

OCC EXHIBIT NO. _____

**BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of Ohio)
Power Company to Initiate Phase 2 of Its) Case No. 13-1939-EL-RDR
gridSMART Project and to Establish the)
gridSMART Phase 2 Rider.)

**DIRECT TESTIMONY
OF
WILSON GONZALEZ**

**On Behalf of
The Office of the Ohio Consumers' Counsel**
*10 West Broad Street, Suite 1800
Columbus, Ohio 43215-3485*

July 22, 2016

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SCHEDULES:

Exhibit WG-1: List of Cases for Past Testimony

Attachment WG-1

*Direct Testimony of Wilson Gonzalez
On Behalf of the Office of the Ohio Consumers' Counsel
PUCO Case No. 13-1939-EL-RDR*

1 **I. INTRODUCTION**

2

3 ***Q1. PLEASE STATE YOUR NAME, ADDRESS AND POSITION.***

4 ***A1.*** My name is Wilson Gonzalez. My business address is 450 Whitney Avenue,
5 Worthington, Ohio 43085. I am the President of Tree House Energy and
6 Economic Consulting, LLC. I am testifying in this proceeding on behalf of the
7 Office of the Ohio Consumers' Counsel ("OCC").

8

9 ***Q2. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND***
10 ***PROFESSIONAL EXPERIENCE.***

11 ***A2.*** I have a Bachelor of Arts degree in Economics from Yale University, and a
12 Master of Arts degree in Economics from the University of Massachusetts at
13 Amherst. I have also completed coursework and passed my comprehensive
14 exams towards a Ph.D. in Economics at the University of Massachusetts at
15 Amherst.

16

17 I have been employed in the energy industry since 1986. I was first employed by
18 the Connecticut Energy Office as a Senior Economist (1986-1992). Then I was
19 employed by Columbia Gas Distribution Companies ("Columbia Gas") as an
20 Integrated Resource Planning Coordinator (1992-1996). After that, I was
21 employed by American Electric Power Shared Services ("AEP") as a Marketing
22 Profitability Coordinator and Market Research Consultant (1996-2002). From
23 2004 to 2013, I managed the Resource Planning activities for OCC.

**Q3. WHAT HAS BEEN YOUR EXPERIENCE IN PUCO PROCEEDINGS
REGARDING ADVANCE METERING INFRASTRUCTURE (“AMI”) AND
SMARTGRID?**

A3. I have been directly involved in many AMI and smart grid related cases that have been filed before the Public Utilities Commission of Ohio (“PUCO” or “Commission”). I filed testimony in AEP Ohio’s¹ (“Utility” or “Company”) first application containing AMI, Case No. 06-222-EL-SLF. I reviewed all the smart grid business cases filed by Ohio utilities in Case No. 07-646-EL-UNC. While at OCC, I was involved in smart grid cases before the PUCO and in settlements reached and approved by the PUCO in the:

- first Electric Security Plans filed by Ohio’s four investor owned utilities which all included AMI and smart grid components (Case Nos. 08-917-EL-SSO, 08-920-EL-SSO, 08-935-SSO);
- AEP Ohio, Duke Energy Ohio (“Duke”), and FirstEnergy Companies smart grid cost-recovery rider cases (Case Nos. 10-164-RDR, 11-1353-EL-RDR, 12-509-EL-RDR, 13-345-EL-RDR, 13-1939-EL-RDR, 12-1811-EL-RDR, 13-1141-GE-RDR, 12-406-EL-RDR);
- AEP Ohio, Duke, and FirstEnergy Companies time-differentiated and dynamic pricing pilot cases (Case Nos.

¹ AEP Ohio is also Ohio Power Company.

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1 10-424-EL-ATA, 11-1354-EL-ATA, 11-530-EL-ATA, 12-
2 609-EL-ATA, 12-3281-EL-ATA, 10-979-EL-ATA, 10-
3 2429-EL-ATA, 11-2798-EL-ATA, 12-3281-EL-ATA, 09-
4 1820-EL-ATA);

5 • smart grid interoperability standards case (Case No. 10-
6 2531-EL-UNC);

7 • Dayton Power and Light's Revised Smart Grid Business
8 Case filing (Case No. 08-1094-EL-SSO);

9 • Duke Smart Grid Costs and Mid-Deployment Review
10 (Case No. 10-2326-GE-RDR); and

11 • PUCO's investigation of dynamic pricing options for retail
12 electric service market (Case No. 12-150-EL-COI) and
13 Smart Grid Privacy and Cyber Security (Case No. 11-277-
14 GE-UNC).

15 I have also served as a member the Duke Smart Grid Collaborative and of the
16 Smart Grid Consumer Collaborative where I served on the latter's Board.

17
18 Finally, I testified before the Colorado Public Utilities Commission in the Public
19 Service Company of Colorado for approval of the "SmartGridCity" cost recovery
20 case, Docket No. 11A-1001E.

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1 ***Q4. WHAT HAS BEEN YOUR EXPERIENCE IN OTHER REGULATORY***
2 ***PROCEEDINGS?***

3 ***A4.*** I have been involved with many aspects of electric utility regulation since 1986
4 including, but not limited to, rate design and integrated resource planning (with or
5 without transmission as a resource in the planning mix). While at the Connecticut
6 Energy Office, I was involved in one of the first demand-side management
7 (“DSM”) collaborative processes in the country – Connecticut Department of
8 Public Utility Control (“CDPUC”) Docket No. 87-07-01. In that case, I analyzed
9 the performance and cost-effectiveness of many efficiency programs for
10 Connecticut’s electric and gas utilities that led to demonstration projects, policy
11 recommendations, DSM programs (including rate design recommendations) and
12 energy efficiency standards. I also performed all of the analytical modeling for
13 United Illuminating’s first integrated resource plan filed before the CDPUC in
14 1990.

15

16 At Columbia Gas, I was responsible for coordinating its Integrated Resource Plan
17 within the corporate planning department and DSM program development activities
18 in the marketing department. I designed and managed residential DSM programs in
19 Maryland and Virginia.

20

21 While at AEP, I conducted numerous cost-benefit analyses of programs sponsored
22 by AEP’s corporate marketing department, including their residential load control
23 water heater program.

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1 For the past 10 years, I have (among other matters):

- 2 • Managed DSM negotiations with Ohio's investor-owned
- 3 utilities involving energy efficiency programs with a total
- 4 cost of several million dollars;
- 5 • Prepared DSM-related testimony in many PUCO cases;
- 6 • Testified before the Ohio House Alternative Energy
- 7 Committee and Ohio Senate Energy and Public Utilities
- 8 Committee in support of energy efficiency, demand
- 9 response, and resource planning;
- 10 • Assisted in the preparation of energy efficiency and
- 11 renewable energy testimony and amendments for S.B. 221,
- 12 H.B. 357, S.B. 315, S.B. 58, and S.B. 310;
- 13 • Testified before the PUCO on rate design issues; and
- 14 • Worked extensively on a range of topics regarding
- 15 FirstEnergy's Standard Service Offer proposals, including
- 16 energy efficiency, distribution lost revenue recovery and
- 17 industrial customer interruptible rider cost allocation.

18

19 ***Q5. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY BEFORE THE***
20 ***PUBLIC UTILITIES COMMISSION OF OHIO?***

21 ***A5.*** Yes. A list of my testimony before the PUCO is attached as Exhibit WG-1.

1 ***Q6. WHAT DOCUMENTS HAVE YOU REVIEWED IN THE PREPARATION OF***
2 ***YOUR TESTIMONY?***

3 ***A6.*** I have reviewed AEP Ohio's Application filed on September 13, 2013. In
4 addition, I reviewed the Initial Comments and Reply Comments filed by various
5 stakeholders in this proceeding. I also reviewed the Stipulation and
6 Recommendation filed on April 7, 2016 ("Stipulation"). Furthermore, I examined
7 the Testimony filed in support of the Stipulation. Finally, I reviewed AEP Ohio's
8 responses to OCC's and the PUCO Staff's discovery served in this case.

9

10 **II. PURPOSE OF TESTIMONY AND RECOMMENDATIONS**

11

12 ***Q7. WHAT IS THE PURPOSE OF YOUR TESTIMONY?***

13 ***A7.*** The purpose of my testimony is to present specific concerns about the charges
14 Ohio's residential customers will be required to pay under the Stipulation. In
15 particular, the current Stipulation delivers to customers a small fraction of overall
16 operational cost savings expected over the first three years of the project.
17 Moreover, the gridSMART Phase 2 rider contained in section 6 of the Stipulation
18 charges customers up front for the costs of AEP Ohio's Phase II deployment
19 while it waits until later to flow through the benefits (reduced operational costs) to
20 customers. This provision of the Stipulation imposes a material risk to residential
21 customers because if the projected gridSmart Phase II benefits do not materialize
22 (and do not flow to customers), customers will be left having paid upfront for a
23 white elephant. This aspect of the Stipulation needs to be mitigated. I make

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1 specific recommendations for the PUCO's consideration concerning what a more
2 balanced benefit to cost sharing mechanism might look like.

3

4 **Q8. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.**

5 **A8.** I recommend that the PUCO reject the Stipulation in its current form. However,
6 if the PUCO chooses to approve the Stipulation, then the PUCO should modify
7 the Stipulation by imposing the following conditions to improve the cost/benefit
8 balance between the Utility and its customers:

- 9 1. Expedite the process of determining the scope and
10 magnitude of operational cost savings to customers
11 specified in section IV.6, the rider recovery mechanism of
12 the Stipulation.
- 13 2. Increase the amount of operational cost savings credit to
14 customers in line with the Company's updated estimate of
15 operational savings, while taking account of the Phase 1
16 investment.²
- 17 3. Levelize a greater amount of the operational cost savings
18 credit to residential customers to reduce customer charges
19 and better balance the benefits and costs of AEP Ohio's
20 Phase 2 (and Phase 1) smart grid deployment.

² The Phase 1 gridSMART rider did not net the operational cost savings against project costs. This means that AEP Ohio has been pocketing these savings for several years to the detriment of its customers.

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- 1 4. Require rate case timing as a condition of smart grid
2 investment approval to allow customers to capture the full
3 operational cost savings when the project is completed.
4

5 **III. EVALUATION OF THE STIPULATION UNDER THE COMMISSION'S**
6 **THREE-PRONG TEST.**
7

8 ***Q9. WHAT ARE THE CRITERIA THAT THE COMMISSION USES TO REVIEW***
9 ***SETTLEMENTS?***

10 ***A9.*** The Commission may approve a settlement only if:

- 11 (1) The settlement is the product of serious bargaining among capable,
12 knowledgeable parties with diverse interests;³
13 (2) The settlement benefits customers and the public interest as a
14 package; and
15 (3) The settlement does not violate any important regulatory principle
16 or practice.⁴
17

³ See *In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company, Individually and, if Their Proposed Merger Is Approved, as a Merged Company (collectively, AEP Ohio) for an Increase in Electric Distribution Rates*, Case No. 11-351-EL-AIR, Opinion and Order (December 14, 2011) at 9. The PUCO recently stated that the first prong does not incorporate a diversity requirement. *In the Matter of the Application Seeking Approval of Ohio Power Company's Proposal to Enter into an Affiliate Power Purchase Agreement for Inclusion in the Power Purchase Agreement Rider*, Case No. 14-1693-EL-RDR, et al., Opinion and Order (March 31, 2016) at 52. Nevertheless, the PUCO did consider the diversity of the signatory parties in that case. See *id.*

⁴ *Consumers' Counsel v. Pub. Util. Comm'n.* (1992), 64 Ohio St.3d 123, 126.

1 ***Q10. DOES THE STIPULATION IN THIS PROCEEDING REFLECT SERIOUS***
2 ***BARGAINING AMONG CAPABLE, KNOWLEDGEABLE PARTIES WITH***
3 ***DIVERSE INTERESTS?***

4 ***A10.*** It does not, for the reasons stated by Mr. Lanzalotta.
5

6 ***Q11. DOES THE STIPULATION AS A PACKAGE, BENEFIT CUSTOMERS AND***
7 ***THE PUBLIC INTEREST?***

8 ***A11.*** It does not. In addition to the reasons discussed by OCC Witnesses Lanzalotta
9 and Williams, the Stipulation's proposed rider mechanism does not benefit
10 customers and the public interest, as discussed below.
11

12 ***Q.12 DOES THE STIPULATION VIOLATE ANY IMPORTANT REGULATORY***
13 ***PRINCIPLE OR PRACTICE AND THUS HARMS CUSTOMERS?***

14 ***A12.*** Yes, for the reasons discussed by OCC Witness Lanzalotta.
15

16 **IV. EVALUATION OF THE STIPULATION'S PHASE 2 RIDER RECOVERY**
17 **MECHANISM AND THE TREATMENT OF OPERATIONAL SAVINGS**
18

19 ***Q13. WHAT IS THE STIPULATION'S PROPOSED RIDER MECHANISM THAT***
20 ***WILL CREDIT CUSTOMERS FOR OPERATIONAL COST SAVINGS?***

21 ***A13.*** Under the Stipulation, the cost for the gridSMART Phase 2 project will be
22 allocated and charged to customers in the same manner as the gridSMART Phase
23 1 rider. The rider will be filed quarterly with automatic approval 30 days after the

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1 filing unless otherwise determined by the PUCO.⁵ Costs will be subject to an
2 annual audit for prudence and no carrying charges will be imposed on over/under
3 recoveries.⁶

4
5 Also, after a favorable PUCO Order in this case, AEP Ohio will move the
6 approved gridSMART Phase 1 assets to the Distribution Investment Rider and file
7 for any uncollected O&M expenses in a gridSMART Phase 2 rider application.⁷

8
9 The Stipulation also contains an operational savings credit that purportedly would
10 offset the costs charged to customers in the rider.⁸

11
12 The estimated monthly charge to customers of gridSMART Phase 2 and the
13 paucity of the operational cost savings credits are indicated in Table 1 below:⁹

⁵ Stipulation at 9.

⁶ *Id.*

⁷ *Id.* at 10.

⁸ *Id.*

⁹ Moore Testimony Exhibit corrected on July 21st.

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Table 1

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	0.57	2.32	(0.07)	(0.27)	0.50	2.05
Year 3	1.10	4.49	(0.06)	(0.27)	1.04	4.22
Year 4	1.64	6.68	TBD	TBD	TBD	TBD
Year 5	2.07	8.44	TBD	TBD	TBD	TBD
Year 6	2.36	9.61	TBD	TBD	TBD	TBD
Year 7	2.48	10.08	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.

Under the Stipulation, residential customers will receive a penny a month the first year, seven cents a month for year two and six cents a month for year three as operational savings benefits.

Q14. CAN YOU EXPOUND ON THE OPERATIONAL COST SAVINGS CREDIT TO CUSTOMERS IN THE PROPOSED PHASE 2 RIDER?

A14. Yes. The operational cost saving credit is a small portion of the operational cost savings the Company expects to experience as a result of its smart grid investment, and is an offset to the charge. AEP Ohio will charge customers for smart grid costs that are net of the operational cost savings credit. In particular, the initial operational cost savings credit will flow back to customers \$400,000 per quarter starting in the fourth quarter of the first year.¹⁰

¹⁰ *Id.*

1 ***Q15. WHAT IS YOUR UNDERSTANDING OF THE DIFFERENT APPROACHES***
2 ***USED BY PUBLIC UTILITY COMMISSIONS WHEN AUTHORIZING***
3 ***UTILITIES TO COLLECT COSTS OF SMART GRID INVESTMENT FROM***
4 ***CUSTOMERS?***

5 ***A15.*** To date, three separate approaches have been used for utilities to collect costs
6 from customers for smart grid. They are (1) special purpose riders, (2) riders with
7 limits based on expected economic benefits, and (3) traditional rate case prudence
8 reviews.¹¹ The risk (and relative charge) to consumers is greatest with special
9 purpose riders without limits. The risk (and relative charge) is the least to
10 customers when the utility is required to file a rate case. In the net of operational
11 cost savings rider approach adopted in the Stipulation, the smart grid investment
12 risk is generally shared between customers and utility shareholders. However,
13 under the Stipulation in this case, the risk is greater for consumers and less for the
14 Utility because operational benefits are delayed in flowing to customers.

15
16 ***Q16. CAN YOU PROVIDE ANY REGULATORY EXAMPLES?***

17 ***A16.*** Yes, I will provide several examples.

18
19 The Duke Energy Ohio Smart Grid Audit and Assessment, which was prepared
20 for the PUCO, calculated \$383 million in net present value operational benefits

¹¹ Paul Alvarez, "Maximizing Customer Benefits, Performance measurement and action steps for smart grid investments," Public Utilities Fortnightly, January 2012, page 33.

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1 over a twenty-year period.¹² Through negotiation with consumer advocates and
2 PUCO Staff, Duke agreed to reflect a total of \$56 million in operational cost
3 savings credit for the years 2012 through 2015 in their existing net of benefits
4 smart grid rider.¹³ Duke also agreed to account for all the benefits of the smart
5 grid in a rate case to be filed one year after full deployment.¹⁴
6
7 The California Public Utilities Commission (“CPUC”) required early on that each
8 utility deploying smart meters credit customers the operational benefits that would
9 occur with each smart meter that the utility put into service.¹⁵ The Southern
10 California Edison Co. is required to credit customers \$1.43 of the operational
11 benefit per customer per month beginning eight months after the smart meter is
12 reflected in rate base.¹⁶ If AEP Ohio was to provide such benefits to consumers,
13 it would equate at a minimum to \$12 million per year based upon the Utility’s
14 deployment schedule.¹⁷ Similar approaches have been adopted for smart meter
15 deployments by Pacific Gas & Electric and San Diego Gas & Electric.

¹² The MetaVu Duke Energy Ohio audit report includes 26 separate operational benefit categories, page 72. “Duke Energy Ohio Smart Grid Audit and Assessment,” Meta-Vu, June 30, 2011.

¹³ Settlement filed in Duke Energy Ohio Case No. 10-2326-GE-RDR.

¹⁴ *Id.*

¹⁵ CPUC Decision No. 08-09-039 (September 18, 2008). The California utilities submitted a business case for smart metering that included over 80 percent of the benefits in the form of reduced operational costs.

¹⁶ *Id.* at pages 37-38.

¹⁷ This figure is calculated in Table 3 found later in my testimony. I state “at a minimum” because a full detailed assessment of operational savings have not been filed by the Company.

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1 The Oklahoma Corporation Commission approved Oklahoma Gas and Electric's
2 smart grid proposal, where it "ordered that the operations and maintenance
3 savings indicated in the utility's business case be deducted from the revenues
4 requested by the utility by year."¹⁸

5

6 Finally, the Maryland Public Utilities Commission ("MPUC") required the
7 Baltimore Gas & Electric ("BGE") smart grid initiative to be collected as a
8 regulatory asset. In so doing, the MPUC recognized that:

9 BGE, the Commission and the customers are, essentially, affecting a
10 partnership by embarking on the Smart Grid initiative. For the
11 partnership to be effective..., the customers should not be solely
12 responsible for the program costs if the benefits do not materialize. If
13 BGE is convinced of the TRC and the forecast of customer behavior
14 based on the pilot programs, then during the rider true-up BGE
15 shareholders should have some exposure consistent with the risk
16 inherent capital.¹⁹

17

18 ***Q17. WHAT DO YOU RECOMMEND REGARDING STIPULATION***

19 ***PARAGRAPH IV. 6 PROVIDING SAVINGS TO CUSTOMERS THROUGH A***
20 ***COST SAVINGS MECHANISM IN THE RIDER?***

21 ***A17.*** I recommend that the PUCO reject this provision and instead order an increase in
22 the amount of the operational cost savings credit that flow to customers, and

¹⁸ Alvarez, supra note 8, at 258.

¹⁹ *In the Matter of the Application of Baltimore Gas and Electric Company for Authorization to Deploy a Smart Grid Initiative and to Establish a Surcharge for the Recovery of Cost*, MPUC Case No. 9208, Order No. 83531 (August 13, 2010) at 24 (citing Direct Testimony of Maryland Energy Administration Witness Fred Jennings (July 19, 2010) at 13) (emphasis in original Order) (available at <http://webapp.psc.state.md.us/Intranet/sitesearch/CN9208.pdf>).

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1 levelize those credits as depicted in Table 3 of my testimony as an approach for
2 consumer protection. While a net of operational cost savings rider can be positive
3 for customers the structure of the credit in the rider contained in the Stipulation is
4 problematic.

5

6 ***Q18. IN WHAT WAY IS THE NET OF OPERATIONAL COST SAVINGS CREDIT***
7 ***IN THE STIPULATION PROBLEMATIC FOR CUSTOMERS?***

8 ***A18.*** The net of operational cost savings credit is problematic for customers for the
9 following three major reasons:

10 1. It fails to capture for customers all the operational cost savings and
11 revenue enhancements²⁰ the Company will experience from its
12 Phase 2 project, as stated in OCC Witness Lanzalotta's
13 testimony.²¹ The \$400,000 quarterly operational savings for
14 customers provided for in the Stipulation is a minor gesture and
15 appears to be limited to meter reading and meter operations
16 expected savings, and is derived from only one year (not the four
17 years) of meter deployment.²² Also, there is no accounting for
18 the 132,000 meters installed in the Company's Phase I project. In

²⁰ Revenue enhancements can be earlier theft detection, greater billing accuracy from "slow meters" and may include the reduction in lost revenue due to outages.

²¹ Lanzalotta Testimony at pages 12-14. It also fails to capture all the operational cost savings from AEP Ohio's Phase 1 deployment.

²² Osterholt Testimony, Exhibit SSO-1 at page 5. This becomes clear in the levelization table I provide later on in my Testimony.

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contrast for example, the operational cost savings the PUCO approved in the Duke smart grid case (Case No. 10-2326-GE-RDR) not only included meter reading and meter operations savings, but also included other credits, collections, and revenue enhancements as indicated in Table 2 below.²³ AEP Ohio estimates the latter savings and revenue enhancements at \$8-10 million a year, but they are not being credited back to customers.²⁴

Table 2

Benefit #	Benefit Name	Benefit Type	2011			2012			2013			2014			2015 ⁽¹⁾		
			Gas ⁽³⁾	Electric	Total	Gas ⁽³⁾	Electric	Total	Gas ⁽³⁾	Electric	Total	Gas ⁽³⁾	Electric	Total	Gas ⁽³⁾	Electric	Total
1	Regular Meter Reads	Avoided O&M Cost	\$0.205	\$0.335	\$0.540	\$0.498	\$0.812	\$1.310	\$1.113	\$1.817	\$2.930	\$1.725	\$2.815	\$4.540	\$2.288	\$3.732	\$6.020
2	Off-Cycle / Off-Season Meter Reads	Avoided O&M Cost	0.730	1.190	1.920	1.296	2.114	3.410	1.927	3.143	5.070	2.333	3.807	6.140	2.652	4.328	6.980
3	Remote Meter Diagnostics	Avoided O&M Cost	-	0.140	0.140	-	0.310	0.310	-	0.500	0.500	-	0.680	0.680	-	0.800	0.800
7	Meter Operations Costs	Avoided O&M Cost	-	0.050	0.050	-	0.120	0.120	-	0.200	0.200	-	0.260	0.260	-	0.310	0.310
10	Outage Detection	Avoided O&M Cost	-	0.010	0.010	-	0.030	0.030	-	0.050	0.050	-	0.060	0.060	-	0.070	0.070
11	Outage Verification	Avoided O&M Cost	-	0.110	0.110	-	0.250	0.250	-	0.410	0.410	-	0.540	0.540	-	0.660	0.660
15	Continuous Voltage Monitoring	Avoided O&M Cost	-	-	-	-	-	-	-	0.080	0.080	-	0.160	0.160	-	0.240	0.240
19	Capacitor Inspection Costs	Avoided O&M Cost	-	-	-	-	-	-	-	0.060	0.060	-	0.130	0.130	-	0.200	0.200
20	Circuit Breaker Inspection Costs	Avoided O&M Cost	-	0.020	0.020	-	0.050	0.050	-	0.080	0.080	-	0.090	0.090	-	0.100	0.100
21	Call Center Efficiency	Avoided O&M Cost	-	0.030	0.030	-	0.060	0.060	-	0.090	0.090	-	0.120	0.120	-	0.140	0.140
22	Increase in Safety	Avoided O&M Cost	0.008	0.012	0.020	0.015	0.025	0.040	0.027	0.043	0.070	0.038	0.062	0.100	0.042	0.068	0.110
23	Billing Savings - Shortened Billing Cycle	Avoided O&M Cost	0.011	0.019	0.030	0.019	0.031	0.050	0.027	0.043	0.070	0.030	0.050	0.080	0.030	0.050	0.080
24	Vehicle Management Costs	Avoided O&M Cost	0.087	0.143	0.230	0.198	0.322	0.520	0.315	0.515	0.830	0.418	0.682	1.100	0.490	0.800	1.290
4/5	Power Theft / Theft Recovery Costs	Increased Revenue	-	0.180	0.180	-	0.380	0.380	-	0.620	0.620	-	0.810	0.810	-	0.990	0.990
8	Meter Accuracy Improvement	Increased Revenue	-	0.190	0.190	-	0.400	0.400	-	0.660	0.660	-	0.870	0.870	-	1.070	1.070
9	Meter Salvage Value	Increased Revenue	-	0.100	0.100	-	0.210	0.210	-	0.220	0.220	-	0.170	0.170	-	0.160	0.160
12	Outage Reductions	Increased Revenue	-	0.140	0.140	-	0.250	0.250	-	0.370	0.370	-	0.480	0.480	-	0.540	0.540
TOTALS			\$1.041	\$2.669	\$3.710	\$2.026	\$5.364	\$7.390	\$3.409	\$8.901	\$12.310	\$4.544	\$11.786	\$16.330	\$5.502	\$14.258	\$19.760
Exclude "generation" share of increased revenue benefit ⁽¹⁾				0.293	0.293		0.595	0.595		0.898	0.898		1.118	1.118		1.325	1.325
Transmission & Distribution Savings			\$1.041	\$2.376	\$3.417	\$2.026	\$4.769	\$6.795	\$3.409	\$8.003	\$11.412	\$4.544	\$10.668	\$15.212	\$5.502	\$12.933	\$18.435
Notes: ⁽¹⁾ Benefits as provided in the MetaVu Audit Report.																	
⁽²⁾ 2015 Benefits are not being included in the levelization agreed to in the Stipulation.																	
⁽³⁾ For benefits that accrue to gas and electric customers, allocated based on number of customers.																	

2. The limited meter reading and operations cost savings to be shared with customers cannot be adjusted or reconciled during the time it

²³ Duke Energy Ohio Case No. 10-2326-GE-RDR, Stipulation Attachment 1.

²⁴ Osterholt Testimony, Exhibit SSO-1 at page 5.

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1 will be in effect, which extends until the Commission adopts a new
2 operational cost savings credit.²⁵ The Stipulation contains this
3 provision, even though according to AEP Ohio, the total meter
4 reading and operations savings over four years alone totals over
5 \$16 million dollars.²⁶

6 3. The front-loaded cost nature of the rider creates an unacceptable
7 level of customer risk. This topic will be addressed in section IV
8 of my testimony.
9

10 ***Q19. DOES THE FUTURE OPERATIONAL COST SAVINGS CREDIT***
11 ***ADJUSTMENT PROCESS OUTLINED IN THE STIPULATION ALLAY***
12 ***YOUR CONCERNS FOR CUSTOMERS?***

13 ***A19.*** No. The Stipulation *allows but does not require*²⁷ the PUCO Staff to retain an
14 external consultant paid for by AEP Ohio to review Phase 1 and Phase 2
15 operational benefits and *suggest* modifications, as appropriate. It then allows for
16 a period of negotiation between the parties to arrive at an agreed upon level of
17 operational cost saving credit. If an agreement is not attained by the parties, this
18 proceeding will allow for additional litigation, with a PUCO Order deciding the

²⁵ Stipulation at page 10.

²⁶ See Table 3 later in this testimony.

²⁷ Unlike the incorrect statement in AEP Ohio's Witness Moore's Testimony that "an evaluation of the operational savings of the project **will** be conducted...." Page 9, lines 6-9. (Emphasis added.)

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1 appropriate savings credit adjustment.²⁸ AEP Ohio's own Average Monthly Rate
2 Impact calculation (Table 1) indicates that the earliest the operational cost savings
3 credit is expected to change is at the start of year four following PUCO approval
4 of the Stipulation.

5

6 Two problems with the operational cost savings credit update process are that it is
7 permissive (not required as a customer benefit) and it fails to capture all the
8 credits that are due to customers. Additionally, if undertaken, it can and will be
9 time consuming. It may take several years if litigation and appeals occur.²⁹

10 Meanwhile, the additional millions of dollars of operational savings and revenue
11 enhancements that should be going to customers may end up instead going to
12 AEP Ohio's bottom line. And during this time AEP Ohio will be charging its 1.5
13 million customers the costs of the expensive (\$ 560 million) smart grid.³⁰ The
14 PUCO should implement measures to expedite the credit benefit to customers.

²⁸ Stipulation at page 10.

²⁹ The process also contains a perverse incentive as it is in the Company's interest to prolong the process to continue to usurp the operational cost savings from customers.

³⁰ Osterholt Testimony, Exhibit SSO-1 at page 9.

**IV. MITIGATION OF CUSTOMER RISK INHERENT IN THE
STIPULATION**

***Q20. ARE YOU CONCERNED WITH THE FRONT-LOADED COST NATURE OF
THE PHASE 2 RIDER (MEANING CUSTOMERS ARE CHARGED UP
FRONT FOR THE BUILDING OF THE SMART GRID)?***

A20. Yes. The fact that customers have to pay up front for the costs of the Company's smart grid deployment and hope that the promised benefits materialize 15 years into the future is problematic. This scenario in the Stipulation places too much risk on Ohio consumers. OCC Witness Lanzalotta succinctly provides insight into both the technological and financial risks that customers will face if the Stipulation is approved by the PUCO.³¹ The National Association of Regulatory Commissioners ("NARUC") has commented on the importance of balancing the risks of smart grid deployments:

"[w]hen evaluating proposed smart grid investments, State commissions should require the quantification of the benefits and costs of proposed project(s) to the extent reasonably possible. Any qualitative benefits and costs used in the analysis and decision-making should be identified and articulated to the extent reasonably possible. ***State commissions should identify the risks and rewards of smart grid investment projects and allocate those risks and rewards appropriately to utility shareholders and consumers.***"³²

³¹ Lanzalotta Testimony at pages 14-16.

³²"NARUC Resolution on Smart Grid Principles" adopted July 20, 2011 (emphasis added).

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As indicated earlier, the operational cost savings credit provided customers in the Stipulation amounts to \$400,000 per quarter, starting in the third quarter of the first year. This amount represents \$3.6 million in customer credits over the first three years of the Phase 2 deployment.³³ The Company expects to spend \$560 million dollars over 15 years in capital and O & M for the entire Phase 2 project, which it will seek to collect from Ohio consumers.³⁴ Of that, \$238 million or 43 percent will be spent over the first three years.³⁵ The operational cost savings credit in the Stipulation therefore represents only 1.5 percent of the Phase 2 project costs over the first three years.³⁶ One would be hard pressed to consider this balanced risk sharing between customers and shareholders.

Q21. IS THERE A WAY TO MITIGATE THE RISKS FACED BY AEP OHIO CUSTOMERS?

A21. Yes. The PUCO should reject the Stipulation. The PUCO should expect a more balanced Stipulation along the lines recommended by OCC Witnesses Lanzalotta and Williams and myself. The PUCO can also modify Section IV.6 Rider Recovery Mechanism of the Stipulation to mitigate some of the consumer risk.

³³ Nine quarters times \$400,000.

³⁴ Osterholt Testimony, Exhibit SSO-1 at page 9.

³⁵ Based on the first three year project cost as provided in response to OCC INT-6-109 Attachment 1.

³⁶ A survey of 30 smart meter business cases worldwide estimated that operational cost savings averaged 70 percent of smart meter project costs. Emeter list of nationwide SG deployment benefit-cost results, the original table can be found at <http://www.emeter.com/smart-grid-watch/2012/building-a-business-case-for-smart-meters/> See Attachment WG-1.

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1 Moreover, under any circumstance, the PUCO should lower consumer risk by
2 advancing the pay-back to customers from operational cost savings. I recommend
3 that operational savings be paid back in equal amounts (i.e., levelized) along the
4 lines demonstrated in Table 3 below. As shown, increasing the amount of cost
5 savings to customers and levelizing those dollars increases the operational cost
6 savings customer credit from the Stipulation's \$400,000 dollars to \$2.9 million
7 per quarter.³⁷ Last, the Commission should reject the Stipulation and, if AEP
8 Ohio then decides to pursue shareholder upfront funding for the smart grid
9 investment – as would be consistent with traditional regulation and the risk that
10 belongs with investors – AEP Ohio could then seek cost collection through future
11 traditional base rate proceedings in accordance with Ohio ratemaking standards.

³⁷ \$2.9 million is the \$11.6 million levelized operational cost savings credit from the table divided by 4.

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1

Table 3.

AEP Ohio					
Levelize Meter Reading, Meter Operations, Credit and Collections Cost Savings and Revenue Enhancements (Years 1 through 4)					
	2017	2018	2019	2020	Total
Electric 2017-2020 SG Operational Cost savings Credit					
Phase 2 Meter Reading & Operations (Nominal Dollars)	\$1,624,845	\$3,249,690	\$4,874,535	\$6,499,380	\$16,248,450
Phase 1 Meter Reading & Operations (Nominal Dollars)	\$1,030,920	\$1,030,920	\$1,030,920	\$1,030,920	\$4,123,680
Phase 2 Credit, Collections and Revenue Enhancements (Nominal Dollars)	\$2,000,000	\$4,000,000	\$6,000,000	\$8,000,000	\$20,000,000
Phase 1 Credit, Collections and Revenue Enhancements (Nominal Dollars)	\$ 1,181,208	\$ 1,181,208	\$ 1,181,208	\$ 1,181,208	\$ 4,724,832
PV (2015 \$)	\$5,836,973	\$8,982,170	\$12,423,261	\$15,864,352	\$43,106,756
Levelized	\$11,631,641	\$11,631,641	\$11,631,641	\$11,631,641	\$46,526,564
PV of Levelized	\$11,631,641	\$11,041,998	\$10,482,246	\$9,950,870	\$43,106,756
Additional Savings/(Added Rev) Nominal	\$10,006,796	\$8,381,951	\$6,757,106	\$5,132,261	\$30,278,114
Additional Savings/(Added Rev) (2015 \$)	\$5,794,668	\$2,059,828	(\$1,941,015)	(\$5,913,482)	\$0.000
Inputs					
Discount at Rate used for All Other Deferrals	5.34%				
<i>(Long-Term Debt Rate from 11-351-EL-AIR Case)</i>					
Phase 1 annual per meter benefits#	\$ 7.81				
Phase 2 Average annual meter benefits (\$6.71-7.83/meter)*	\$ 7.27				
Phase 1 Meters already Installed	132,000				
Phase 2 Meters Installed	223,500	223,500	223,500	223,500	894,000
Phase 2 Credit, collections and revenue enhancements (\$ annual)*	\$ 2,000,000				
Phase 1 Credit et al value prorated for # of phase one meters installed.	\$ 1,181,208				
* From Osterholt Testimony, Company Updated Business Case at 5.					
# AEP Ohio gridSmart Demonstration Project, Final Technical Report, June 2014, page 346.					

2

3

4

Q22. IS YOUR RECOMMENDATION FOR AN INCREASED CUSTOMER COST

5

SAVINGS CREDIT AND THE LEVELIZATION OF THAT CREDIT MEANT

6

TO REPLACE THE FUTURE DETERMINATION OF OPERATIONAL

7

COST SAVINGS CREDIT PROCESS ESTABLISHED IN SECTION 6 OF

8

THE STIPULATION?

9

A22. No. My recommendation serves to provide an approach with some fairness for

10

customers through sharing the operational cost savings credits. It ensures that, in

11

what may become a fairly lengthy process, customers are sharing more equitably

12

in the operational cost savings that they are paying the Company to produce

13

through their payments for the cost of the expensive smart grid.

V. LACK OF FUTURE RATE CASE TREATMENT IN THE STIPULATION

Q23. ARE YOU CONCERNED AT THE FAILURE OF THE STIPULATION TO PRESCRIBE RATE CASE TIMING AS A CONDITION OF AEP OHIO'S SMART GRID INVESTMENT APPROVAL?

A23. Yes. I have already shared my concerns at the paucity of operational cost savings that will be flowed to customers in the Phase 2 gridSMART rider and the timing challenge faced by the parties in modifying the rider through the process proscribed in Section 6 of the Stipulation. The best way to ensure that AEP Ohio is passing the full slate of operational cost savings to the customers who are paying for the smart grid deployment is to require a rate case a year after the deployment is completed. The additional year will allow the associated cost reductions to be reflected in AEP Ohio's books and test year so that customers can reap the entire operational cost savings benefit. It will also encourage AEP Ohio to attain the savings expeditiously as they will retain any cost savings (beyond those included in the existing rider) until the rate case.

VI. CONCLUSION

Q24. SHOULD THE PUCO REJECT THE FILED STIPULATION IN AEP OHIO'S PHASE 2 SMART GRID DEPLOYMENT?

A24. Yes. The PUCO should reject the Stipulation for the reasons stated in the testimony of OCC's witnesses. In the alternative, the PUCO should modify the

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1 Stipulation along the lines suggested by OCC's expert witnesses to improve upon
2 the relatively little benefits and relatively great risk and costs for customers.

3

4 ***Q25. DOES THIS CONCLUDE YOUR TESTIMONY?***

5 ***A25.*** Yes. However, I reserve the right to incorporate new information and/or
6 discovery responses that may subsequently become available. I also reserve the
7 right to supplement my testimony in response to positions taken by AEP Ohio or
8 other parties.

CERTIFICATE OF SERVICE

It is hereby certified that a true copy of the foregoing *Direct Testimony of Wilson Gonzalez on Behalf of the Office of the Ohio Consumers' Counsel* has been served electronically this 22nd day of July 2016.

/s/ Terry L. Etter

Terry L. Etter
Assistant Consumers' Counsel

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Mr. Gonzalez has submitted testimony in the following cases before the Public Utility Commission of Ohio:

1. Vectren Energy Delivery of Ohio, Case No. 04-571-GA-AIR
2. Dominion East Ohio, Case No. 05-474-GA-ATA
3. Dominion East Ohio, Case No. 07-829-GA-AIR
4. Vectren Energy Delivery of Ohio, Case No. 05-1444-GA-UNC
5. Columbus Southern Company/Ohio Power Company, Case No. 06-222-EL-SLF
6. Duke Energy of Ohio, Case No. 07-589-GA-AIR
7. FirstEnergy Companies, Case Nos. 07-551-EL-AIR, et al
8. Vectren Energy Delivery of Ohio, Case No. 07-1080-GA-AIR
9. FirstEnergy Companies, Case No. 08-935-EL-SSO
10. FirstEnergy Companies, Case No. 08-936-EL-SSO
11. Duke Energy of Ohio, Case No. 08-920-EL-SSO
12. AEP, Case No. 08-917-EL-SSO
13. Dayton Power and Light, Case No. 08-1094-EL-SSO
14. FirstEnergy Companies, Case No. 09-906-EL-SSO
15. Duke Energy of Ohio, Case No. 10-1999-EL-POR
16. FirstEnergy Companies, Case No. 10-388-EL-SSO
17. FirstEnergy Companies, Case No. 10-1128-EL-CSS
18. AEP, Case No. 11-351-EL-AIR
19. FirstEnergy Companies, Case No. 11-5201-EL-RDR
20. FirstEnergy Companies, Case No. 12-1230-EL-SSO
21. FirstEnergy Companies, Case No. 12-2190-EL-POR
22. Duke Energy Ohio Case No. 13-431-EL-POR
23. Duke Energy Ohio Case No. 13-753-EL-RDR
24. Duke Energy Ohio Case No. 14-1580-EL-RDR
25. Duke Energy Ohio Case No. 14-457-EL-RDR

Attachment WG-1

eMeter's Smart Meter Benefit-Cost Analysis

	State	Country	Method	Utility Customer Service Operations	Utility System Efficiencies	Customer Benefits	Total Benefits	Capital Costs	Operating Costs	Total Costs	Net Benefits	Benefit to Cost Ratio
Ameren	IL	USA	Total Lifetime	\$335	\$48	\$370	\$752	\$292	\$199	\$490	\$262	1.5
Atlantic City Electric	NJ	USA	Present Value	\$59	\$0	\$73	\$132	\$0	\$0	\$106	\$26	1.2
Australia		AUS	Present Value	\$1,400	\$3,800	\$800	\$6,000	\$3,260	\$0	\$3,260	\$2,741	1.8
Austria		Austria	Present Value	\$559	\$620	\$5,376	\$6,534	\$4,090	\$1,725	\$5,815	\$739	1.1
Baltimore Gas & Electric	MD	USA	Total Lifetime	\$408	\$204	\$2,024	\$2,636	\$641	\$194	\$835	\$1,801	3.2
BC Hydro	BC	Canada	Present Value	\$228	\$239	\$1,062	\$1,629	\$930	\$0	\$930	\$699	1.8
Central Vermont Public Service	VT	USA	Present Value	\$36	\$2	\$16	\$55	\$41	\$0	\$41	\$14	1.3
Chilectra		Chile	Present Value	\$14	\$8	\$14	\$36	\$24	\$12	\$36	\$0	1.0
Colorado Springs Utilities	CO	USA	Total Lifetime	\$66	\$17	\$13	\$96	\$37	\$0	\$37	\$60	2.6
Commonwealth Edison	IL	USA	Total Lifetime	\$2,284	\$1,664	\$531	\$4,479	\$1,031	\$653	\$1,684	\$2,795	2.7
Connecticut Light & Power	CT	USA	Present Value	\$211	\$141	\$228	\$580	\$296	\$197	\$493	\$87	1.2
Consolidated Edison	NY	USA	Present Value	\$0	\$310	\$272	\$782	\$0	\$0	\$713	\$69	1.1
Dayton Power & Light	OH	USA	Present Value	\$80	\$95	\$387	\$762	\$261	\$235	\$496	\$266	1.5
Delmarva Power & Light	MD	USA	Present Value	\$34	\$3	\$41	\$78	\$31	\$3	\$34	\$24	1.4
Duke Indiana	IN	USA	Present Value	\$142	\$230	\$474	\$846	\$483	\$168	\$651	\$195	1.3
ENEL		Italy	Total Lifetime	\$7,500	\$0	\$0	\$7,500	\$2,793	\$1,010	\$3,803	\$3,698	2.0
Great Britain		UK	Present Value	\$9,856	\$2,080	\$6,928	\$18,864	\$10,496	\$2,832	\$13,328	\$5,536	1.4
Idaho Power	ID	USA	Total Lifetime	\$84	\$0	\$0	\$84	\$71	\$0	\$71	\$13	1.2
Ireland		Ireland	Present Value	\$1	\$97	\$190	\$288	\$0	\$0	\$115	\$173	2.5

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