

BEFORE  
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of )  
Ohio Power Company to Initiate )  
Phase II of its gridSMART Project ) Case No. 13-1939-EL-RDR  
And to Establish the gridSMART )  
Phase II Rider )

DIRECT TESTIMONY  
OF  
ANDREA E. MOORE  
ON BEHALF OF  
OHIO POWER COMPANY

Filed: April 20, 2016

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ANDREA E. MOORE

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BEFORE  
THE PUBLIC UTILITIES COMMISSION OF OHIO  
DIRECT TESTIMONY OF  
ANDREA E MOORE  
ON BEHALF OF  
OHIO POWER COMPANY

1    **PERSONAL DATA**

2    **Q.     WHAT IS YOUR NAME AND BUSINESS ADDRESS?**

3    **A.**     My name is Andrea E. Moore and my business address is 850 Tech Center Drive,  
4            Gahanna, Ohio 43230.

5    **Q.     BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

6    **A.**     I am employed by Ohio Power Company, known as AEP Ohio or the Company, as  
7            Director – Regulatory Services.

8    **Q.     WHAT ARE YOUR RESPONSIBILITIES AS DIRECTOR- REGULATORY**  
9            **SERVICES?**

10   **A.**     I am responsible for directing the preparation and presentation of regulatory matters to  
11            management as well as regulatory bodies. I plan, organize and direct team activities to  
12            develop and support pricing structures, rider and true-up filings, maintenance of tariffs,  
13            pilot programs, special contracts and other pricing initiatives.

14   **Q.     WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?**

1    **A.**    I received my Bachelor of Science in Accounting degree from the University of Rio  
2           Grande and a Master of Business Administration degree from Franklin University. In  
3           addition, I have completed the Basic Concepts on Rate Making class through New  
4           Mexico State University.

5           I joined American Electric Service Corporation (AEPSC) in 2001 as an Accountant and  
6           joined the Regulatory Tariffs department as a Regulatory Analyst III in 2004. I  
7           progressed through various positions before being promoted to my current position of  
8           Director – Regulatory Services. My duties within the regulatory department have  
9           included preparing cost-of-service studies for regulatory filings, preparing cost based  
10          formula rates for wholesale customers, preparing rider filings and rate designs,  
11          maintaining tariff books as well as other projects related to regulatory issues and  
12          proceeding, individual customer requests and general rate matters.

13   **Q.    HAVE YOU PREVIOUSLY TESTIFIED IN A REGULATORY PROCEEDING?**

14   **A.**    Yes. I have testified before the Public Utilities Commission of Ohio in Case Nos. 13-  
15          2385-EL-SSO, 13-419-EL-RDR and 14-1158-EL-ATA.

16  
17  
18   **PURPOSE OF TESTIMONY**

1   **Q.     WHAT IS THE PURPOSE OF YOUR TESTIMONY IN SUPPORT OF THE**  
2       **JOINT STIPULATION AND RECOMMENDATIONS IN THIS PROCEEDING?**

3   A.    The purpose of my testimony is to sponsor and summarize the provisions of the Joint  
4       Stipulation and Recommendation (Stipulation) filed on April 7, 2016 for the  
5       Commission’s consideration. My testimony discusses the criteria that the Commission  
6       uses when considering settlement agreements and explains how the Stipulation in this  
7       proceeding meets those criteria. Specifically, my testimony supports the conclusion that  
8       the Stipulation: (1) is the product of serious bargaining among capable, knowledgeable,  
9       parties; (2) does not violate any important regulatory principle of practice; and (3) as a  
10      package, benefits ratepayers and the public interest. My testimony will also sponsor and  
11      further summarize certain provision of the Stipulation not discussed by Witness  
12      Osterholt, including some aspects of Section three and Section six, and Sections seven  
13      and thirteen.

14   **Q.     WHO ARE THE SIGNATORY PARTIES TO THE STIPULATION?**

15   A.    The signatory parties include Ohio Power Company (AEP Ohio); the staff of the Public  
16       Utilities Commission of Ohio; the Ohio Hospital Association, competitive retail electric  
17       supplier – Direct Energy, Interstate Gas Supply; environmental advocates – the  
18       Environmental Defense Fund and Ohio Environmental Council.

1 **Q. WHAT IS THE STANDARD THAT THE COMMISSION HAS USED WHEN**  
2 **CONSIDERING APPROVAL OF A STIPULATION AMONG PARTIES TO**  
3 **PROCEEDINGS?**

4 A. I have been advised by counsel that a Stipulation must satisfy a three-part test. The three  
5 questions the Commission considers are: (1) is the Stipulation the product of serious  
6 bargaining among capable, knowledgeable parties? (2) does the Stipulation violate any  
7 important regulatory principle or practice? And (3) as a package, does the Stipulation  
8 benefit ratepayers and the public interest?

9 **THE STIPULATION IS THE PRODUCT OF SERIOUS BARGAINING AMONG**  
10 **CAPABLE, KNOWLEDGE PARTIES**

11 **Q. IS THE STIPULATION SUBMITTED IN THIS CASE THE PRODUCT OF**  
12 **SERIOUS BARGAINING AMONG CAPABLE AND KNOWLEDGEABLE**  
13 **PARTIES?**

14 A. Yes. The Stipulation was the product of meetings and negotiations involving  
15 experienced counsel as well as the technical experts from the parties in this case. Both  
16 counsel and the technical experts are familiar with and participate in regulatory matters  
17 before this Commission. There was a commenting period and discovery provided for the  
18 original application allowing the parties to become familiar with the issues addressed in  
19 the Stipulation. There were numerous meetings in which the parties in this case had the  
20 opportunity to negotiate each provision of the Stipulation and no party was left out of the

1 opportunity to negotiate. This Stipulation is different from the position of the Company  
2 as filed because it incorporates and addresses many of the issues raised by Staff and  
3 interveners. For reasons further elaborated below, the Stipulation is the product of  
4 serious bargaining and negotiation.

5 Many of the commitments in the Stipulation directly addressed the intervenors'  
6 comments in this case. For instance, the Company has committed to several changes in  
7 the way the rider will be structured and the timing of the costs for recovery through the  
8 rider. As filed, the Company's proposal was to forecast the Electric Plant in Service and  
9 true those amounts up to actuals. As stipulated, the Company will file the actual plant in  
10 service balances quarterly, for automatic approval within 30 days unless otherwise  
11 ordered by the Commission. A prudency audit will take place annually, much like the  
12 gridSMART Phase I rider as described in section thirteen of the Stipulation.

13 The Company has committed to passing back the quantifiable operating benefits of the  
14 gridSMART Phase II rider, a change from the original application. These benefits will be  
15 passed back in accordance to section six of the Stipulation. An evaluation will be done  
16 on the ongoing level of operational benefits to be recognized as a credit to the rider in the  
17 subsequent years.

18 The Company has also committed to achieve SAIFI performance improvements on the  
19 circuits on which the technology is deployed as described in section two of the  
20 Stipulation. These benefits are further described by Witness Osterholt.

1 In addition, the Company has agreed to:

- 2 • additional VVO investment which will exclude shared savings,
- 3 • a gridSMART collaborate effort,
- 4 • an expanded feasibility study of the entire system for a potential Phase III,
- 5 • a Time of Use transition plan,
- 6 • Data storage and sharing initiatives (Sections 9,10,11,12,and 16)
- 7 • Air Emission Reporting
- 8 • Prepaid Metering Collaborative

9 **THE STIPULATION DOES NOT VIOLATE ANY IMPORTANT REGULATORY**  
10 **PRINCIPLES OR PRACTICES**

11 **Q. DOES THE STIPULATION VIOLATE ANY IMPORTANT REGULATORY**  
12 **PRINCIPLE OR PRACTICE?**

13 A. No. The terms of the Stipulation represent a compromise of the Signatory Parties that  
14 advances important regulatory principals. The compromise reached in the Stipulation  
15 promotes a number of the state policies expressed in Ohio Revised Code 4928:02  
16 including:



1 (A) Ensure the availability to consumers of adequate, reliable, safe, efficient,  
2 nondiscriminatory, and reasonable priced retail electric service;

3 • AEP Ohio has estimated the bill impacts from the Stipulation on a per bill basis  
4 for both residential and non-residential customers. The estimated cost for years  
5 one through seven as well as the estimated year one bill impacts are included as  
6 Exhibit AEM-1. Per paragraph six of the Stipulation, an evaluation of the  
7 operational savings of the project will be conducted to determine the ongoing  
8 operational benefits to be recognized as a reduction to the overall cost of the  
9 project. The reduction to costs will result in a lower typical bill impact than  
10 shown. The Company has not attempted to quantify the value for these savings in  
11 years four through seven.

12 • The business case updated in Company witness Osterholt' s testimony shows the  
13 cost benefit ratio of 2.8 on a cash basis and 2.0 on a net present value basis. This  
14 value is updated to include the additional commitments of the Stipulation. The  
15 cost/benefit analysis is further discussed by Witness Osterholt.

16 • Customers will see various benefits through the technologies installed per the  
17 Stipulation. AMI will allow the Company to know if there is an issue with  
18 outages impacting one customer versus an entire area. This will allow the  
19 Company to better assess the restoration needs as well as decrease the amount of  
20 time that the Company may otherwise take to be aware of an outage. The AMI

1 meters also allow the Company to reduce estimated meter reads, reduce  
2 consumption on inactive meters and theft.

- 3 • DA allows for faster restoration. For example, a circuit equipped with  
4 Distribution Automation will be able to switch load to another circuit during  
5 outages. For standard relay equipment, this would require a crew to drive to the  
6 location, manually switch the load to another circuit, if possible, and then work to  
7 restore. The customer will automatically be without power at a minimum for the  
8 travel time of a crew to get from location to the point of the outage on a circuit  
9 with DA versus a non-DA circuit, improving their reliability and customer  
10 experience.

- 11 • VVO technology allows customers to save through lower energy usage. Based on  
12 the experience from Phase 1, AEP Ohio expects to achieve an overall VVO circuit  
13 energy efficiency gain of 3%.

- 14 • These technologies and additional benefits associated with these technologies are  
15 further discussed by Company witness Osterholt.

16 (B) Ensure the availability of unbundled and comparable retail electric service that  
17 provides consumers with the supplier, price, terms, conditions, and quality options they  
18 elect to meeting their respective needs;

- The Stipulation supports the roll out of AMI meters, allowing customers to have the technologies available to better manage their electric usage and translate that into bill savings. The data made available from the AMI meters will be provided to both customers and Certified Retail Electric Service (CRES) providers. The data provided to CRES will give them the level of data necessary to offer time of use rate designs, increasing the market offerings currently available. The data provided to customers will allow customers to be more aware of their overall usage quantity as well as time patterns of their usage. This information can then be used to either change behaviors to reduce usage, shift usage, or both.

(D) Encourage innovation and market access for cost-effective supply and demand-side retail electric service including, but not limited to, demand-side management, time-differentiated pricing, waste energy recovery systems, smart grid programs, and implementation of advanced metering infrastructure.

- AMI deployment will allow customers access to more useful data that can be used for customer education. Through the Stipulation, AEP Ohio has committed to take additional steps on providing customer data. For instance, as described by Witness Osterholt, Sections nine, ten, eleven, twelve, sixteen and eighteen all provide commitments above the original

1 application that encourage the time of use (TOU) products, as well as  
2 smart grid programs.

3 (J) Provide coherent, transparent means of giving appropriate incentive to technologies  
4 that can adapt successfully to potential environmental mandates.

- 5 • Paragraph fourteen of the Stipulation describes the process to develop a  
6 method to quantify air emission benefits from the program including the  
7 benefits of the VVO and AMI technology associated with lower energy  
8 consumption, fewer truck rolls, and potential demand reduction based on  
9 time of use and usage awareness.

10 **THE STIPULATION AS A PACKAGE BENEFITS CUSTOMERS AND THE**  
11 **PUBLIC INTEREST**

12 **Q. DOES THE STIPULATION AS A PACKAGE BENEFIT CUSTOMERS AND THE**  
13 **PUBLIC INTEREST?**

14 A. Yes. The Stipulation provides for a reasonable charge for customers while providing  
15 numerous benefits to the customers. As mentioned above, providing Advanced Metering  
16 Infrastructure (AMI) is a significant part of promoting the Revised Code. Not only are  
17 there benefits in customers being able to participate in advanced market offerings in order  
18 to be proactive with their choices for electricity, there are other benefits to the customers

1 with the AMI technology such as reducing the number of estimated bills and other  
2 benefits as described by Witness Osterholt.

3 The technologies offered through this Stipulation will enable customers to become more  
4 energy efficient, reduce demand and manage costs. This greater control over their energy  
5 usage will allow customers to conserve energy, save money and help protect the  
6 environment. In addition, there will be improved meter reading accuracy, improved  
7 reliability, and improved safety for the Company's employees to name a few.

8 Through the Stipulation the Company has agreed to net the operational benefits to the  
9 rider, reducing the overall impact on the customers. These technologies will benefit  
10 customers during outages, allow customers to save through equipment that reduces the  
11 energy flowing through the line, and also provide customers with the technology they  
12 need to become more proactive in managing their electric bills, leading to savings. This  
13 technology will allow the customer's to increase their understanding on the direct  
14 relationship between usage and bill totals, proactively monitor their usage to determine  
15 ways to save energy, and increase the competitive offers available by CRES providers  
16 leading to an even more robust market.

17 Sections eight through eighteen of the stipulation are additional commitments made by  
18 the Company through the negotiating process that were not included in the application as  
19 filed concluding that the Stipulation provides greater benefits to customers.

1   **Q.     PLEASE EXPLAIN SECTION THREE OF THE STIPULATION AS IT**  
2       **RELATES TO THE TWENTY MILLION DOLLAR INVESTMENT IN VVO.**

3   A.    I have been advised by counsel that the statutory language in Section  
4        4928.143(F) provides the Commission with flexibility to consider the EDU's upcoming  
5        capital requirements when determining whether significantly excessive earnings exist.  
6        Specifically, the statute gives the Commission the latitude to determine that if the EDU  
7        has capital spending commitments that it must meet in the near future, its earnings should  
8        not be considered significantly excessive. In sum, Counsel has advised that the statutory  
9        language would also allow the Commission to permit an EDU to retain earnings that  
10       might otherwise be considered to be significantly excessive.

11  
12       The Signatory parties agreed in the Stipulation that the twenty million dollar investment  
13       in VVO is to resolve an outstanding obligation to invest twenty million dollars in the  
14       state in a technology that benefits customers. The Commission created the twenty  
15       million dollar investment obligation in Case No. 10-1261-EL-UNC (Order page 26 and  
16       27) in connection with the then contemplated Turning Point Solar project. The  
17       Commission ordered this investment in line with several others as it considered the 2009  
18       earnings of the Company. Within that context, the Commission also noted the  
19       investment the Company had made in several different areas and the commitment to  
20       invest further, including gridSMART, commitment to initiate a Phase II of gridSMART,  
21       the Company's success in its energy efficiency programs, as well as the commitment to

1 spend on the solar project in Ohio. It is important to note that of all of the investment  
2 mentioned by the Commission, all prudent costs are recoverable.

3  
4 In addition, in Company witness Hamrock's testimony in that case, he discusses the  
5 equity investment in the solar farm to "help fulfill its alternative energy portfolio  
6 requirement under R.C. 4928.64." The alternative energy portfolio requirements are  
7 collected by the Company through the Alternative Energy Rider, previously collected  
8 through the fuel adjustment clause. The investment was always intended to be recovered.

9 **Q. PLEASE EXPLAIN THE RIDER RECOVERY MECHANISM PROVISION IN**  
10 **SECTION 6 OF THE STIPULATION**

11 A. As mentioned earlier, the Stipulation addressed a lot of the comments made by Staff and  
12 the Interveners through the commenting process of the Company's application. Section  
13 six lays out some of these compromises such as the agreement to reduce the revenue  
14 requirement by operating benefits, the method in which operational benefits will be  
15 passed back, commitments on inventory levels of AMI meters, as well as the  
16 methodology of the rider, and timeline for filings.

17 **Q. PLEASE EXPLAIN THE ACCOUNTING PROVISION IN SECTION SEVEN OF**  
18 **THE STIPULATION.**

19 A. Section seven summarized additional changes agreed upon through the Stipulation that  
20 are different than the as filed application. These changes include changing the useful life  
21 of the AMI meters from seven to fifteen years in order to better align with the

1 manufacturer's data. This section also describes how the Company will account for the  
2 final wrap up of gridSMART Phase I capital and O&M costs.

3 **Q. PLEASE DESCRIBE THE AUDIT REVIEW AND DATA MEASURES**  
4 **PROVISION IN SECTION THIRTEEN OF THE STIPULATION.**

5 A. Section thirteen of the stipulation provides the timelines for filing the rider both quarterly  
6 and annual as well as provides for the additional non-financial metrics in which the  
7 Company agreed to provide each year to further demonstrate the benefits of the  
8 gridSMART Phase II initiative and the Stipulation in support.

9 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

10 A. Yes.



**GridSMART Phase 2  
AMI, VVO, DACR**

Average Monthly Rate Impact \$			Operating Benefits		Average Monthly (Including Reduction of Operating Benefits)	
	Residential	Non-Residential	Residential	Non-Residential	Residential	Non-Residential
Year 1	0.34	1.40	(0.01)	(0.07)	0.33	1.33
Year 2	0.56	2.27	(0.07)	(0.27)	0.49	2.00
Year 3	1.03	4.18	(0.07)	(0.26)	0.96	3.92
Year 4	1.50	6.10	TBD	TBD	TBD	TBD
Year 5	1.87	7.60	TBD	TBD	TBD	TBD
Year 6	2.09	8.52	TBD	TBD	TBD	TBD
Year 7	2.15	8.75	TBD	TBD	TBD	TBD

Bill Impacts do not include an estimate for operating benefits from year 4 forward. These benefits will be determined per paragraph 6 of the stipulation

**Ohio Power Company**  
**Typical Bill Comparison**  
**Estimated Year 1 gridSMART Phase 2 Bill Impacts**  
**Columbus Southern Power Rate Zone**

<u>Tariff</u>	<u>kWh</u>	<u>KW</u>	<u>Current</u>	<u>Proposed</u>	<u>Difference</u>	<u>Difference</u>
<u>Residential</u>						
RR1 Annual	100		\$24.98	\$25.31	\$0.33	1.3%
	250		\$43.46	\$43.79	\$0.33	0.8%
	500		\$74.30	\$74.63	\$0.33	0.4%
RR Annual	750		\$105.12	\$105.45	\$0.33	0.3%
	1,000		\$135.95	\$136.28	\$0.33	0.2%
	1,500		\$197.59	\$197.92	\$0.33	0.2%
	2,000		\$259.22	\$259.55	\$0.33	0.1%
GS-1						
	375	3	54.71	56.04	\$1.33	2.4%
	1,000	3	123.57	124.90	\$1.33	1.1%
	750	6	96.03	97.36	\$1.33	1.4%
	2,000	6	233.73	235.06	\$1.33	0.6%
GS-2 Secondary						
	1,500	12	\$241.10	\$242.43	\$1.33	0.6%
	4,000	12	\$430.74	\$432.07	\$1.33	0.3%
	6,000	30	\$746.76	\$748.09	\$1.33	0.2%
	10,000	30	\$1,049.86	\$1,051.19	\$1.33	0.1%
	10,000	40	\$1,141.25	\$1,142.58	\$1.33	0.1%
	14,000	40	\$1,444.31	\$1,445.64	\$1.33	0.1%
	12,500	50	\$1,422.06	\$1,423.39	\$1.33	0.1%
	18,000	50	\$1,837.09	\$1,838.42	\$1.33	0.1%
	15,000	75	\$1,839.98	\$1,841.31	\$1.33	0.1%
	30,000	150	\$3,653.50	\$3,654.83	\$1.33	0.0%
	60,000	300	\$7,280.65	\$7,281.98	\$1.33	0.0%
	100,000	500	\$12,116.83	\$12,118.16	\$1.33	0.0%
GS-2 Primary						
	100,000	1,000	\$15,414.81	\$15,416.14	\$1.33	0.0%
GS-3 Secondary						
	30,000	75	\$2,971.88	\$2,973.21	\$1.33	0.0%
	50,000	75	\$4,476.10	\$4,477.43	\$1.33	0.0%
	30,000	100	\$3,201.60	\$3,202.93	\$1.33	0.0%
	36,000	100	\$3,652.86	\$3,654.19	\$1.33	0.0%
	60,000	150	\$5,917.36	\$5,918.69	\$1.33	0.0%

**Ohio Power Company**  
**Typical Bill Comparison**  
**Estimated Year 1 gridSMART Phase 2 Bill Impacts**  
**Columbus Southern Power Rate Zone**

<u>Tariff</u>	<u>kWh</u>	<u>KW</u>	<u>Current</u>	<u>Proposed</u>	<u>Difference</u>	<u>Difference</u>
	100,000	150	\$8,925.78	\$8,927.11	\$1.33	0.0%
	90,000	300	\$9,552.05	\$9,553.38	\$1.33	0.0%
	120,000	300	\$11,808.37	\$11,809.70	\$1.33	0.0%
	150,000	300	\$14,064.68	\$14,066.01	\$1.33	0.0%
	200,000	300	\$17,825.19	\$17,826.52	\$1.33	0.0%
	150,000	500	\$15,902.51	\$15,903.84	\$1.33	0.0%
	180,000	500	\$18,158.81	\$18,160.14	\$1.33	0.0%
	200,000	500	\$19,663.02	\$19,664.35	\$1.33	0.0%
	325,000	500	\$29,064.32	\$29,065.65	\$1.33	0.0%
GS-3						
Primary	300,000	1,000	\$29,816.91	\$29,818.24	\$1.33	0.0%
	360,000	1,000	\$34,122.49	\$34,123.82	\$1.33	0.0%
	400,000	1,000	\$36,992.88	\$36,994.21	\$1.33	0.0%
	650,000	1,000	\$54,932.81	\$54,934.14	\$1.33	0.0%
GS-4						
	1,500,000	5,000	\$110,676.50	\$110,677.83	\$1.33	0.0%
	2,500,000	5,000	\$167,692.10	\$167,693.43	\$1.33	0.0%
	3,250,000	5,000	\$210,453.81	\$210,455.14	\$1.33	0.0%
	3,000,000	10,000	\$215,049.90	\$215,051.23	\$1.33	0.0%
	5,000,000	10,000	\$329,081.10	\$329,082.43	\$1.33	0.0%
	6,500,000	10,000	\$414,604.50	\$414,605.83	\$1.33	0.0%
	6,000,000	20,000	\$423,796.70	\$423,798.03	\$1.33	0.0%
	10,000,000	20,000	\$651,859.10	\$651,860.43	\$1.33	0.0%
	13,000,000	20,000	\$822,905.90	\$822,907.23	\$1.33	0.0%
	15,000,000	50,000	\$1,050,037.10	\$1,050,038.43	\$1.33	0.0%
	25,000,000	50,000	\$1,620,193.10	\$1,620,194.43	\$1.33	0.0%
	32,500,000	50,000	\$2,047,810.10	\$2,047,811.43	\$1.33	0.0%

\* Typical bills assume 100% Power Factor

**Ohio Power Company**  
**Estimated Year 1 gridSMART Phase 2 Bill Impacts**  
**Ohio Power Rate Zone**

<u>Tariff</u>	<u>kWh</u>	<u>KW</u>	<u>Current</u>	<u>Proposed</u>	<u>Difference</u>	<u>Difference</u>
Residential	100		\$25.41	\$25.74	\$0.33	1.3%
	250		\$44.56	\$44.89	\$0.33	0.7%
	500		\$76.48	\$76.81	\$0.33	0.4%
	750		\$108.39	\$108.72	\$0.33	0.3%
	1,000		\$140.29	\$140.62	\$0.33	0.2%
	1,500		\$204.11	\$204.44	\$0.33	0.2%
	2,000		\$267.93	\$268.26	\$0.33	0.1%
GS-1 Secondary	375	3	\$58.26	\$59.59	\$1.33	2.3%
	1,000	3	\$117.14	\$118.47	\$1.33	1.1%
	750	6	\$93.59	\$94.92	\$1.33	1.4%
	2,000	6	\$211.39	\$212.72	\$1.33	0.6%
GS-2	1,500	12	\$269.81	\$271.14	\$1.33	0.5%
	4,000	12	\$471.19	\$472.52	\$1.33	0.3%
	6,000	30	\$799.82	\$801.15	\$1.33	0.2%
	10,000	30	\$1,121.66	\$1,122.99	\$1.33	0.1%
	10,000	40	\$1,214.86	\$1,216.19	\$1.33	0.1%
	14,000	40	\$1,536.66	\$1,537.99	\$1.33	0.1%
	12,500	50	\$1,509.19	\$1,510.52	\$1.33	0.1%
	18,000	50	\$1,949.98	\$1,951.31	\$1.33	0.1%
	15,000	75	\$1,943.32	\$1,944.65	\$1.33	0.1%
	30,000	100	\$3,374.70	\$3,376.03	\$1.33	0.0%
	36,000	100	\$3,854.06	\$3,855.39	\$1.33	0.0%
	30,000	150	\$3,840.69	\$3,842.02	\$1.33	0.0%
	60,000	300	\$7,635.47	\$7,636.80	\$1.33	0.0%
	90,000	300	\$10,032.30	\$10,033.63	\$1.33	0.0%
	100,000	500	\$12,695.18	\$12,696.51	\$1.33	0.0%
	150,000	500	\$16,689.91	\$16,691.24	\$1.33	0.0%
	180,000	500	\$19,086.73	\$19,088.06	\$1.33	0.0%

**Ohio Power Company**  
**Estimated Year 1 gridSMART Phase 2 Bill Impacts**  
**Ohio Power Rate Zone**

<u>Tariff</u>	<u>kWh</u>	<u>KW</u>	<u>Current</u>	<u>Proposed</u>	<u>Difference</u>	<u>Difference</u>
GS-3 Secondary	18,000	50	\$1,952.51	\$1,953.84	\$1.33	0.1%
	30,000	75	\$3,145.51	\$3,146.84	\$1.33	0.0%
	50,000	75	\$4,743.44	\$4,744.77	\$1.33	0.0%
	36,000	100	\$3,859.11	\$3,860.44	\$1.33	0.0%
	30,000	150	\$3,848.24	\$3,849.57	\$1.33	0.0%
	60,000	150	\$6,245.11	\$6,246.44	\$1.33	0.0%
	100,000	150	\$9,440.96	\$9,442.29	\$1.33	0.0%
	120,000	300	\$12,444.33	\$12,445.66	\$1.33	0.0%
	150,000	300	\$14,841.22	\$14,842.55	\$1.33	0.0%
	200,000	300	\$18,836.01	\$18,837.34	\$1.33	0.0%
	180,000	500	\$19,112.02	\$19,113.35	\$1.33	0.0%
	200,000	500	\$20,709.94	\$20,711.27	\$1.33	0.0%
	325,000	500	\$30,696.95	\$30,698.28	\$1.33	0.0%
GS-2 Primary	200,000	1,000	\$24,290.15	\$24,291.48	\$1.33	0.0%
	300,000	1,000	\$31,919.93	\$31,921.26	\$1.33	0.0%
GS-3 Primary	360,000	1,000	\$36,548.37	\$36,549.70	\$1.33	0.0%
	400,000	1,000	\$39,600.35	\$39,601.68	\$1.33	0.0%
	650,000	1,000	\$58,675.21	\$58,676.54	\$1.33	0.0%
GS-2 Subtransmission	1,500,000	5,000	\$118,057.46	\$118,058.79	\$1.33	0.0%
GS-3 Subtransmission	2,500,000	5,000	\$181,417.56	\$181,418.89	\$1.33	0.0%
	3,250,000	5,000	\$228,785.84	\$228,787.17	\$1.33	0.0%
GS-4 Subtransmission	3,000,000	10,000	\$226,487.41	\$226,488.74	\$1.33	0.0%
	5,000,000	10,000	\$348,396.81	\$348,398.14	\$1.33	0.0%
	6,500,000	10,000	\$439,828.86	\$439,830.19	\$1.33	0.0%
	10,000,000	20,000	\$690,870.31	\$690,871.64	\$1.33	0.0%
	13,000,000	20,000	\$873,734.41	\$873,735.74	\$1.33	0.0%
GS-4 Transmission	25,000,000	50,000	\$1,718,290.81	\$1,718,292.14	\$1.33	0.0%
	32,500,000	50,000	\$2,175,451.06	\$2,175,452.39	\$1.33	0.0%

\* Typical bills assume 100% Power Factor

## **CERTIFICATE OF SERVICE**

In accordance with Rule 4901-1-05, Ohio Administrative Code, the PUCO's e-filing system will electronically serve notice of the filing of this document upon the following parties. In addition, I hereby certify that a service copy of the foregoing *Direct Testimony of Andrea E. Moore* was sent by, or on behalf of, the undersigned counsel to the following parties of record this 20<sup>th</sup> day of April 2016, via electronic transmission.

/s/ Steven T. Nourse

Steven T. Nourse

### **EMAIL SERVICE LIST**

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Summary: Testimony -Direct Testimony of Andrea E. Moore on Behalf of Ohio Power Company electronically filed by Mr. Steven T Nourse on behalf of Ohio Power Company