cost-based capacity charge should
3 not be used as a component of an MRO offer.

4
5 In term of capacity charges, I recommend the use of the results derived in
6 HMC-1; \$3.75/MW-Hour for the 2012 calendar year and \$1.58/MW-Hour
7 for the 2013 calendar year and the first five months of the 2014 calendar
8 year. Further, to the extent that the Commission agrees with Staff's rec-
9 ommendation of extending the ESP period by one year, it is my recom-
10 mendation to use a capacity charge of \$8.14/MW-Hour as a component in
11 the retail MRO for the period starting on June 1, 2014 and ending on May
12 31, 2015.

13
14 15. Q. Does this conclude your testimony?

15 A. Yes, it does.

HMC-1

Staff's Proposed Capacity Component Charges in AEP's MRO

PJM RPM BRA

Planning Period	RTO Clearing Price (\$/MW- day)
June 2011 - May 2012	\$116.15
June 2012 - May 2013	\$16.46
June 2013 - May 2014	\$27.73
June 2014 - May 2015	\$125.99

Made Public on 5/13/2011

Load Factor	64.52%
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Source: HMC-2

Period (delivery year)	Capacity Component Charges (\$/MW-hour)
Jun 2011 - May 2012	\$7.50
Jun 2012 - May 2013	\$1.06
Jun 2013 - May 2014	\$1.79
Jun 2014 - May 2015	\$8.14
(calendar year)	
Jan 2012 - Dec 2012	<u>\$3.75</u>
Jan 2013 - May 2014	<u>\$1.58</u>

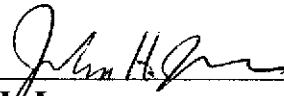
HMC-2
Staff's Estimation of AEP-Ohio's Average Load Factor

Year	COMPANY	Form FE-D1	Form FE-D3	Load Factor (L.F.)
		Net Energy for Load	Non-Coincident Summer Peak	
2012	CSP	22,649,576	4260	
2012	OPC	29,094,828	4875	
2012	AEP-Ohio	51,744,404	9,135	64.49%
2013	CSP	22,768,878	4289	
2013	OPC	29,189,425	4895	
2013	AEP-Ohio	51,958,303	9,184	64.58%
2014	CSP	22,728,485	4294	
2014	OPC	29,186,021	4894	
2014	AEP-Ohio	51,914,506	9,188	64.50%
<i>Avg L.F. (over all three years) =</i>				<u>64.52%</u>

Source: 2011 CSP/OP Long Term Forecast Report to the PUCO

PROOF OF SERVICE

I hereby certify that a true copy of the foregoing **Prefiled Testimony of Hisham M. Choueiki, Ph.D., P.E.**, submitted on behalf of the Staff of the Public Utilities Commission of Ohio, was served by regular U.S. mail, postage prepaid, or hand-delivered, upon the following Parties of Record, this 4th day of August, 2011.


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