



Legal Department

American Electric Power
1 Riverside Plaza
Columbus, OH 43215-2373
AEP.com

May 2, 2012

Honorable Examiner Greta See
Honorable Examiner Jonathan Tauber
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, Ohio 43215-3793

Matthew J. Satterwhite
Senior Counsel –
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Re: Supplemental Commission Ordered Testimony 11-346-EL-SSO et al.

Dear Examiners See and Tauber:

Please find attached the Supplemental Commission-Ordered testimony related to the known impacts of the Turning Point Solar project in this case. Attached is the testimony of Philip J. Nelson, David M. Roush, and Laura J. Thomas. There is a confidential exhibit attached to the testimony of Mr. Nelson. The Company is filing a motion for a protective order of that information, but is providing a public redacted copy of that exhibit with this filing.

Cordially,

Matthew J. Satterwhite
Senior Counsel

cc: Parties of Record

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of	)	
Columbus Southern Power Company and	)	
Ohio Power Company for Authority to	)	Case No. 11-346-EL-SSO
Establish a Standard Service Offer	)	Case No. 11-348-EL-SSO
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 No. 11-349-EL-AAM
Ohio Power Company for Approval of	)	Case No. 11-350-EL-AAM
Certain Accounting Authority	)	

PUBLIC VERSION OF
SUPPLEMENTAL COMMISSION-ORDERED TESTIMONY OF
PHILIP J. NELSON
IN SUPPORT OF AEP OHIO'S
MODIFIED ELECTRIC SECURITY PLAN

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO
SUPPLEMENTAL COMMISSION-ORDERED TESTIMONY OF
PHILIP J. NELSON
IN SUPPORT OF
AEP OHIO'S MODIFIED ELECTRIC SECURITY PLAN

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Philip J. Nelson. My business address is 1 Riverside Plaza, Columbus,
3 Ohio 43215.

4 **Q. DID YOU PREVIOUSLY FILE DIRECT TESTIMONY IN THIS**
5 **PROCEEDING ON MARCH 30, 2012?**

6 A. Yes.

7 **Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL COMMISSION-**
8 **ORDERED TESTIMONY IN THIS PROCEEDING?**

9 A. The purpose of my supplemental Commission-ordered testimony is to provide
10 additional information on the Turning Point Solar Project (TPS Project) that was
11 discussed on pages 20 and 21 of my direct testimony filed in this proceeding as
12 directed by the April 25, 2012 Commission Entry. In this testimony I provide an
13 estimated total revenue requirement for the TPS Project over its expected life and
14 provide the key assumptions used to develop the cost estimate. Company witness
15 Roush uses the expected revenue requirement for 2014 and January to May 2015 to
16 develop an estimate of the impacts of the TPS Project on customer bills. This
17 testimony is provided, as requested by the Commission, to be illustrative of the
18 potential costs. It is important to note that the Company is not seeking approval of
19 the TPS Project in the adjudicatory proceeding scheduled to begin May 14, 2012.

1 The Company proposes to provide final known costs to the Commission in a later
2 hearing proceeding for the Commission to determine the prudence of those costs.

3 **Q. WHAT ADDITIONAL EXHIBIT ARE YOU SPONSORING IN THIS**
4 **SUPPLEMENTAL COMMISSION-ORDERED TESTIMONY?**

5 A. I am sponsoring Exhibit PJN-5 (Public and COMPETITIVELY-SENSITIVE
6 CONFIDENTIAL versions) which provides the estimated revenue requirement for
7 the TPS Project over its life based upon the set of major assumptions listed in the
8 exhibit.

9 **Q. WHAT ARE THE MAJOR COST COMPONENTS OF THE TPS PROJECT?**

10 A. The majority of the costs for TPS Project will be the capital costs, since there is no
11 fuel and O&M is expected to be rather modest. The capital for the TPS Project will
12 be composed of an equity investment by AEP Ohio, equity investment by third party
13 investors, and debt. The capital costs of the three construction phases of the TPS
14 Project will be recovered through capital leases between AEP Ohio and Turning Point
15 Solar Generation LLC (TPS Generation). Also expected to be in the lease payments
16 are the expenses billed to TPS Generation by AEPSC in connection with any business
17 services agreements between AEPSC and TPS Generation. In connection with the
18 TPS Project AEP Ohio will directly incur O&M, property taxes, and the costs of
19 capital investments not included in the lease with TPS Generation.

20 **Q. WILL ADDITIONAL CAPITAL INVESTMENT BE REQUIRED OVER THE**
21 **LIFE OF THE FACILITY?**

1 Yes, capital investment/replacement is expected to occur after the initial three-phase
2 construction period, since certain of the components are not expected to last as long
3 as others and will need to be replaced before the lease term of 25 years is over.

4 **Q. WILL THESE CAPITAL EXPENDITURES BE ROLLED INTO THE LEASE?**

5 A. No, the Company does not expect these capital expenditures to become part of the
6 leases. It is anticipated that these capital expenditures will be made directly by AEP
7 Ohio, as lessee.

8 **Q. HAVE YOU CALCULATED THE REVENUE REQUIREMENT FOR THE**
9 **TPS PROJECT?**

10 A. Yes, Exhibit PJN-5 provides the expected revenue requirement of the TPS Project
11 using the major assumption listed on the first page of the exhibit. The components of
12 the revenue requirement are the lease payment between TPS Generation and AEP
13 Ohio, O&M expenses associated with the operation of the facility, and taxes. It is
14 expected that over the life of the facility certain other capital investments will need to
15 be made to keep it in operation. These investments will be made directly by AEP
16 Ohio pursuant to the lease agreement. There will be cost of capital, depreciation and
17 taxes associated with the additional investments that will be added to the revenue
18 requirement when they occur. The revenue requirement is based on a set of
19 assumptions listed on page 1 of Exhibit PJN-5. This estimated revenue requirement,
20 net of the market capacity and energy revenues derived from the output of the TPS
21 Project, will be used by Company witness Roush to estimate the impact of the TPS
22 Project on customer bills during the ESP.

1 **Q. PLEASE DESCRIBE THE LEASE PAYMENT BETWEEN AEP OHIO AND**
2 **TPS GENERATION.**

3 A. The lease payment results from the facilities lease agreement between AEP Ohio and
4 TPS Generation. The total lease payment made to TPS Generation will include the
5 costs associated with the capital lease or leases, and other expenses incurred directly
6 by TPS Generation such as business services agreement charges. The lease payments
7 will increase as additional phases of the TPS Project go into service. The capital
8 lease payment is composed of the financing costs of the lease and the amortization of
9 the capital investment. The initial capital investment or principal component of the
10 lease is set out in Exhibit PJN-5, page 7. The return component of the lease is based
11 upon the capital structure and costs of capital presented in Exhibit PJN-5, page 10. It
12 is anticipated that there will be three separate capital leases between TPS Generation
13 and AEP Ohio consistent with the three phases of the TPS Project. The capital
14 investment by AEP Ohio and the other investors in the TPS Project will be repaid
15 over the life of the facility through the lease payment. The financing cost and
16 principal amortization of the three capital leases are presented on pages 4 through 6 of
17 Exhibit PJN-5.

18 **Q. BESIDES THE CAPITAL RECOVERY COMPONENT, WHAT ARE THE**
19 **OTHER COMPONENTS OF THE ESTIMATED REVENUE REQUIREMENT**
20 **INCLUDED IN EXHIBIT PJN-5?**

21 A. In addition to the capital recovery component, there are the other costs which I have
22 included in the development of the estimated revenue requirement presented on page
23 2 of Exhibit PJN-5. They are any business service agreement charges (which are part

1 of the total lease payment), as well as items directly incurred by AEP Ohio, including
2 O&M expenses, property taxes and costs associated with additional capital
3 investment. Estimated tax benefits associated with the TPS Project were also
4 reflected.

5 **Q. DOES THIS CONCLUDE YOUR SUPPLEMENTAL COMMISSION-**
6 **ORDERED TESTIMONY?**

7 A. Yes it does.

Key Assumptions to Develop Estimated Revenue Requirement

1. AEP Ohio receives a favorable private letter ruling from the IRS.
2. Cost of solar panels – assumes a panel cost of \$■/W (dc) for phase one, \$■/W for phase two and \$■/W for phase three
3. Cost of AEP Ohio equity– assumes AEP Ohio's cost of equity is 10.20%, based on approved settlement in AEP Ohio 2011 Distribution rate case.
4. Third party equity - is assumed to be brought into the project at an after-tax cost of ■%.
5. Cost of RUS debt – is based on the long-term financing rates currently being offered by the RUS.
6. OAQDA Loan - is available and will be split between Phase 1 and Phase 2 of the investment. The OAQDA loan is not available for Phase 3. No debt forgiveness is included in estimated revenue requirement.
7. Tax Benefits - AEP Ohio makes a Tax Loan to TPS Generation to facilitate providing tax benefits to the ratepayer (see assumption 1) at a rate of 4.70%. The loan life of the AEP Tax Loan is approximately 25 years.
8. Cost of construction debt – uses the 1-month LIBOR plus a spread of 200 bps as the cost of the construction financing. The model also assumes a 1% up-front fee and a 0.50% commitment fee.
9. Property tax abatement/PILOT – assumes the TPS Project would qualify for an Enterprise Zone abatement of \$9,000/MW for the first 15 years of each phase, at which point the property tax payments will revert back to the normal personal property rate.
10. O&M Expenses - AEP Ohio will pay all operating and maintenance costs associated with the project. The annual O&M expense consists of charges for labor, contract services, material and supplies, insurance.
11. O&M inflation rate – assumes a 2% annual increase in O&M expenses.
12. Energy Production – The long-term production forecast for the project is derived from a Black & Veatch Production Estimate Report dated 5/12/11 and assumes an initial capacity factor for each phase at ■%. B&V estimates that the annual degradation in efficiency is ■% per year.

TPS PROJECT
ESTIMATED REVENUE REQUIREMENT (\$000)
BASED ON 25 YEAR PROJECT LIFE AND KEY ASSUMPTIONS

	Revenue Requirement						
Year	Lease Expense	O&M Expense	Tax Benefits	Property Tax	Additional Capital Carrying Costs	Annual Revenue Requirement	
Ref.	Page 3	Page 8	Page 9		Page 11		
2014	\$ 6,750	\$ 860	\$ (1,037)	\$ 180	\$ -	\$ 6,752	
2015	\$ 10,621	\$ 1,007	\$ (2,230)	\$ 315	\$ -	\$ 9,712	
2016	\$ 14,436	\$ 1,158	\$ (3,744)	\$ 449	\$ -	\$ 12,299	
2017	\$ 14,442	\$ 1,182	\$ (4,697)	\$ 449	\$ -	\$ 11,376	
2018	\$ 14,449	\$ 1,205	\$ (5,371)	\$ 449	\$ -	\$ 10,732	
2019	\$ 14,455	\$ 1,229	\$ (5,738)	\$ 449	\$ 9	\$ 10,405	
2020	\$ 14,462	\$ 1,254	\$ (5,838)	\$ 449	\$ 25	\$ 10,351	
2021	\$ 14,469	\$ 1,279	\$ (5,718)	\$ 449	\$ 46	\$ 10,526	
2022	\$ 14,476	\$ 1,304	\$ (5,455)	\$ 449	\$ 68	\$ 10,842	
2023	\$ 14,483	\$ 1,331	\$ (5,143)	\$ 449	\$ 93	\$ 11,212	
2024	\$ 14,490	\$ 1,357	\$ (4,828)	\$ 449	\$ 181	\$ 11,649	
2025	\$ 14,497	\$ 1,384	\$ (4,509)	\$ 449	\$ 315	\$ 12,137	
2026	\$ 14,505	\$ 1,412	\$ (4,186)	\$ 449	\$ 492	\$ 12,672	
2027	\$ 14,513	\$ 1,440	\$ (3,859)	\$ 449	\$ 665	\$ 13,208	
2028	\$ 14,520	\$ 1,469	\$ (3,528)	\$ 449	\$ 838	\$ 13,748	
2029	\$ 14,528	\$ 1,498	\$ (3,193)	\$ 711	\$ 1,012	\$ 14,557	
2030	\$ 14,537	\$ 1,528	\$ (2,853)	\$ 849	\$ 1,190	\$ 15,251	
2031	\$ 14,545	\$ 1,559	\$ (2,508)	\$ 966	\$ 1,374	\$ 15,937	
2032	\$ 14,553	\$ 1,590	\$ (2,158)	\$ 911	\$ 1,567	\$ 16,464	
2033	\$ 14,562	\$ 1,622	\$ (1,802)	\$ 856	\$ 1,762	\$ 17,000	
2034	\$ 14,571	\$ 1,654	\$ (1,441)	\$ 801	\$ 1,864	\$ 17,449	
2035	\$ 14,580	\$ 1,687	\$ (1,074)	\$ 756	\$ 1,892	\$ 17,841	
2036	\$ 14,589	\$ 1,721	\$ (701)	\$ 719	\$ 1,845	\$ 18,173	
2037	\$ 14,598	\$ 1,756	\$ (322)	\$ 688	\$ 1,814	\$ 18,533	
2038	\$ 14,608	\$ 1,791	\$ 64	\$ 657	\$ 1,767	\$ 18,887	
2039	\$ 8,171	\$ 1,548	\$ 101	\$ 369	\$ 1,706	\$ 11,895	
2040	\$ 4,316	\$ 1,366	\$ 103	\$ 179	\$ 1,611	\$ 7,574	

Phase 1 Starts 01/01/2014

Phase 2 Starts 01/01/2015

Phase 3 Starts 01/01/2016

Period	Credit for Energy and Capacity Revenue			Net Revenue Requirement
	Revenue Requirement	Revenue		
Ref.	Page 2	Page 13		
2014	\$ 6,752	\$ (1,346)	\$	5,406
Jan-May 2015	\$ 4,047	\$ (1,076)	\$	2,971

Lease Payments (\$000)

Year	Lease Assoc. with Capital Investment			Other Lease Items*	Total Est. Lease Payment
	Phase 1	Phase 2	Phase 3		
2014	\$ 6,447			\$ 303	\$ 6,750
2015	\$ 6,447	\$ 3,865		\$ 309	\$ 10,621
2016	\$ 6,447	\$ 3,865	\$ 3,809	\$ 315	\$ 14,436
2017	\$ 6,447	\$ 3,865	\$ 3,809	\$ 321	\$ 14,442
2018	\$ 6,447	\$ 3,865	\$ 3,809	\$ 328	\$ 14,449
2019	\$ 6,447	\$ 3,865	\$ 3,809	\$ 334	\$ 14,455
2020	\$ 6,447	\$ 3,865	\$ 3,809	\$ 341	\$ 14,462
2021	\$ 6,447	\$ 3,865	\$ 3,809	\$ 348	\$ 14,469
2022	\$ 6,447	\$ 3,865	\$ 3,809	\$ 355	\$ 14,476
2023	\$ 6,447	\$ 3,865	\$ 3,809	\$ 362	\$ 14,483
2024	\$ 6,447	\$ 3,865	\$ 3,809	\$ 369	\$ 14,490
2025	\$ 6,447	\$ 3,865	\$ 3,809	\$ 376	\$ 14,497
2026	\$ 6,447	\$ 3,865	\$ 3,809	\$ 384	\$ 14,505
2027	\$ 6,447	\$ 3,865	\$ 3,809	\$ 392	\$ 14,513
2028	\$ 6,447	\$ 3,865	\$ 3,809	\$ 399	\$ 14,520
2029	\$ 6,447	\$ 3,865	\$ 3,809	\$ 407	\$ 14,528
2030	\$ 6,447	\$ 3,865	\$ 3,809	\$ 416	\$ 14,537
2031	\$ 6,447	\$ 3,865	\$ 3,809	\$ 424	\$ 14,545
2032	\$ 6,447	\$ 3,865	\$ 3,809	\$ 432	\$ 14,553
2033	\$ 6,447	\$ 3,865	\$ 3,809	\$ 441	\$ 14,562
2034	\$ 6,447	\$ 3,865	\$ 3,809	\$ 450	\$ 14,571
2035	\$ 6,447	\$ 3,865	\$ 3,809	\$ 459	\$ 14,580
2036	\$ 6,447	\$ 3,865	\$ 3,809	\$ 468	\$ 14,589
2037	\$ 6,447	\$ 3,865	\$ 3,809	\$ 477	\$ 14,598
2038	\$ 6,447	\$ 3,865	\$ 3,809	\$ 487	\$ 14,608
2039		\$ 3,865	\$ 3,809	\$ 497	\$ 8,171
2040			\$ 3,809	\$ 507	\$ 4,316

*Expense incurred in connection with services provided in business services agreements.

TPS Lease Payment Calculation (\$000)

Parameters			Lease Summary		
Lease Amount	\$	79,517.69	Scheduled Payment	\$	1,611.63
Annual Lease Rate		6.483%	Scheduled Number of Payments		100
Lease Period in Years		25	Actual Number of Payments		
Number of Payments Per Year		4	Total Early Payments	\$	-
Start Date of Lease		12/31/2013	Total Financing Cost	\$	81,645.54
			Annual Payment	\$	6,447.00
Lease Holder: TPS Generation					

Phase 1

Pmt No.	Payment Date	Balance	Lease Payment	Amortization	Financing Cost	Ending Balance
1	3/31/2014	\$ 79,517.69	\$ 1,611.63	\$ 322.88	\$ 1,288.75	\$ 79,194.81
2	7/1/2014	79,194.81	1,611.63	328.12	1,283.52	78,866.69
3	10/1/2014	78,866.69	1,611.63	333.43	1,278.20	78,533.26
4	12/31/2014	78,533.26	1,611.63	338.84	1,272.80	78,194.42
5	3/31/2015	78,194.42	1,611.63	344.33	1,267.30	77,850.09
6	7/1/2015	77,850.09	1,611.63	349.91	1,261.72	77,500.18
7	10/1/2015	77,500.18	1,611.63	355.58	1,256.05	77,144.60
8	12/31/2015	77,144.60	1,611.63	361.34	1,250.29	76,783.26
9	3/31/2016	76,783.26	1,611.63	367.20	1,244.43	76,416.06
10	7/1/2016	76,416.06	1,611.63	373.15	1,238.48	76,042.91
11	10/1/2016	76,042.91	1,611.63	379.20	1,232.43	75,663.71
12	12/31/2016	75,663.71	1,611.63	385.34	1,226.29	75,278.37
13	3/31/2017	75,278.37	1,611.63	391.59	1,220.04	74,886.78
14	7/1/2017	74,886.78	1,611.63	397.94	1,213.70	74,488.85
15	10/1/2017	74,488.85	1,611.63	404.39	1,207.25	74,084.46
16	12/31/2017	74,084.46	1,611.63	410.94	1,200.69	73,673.52
17	3/31/2018	73,673.52	1,611.63	417.60	1,194.03	73,255.92
18	7/1/2018	73,255.92	1,611.63	424.37	1,187.27	72,831.56
19	10/1/2018	72,831.56	1,611.63	431.24	1,180.39	72,400.31
20	12/31/2018	72,400.31	1,611.63	438.23	1,173.40	71,962.08
21	3/31/2019	71,962.08	1,611.63	445.34	1,166.30	71,516.74
22	7/1/2019	71,516.74	1,611.63	452.55	1,159.08	71,064.19
23	10/1/2019	71,064.19	1,611.63	459.89	1,151.74	70,604.30
24	12/31/2019	70,604.30	1,611.63	467.34	1,144.29	70,136.95
25	3/31/2020	70,136.95	1,611.63	474.92	1,136.72	69,662.04
<i>Payments from 26 to 74 omitted</i>						
75	10/1/2032	33,972.84	1,611.63	1,061.03	550.60	32,911.81
76	12/31/2032	32,911.81	1,611.63	1,078.23	533.40	31,833.58
77	3/31/2033	31,833.58	1,611.63	1,095.70	515.93	30,737.88
78	7/1/2033	30,737.88	1,611.63	1,113.46	498.17	29,624.42
79	10/1/2033	29,624.42	1,611.63	1,131.51	480.13	28,492.91
80	12/31/2033	28,492.91	1,611.63	1,149.85	461.79	27,343.07
81	3/31/2034	27,343.07	1,611.63	1,168.48	443.15	26,174.59
82	7/1/2034	26,174.59	1,611.63	1,187.42	424.21	24,987.17
83	10/1/2034	24,987.17	1,611.63	1,206.66	404.97	23,780.51
84	12/31/2034	23,780.51	1,611.63	1,226.22	385.41	22,554.29
85	3/31/2035	22,554.29	1,611.63	1,246.09	365.54	21,308.19
86	7/1/2035	21,308.19	1,611.63	1,266.29	345.34	20,041.91
87	10/1/2035	20,041.91	1,611.63	1,286.81	324.82	18,755.09
88	12/31/2035	18,755.09	1,611.63	1,307.67	303.97	17,447.43
89	3/31/2036	17,447.43	1,611.63	1,328.86	282.77	16,118.57
90	7/1/2036	16,118.57	1,611.63	1,350.40	261.24	14,768.17
91	10/1/2036	14,768.17	1,611.63	1,372.28	239.35	13,395.89
92	12/31/2036	13,395.89	1,611.63	1,394.52	217.11	12,001.36
93	3/31/2037	12,001.36	1,611.63	1,417.13	194.51	10,584.24
94	7/1/2037	10,584.24	1,611.63	1,440.09	171.54	9,144.15
95	10/1/2037	9,144.15	1,611.63	1,463.43	148.20	7,680.71
96	12/31/2037	7,680.71	1,611.63	1,487.15	124.48	6,193.56
97	3/31/2038	6,193.56	1,611.63	1,511.25	100.38	4,682.31
98	7/1/2038	4,682.31	1,611.63	1,535.75	75.89	3,146.56
99	10/1/2038	3,146.56	1,611.63	1,560.64	51.00	1,585.93
100	12/31/2038	1,585.93	1,611.63	1,560.23	25.70	0.00

TPS Lease Payment Calculation (\$000)

Parameters		Loan Summary	
Lease Amount	\$ 47,677.33	Scheduled Payment	\$ 966.30
Annual Lease Rate	6.483%	Scheduled Number of Payments	100
Lease Period in Years	25	Actual Number of Payments	
Number of Payments Per Year	4	Total Early Payments	\$ -
Start Date of Lease	12/31/2014	Total Financing Cost	\$ 48,953.14
		Annual Payment	\$ 3,865.00

Lease Holder: TPS Generation

Phase 2

Pmt No.	Payment Date	Balance	Lease Payment	Amortization	Financing Cost	Ending Balance
1	3/31/2015	\$ 47,677.33	\$ 966.30	\$ 193.59	\$ 772.71	\$ 47,483.73
2	7/1/2015	47,483.73	966.30	196.73	769.57	47,287.00
3	10/1/2015	47,287.00	966.30	199.92	766.38	47,087.08
4	12/31/2015	47,087.08	966.30	203.16	763.14	46,883.92
5	3/31/2016	46,883.92	966.30	206.45	759.85	46,677.47
6	7/1/2016	46,677.47	966.30	209.80	756.51	46,467.67
7	10/1/2016	46,467.67	966.30	213.20	753.11	46,254.47
8	12/31/2016	46,254.47	966.30	216.65	749.65	46,037.82
9	3/31/2017	46,037.82	966.30	220.17	746.14	45,817.65
10	7/1/2017	45,817.65	966.30	223.73	742.57	45,593.92
11	10/1/2017	45,593.92	966.30	227.36	738.94	45,366.56
12	12/31/2017	45,366.56	966.30	231.05	735.26	45,135.51
13	3/31/2018	45,135.51	966.30	234.79	731.52	44,900.72
14	7/1/2018	44,900.72	966.30	238.59	727.71	44,662.13
15	10/1/2018	44,662.13	966.30	242.46	723.84	44,419.67
16	12/31/2018	44,419.67	966.30	246.39	719.91	44,173.27
17	3/31/2019	44,173.27	966.30	250.38	715.92	43,922.89
18	7/1/2019	43,922.89	966.30	254.44	711.86	43,668.45
19	10/1/2019	43,668.45	966.30	258.57	707.74	43,409.88
20	12/31/2019	43,409.88	966.30	262.76	703.55	43,147.12
21	3/31/2020	43,147.12	966.30	267.02	699.29	42,880.11
22	7/1/2020	42,880.11	966.30	271.34	694.96	42,608.76
23	10/1/2020	42,608.76	966.30	275.74	690.56	42,333.02
24	12/31/2020	42,333.02	966.30	280.21	686.09	42,052.81
25	3/31/2021	42,052.81	966.30	284.75	681.55	41,768.06
<i>Payments from 26 to 74 omitted</i>						
75	10/1/2033	20,369.49	966.30	636.17	330.13	19,733.31
76	12/31/2033	19,733.31	966.30	646.49	319.82	19,086.83
77	3/31/2034	19,086.83	966.30	656.96	309.34	18,429.86
78	7/1/2034	18,429.86	966.30	667.61	298.69	17,762.25
79	10/1/2034	17,762.25	966.30	678.43	287.87	17,083.82
80	12/31/2034	17,083.82	966.30	689.43	276.88	16,394.40
81	3/31/2035	16,394.40	966.30	700.60	265.71	15,693.80
82	7/1/2035	15,693.80	966.30	711.95	254.35	14,981.84
83	10/1/2035	14,981.84	966.30	723.49	242.81	14,258.35
84	12/31/2035	14,258.35	966.30	735.22	231.09	13,523.13
85	3/31/2036	13,523.13	966.30	747.13	219.17	12,776.00
86	7/1/2036	12,776.00	966.30	759.24	207.06	12,016.75
87	10/1/2036	12,016.75	966.30	771.55	194.76	11,245.21
88	12/31/2036	11,245.21	966.30	784.05	182.25	10,461.15
89	3/31/2037	10,461.15	966.30	796.76	169.54	9,664.39
90	7/1/2037	9,664.39	966.30	809.67	156.63	8,854.72
91	10/1/2037	8,854.72	966.30	822.80	143.51	8,031.92
92	12/31/2037	8,031.92	966.30	836.13	130.17	7,195.79
93	3/31/2038	7,195.79	966.30	849.68	116.62	6,346.11
94	7/1/2038	6,346.11	966.30	863.45	102.85	5,482.66
95	10/1/2038	5,482.66	966.30	877.45	88.86	4,605.21
96	12/31/2038	4,605.21	966.30	891.67	74.64	3,713.55
97	3/31/2039	3,713.55	966.30	906.12	60.19	2,807.43
98	7/1/2039	2,807.43	966.30	920.80	45.50	1,886.62
99	10/1/2039	1,886.62	966.30	935.73	30.58	950.89
100	12/31/2039	950.89	966.30	935.48	15.41	0.00

TPS Lease Payment Calculation (\$000)

Parameters		Loan Summary	
Lease Amount	\$ 46,978.53	Scheduled Payment	\$ 952.14
Annual Lease Rate	6.483%	Scheduled Number of Payments	100
Lease Period in Years	25	Actual Number of Payments	
Number of Payments Per Year	4	Total Early Payments	\$ -
Start Date of Lease	12/31/2015	Total Financing Cost	\$ 48,235.64
		Annual Payment	\$ 3,809.00
Lease Holder: TPS Generation			

Phase 3

Pmt No.	Payment Date	Balance	Lease Payment	Amortization	Financing Cost	Ending Balance
1	3/31/2016	\$ 46,978.53	\$ 952.14	\$ 190.76	\$ 761.39	\$ 46,787.77
2	7/1/2016	46,787.77	952.14	193.85	758.29	46,593.92
3	10/1/2016	46,593.92	952.14	196.99	755.15	46,396.93
4	12/31/2016	46,396.93	952.14	200.18	751.96	46,196.75
5	3/31/2017	46,196.75	952.14	203.43	748.71	45,993.32
6	7/1/2017	45,993.32	952.14	206.72	745.42	45,786.60
7	10/1/2017	45,786.60	952.14	210.07	742.07	45,576.52
8	12/31/2017	45,576.52	952.14	213.48	738.66	45,363.04
9	3/31/2018	45,363.04	952.14	216.94	735.20	45,146.11
10	7/1/2018	45,146.11	952.14	220.45	731.69	44,925.65
11	10/1/2018	44,925.65	952.14	224.03	728.11	44,701.62
12	12/31/2018	44,701.62	952.14	227.66	724.48	44,473.96
13	3/31/2019	44,473.96	952.14	231.35	720.79	44,242.62
14	7/1/2019	44,242.62	952.14	235.10	717.04	44,007.52
15	10/1/2019	44,007.52	952.14	238.91	713.23	43,768.61
16	12/31/2019	43,768.61	952.14	242.78	709.36	43,525.83
17	3/31/2020	43,525.83	952.14	246.71	705.43	43,279.12
18	7/1/2020	43,279.12	952.14	250.71	701.43	43,028.40
19	10/1/2020	43,028.40	952.14	254.78	697.37	42,773.63
20	12/31/2020	42,773.63	952.14	258.91	693.24	42,514.72
21	3/31/2021	42,514.72	952.14	263.10	689.04	42,251.62
22	7/1/2021	42,251.62	952.14	267.37	684.78	41,984.25
23	10/1/2021	41,984.25	952.14	271.70	680.44	41,712.55
24	12/31/2021	41,712.55	952.14	276.10	676.04	41,436.45
25	3/31/2022	41,436.45	952.14	280.58	671.56	41,155.87

Payments from 26 to 74 omitted

75	10/1/2034	20,070.93	952.14	626.85	325.29	19,444.08
76	12/31/2034	19,444.08	952.14	637.01	315.13	18,807.07
77	3/31/2035	18,807.07	952.14	647.33	304.81	18,159.74
78	7/1/2035	18,159.74	952.14	657.83	294.32	17,501.91
79	10/1/2035	17,501.91	952.14	668.49	283.66	16,833.43
80	12/31/2035	16,833.43	952.14	679.32	272.82	16,154.10
81	3/31/2036	16,154.10	952.14	690.33	261.81	15,463.77
82	7/1/2036	15,463.77	952.14	701.52	250.62	14,762.25
83	10/1/2036	14,762.25	952.14	712.89	239.25	14,049.37
84	12/31/2036	14,049.37	952.14	724.44	227.70	13,324.92
85	3/31/2037	13,324.92	952.14	736.18	215.96	12,588.74
86	7/1/2037	12,588.74	952.14	748.11	204.03	11,840.63
87	10/1/2037	11,840.63	952.14	760.24	191.90	11,080.39
88	12/31/2037	11,080.39	952.14	772.56	179.58	10,307.83
89	3/31/2038	10,307.83	952.14	785.08	167.06	9,522.74
90	7/1/2038	9,522.74	952.14	797.81	154.34	8,724.94
91	10/1/2038	8,724.94	952.14	810.74	141.41	7,914.20
92	12/31/2038	7,914.20	952.14	823.88	128.27	7,090.33
93	3/31/2039	7,090.33	952.14	837.23	114.91	6,253.10
94	7/1/2039	6,253.10	952.14	850.80	101.34	5,402.30
95	10/1/2039	5,402.30	952.14	864.59	87.56	4,537.71
96	12/31/2039	4,537.71	952.14	878.60	73.54	3,659.12
97	3/31/2040	3,659.12	952.14	892.84	59.30	2,766.28
98	7/1/2040	2,766.28	952.14	907.31	44.83	1,858.97
99	10/1/2040	1,858.97	952.14	922.01	30.13	936.96
100	12/31/2040	936.96	952.14	921.77	15.19	0.00

**Turning Point Solar
CAPEX Summary**

CAPEX Summary					
		Phase 1	Phase 2	Phase 3	
	MW (AC)	20	15		14.9
	%	40.1%	30.1%		29.9%
	# of Panels	100,000	75,000		72,000
	Panel Watts (DC)	240	240		250
	DC/AC	1.20	1.20		1.21
Item	Total	Development	Phase 1	Phase 2	Phase 3
Owner Furnished Equipment					
Isofoton Panel Quote, \$					
Isofoton Panel Quote, \$ / W					
Inverter Cost, \$					
AEP Substation (69kv) upgrades					
Owner Furnished Equipment total					
EPC Costs					
Sitework					
Concrete Foundations					
Architectural					
Mechanical					
Electrical					
Substation					
Transmission Line					
Misc Indirects					
Title Insurance					
EPC Project Indirects ¹					
EPC Costs total					
Other Costs					
AEP Development Costs					
TPS Development Costs ²					
TPS Developer Fee ²					
Other Costs total					
Base TOTAL Capex					
AFUDC (Including Loan Fees) ³					
Total Capitalization	\$ 174,173,543	\$ 8,300,700	\$ 71,216,989	\$ 47,677,328	\$ 46,978,526

Note 1: Engineering, contractor escalation & contingencies, contractor overheads & profit

Note 2: TPS Development Costs + TPS Developer Fee = Purchase Price

Note 3: Interest during construction for development phase included in phase 1 figure

O&M, A&G and Property Taxes (\$000)

<u>Year</u>	<u>Labor</u>	<u>Insurance</u>	<u>General Overhead</u>	<u>Total O&M</u>
2014	\$ 488	\$ 170	\$ 202	\$ 860
2015	\$ 498	\$ 303	\$ 206	\$ 1,007
2016	\$ 508	\$ 441	\$ 210	\$ 1,158
2017	\$ 518	\$ 449	\$ 214	\$ 1,182
2018	\$ 528	\$ 458	\$ 218	\$ 1,205
2019	\$ 539	\$ 468	\$ 223	\$ 1,229
2020	\$ 550	\$ 477	\$ 227	\$ 1,254
2021	\$ 561	\$ 486	\$ 232	\$ 1,279
2022	\$ 572	\$ 496	\$ 236	\$ 1,304
2023	\$ 583	\$ 506	\$ 241	\$ 1,331
2024	\$ 595	\$ 516	\$ 246	\$ 1,357
2025	\$ 607	\$ 527	\$ 251	\$ 1,384
2026	\$ 619	\$ 537	\$ 256	\$ 1,412
2027	\$ 631	\$ 548	\$ 261	\$ 1,440
2028	\$ 644	\$ 559	\$ 266	\$ 1,469
2029	\$ 657	\$ 570	\$ 272	\$ 1,498
2030	\$ 670	\$ 581	\$ 277	\$ 1,528
2031	\$ 683	\$ 593	\$ 283	\$ 1,559
2032	\$ 697	\$ 605	\$ 288	\$ 1,590
2033	\$ 711	\$ 617	\$ 294	\$ 1,622
2034	\$ 725	\$ 629	\$ 300	\$ 1,654
2035	\$ 740	\$ 642	\$ 306	\$ 1,687
2036	\$ 754	\$ 655	\$ 312	\$ 1,721
2037	\$ 770	\$ 668	\$ 318	\$ 1,756
2038	\$ 785	\$ 681	\$ 325	\$ 1,791
2039	\$ 801	\$ 416	\$ 331	\$ 1,548
2040	\$ 817	\$ 212	\$ 338	\$ 1,366

Net Tax Benefits (\$000)

Year	Interest on Loan to GenCo	FAS 109 Add-Back Rev Req	Interest on ACC DFT	Net Tax Benefit
2014	\$ (1,094)	\$ 273	\$ (217)	\$ (1,037)
2015	\$ (1,725)	\$ 437	\$ (942)	\$ (2,230)
2016	\$ (2,331)	\$ 599	\$ (2,011)	\$ (3,744)
2017	\$ (2,275)	\$ 599	\$ (3,021)	\$ (4,697)
2018	\$ (2,215)	\$ 599	\$ (3,754)	\$ (5,371)
2019	\$ (2,153)	\$ 599	\$ (4,183)	\$ (5,738)
2020	\$ (2,088)	\$ 599	\$ (4,349)	\$ (5,838)
2021	\$ (2,020)	\$ 599	\$ (4,296)	\$ (5,718)
2022	\$ (1,949)	\$ 599	\$ (4,105)	\$ (5,455)
2023	\$ (1,874)	\$ 599	\$ (3,868)	\$ (5,143)
2024	\$ (1,796)	\$ 599	\$ (3,631)	\$ (4,828)
2025	\$ (1,714)	\$ 599	\$ (3,394)	\$ (4,509)
2026	\$ (1,628)	\$ 599	\$ (3,157)	\$ (4,186)
2027	\$ (1,538)	\$ 599	\$ (2,920)	\$ (3,859)
2028	\$ (1,444)	\$ 599	\$ (2,683)	\$ (3,528)
2029	\$ (1,346)	\$ 599	\$ (2,445)	\$ (3,193)
2030	\$ (1,243)	\$ 599	\$ (2,208)	\$ (2,853)
2031	\$ (1,135)	\$ 599	\$ (1,971)	\$ (2,508)
2032	\$ (1,022)	\$ 599	\$ (1,734)	\$ (2,158)
2033	\$ (904)	\$ 599	\$ (1,497)	\$ (1,802)
2034	\$ (780)	\$ 599	\$ (1,260)	\$ (1,441)
2035	\$ (650)	\$ 599	\$ (1,023)	\$ (1,074)
2036	\$ (515)	\$ 599	\$ (786)	\$ (701)
2037	\$ (372)	\$ 599	\$ (548)	\$ (322)
2038	\$ (224)	\$ 599	\$ (311)	\$ 64
2039	\$ (96)	\$ 325	\$ (128)	\$ 101
2040	\$ (27)	\$ 161	\$ (32)	\$ 103

COST OF CAPITAL (\$000)

Tax Rate 36.4%

TPS GENERATION

<u>Source</u>	<u>\$ Thousands</u>	<u>Cost</u>	<u>Imbedded Cost</u>	<u>Weight</u>	<u>Weighted Pre-Tax Cost</u>	<u>Weighted Cost</u>
OAQDA Loan						
AEP Ohio Loan						
RUS Debt						
AEP Equity						
<u>Other Equity</u>						
Total						

AEP Ohio

<u>Source</u>	<u>\$ Millions</u>	<u>Pre-Tax Cost</u>	<u>Imbedded Cost</u>	<u>Weight</u>	<u>Weighted Pre-Tax Cost</u>	<u>Weighted Cost</u>
Debt	\$ 4,062,325	5.46%	5.46%	47.72%	2.61%	2.61%
Preferred Equity	\$ -	0.00%	0.00%	0.00%	0.00%	0.00%
<u>Common Equity</u>	<u>\$ 4,450,179</u>	<u>16.04%</u>	<u>10.20%</u>	<u>52.28%</u>	<u>8.39%</u>	<u>5.33%</u>
Total	\$ 8,512,504			100.00%	10.9936%	7.94%

Revenue Requirement on Additional Capital Expenditures (\$ 000)

Year	Total CapEx	Cumulative CapEx	Accumulated Deprec.	Net Plant	DFIT	Rate Base	Pre-Tax Return	Depreciation Expense	A&G @ 2.45%	Revenue Requirement
2013	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2014	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2015	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2019	\$ 54	\$ 54	\$ (2)	\$ 51	\$ (3)	\$ 48	\$ 5	\$ 2	\$ 1	\$ 9
2020	\$ 96	\$ 149	\$ (9)	\$ 140	\$ (14)	\$ 126	\$ 14	\$ 7	\$ 4	\$ 25
2021	\$ 139	\$ 288	\$ (23)	\$ 265	\$ (34)	\$ 231	\$ 25	\$ 14	\$ 7	\$ 46
2022	\$ 142	\$ 430	\$ (45)	\$ 385	\$ (61)	\$ 324	\$ 36	\$ 21	\$ 11	\$ 68
2023	\$ 174	\$ 604	\$ (76)	\$ 528	\$ (95)	\$ 433	\$ 48	\$ 31	\$ 15	\$ 93
2024	\$ 521	\$ 1,125	\$ (138)	\$ 987	\$ (152)	\$ 836	\$ 92	\$ 62	\$ 28	\$ 181
2025	\$ 800	\$ 1,925	\$ (249)	\$ 1,676	\$ (256)	\$ 1,420	\$ 156	\$ 112	\$ 47	\$ 315
2026	\$ 1,065	\$ 2,990	\$ (432)	\$ 2,558	\$ (413)	\$ 2,145	\$ 236	\$ 183	\$ 73	\$ 492
2027	\$ 1,087	\$ 4,077	\$ (692)	\$ 3,385	\$ (610)	\$ 2,775	\$ 305	\$ 260	\$ 100	\$ 665
2028	\$ 1,108	\$ 5,186	\$ (1,038)	\$ 4,148	\$ (825)	\$ 3,323	\$ 365	\$ 346	\$ 127	\$ 838
2029	\$ 1,131	\$ 6,316	\$ (1,478)	\$ 4,838	\$ (1,041)	\$ 3,797	\$ 417	\$ 440	\$ 155	\$ 1,012
2030	\$ 1,153	\$ 7,470	\$ (2,023)	\$ 5,447	\$ (1,243)	\$ 4,204	\$ 462	\$ 545	\$ 183	\$ 1,190
2031	\$ 1,176	\$ 8,646	\$ (2,685)	\$ 5,961	\$ (1,416)	\$ 4,545	\$ 500	\$ 662	\$ 212	\$ 1,374
2032	\$ 1,200	\$ 9,846	\$ (3,481)	\$ 6,365	\$ (1,548)	\$ 4,818	\$ 530	\$ 796	\$ 241	\$ 1,567
2033	\$ 1,189	\$ 11,034	\$ (4,425)	\$ 6,610	\$ (1,632)	\$ 4,978	\$ 547	\$ 944	\$ 270	\$ 1,762
2034	\$ 793	\$ 11,828	\$ (5,482)	\$ 6,345	\$ (1,648)	\$ 4,697	\$ 516	\$ 1,058	\$ 290	\$ 1,864
2035	\$ 482	\$ 12,309	\$ (6,620)	\$ 5,689	\$ (1,568)	\$ 4,121	\$ 453	\$ 1,138	\$ 302	\$ 1,892
2036	\$ 187	\$ 12,496	\$ (7,795)	\$ 4,701	\$ (1,390)	\$ 3,311	\$ 364	\$ 1,175	\$ 306	\$ 1,845
2037	\$ 191	\$ 12,687	\$ (9,018)	\$ 3,669	\$ (1,123)	\$ 2,546	\$ 280	\$ 1,223	\$ 311	\$ 1,814
2038	\$ 117	\$ 12,804	\$ (10,280)	\$ 2,524	\$ (785)	\$ 1,739	\$ 191	\$ 1,262	\$ 314	\$ 1,767
2039	\$ 59	\$ 12,863	\$ (11,572)	\$ 1,292	\$ (391)	\$ 901	\$ 99	\$ 1,292	\$ 315	\$ 1,706
2040	\$ -	\$ 12,863	\$ (12,863)	\$ -	\$ 39	\$ 39	\$ 4	\$ 1,292	\$ 315	\$ 1,611

Annual MWh Production

Year	Phase I MW	Phase II MW	Phase III MW	Phase I MWh	Phase II MWh	Phase III MWh	Total MWh
2014	20.0	0.0	0.0				
2015	20.0	15.0	0.0				
2016	20.0	15.0	14.9				
2017	20.0	15.0	14.9				
2018	20.0	15.0	14.9				
2019	20.0	15.0	14.9				
2020	20.0	15.0	14.9				
2021	20.0	15.0	14.9				
2022	20.0	15.0	14.9				
2023	20.0	15.0	14.9				
2024	20.0	15.0	14.9				
2025	20.0	15.0	14.9				
2026	20.0	15.0	14.9				
2027	20.0	15.0	14.9				
2028	20.0	15.0	14.9				
2029	20.0	15.0	14.9				
2030	20.0	15.0	14.9				
2031	20.0	15.0	14.9				
2032	20.0	15.0	14.9				
2033	20.0	15.0	14.9				
2034	20.0	15.0	14.9				
2035	20.0	15.0	14.9				
2036	20.0	15.0	14.9				
2037	20.0	15.0	14.9				
2038	20.0	15.0	14.9				
2039	0.0	15.0	14.9				
2040	0.0	0.0	14.9				

Energy and Capacity Revenue

Month	Year	Total MWh	Peak Days	Off-Peak Days	Total Days	Peak Price (\$/MWh)	Off-Peak Price (\$/MWh)	Energy Revenue (\$000)	Total MW	Capacity Price (\$/MW· D)	Capacity Factor*	Capacity Revenue (\$000)	Total Energy & Capacity Revenue (\$000)
Jan	2014		23	8	31			\$ 53	20	27.73	38%	\$ 7	\$ 59
Feb	2014		20	8	28			\$ 68	20	27.73	38%	\$ 6	\$ 74
Mar	2014		21	10	31			\$ 96	20	27.73	38%	\$ 7	\$ 102
Apr	2014		22	8	30			\$ 101	20	27.73	38%	\$ 6	\$ 108
May	2014		22	9	31			\$ 127	20	27.73	38%	\$ 7	\$ 134
Jun	2014		21	9	30			\$ 125	20	125.99	38%	\$ 29	\$ 153
Jul	2014		23	8	31			\$ 148	20	125.99	38%	\$ 30	\$ 177
Aug	2014		21	10	31			\$ 115	20	125.99	38%	\$ 30	\$ 145
Sep	2014		22	8	30			\$ 94	20	125.99	38%	\$ 29	\$ 122
Oct	2014		23	8	31			\$ 80	20	125.99	38%	\$ 30	\$ 109
Nov	2014		20	10	30			\$ 54	20	125.99	38%	\$ 29	\$ 83
Dec	2014		23	8	31			\$ 49	20	125.99	38%	\$ 30	\$ 79
Jan	2015		22	9	31			\$ 97	35	125.99	38%	\$ 52	\$ 149
Feb	2015		20	8	28			\$ 126	35	125.99	38%	\$ 47	\$ 173
Mar	2015		22	9	31			\$ 178	35	125.99	38%	\$ 52	\$ 230
Apr	2015		22	8	30			\$ 188	35	125.99	38%	\$ 50	\$ 238
May	2015		21	10	31			\$ 234	35	125.99	38%	\$ 52	\$ 286

*See PJM Manual 21 Appendix B, Section B.3 Calculation Procedures

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of	)	
Columbus Southern Power Company and	)	
Ohio Power Company for Authority to	)	Case No. 11-346-EL-SSO
Establish a Standard Service Offer	)	Case No. 11-348-EL-SSO
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 No. 11-349-EL-AAM
Ohio Power Company for Approval of	)	Case No. 11-350-EL-AAM
Certain Accounting Authority	)	

SUPPLEMENTAL COMMISSION-ORDERED TESTIMONY OF

DAVID M. ROUSH

IN SUPPORT OF AEP OHIO'S

MODIFIED ELECTRIC SECURITY PLAN

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO
SUPPLEMENTAL COMMISSION-ORDERED TESTIMONY OF
DAVID M. ROUSH
ON BEHALF OF
OHIO POWER COMPANY

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is David M. Roush. My business address is 1 Riverside Plaza,
3 Columbus, Ohio 43215.

4 **Q. DID YOU PREVIOUSLY FILE DIRECT TESTIMONY IN THIS**
5 **PROCEEDING ON MARCH 30, 2012?**

6 A. Yes.

7 **Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL COMMISSION-**
8 **ORDERED TESTIMONY IN THIS PROCEEDING?**

9 A. The purpose of my supplemental Commission-ordered testimony is to provide
10 additional information, as requested in the April 25, 2012 Commission Entry,
11 regarding the potential impact of the inclusion of the Turning Point Solar Project
12 (TPS Project) in the Generation Resource Rider discussed on pages 11 and 12 of
13 my direct testimony filed in this proceeding.

14 **Q. WHAT ADDITIONAL EXHIBIT ARE YOU SPONSORING IN THIS**
15 **SUPPLEMENTAL COMMISSION-ORDERED TESTIMONY?**

16 A. I am sponsoring Exhibit DMR-8 which provides the estimated impact of the TPS
17 Project.

18 **Q. PLEASE DESCRIBE THE GENERATION RESOURCE RIDER.**

1 A. The Generation Resource Rider (GRR) is a nonbypassable rider designed to
2 collect the costs associated with AEP Ohio investment in generating facilities in
3 accordance with Section 4928.143 (B) (2) (c), Ohio Rev. Code. The rider is
4 simply a placeholder until such time as the Commission approves costs to be
5 recovered in a later proceeding. The GRR would be used for recovery of the TPS
6 Project, if the TPS Project is approved by the Commission at that later date.

7 **Q. PLEASE PROVIDE ADDITIONAL INFORMATION REGARDING THE**
8 **INCLUSION OF THE TURNING POINT SOLAR PROJECT IN THE**
9 **GRR.**

10 A. As discussed by Company witness Nelson, the first phase of the TPS Project is
11 anticipated to be in service January 1, 2014 and the second phase January 1, 2015.
12 Company witness Nelson has provided an estimated net revenue requirement for
13 the costs to be included in the GRR during the term of the ESP.

14 **Q. HAVE YOU ESTIMATED THE IMPACT OF THE TURNING POINT**
15 **SOLAR PROJECT ON CUSTOMER BILLS?**

16 A. Yes. Based upon the estimated net revenue requirement from Company witness
17 Nelson, non-shopping customers could see increases of up to approximately one-
18 half of one percent on their total bill for electric service, depending upon the
19 collection method ultimately approved by the Commission in the later proceeding.
20 Similarly, a typical residential customer using 1,000 kWh per month could see
21 increases of up to approximately 20 cents per month. This information is
22 presented in Exhibit DMR-8.

1 **Q. ARE YOU PROPOSING GRR RATES BASED UPON THESE**
2 **ESTIMATES?**

3 A. No. The need for the TPS Project is being evaluated as part of an on-going
4 proceeding before the Commission in Case Nos. 10-501-EL-FOR and 10-502-EL-
5 FOR. Should the need be approved in those proceedings, the Company will seek
6 approval of the TPS Project and specific GRR rates for the TPS Project in a later
7 proceeding. The outcome of those proceedings could affect the rate impact
8 reflected on Exhibit DMR-8. The information presented herein represents an
9 estimate based upon what is known at this time.

10 **Q. DOES THIS CONCLUDE YOUR SUPPLEMENTAL COMMISSION-**
11 **ORDERED TESTIMONY?**

12 A. Yes it does.

Estimated Impact of Turning Point Solar Project

	<u>Calendar 2014</u>	<u>Jan - May 2015</u>
Net Revenue Requirement Estimate	\$ 5,406,000	\$ 2,971,000
Projected Connected Load (kWh)	48,243,402,025	19,738,045,996
Estimated Cost (\$ per kWh)	\$ 0.000112	\$ 0.000151

Estimated Impact of Turning Point Solar Project

		Estimated Increase by 2015			Estimated % Increase		
	Current Rates (¢/kWh)	Energy Allocation (¢/kWh)	Demand Allocation (¢/kWh)	Base "G" Allocation (¢/kWh)	Energy Allocation	Demand Allocation	Base "G" Allocation
CSP Rate Zone							
RS	11.39	0.0151	0.0199	0.0146	0.13%	0.17%	0.13%
GS1	13.94	0.0151	0.0128	0.0332	0.11%	0.09%	0.24%
GS2	12.92	0.0151	0.0127	0.0320	0.12%	0.10%	0.25%
GS3	8.90	0.0151	0.0127	0.0160	0.17%	0.14%	0.18%
GS4/IRP	5.70	0.0151	0.0127	0.0068	0.26%	0.22%	0.12%
AL	22.20	0.0151	-	0.0213	0.07%	0.00%	0.10%
SL	14.23	0.0151	-	0.0131	0.11%	0.00%	0.09%
SBS	7.63	0.0151	0.0127	0.0203	0.20%	0.17%	0.27%
Subtotal	9.65	0.0151	0.0157	0.0147	0.16%	0.16%	0.15%
OP Rate Zone							
RS	10.47	0.0151	0.0199	0.0172	0.14%	0.19%	0.16%
GS1	12.20	0.0151	0.0128	0.0243	0.12%	0.10%	0.20%
GS2	10.29	0.0151	0.0127	0.0217	0.15%	0.12%	0.21%
GS3	7.71	0.0151	0.0127	0.0146	0.20%	0.16%	0.19%
GS4/IRP	5.53	0.0151	0.0127	0.0109	0.27%	0.23%	0.20%
EHG	8.84	0.0151	0.0127	0.0106	0.17%	0.14%	0.12%
EHS	4.80	0.0151	0.0127	-	0.31%	0.26%	0.00%
SS	8.87	0.0151	0.0127	0.0176	0.17%	0.14%	0.20%
FL	7.67	0.0151	0.0128	0.0030	0.20%	0.17%	0.04%
OL	20.09	0.0151	-	0.0361	0.07%	0.00%	0.18%
SL	17.12	0.0151	-	0.0354	0.09%	0.00%	0.21%
SBS	60.72	0.0151	0.0127	0.3244	0.02%	0.02%	0.53%
Subtotal	8.22	0.0151	0.0146	0.0153	0.18%	0.18%	0.19%
AEP Ohio	8.79	0.0151	0.0151	0.0151	0.17%	0.17%	0.17%

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of	)	
Columbus Southern Power Company and	)	
Ohio Power Company for Authority to	)	Case No. 11-346-EL-SSO
Establish a Standard Service Offer	)	Case No. 11-348-EL-SSO
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 No. 11-349-EL-AAM
Ohio Power Company for Approval of	)	Case No. 11-350-EL-AAM
Certain Accounting Authority	)	

SUPPLEMENTAL COMMISSION-ORDERED

TESTIMONY OF

LAURA J. THOMAS

IN SUPPORT OF AEP OHIO'S

MODIFIED ELECTRIC SECURITY PLAN

Filed May 2, 2012

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO
SUPPLEMENTAL COMMISSION-ORDERED
TESTIMONY OF LAURA J. THOMAS
ON BEHALF OF AEP OHIO

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Laura J. Thomas. My business address is 1 Riverside Plaza, Columbus,
3 Ohio 43215.

4 **Q. DID YOU PREVIOUSLY FILE DIRECT TESTIMONY IN THIS**
5 **PROCEEDING ON MARCH 30, 2012?**

6 A. Yes, I did.

7 **Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL COMMISSION-**
8 **ORDERED TESTIMONY IN THIS PROCEEDING?**

9 A. The Commission requested that the Company, in an April 25, 2012 Entry, to update
10 certain information related to the Turning Point Solar Project (TPS Project). The
11 purpose of my supplemental Commission-ordered testimony is to explain the
12 potential impact of the TPS Project on the Aggregate Market Rate Offer (MRO) Test.

13 **Q. WHAT ADDITIONAL EXHIBIT ARE YOU SPONSORING IN THIS**
14 **SUPPLEMENTAL COMMISSION-ORDERED TESTIMONY?**

15 A. I am sponsoring Exhibit LJT-1 (TPS Alternative), Page 1.

16 **Q. PLEASE GENERALLY DESCRIBE THE MRO TEST IN THE AGGREGATE.**

17 A. As explained in my direct testimony, Section 4928.143(C)(1), Revised Code, requires
18 that the Company's proposed ESP be "*...more favorable in the aggregate* as
19 compared to the expected results that would otherwise apply under Section 4928.142

1 of the Revised Code.” (emphasis added) All aspects of the proposed ESP are key
2 considerations of the aggregate view when determining that the proposed ESP is more
3 favorable.

4 **Q. HOW DOES THE TPS PROJECT RELATE TO THE MRO TEST IN THE**
5 **AGGREGATE?**

6 A. As described by Company witnesses Nelson and Roush in their supplemental
7 Commission-ordered testimonies, the TPS Project would fall under the Company’s
8 proposed Rider GRR. However, as advised by Counsel, Rider GRR would be
9 available under either an ESP or a MRO. Therefore, while Company witness Roush
10 has quantified the customer impact of the TPS Project under Rider GRR, that
11 customer impact would be exactly the same regardless of whether the Company is
12 under a MRO or an ESP. Therefore, the benefit or difference to be captured under the
13 Aggregate MRO Test for the TPS Project is zero because the aggregate test captures
14 the difference between what would exist under an ESP and what would exist under a
15 MRO.

16 **Q. DOES THE COMMISSION’S DECISION ON THE TPS PROJECT AFFECT**
17 **THE AGGREGATE MARKET PRICE TEST?**

18 A. No, regardless of what the Commission decides regarding the need for the TPS
19 Project in Case Nos. 10-501-EL-FOR and 10-502-EL-FOR, there is no impact on the
20 Aggregate Market Test for this modified ESP. This does not change the zero impact
21 of Rider GRR in Item 4 as shown in Exhibit LJT-1, Page 1 of my direct testimony.

22 **Q. WHAT IF THE COMMISSION DETERMINES THAT THE GRR WOULD**
23 **ONLY EXIST UNDER AN ESP?**

1 A. If the Commission determines that the GRR would only exist under an ESP, then
2 applying the TPS Project cost included in the supplemental Commission-ordered
3 testimony of Company witnesses Nelson and Roush would result in a change of
4 approximately \$8 million to Item 4 of Exhibit LJT-1, Page 1 of my direct testimony.
5 Attached is Exhibit LJT-1 (TPS Alternative), Page 1 that includes this amount and
6 shows a net quantifiable benefit of the ESP, relative to a MRO, of approximately
7 \$952 million.

8 **Q. DOES THIS CONCLUDE YOUR SUPPLEMENTAL COMMISSION-**
9 **ORDERED TESTIMONY?**

10 A. Yes it does.

AEP Ohio
Electric Security Plan
Aggregate Market Rate Offer Test

Item No.	Item	Benefit	\$ or NRQ (not readily quantifiable)	Testimony/Source
Quantifiable Benefits				
1	MRO Price Test	SSO pricing under the modified ESP plan is less than the expected pricing under a MRO for the period of the plan	\$256,022,505	Exhibit LJT-1, page 3
2	Discounted, tiered capacity pricing for CRES providers	Reduced cost to CRES providers facilitates increased shopping opportunities for customers	\$988,700,000	Allen
3	Retail Stability Rider	Provides financial stability to the Company, which allows the Company to offer the other elements of the plan; provides customer rate certainty, supports expanded customer shopping opportunities	(\$284,100,000)	Allen
4	Placeholder Riders* Generation Resource Rider	Provides mechanism for recovery of any renewable or alternative capacity additions the Commission may approve	(\$8,377,000)	Nelson, Roush
TOTAL Quantifiable Benefits of the ESP			\$ 952,245,505	

Not Readily Quantifiable Benefits				
5	Delivery and pricing of energy at market prices beginning 1/15	Occurs sooner than under a MRO (6 years) while recognizing the Company's FRR obligation through 5/15 and the transition period necessary to terminate the pool and achieve corporate separation	NRQ	Powers, Nelson, Thomas
6	Elimination of EICCR, fixed amount rolled into non-fuel generation rates	Provides price certainty for SSO customers and Company takes the risk of increases in environmental cost	NRQ	Dias, Roush
7	No non-fuel generation rate increase	Price certainty for SSO customers	NRQ	Dias
8	Unification of PIRR and FAC	Management of customer bill impacts	NRQ	Roush
9	Advancement of state policies	Facilitates the State's overall effectiveness including effective competition, pricing, economic development and protection of at-risk customers, demand and energy efficiency, customer understanding of regulatory offerings and reliability	NRQ	Dias
10	Distribution-related Riders *	Streamlined approach to cost recovery to support reliability improvements	NRQ	Kirkpatrick, Allen
	DIR	Increased vegetation management program spend to support reliability	NRQ	Kirkpatrick
	ESSR	Provides opportunities for customers to create and realize efficiency gains	NRQ	Kirkpatrick
	gridSMART®			

* See Thomas testimony, page 9 for discussion of why these riders are excluded from the MRO Price Test

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of the foregoing Ohio Power Company's Supplemental Commission-Ordered Testimony has been served upon the below-named counsel via electronic mail, this 2nd day of May, 2012.

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Case No(s). 11-0346-EL-SSO, 11-0348-EL-SSO, 11-0349-EL-AAM, 11-0350-EL-AAM

Summary: Testimony Supplemental Commission-Order Testimony of Philip J. Nelson (Public Version) electronically filed by Mr. Matthew J Satterwhite on behalf of American Electric Power Service Corporation