DUKE	ENERGY	OHIO	EXHIBIT	
DUNE	DIEROI	OHU	CAUIDII	

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Duke)	
Energy Ohio, Inc. to for Approval of its)	Case No. 16-576-EL-POR
2017-2019 Energy Efficiency Portfolio)	
Plan and to Establish the Associated Cost)	
Recovery and Incentive Mechanism to be		
Recovered through its Energy Efficiency		
Rider		

SUPPLEMENTAL TESTIMONY OF

TRISHA A. HAEMMERLE

ON BEHALF OF

DUKE ENERGY OHIO, INC.

TABLE OF CONTENTS

		<u>PAGE</u>
I.	INTRODUCTION AND PURPOSE OF TESTIMONY	1
II.	BACKGROUND	1
III.	OVERVIEW OF THE PROPOSED PORTFOLIO PLAN	2
IV.	COST EFFECTIVENESS	6
V.	CONCLUSION	8

ATTACHMENT JEZ-1

I. <u>INTRODUCTION AND PURPOSE OF TESTIMONY</u>

- 1 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
- 2 A. My name is Trisha A. Haemmerle. My business address is 139 East Fourth
- 3 Street, Cincinnati, Ohio 45202.
- 4 Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?
- 5 A. I am employed by Duke Energy Business Services, LLC (DEBS), as Senior
- 6 Manager, Strategy and Collaboration. DEBS provides various administrative and
- other services to Duke Energy Ohio, Inc., (Duke Energy Ohio or the Company)
- 8 and other affiliated companies of Duke Energy Corporation (Duke Energy).
- 9 Q. ARE YOU THE SAME TRISHA A. HAEMMERLE WHO FILED DIRECT
- 10 TESTIMONY IN THIS PROCEEDING ON JUNE 15, 2016?
- 11 A. Yes.
- 12 Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL DIRECT
- 13 TESTIMONY IN THIS PROCEEDING?
- 14 A. The purpose of my supplemental testimony is to discuss modifications to Duke
- 15 Energy Ohio's proposed new portfolio of energy efficiency and peak demand
- 16 reduction programs.

II. BACKGROUND

- 17 Q. DID DUKE ENERGY OHIO COMPLETE AN ASSESSMENT OF
- 18 **POTENTIAL STUDY?**
- 19 A. Yes. Due to the length of time associated with having this assessment performed,
- Duke Energy Ohio requested a waiver in these proceedings for Rule 4901:1-39-
- 21 04(A) and requested an October 15, 2016 due date. The Public Utilities
- Commission of Ohio (Commission) granted an extension to June 15, 2016,

1	however this earlier date did not allow enough time to have a thorough
2	assessment of potential study completed. Duke Energy Ohio requested an
3	extension to file the assessment of potential study to October 15, 2016 along with
4	the opportunity to adjust the portfolio with the results from the study, including
5	the historical performance versus the baselines. On June 13, 2016 the
6	Commission ordered the assessment of potential study to be filed on August 15,
7	2016. The Market Assessment and Action Plan (Plan) was filed on August 15,
8	2016.

III. OVERVIEW OF THE PROPOSED PORTFOLIO PLAN

- 9 Q. IS DUKE ENERGY OHIO AMENDING THE PORTFOLIO BASED ON
- 10 RECOMMENDATIONS FROM INFORMATION CONTAINED IN THE
- 11 ASSESSMENT OF POTENTIAL STUDY?
- 12 A. Yes, the purpose of this supplemental testimony is to describe changes that the
- 13 Company wishes to propose to account for any programmatic gaps identified in
- the Plan.
- 15 Q. WHAT ARE THE CHANGES TO THE PORTFOLIO THAT ARE
- 16 REQUIRED DUE TO RECOMMENDATIONS IN THE PLAN.
- 17 A. In this amended application, Duke Energy Ohio is requesting the approval of
- proposed changes to its programs and measures that are described in greater detail
- in the testimony of Company witness Kevin A. Bright. The Company is also
- submitting a supplemental version of JEZ-1 to account for the changes.

¹ In the Matter of the Application of Duke Energy Ohio, Inc., for a Waiver, Case No. 16-1017-EL-WVR, Entry (June 13, 2016).

1	Q.	AT A SUMMARY LEVEL, PLEASE DESCRIBE THE PORTFOLIO OF
2		PROGRAMS THAT THE COMPANY IS PROPOSING IN THIS
3		APPLICATION?
4	A.	Duke Energy Ohio's residential and non-residential energy efficiency portfolio
5		consists of all the programs described in its original application. The Company
6		recommends inclusion of additional measures and a new Non-Residential
7		program: Smart \$aver® Non-Residential Performance Incentive Program.
8	Q.	DID THE COMPANY SOLICIT INPUT FROM STAKEHOLDERS
9		REGARDING POTENTIAL PORTFOLIO MODIFICATIONS?
10	A.	Duke Energy Ohio regularly solicits feedback and program suggestions from
11		stakeholders as part of its Community Partnership Meetings (EE Collaborative),
12		which has helped to inform the portfolio included in this application.
13		Additionally, the Company shared the results of the Assessment of Potential with
14		this group and any modifications that it will be proposing for input and
15		suggestions during the third quarter collaborative meeting held on September 8,
16		2016. Many but not all of the intervenors in this proceeding are also members of
17		the Duke Energy Ohio Community Partnership.
18	Q.	IS THE COMPANY PROPOSING ANY MODIFICATIONS TO THE
		DECOMEDY MECHANICAL AND INCOMES THE THREE CONTRACTOR

- 19 RECOVERY MECHANISM AND INCENTIVE THAT THE COMPANY
- PROPOSED IN ITS ORIGINAL APPLICATION FILED WITH THE 20
- 21 **COMMISSION IN JUNE 2016?**
- No. Duke Energy Ohio is proposing the same cost recovery mechanism that 22 A. 23 would permit it to collect the following:

1		1.	The recovery of the actual costs incurred by Duke Energy Ohio to
2			deliver the approved portfolio of energy efficiency and demand
3			response programs, including the EM&V costs.
4		2.	The recovery of lost distribution margins from those customers not
5			included in the Company's distribution revenue decoupling pilot
6			approved in Case No. 11-5905-EL-RDR.
7		3.	The ability to earn a shared savings incentive in any year in which
8			it meets or exceeds its energy efficiency benchmark targets that are
9			required of all electric distribution utilities by Ohio law.
10		The Compan	y's shared savings incentive is calculated as a percentage of the net
11		system bene	fits (avoided costs less the program costs) generated by the
12		Company's p	ortfolio of energy efficiency and demand response programs in a
13		particular yea	r. The net system benefits will be calculated in a manner consistent
14		with the calcu	lation of the Utility Cost Test. The level of incentive, the Company
15		is requesting i	is 10% of the net system benefits on an after-tax incentive amount.
16	Q.	IS THE SHA	ARED SAVINGS INCENTIVE MECHANISM EFFECTIVE IN
17		INCENTIVI	ZING DUKE ENERGY OHIO TO OVER COMPLY WITH
18		ITS ENERG	Y EFFICIENCY BENCHMARKS IN 2017 - 2019?
19	A.	Yes. The fac	et that the shared savings mechanism only allows the Company to
20		earn a shared	savings incentive in a year that it meets or exceeds its energy
21		efficiency ben	chmark will help to ensure that the Company will continue to strive
22		to achieve as	much energy efficiency as possible and even more importantly, it
23		motivates the	e Company to maximize cost effectiveness. This mechanism

1	incentivizes the Company by allowing it to retain 10% of the net system benefits,
2	while allowing customers to retain 90% of the benefits realized through the
3	Company's portfolio of programs.

4 Q. DOES THE COMPANY BELIEVE THAT THE ITS SHARED SAVING

5 INCENTIVE SHOULD BE CAPPED?

Α.

A.

No. The Company does not believe that putting a cap on an incentive mechanism designed to motivate the utility to maximize the net benefit realized through its portfolio of programs is logical or wise. Setting an arbitrary cap, or point at which the utility should no longer share a small percentage of the net benefit realized through energy efficiency programs, has no basis and could actually serve as a disincentive to continue to attempt to maximize the net benefits. While it believes a cap is illogical, if the Commission believes that an incentive cap is necessary, the Company believes that an after-tax shared savings cap should be set at \$10 million. This cap amount would be logical as it is 50% of the currently approved shared savings cap for AEP Ohio, which is approximately twice the size of Duke Energy Ohio.

17 Q. ARE THE TERMS OF THIS PROPOSAL CONSISTENT WITH THE 18 COMMISSION'S ENERGY EFFICIENCY RULES?

Yes. As part of my responsibilities with regard to energy efficiency compliance in Ohio, it is necessary to have an understanding of the Commission's rules. One of the Commission's energy efficiency and peak demand reduction rules states that an electric utility may request recovery of an approved rate adjustment mechanism reflecting peak demand response and energy efficiency program costs,

lost distribution revenues and shared savings. Duke Energy Ohio proposes that
this recovery mechanism would be reconciled each year.

IV. <u>COST EFFECTIVENESS</u>

- 3 Q. IS DUKE ENERGY OHIO'S AMENDED ENERGY EFFICIENCY
- 4 **PORTFOLIO COST EFFECTIVE?**
- 5 A. Yes. Duke Energy Ohio's energy efficiency portfolio is cost effective. Table 1
- below provides cost effectiveness scores for each program and the overall
- 7 portfolio:

Table 1

Program/Portfolio Cost Effectiveness - 2017-2019												
Program	UCT	TRC	RIM	РСТ								
Residential Programs - EE		E SHOW OF	S NO CONTRA									
Energy Efficiency Education Program for Schools	3.22	4.51	1.56									
Home Energy Comparison Report	1.73	1.73	1.06									
Low Income Neighborhood Program	0.64	1.34	0.54									
Power Manager®	7.46	15.10	7.46									
Power Manager® for Apartments	2.08	3.14	2.08									
Residential Energy Assessments	1.44	1.58	0.90									
Smart \$aver Residential	2.19	2.11	1.10	5.35								
Low Income Weatherization - Pay for Performance	5.71	5.71	1.85									
Total	3.45	4.01	2.07	8.48								
Non-Residential Programs												
Mercantile Self-Direct	3.69	0.73	1.66	1.24								
Power Manager® for Business	3.07	4.84	2.92									
PowerShare*	2.71	10.52	2.71									
Small Business Energy Saver	3.05	1.82	1.81	2.53								
Smart \$aver Non Residential Custom	2.81	0.80	1.46	1.47								
Smart \$aver Non Residential Performance Incentive Program	3.34	1.19	1.60	2.16								
Smart \$aver Non Residential Prescriptive	2.32	1.47	1.38	2.47								
Total	2.77	1.49	1.70	2.13								
Overall Portfolio Total	3.12	2.30	1.89	3.17								

1 Q. HOW DID THE COMPANY DETERMINE COST EFFECTIVENESS?

A. The company utilized the DSMore model to determine the value of the Avoided

Costs of each measure and compared these benefits with the expected program

costs, including EM&V and any PJM credits, to determine cost-effectiveness. The

Commission and Duke Energy's stakeholders are familiar with DSMore, as Duke

Energy Ohio has relied on DSMore to evaluate its Energy Efficiency and Demand

Side Management programs for over a decade.

- 1 Q. WILL A DELAY IN APPROVAL IMPACT DUKE ENERGY OHIO'S
- 2 ABILITY TO OFFER DEMAND SIDE MANAGEMENT PROGRAMS TO
- 3 ITS CUSTOMERS?
- 4 A. Yes. Duke Energy Ohio's current portfolio expires on December 31, 2016. If a
- 5 new portfolio is not approved by January 1, 2017, Duke Energy Ohio customers
- 6 will not be able to participate in the energy efficiency programs which will impact
- 7 the Company's ability to meet its annual energy efficiency benchmarks and likely
- 8 result in a high degree of customer dissatisfaction.

V. <u>CONCLUSION</u>

- 9 Q. DOES THIS CONCLUDE YOUR TESTIMONY?
- 10 A. Yes.

OHIO REVENUE REQUIREMENT (excluding Lost Revenues) WORKPAPER in \$

Discount Rate Shared Savings (Pre-tax) Shared Savings (After tax) Tax

3454	7.73%
10-0X	15.65%
=(65)	10.00%
Mileston	26 10%

March Profession \$22,776,647 \$22,776,645 \$23,776,645 \$23,776,645 \$20,776,645 \$20,776,644 \$46,607,766 \$46,607,7	Tax	36.10%				
Total Protection	Summary Revenue Remiremen	t Res from Portfolio				Total
Total Portfolio Total Ancided Cash Total Ancided Cash - Program Costs & Combred - MAC Vosts Saluda						\$66,927,165
Total Porchalds Total Ancidad Costs - Program Cost & Overhead - Program Cost & Overhead \$34,44,566 \$32,23,866 \$32,23,761 \$32,23,866 \$32,23,761 \$32,23,866 \$32,23,761 \$32,23,866 \$32,23,867 \$32,23,23,867 \$32,23,23,23,23,23,23,23,23,23,23,23,23,2						\$73,760,237
Total Novinesia Sept. Se			\$47,730,444	340,087,440	\$46,241,512	\$140,687,401
Total Provision Total Anchorided Casts \$93,146,666 \$93,223,772 \$23,235,772			1	2	3	Yotal
MAY COSTS	Total Portfolio		\$93,214,666			\$271,700,523
Shared Servings						\$107,567,349
### 1.00 1.00						\$4,926,273
Utility Patre						\$159,206,901
# Program Cost & Overhead Recovery						15.6%
# MAY COST Recovery		+ Program Cost & Overhead Recovery				\$24,915,788 \$110,839,341
Total Revenue Requirement		+ M&V Cost Recovery				\$4,932,273
American American Sign		Total Revenue Requirement				\$140,687,401
### Res EE						
Avoided Costs: Capatly	Day St.	hundred Cooks, TOD				Total
Avoided Corts: Capacity 57,996,7423 57,967,723 57,967,967,723 57,967,967,967,967,967,967,967,967,967,96	Nes LL					\$26,420,260
PIM Credits						\$48,303,629
Total Avoided Costs						\$22,831,592
- Program Caths & Overhead - MAV Corbs - MAV Corbs - Sept. A 151,515,006 5 151,481,127 1 151,4869,000 151,600,123 1 151,600,123		Total Avoided Costs				\$1,261,532 \$98,817,013
- MAV Corts						\$45,865,961
Shared Swings			\$894,742			\$2,369,951
Dillity Sharing Rate 15.6% 15.0%						\$50,581,102
# Program Cost & Overhead Recovery \$15,515,005 \$15,481,127 \$7,485,305 \$35, 481,127 \$7,485,305 \$35,481,127 \$7,485,305 \$35,481,127 \$35,481,1					15.6%	15.6%
**MAV CORT Recovery						\$7,915,913
Total Revenue Requirement \$13,210,725 \$19,083,096 \$17,850,005 \$58		+ M&V Cost Recovery				\$45,865,961
NonRes EE						\$2,369,951
MonRes EE			415,610,723	\$12,003,036	\$17,858,003	\$56,151,824
Avoiled Costs: Teaty Avoiled Costs: Cenery A			1	2	3	Total
Avoided Costs: Capacity	NonRes EE					\$27,348,581
PIM Credits						\$62,718,905
Total Avoided Costs						\$28,335,043
- Program Costs & Overhead						\$1,029,348
- M&V Costs						\$119,431,877
Shared Savings						\$45,914,299 \$1,421,581
Res DR						\$72,095,996
+ Program Cost & Overhead Recovery + M&V Cost Recovery - M&V Cost			15.6%			15.6%
+ M&V Cost Recovery \$432,507 \$506,565 \$316,388 \$1. Total Revenue Requirement \$20,706,300 \$20,509,237 \$20,691,317 \$61. Res DR Avoided Costs: T&D \$4,521,551 \$4,881,461 \$5,213,019 \$14. Avoided Costs: Capacity \$4,767,685 \$5,662,505 \$5,361,133 \$14. Total Avoided Costs (\$5,361,133 \$14. Avoided Costs: Capacity \$4,767,685 \$5,662,505 \$5,361,133 \$14. Total Avoided Costs \$9,289,236 \$9,943,966 \$10,974,152 \$29. Program Costs & \$9,289,236 \$9,943,966 \$10,974,152 \$29. Program Costs & \$270,000 \$175,000 \$275,000 \$7. Shared Savings \$56,844,676 \$7,643,643 \$8,074,812 \$22. X Utility Sharing Rate \$15,6%					\$3,702,445	\$11,282,982
Total Revenue Requirement \$20,700,300 \$20,00,287 \$20,681,317 \$61,						\$49,186,291
Res DR						\$1,427,581 \$61,896,854
Avoided Costs: T&D \$4,\$23,\$51 \$4,\$83,\$61 \$5,\$213,019 \$34,\$62 \$4,767,865 \$5,\$62,505 \$5,\$61,313 \$15,\$62 \$1,574,\$62 \$5,662,505 \$5,861,313 \$15,\$62 \$1,574,\$62 \$5,662,505 \$5,861,313 \$15,\$62 \$15,574,\$62 \$5,662,505 \$5,861,313 \$15,574 \$1,575,000 \$1,575,000 \$2,575,000 \$1,575,000 \$2,575,000 \$1,575,000 \$2,575,000 \$1,575,000 \$2,575,000 \$1,575,000 \$2,575,000 \$1,575,000 \$2,575,000 \$1,575,000 \$2,575,000 \$1,575,000 \$1,575,000 \$2,575,000 \$1,575,000 \$1,575,000 \$2,575,000 \$1,575,000 \$1,575,000 \$1,575,000 \$1,575,000 \$1,575,000 \$1,575,000 \$1,575,000 \$1,575,0						
Avoided Costs: Capacity \$4,767,685 \$5,062,505 \$5,3661,133 \$15, Total Avoided Costs: Capacity \$4,767,685 \$5,062,505 \$5,3661,133 \$15, Program Costs & Overhead \$5,2174,565 \$2,526,505 \$5,3661,133 \$15, Program Costs & Overhead \$5,2174,565 \$2,25,232 \$22,24339 \$6, M&V Costs \$270,000 \$175,000 \$275,000 \$5,074,182 \$22,000 \$175,000 \$275,000 \$5,074,182 \$22,000 \$175,000 \$275,000 \$5,074,182 \$22,000 \$175,000 \$275,000 \$1,074,188 \$1,196,226 \$1,263,703 \$3, VIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Res DR	Avoided Costs: T&D				Total
Total Avoided Costs						\$14,616,032
Program Costs & Overhead \$2,174,561 \$2,125,323 \$2,224,339 \$56,		Total Avoided Costs				\$15,191,323 \$29,807,354
- M&V Costs Shreed Savings Scheduler Shreed Savings Scheduler Shreed Savings Scheduler Shreed Savings Scheduler Strip Shreed Savings Scheduler Strip Shreed Savings Scheduler Strip Shreed Savings Strip Strip Strip Strip Strip Horgram Cost & Overhead Recovery Strip Shreed Savings Avoided Costs: T&D Avoided Costs: T&D Avoided Costs: Capacity Scheduler Scheduler Strip Shreed Savings Scheduler Scheduler Strip Shreed Savings Shreed Savings Shreed Savings Shreed Savings Shreed Savings Strip Savings St						\$6,524,223
Shared Savings \$6,844,676 \$7,643,643 \$8,074,812 \$22,			\$270,000			\$720,000
Noting Sharing Rate 15,6%					\$8,074,812	\$22,563,131
+ Program Cost & Overhead Recovery \$2,174,561 \$2,125,323 \$2,224,339 \$6, + M&V Cost Recovery \$2,70,000 \$175,000 \$2,75,000 \$5,						15.6%
+ M&V Cort Recovery						\$3,531,117
Total Revenue Requirement \$3,515,748 \$3,496,549 \$3,765,043 \$10.0						\$6,524,223
NonRes DR						\$720,000 \$10,775,340
Avoided Corts: T&D Avoided Corts						
Avolded Corts: Capacity \$4,551,511 \$3,536,865 \$4,033,822 512. Total Avolded Corts \$9,835,540 \$5,008,117 \$7,828,621 \$23, Program Coats & Overhead \$3,426,445 \$2,796,365 \$3,040,057 \$6,008,177 \$7,828,621 \$23, M&V Cost \$59,144 \$1,188,160 \$1,674,377 \$4,008,177 \$1,008	MonRes DR	Avoided Costs: T&D				<u>Total</u> \$11,522,081
Total Avoided Costs \$8,833,540 \$5,908,117 \$7,882,621 \$23,1 Program Costs & Overhead \$3,426,444 \$2,796,365 \$3,040,057 \$9,2 - M&V Cost \$59,144 \$188,160 \$167,437 \$,5 Shared Savings \$5,967,952 \$3,923,593 \$4,675,127 \$13,1 X Utility Sharing Rate \$15,6% 15,6%						\$12,122,198
Program Costs & Overhead \$3,426,444 \$2,796,365 \$3,040,057 \$9;						\$23,644,279
- M&V Cost						\$9,262,866
\$1,367,952 \$3,923,593 \$4,675,127 \$13,1					\$167,437	\$414,741
Utility Share \$840,081 \$614,040 \$731,655 \$2,1 + Program Cost & Overhead Recovery \$3,426,444 \$2,796,365 \$3,040,057 \$9,2 + M&V Cost Recovery \$59,144 \$188,160 \$167,437 \$4 Total Benefit \$59,144 \$188,160 \$167,437 \$4						\$13,966,672
+ Program Cost & Overhead Recovery \$3,426,444 \$2,796,365 \$3,040,057 \$4,004,057 \$59,144 \$1,786,365 \$3,040,057 \$4,057 \$59,144 \$1,786,365 \$1,600 \$1,67,437 \$4,057 \$1,0						15.6%
+ M&V Cost Recovery 559,144 518,160 5167,437 57, Total Security 559,144 518,160 5167,437 57, Total Security 559,144 518,160 5167,437 57, Total Security 559,144 518,160 5167,437 51, Total Security 559,144 518,160 5167,437 51						\$2,185,776
Total Savanna Samilar and						\$9,262,866
						\$414,741
		5105-1000	y=,323,670	43,330,304	43'A3A'T4A	\$11,863,383

OHIO REVENUE REQUIREMENT (excluding Lost Revenues) WORKPAPER in \$

Discount Rate Shared Savings (Pre-tax) Shared Savings (After tax) Tax

Summary Revenue Requirement	Res from Portfolio	<u>1</u> \$18,854,329	<u>2</u> \$18,753,793	\$ \$17,872,013	<u>Total</u> \$55,480,135
	NonRes from Portfolio	\$20,271,743	\$19,833,369	\$20,186,367	\$60,291,479
	Total styling and real strate, an allowant and an extra	\$39,126,072	\$38,587,161	\$38,058,380	\$115,771,613
		1	2	3	<u>Total</u>
Total Portfolio	Total Avoided Costs	\$93,214,666	\$89,252,884	\$89,232,972	\$271,700,523
	- Program Costs & Overhead	\$36,401,147	\$35,481,500	\$35,684,703	\$107,567,349
	- M&V Costs Shared Savings	\$1,654,393	\$2,012,188	\$1,259,692	\$4,926,273
	>nared savings x Utility Sharing Rate	\$55,159,126	\$51,759,197	\$52,288,578	\$159,206,901
	Utility Share	0.0% \$0	0.0% \$0	0.0%	0.0%
	+ Program Cost & Overhead Recovery	\$37,469,679	\$36,572,974	\$0 \$36,796,688	\$0 \$110,839,341
	+ M&V Cost Recovery	\$1,656,393	\$2,014,188	\$1,261,692	\$4,932,273
	Total Revenue Requirement	\$39,126,072	\$38,587,161	\$38,058,380	\$115,771,618
		1	2	3	Total
Res EE	Avoided Costs: T&D	\$9,100,203	\$8,859,369	\$8,460,688	\$26,420,260
	Avoided Costs: Energy	\$16,579,204	\$16,140,697	\$15,583,727	\$48,303,629
	Avoided Costs: Capacity	\$7,995,423	\$7,627,152	\$7,209,016	\$22,831,592
	PJM Credits	\$632,494	\$629,038	\$0	\$1,261,532
	Total Avoided Costs	\$34,307,325	\$33,256,257	\$31,253,431	\$98,817,013
	- Program Costs & Overhead - M&V Costs	\$15,515,026	\$15,481,127	\$14,869,808	\$45,865,961
	Shared Savings	\$894,742	\$972,343	\$502,866	\$2,369,951
	x Utility Sharing Rate	\$17,897,557	\$16,802,788	\$15,880,757	\$50,581,102
	Utility Share	0.0% \$0	0.0% \$0	0.0% \$0	9.0%
	+ Program Cost & Overhead Recovery	\$15,515,026	\$15.481.127	\$14,869,808	\$0 \$45,865,961
	+ M&V Cost Recovery	\$894,742	\$972,343	\$502,866	\$2,369,951
	Total Revenue Requirement	\$16,409,768	\$16,453,469	\$15,372,674	\$48,235,911
		1	2	3	<u>Total</u>
NonRes EE	Avoided Costs: T&D	\$9,486,484	\$8,994,218	\$8,867,878	\$27,348,581
	Avoided Costs: Energy	\$20,996,154	\$20,334,979	\$21,387,772	\$62,718,905
	Avoided Costs: Capacity	\$9,765,842	\$9,302,083	\$9,267,118	\$28,335,043
	PJM Credits	\$516,084	\$513,264	\$0	\$1,029,348
	Total Avoided Costs	\$40,764,565	\$39,144,544	\$39,522,768	\$119,431,877
	- Program Costs & Overhead - M&V Costs	\$15,285,116	\$15,078,685	\$15,550,498	\$45,914,299
	Shared Savings	\$430,507	\$676,686	\$314,388	\$1,421,581
	x Utility Sharing Rate	\$25,048,942 0.0%	\$23,389,173 0.0%	\$23,657,881 0.0%	\$72,095,996
	Utility Share	\$0	\$0	\$0	0.0%
	+ Program Cost & Overhead Recovery	\$16,353,648	\$16,170,159	\$16,662,484	\$49,186,291
	+ M&V Cost Recovery	\$432,507	\$678,686	\$316,388	\$1,427,581
	Total Revenue Requirement	\$16,786,155	\$16,848,844	\$16,978,872	\$50,613,872
Res DR	Avoided Costs: T&D	1 \$4,521,551	<u>Z</u> \$4,881,461	<u>3</u>	Total
	Avoided Costs: Capacity	\$4,767,685	\$5,062,505	\$5,213,019 \$5,361,133	\$14,616,032 \$15,191,323
	Total Avoided Costs	\$9,289,236	\$9,943,966	\$10,574,152	\$29,807,354
	Program Costs & Overhead	\$2,174,561	\$2,125,323	\$2,224,339	\$6,524,223
	- M&V Costs	\$270,000	\$175,000	\$275,000	\$720,000
	Shared Savings	\$6,844,676	\$7,643,643	\$8,074,812	\$22,563,131
	x Utility Sharing Rate	0.0%	0.0%	0.0%	0.0%
	Utility Share	\$0	\$0	\$0	\$0
	+ Program Cost & Overhead Recovery + M&V Cost Recovery	\$2,174,561	\$2,125,323	\$2,224,339	\$6,524,223
	Total Revenue Requirement	\$270,000 \$2,444,561	\$175,000	\$275,000	\$720,000
		1	2	3	Total
NonRes DR	Avoided Costs: T&D	\$4,302,029	\$3,371,252	\$3,848,800	\$11,522,081
	Avoided Costs: Capacity	\$4,551,511	\$3,536,865	\$4,033,822	\$12,122,198
	Total Avoided Costs	\$8,853,540	\$6,908,117	\$7,882,621	\$23,644,279
	Program Costs & Overhead	\$3,426,444	\$2,796,365	\$3,040,057	\$9,262,866
	- M&V Cost	\$59,144	\$188,160	\$167,437	\$414,741
	Shared Savings x Utility Sharing Rate	\$5,367,952	\$3,923,593	\$4,675,127	\$13,966,672
	Utility Share	0.0%	0.0%	0.0%	0.0%
	+ Program Cost & Overhead Recovery	\$0	\$0	\$0	\$0
	+ M&V Cost Recovery	\$3,426,444 \$59,144	\$2,796,365 \$188,160	\$3,040,057	\$9,262,866
	Total Revenue Requirement	\$3,485,588	\$2,984,524	\$167,437	\$414,741
	· · · · · · · · · · · · · · · · · · ·	\$2,463,388	44,744,344	\$3,2U7,4¥4}	\$9,677,607

tering time telested longitudes Distributes bloomings to bring		- HE HILLION	la la	1 1	- 4.5 line.		<u></u>	-	7			1	1	-		For sa	n 1		1	Milhan	i i i	-		-	_		-	-pa	1 10	9 🖵	T	,	>=	- April 1	7	- 147	i
Minth Design Consession Assessed 1600-680-690-690-690-690-690-690-690-690-690-69			MORPH COLMIN COLMIN COLMIN SCHOOL SCH			San San San San San San San	1 50;		1 40		-			of SENS	1 1	1 - 35 1	£#		VALUE I VALUE I VALUE I VALUE I VALUE I VALUE I	1000 H	MUM I UNION I UNION I UNION I UNION I	A GOT, AND MARIANDE A SINGARA A SINGARA A SINGARA MARIANDE MARIAND	2 Later of L	1,00,00	LIMITAR (UNIVERSITY) OFFICE (UNIVERSITY)	LPLES COLUM PRESS LIMINA LIMIN	100	PROPERTY OF THE PROPERTY OF T	MARIN I MAN			NAME OF THE PARTY	10.00 1 0 10.00	MAN 5 PROPER I	TV, 1 1,000		
The Park Street St.	-	·			<u>, i</u>	- 10	4. 4		VICE N	-		1621	7.00	- 20	i -10	-		**	(4,6)	Lebaur 1 Jil 105 1	100	Leading Leading	1330	100	Lucio I Lucio I	Return Return	1 1000	LOUIS I	201 20	- 12	1 201	AB 1		No. 1. compa	201 10	_	
Service and the service servic			A TOUR	10 A	. ,			3.51	- 1 Hard		-			AC SECURE	1 mt	32	1	10.00 (10	UNIAN I	1000 I	1000	100	100	titoes s	Union I	10,00 R. 10,00 R. 10,00 R. 10,00 R. 10,00 R. 10,00 R. 10,00	Listrate 1	TOTAL S	ADD I UNIO	1 194	COLOR D	MAN D C	TOTAL STATE	Rich 6 NUMB I FLOR 6 LUMBER 0 RUDE 1 LUMBER 1 RUDE 1 MARIE 1 RUDE 1 LUBRAN 1 RUDE 1 LUBRAN 1	PART I SEA		
Print State of the Description o			GENERAL STREET		- <u>- 3</u> J.	-	3 47 3			1			201253	(2) (2) (2) (3) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4		/WH !	A))	(A)	1201		2350H 1			(00) (00)		100	1 200	100	55 150	1 101	1 125	1001 6	33 1 1	ton : more :	Mayor I was		
	FEGURA CINE		20.0°	al -					-	٠.	uo i	raio s	zm+1	- GRI-	1 10-1	1471	16.1	- (4.)	-1/28/1	15-57	- 1817	1376			+					1 (40	11 12 11	(55 t)	-2 -1 -1.	15 L115	12:51-875	ŀ	

Total Services

and from the control of the state of the sta

PUCO Case No. 15-676-EL-POR Supplemental Attachment JEZ-1 Page 4 of 6

OHIO LOST REVENUE ESTIMATE WORKPAPER in \$

Line Losses 7.2%

SUMMARY		Res	1	2	1	4	2	£ [Total
Half-Year Convention		NonRes	0 409,199	0 1,222,799	0	0	0	0	
		Total	409,199	1,222,799	2,068,312	2,100,203	1,286,556	441,066	7,528
				aterest, an	2,000,312	2,100,203	1,449,336	441/068	7,328,
SUMMARY		_	1	2	2	4	3	Total	
Jan. 1 Start		Res	0	0	0	0	0	0	
Jan. 1 scare		NonRes Total	818,399	1,627,199	2,509,426	1,690,980	882,132	7,528,136	
		iotai	818,599	1,627,199	2,509,426	1,690,980	802,192	7,528,136	
Res EE	Vintage		1	2		4	a I	Iotal	
	1	Lost Revenues	_ 0	_ 0	- 0	- 0	- 0	10000	
	2	Lost Revenues	٥	0	ō	ō	ől	ō	
	3	Lost Revenues	0	0	0	0	ō	ō	
		Last Revenues	0	0	0	. 0	0	0	
	Vintage		1	2	3	4	s 1	Total	
	1	KWH at Meter, Net FR	128,753,177	17,477,606	37,477,606	- 0	- 0	203,708,388	
	2	KWH at Meter, Net FR	C	128,584,928	36,735,019	36,735,019	ő	202,054,967	
	3	KWH at Meter, Net FR	Q	0	127,391,880	15,451,699	35.451.699	198,295,278	
		KWH at Mater, Net FR	128,753,177	166,062,534	201,604,305	72,186,718	35,451,699	604,058,833	
	Vintage		1	2	3	4	5 1	Total	
	1	Calculated \$/KWH	\$0.000000	\$0.000000	\$0.000000	\$0.000000	\$0.000000	\$0.000000	
	2	Calculated \$/KWH	\$0.000000	\$0.000000	\$0,000000	\$0.000000	\$0.000000	\$0.000000	
	3	Calculated S/KWH	\$0.000000	\$0.000000	\$0.000000	\$0.000000	\$0.000000	\$0.000000	
		Calculated \$/KWH	\$0.000000	\$0.00000	\$0.000000	\$0.000000	\$0.000000	\$0,000000	
VonRes EE	Vintage		1	2	1	4	a l	Total	
	1	Lost Revenues	818,399	818,399	816,029	- 0	- 0	2,452,827	
	2	Lost Revenues	D	808,800	808,800	806.383	اه	2,423,983	
	3	Lost Revenues	0	0	884,597	884,597	882,132	2,651,326	
		Last Revenues	818,399	1,627,199	2,509,426	1,690,980	682,132	7,528,136	
	Vintage		1	2	3	4	s 1	Total	
	1	KWH at Meter, Net FR	65.130.760	55,130,760	34,942,208	0	(1	195,203,728	
	2	KWH at Meter, Net FR	a	64,166,869	64,366,869	64,174,545	ð	192,908,282	
	3	KWH at Meter, Net FR		a	70,399,036	70.399,036	70,202,866	211,000,938	
		KWH at Meter, Net FR	65,130,760	129,497,629	199,708,112	134,579,581	70,202,866	599,112,948	
	Vintage		1	2	3	4	5	Total	
		Calculated \$/KWH	\$0.012565	\$0.012565	\$0.012565	\$0.012565	\$0.012565	\$0.012565	
	2	Calculated \$/KWH	\$0.012565	\$0.012565	\$0.012565	\$0.012565	\$0.012565	\$0.012565	
		Calculated S/KWH Calculated S/KWH	\$0.012565 \$0.012565	\$0.012565	\$0.012565	\$0.012565	\$0.012565	\$0.012565	

Workpaper Notes:
Lost Revenues have been shown for 36 months.
The Lost Revenue and KWH shown assume a Jan 1 start date for all perticipants. In practice, participation for lost margins would be tracked on a monthly basis.

OHIO LOST REVENUE ESTIMATE WORKPAPER in \$

Line Losses 7.2%

Res LR\$/KWH Non- Res LR\$/KWH 0.012565

SUMMARY			1	2	3		_	
Half-Year Conven	tion	NonRes EE Lost Revenues	\$409,199	\$1,222,799	\$2,068,912	\$2,100,203	\$1,286,556	\$441,066
				***************************************	V-to-of-nz	74,100,103	31,200,330	3441'neef
SUMMARY			1	_				
Jan 1 start		NonRes EE Lost Revenues	\$818,399	\$1,627,199	\$2,509,426	\$1,690,980	5 \$882,132	Total \$7,528,136
			*******	41,021,122	443031420	\$1,090,900	\$005,132	\$7,528,186
NonRes EE	Vintage							
INDIINES EE	1	Lost Revenues	<u>1</u> \$818,399	2	3	4	5	Total
	2	Lost Revenues	50	\$818,399 \$808,800	\$816,029 \$808,800	\$0	\$0	\$2,452,827
	3	Lost Revenues	. \$0	\$00,000	\$884,597	\$806,383 \$884,597	\$0	\$2,423,983
		Lost Revenues	\$818,899	\$1,627,199	\$2,509,426	\$1,690,980	\$882,132 \$882,132	\$2,651,326
						44,020,000	4002,132	47,320,X30
	Vintage	MARIE - A A A - A - A - A - A - A - A - A -	1	2	a	4	5	Total
	1 2	KWH at Meter, Net FR KWH at Meter, Net FR	55,130,760	65,130,760	64,942,208	0	_ 0	195,203,728
	3	KWH at Meter, Net FR	0	64,366,869	54,356,869	64,174,545	٥	192,908,282
	-	KWH at Meter, Net FR	65,130,760	129,497,629	70.399.036	70,399,036	70,202,866	211,000,938
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	03,130,100	123,437,029	199,708,112	134,573,561	70,202,866	599,112,948
NonRes EE								
Small Business Ene								
	Vintege		1	2	3	4	5 1	Total
	1	Lost Revenues	\$277,004	\$277,004	\$277,004	\$0	\$0	\$831,011
	2 3	Lost Revenues Lost Revenues	\$0	\$267,760	\$267,760	\$267,760	\$0	\$803,279
	3	Lost Revenues	\$0	\$0	\$236,437	\$236,437	\$236,437	\$709,311
			\$277,004	\$544,763	\$781,200	\$504,197	\$286,437	\$2,343,601
	Vintage		1	2				Tabel
	1	KWH at Meter, Net FR	22,044,826	22,044,826	<u>3</u> 22,044,826	4 0	5 0	<u>Total</u> 66,134,479
	2	KWH at Meter, Net FR	0	21,309,172	21,309,172	21,309,172	ő	63,927,516
	3	KWH at Meter, Net FR	0	. 0	13,816,404	18,816,404	18,816,404	56,449,213
		KWH at Meter, Net FR	22,044,826	43,353,998	62,170,403	40,125,577	18,816,404	186,511,209
imart \$aver Non Ri	acidential co	num.						
	Vintage	ern .		_	_			
	1	Lost Revenues	<u>1</u> \$237,468	<u>2</u> \$237,468	3	4	5	Total
	2	Last Revenues	\$237,466	\$197,099	\$237,468 \$197,099	\$0	\$0	\$712,405
	3	Lost Revenues	\$0	\$257,035	\$203,012	\$197,0 9 9 \$203.012	\$0 \$203,012	\$591,296
		Lost Revenues	\$237,468	\$434,567	\$637,579	\$400,110	\$203,012	\$609,035
					V	4.004000	Accolott	42/024/131
	Vintage		1	2	3	4	5	<u>Total</u>
	1 2	KWH at Meter, Net FR	18,898,487	18,898,487	18,898,487	0	0	56,695,462
	3	KWH at Meter, Net FR KWH at Meter, Net FR	0	15,685,744	15,685,744	15,685,744	o l	47,057,233
	•	KWH at Meter, Net FR	18,898,487	0	16,156,317	16,156,317	16,156,317	48,468,950
			10,030,467	34,584,232	50,740,549	31,842,061	16,156,317	152,221,646
mart \$aver Non Re	sidential Presc	riptive						
	Vintage		1	2	3	4	5	Total
	1	Lost Revenues	\$296,829	\$296,829	\$294,460	\$o	\$0	\$888,118
	2	Lost Revenues	\$0	\$303,614	\$303,614	\$301,197	\$0	\$908,425
	3	Lost Revenues	\$0	\$0	\$310,711	\$310,711	\$308,246	\$929,668
		Lost Revenues	\$296,829	\$600,443	\$908,785	\$611,908	\$308,246	\$2,726,211
	Vintage				_			
	1	KWH at Meter, Net FR	1 /3,672,603	23,622,603	27 474 050	4	5	<u>Total</u>
	2	KWH at Meter, Net FR	15,522,005	24,162,547	23,434,050 24,162,547	0 23,970,224	0	70,679,255
		KWH at Meter, Net FR		9	24,727,374	24,727,374	24,531,204	72,295,318 73,985,953
		KWH at Meter, Net FR	23,622,603	47,785,150	72,323,972	48,697,598	24,531,204	216,960,526
ower Manager® for								
	Vintage	Lost Revenues	1	2	3	4	5	Total
		Lost Revenues Lost Revenues	\$734	\$734	\$734	\$0	\$0.	\$2,202
				\$7,933	\$7,933	\$7,933	\$0	\$23,799
	2		\$0		An		611 310	\$33,956
	2	Lost Revenues	\$0	\$0	\$11,319	\$11,319	\$11,319	
	2				\$11,319 \$19,986	\$11,319 \$19,25 2	\$11,319	\$59,957
	2 3 Vintage	Lost Revenues	\$0 \$794	\$0 \$8,667	\$19,986	\$19,252	\$11,319	\$59,957
	2 3 Vintage	Lost Revenues Lost Revenues KWH at Meter, Net FR	\$0	\$0	\$19,986 <u>3</u>	\$19,252 4	\$11,319	\$59,957 Total
	2 3 _ Vintage 1 !	Lost Revenues Lost Revenues (WH at Meter, Net FR (WH at Mater, Net FR	\$0 \$734 1	\$0 \$8,667 2	\$19,986	\$19,252	\$11,319	\$59,957 <u>Total</u> 175,272
	2 3	Lost Revenues Lost Revenues CWH at Meter, Net FR CWH at Meter, Net FR CWH at Meter, Net FR	\$0 \$734 1 \$3,424	\$0 \$8,667 2 58,424 631,328 0	\$19,986 <u>\$</u> 58,424 631.328 900,776	\$19,252 4	\$11,319	\$59,957 Total
	2 3	Lost Revenues Lost Revenues (WH at Meter, Net FR (WH at Mater, Net FR	\$0 \$784 1 \$3,424	\$0 \$8,667 2 58,424 631,328	\$19,986 <u>3</u> 58,424 631.328	\$19,252 4 0 631,328	\$11,319	\$59,957 Total 175,272 1,893,984
uart Sayer Man Pos	2 3 - Vintage 1 ! 2 : 3 <u> </u>	Lost Revenues CWH at Meter, Net FR	\$0 \$734 1 \$3,424	\$0 \$8,667 2 58,424 631,328 0	\$19,986 <u>\$</u> 58,424 631.328 900,776	\$19,252 4 0 681,328 900,776	\$11,319 5 0 900,776	\$59,957 <u>Total</u> 175,272 1,893,984 2,702,328
uart \$aver Non Resi	2 3 - Vintage 1 2 3 idential Perfor	Lost Revenues Lost Revenues CWH at Meter, Net FR CWH at Meter, Net FR CWH at Meter, Net FR	\$0 \$784 1 \$5,424 0 58,426	\$0 \$8,667 2 58,424 631,328 0 689,752	\$19,986 <u>3</u> 58,424 631.328 900,776 1,590,528	\$19,252 4 0 631,328 900,776 1,532,104	\$11,319 5 900,776 900,776	\$59,957 <u>Total</u> 175,272 1,893,984 2,702,328 4,771,584
nart Saver Non Resi	Vintage J J J J J J J J J J J J J	Lost Revenues CWH at Meter, Net FR	\$0 \$784 1 \$8,424 0 \$8,424	\$0 \$8,667 2 58,424 631,328 0 689,752	\$19,986 <u>3</u> 58,424 631.328 900,776 1,590,528	\$19,252 4 0 631,328 900,776 1,532,104	\$11,319 5 900,776 900,776	\$59,957 <u>Fotal</u> 175,272 1,893,984 2,702,328 4,771,564 <u>Iotal</u>
nart \$aver Non Resi	Vintage J J S S S S S S S S S S S S S S S S S	Lost Revenues Lost Revenues CWH at Meter, Net FR mence incentive Program	\$0 \$734 1 \$3,424 0 58,424	\$0 \$8,667 2 58,424 631,328 0 689,752	\$19,986 2 58,424 631.328 900,776 1,590,528 3 \$6,363	\$19,252 4 0 631,328 900,776 1,532,104 4 \$0	\$11,319 5 900,776 900,776	\$59,957 Total 175,272 1,893,984 2,702,328 4,771,564 Total \$19,090
nart \$aver Non Resi	Vintage I	Lost Revenues CWH at Meter, Net FR mance Incentive Program ost Revenues	\$0 \$784 1 \$3,424 0 \$8,424 1 \$6,363 \$0	\$0 \$8,667 2 58,424 631,328 0 689,752 2 \$6,363 \$32,395	\$19,986 2 58,424 631.326 900,776 1,590,528 2 \$6,363 \$2,395	\$19,252 4 0 631,328 900,776 1,532,104 4 \$0 \$32,395	\$11,319 5 900,776 900,776 \$0 \$0 \$0	\$59,957 Total 175,272 1,893,984 2,702,328 4,771,584 Lotal \$19,090 \$97,184
nart Saver Non Resi	Vintage J idential Perfor Vintage J idential S i	Lost Revenues Lost Revenues CWH at Meter, Net FR mance Incentive Program oost Revenues ost Revenues	\$0 \$784 1 \$3,424 0 \$8,424 1 \$6,363 \$0 \$0	\$0 \$8,667 2 \$8,424 631,328 0 689,752 2 \$6,363 \$32,395 \$0	\$19,986 2 58,424 631,328 900,776 1,590,528 2 \$6,363 \$22,395 \$123,119	\$19,252 4 0 631,328 900,776 1,532,104 4 \$0 \$32,395 \$123,119	\$11,319 5 900,776 900,776 \$0 \$0 \$123,119	\$59,957 Iotal 175,272 1,893,984 2,702,328 4,771,584 Iotal \$19,090 \$97,184 \$369,356
uart \$aver Non Resi	Vintage I	Lost Revenues Lost Revenues (WH at Meter, Net FR mance Incentive Program ost Revenues ost Revenues	\$0 \$784 1 \$3,424 0 \$8,424 1 \$6,363 \$0	\$0 \$8,667 2 58,424 631,328 0 689,752 2 \$6,363 \$32,395	\$19,986 2 58,424 631.326 900,776 1,590,528 2 \$6,363 \$2,395	\$19,252 4 0 631,328 900,776 1,532,104 4 \$0 \$32,395	\$11,319 5 900,776 900,776 \$0 \$0 \$0	\$59,957 Total 175,272 1,893,984 2,702,328 4,771,584 Lotal \$19,090 \$97,184
nart \$aver Non Resi	Vintage J Vintage J J J J J J J J J J J J J	Lost Revenues CWH at Meter, Net FR TR TR TR TR TR TR TR TR TR	\$0 \$784 1 \$3,424 0 \$8,424 1 \$6,363 \$0 \$0	\$0 \$8,667 2 58,424 631,328 0 689,752 2 \$6,363 \$32,395 \$0 \$38,758	\$19,986 2 58,424 631,328 900,776 1,590,528 2 \$6,363 \$23,395 \$123,119 \$161,877	\$19,252 4 0 631,328 900,776 1,532,104 4 \$0 \$32,395 \$123,119 \$155,513	\$11,319 5 900,776 900,776 \$0 \$0 \$123,119	\$59,957 Iotal 175,272 1,893,984 2,702,328 4,771,584 Iotal \$19,090 \$97,184 \$369,356 \$485,630
uart \$aver Non Resi	2 3 - Vintage 1 2 3 4dential Perfor Vintage 1 1 2 1 2 1 3 1 1 Vintage 1 k	Lost Revenues Lost Revenues CWH at Meter, Net FR mance Incentive Program oost Revenues oost Revenues oost Revenues Dat Revenues WH at Meter, Net FR	\$0 \$784 1 \$3,424 0 \$8,424 1 \$6,363 \$0 \$0 \$6,863	\$0 \$8,667 2 \$8,424 631,328 0 689,752 2 \$6,363 \$32,395 \$0	\$19,986 2	\$19,252 4 0 631,328 900,776 1,532,104 4 \$0 \$32,395 \$123,119 \$155,513	\$11,319 5 900,776 900,776 \$0 \$0 \$123,119	\$59,957 Iotal 175,272 1,893,984 2,702,328 4,771,584 Iotal \$19,090 \$97,184 \$369,356 \$485,630 Iotal
uart Saver Non Resi	Vintage	Lost Revenues Lost Revenues (WH at Meter, Net FR WH at Meter, Net FR CWH at Meter, Net FR CWH at Meter, Net FR mance Incentive Program oost Revenues oost Revenues oost Revenues oost Revenues WH at Meter, Net FR WH at Meter, Net FR	\$0 \$734 1 \$3,424 0 \$6,363 \$0 \$0 \$6,363	\$0 \$8,667 2 2 58,424 631,328 0 689,752 2 \$6,363 \$32,395 \$0 \$38,758	\$19,986 2 58,424 631,328 900,776 1,590,528 2 \$6,363 \$23,395 \$123,119 \$161,877	\$19,252 4 0 631,328 900,776 1,532,104 4 \$0 \$32,395 \$123,119 \$155,513	\$11,319 5 900,776 900,776 \$0 \$0 \$123,119	\$59,957 Iotal 175,272 1,893,984 2,702,328 4,771,584 Iotal \$19,090 \$97,184 \$369,356 \$485,630 Iotal 1,519,260
uart Saver Non Resi	2 3 - Vintage 1 2 3	Lost Revenues Lost Revenues CWH at Meter, Net FR mance Incentive Program oost Revenues oost Revenues oost Revenues Dat Revenues WH at Meter, Net FR	\$0 \$784 1 \$3,424 0 \$8,426 1 \$6,363 \$0 \$0 \$6,369	\$0 \$8,667 2 \$8,424 631,328 0 639,752 2 \$6,363 \$22,395 \$0 \$38,758 2 2	\$19,986 2 58,424 631,328 900,776 1,590,528 2 \$6,363 \$32,395 \$122,119 \$161,877	\$19,252 4 0 631,328 900,776 1,532,104 4 \$0 \$32,395 \$123,119 \$155,513 4	\$11,319 5 900,776 900,776 \$0 \$0 \$123,119 \$123,119	\$59,957 Iotal 175,272 1,893,984 2,702,328 4,771,584 Iotal \$19,090 \$97,184 \$369,356 \$485,630 Iotal

Workpaper Notes:
Lost Revenues have been shown for 36 months.
The Lost Revenue and KWH shown assume a Jan 1 start date for all participants. In practice, participation for lost margins would be tracked on a monthly basis.

Program/Portfolio Cost Effectiveness - 2017-2019

Program		TRC	RIM	РСТ
Residential Programs - EE	552.152085000	THESE NOVEMBER	CUIS PROBLEMS SOFT	77 SVSC 19
Energy Efficiency Education Program for Schools	3.22	4.51	1.56	****
Home Energy Comparison Report	1.73	1.73	1.06	-
Low Income Neighborhood Program	0.64	1.34	0.54	
Power Manager®	7.46	15.10	7.46	- 00
Power Manager® for Apartments	2.08	3.14	2.08	- 1
Residential Energy Assessments	1.44	1.58	0.90	
Smart Şaver Residential	2.19	2.11	1.10	5,35
Low Income Weatherization - Pay for Performance	5.71	5.71	1.85	
Total	3.45	4.01	2.07	8.48
Non-Residential Programs	· Park Tolking	STANDS TABLE	MANUEL BROWNER	SAME TO LINE
Mercantile Self-Direct	3.69	0.73	1.66	1.24
Power Manager® for Business	3.07	4.84	2.92	
PowerShare*	2.71	10.52	2.71	
Small Business Energy Saver		1.82	1.81	2.53
Smart \$aver Non Residential Custom	2.81	0.80	1.46	1.47
Smart \$aver Non Residential Performance Incentive Program	3.34	1.19	1.60	2.16
Smart \$aver Non Residential Prescriptive	2.32	1.47	1.38	2.47
Total	2.77	1.49	1.70	2.13
Overall Portfolio Total	3 12	2.30	1.89	3.17

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

10/14/2016 3:41:48 PM

in

Case No(s). 16-0576-EL-POR

Summary: Testimony Supplemental Testimony of Trisha A. Haemmerle electronically filed by Dianne Kuhnell on behalf of Duke Energy Ohio, Inc. and Spiller, Amy B. and Watts, Elizabeth H.