## **OFFICIAL COPY**

#### **INFORMATION SHEET**

PRESIDING: Commissioners Brown-Bland, Chairman Finley and Dockham, Patterson, Gray, Clodfelter and Mitchell PLACE: Dobbs Building, Room 2115, Raleigh, NC DATE: September 18, 2018 TIME: 9:47 a.m. – 10:00 a.m. DOCKET NO.: E-2, Sub 1174 COMPANY: Duke Energy Progress, LLC DESCRIPTION: Application for approval of Demand-Side Management and Energy Efficiency Cost Recovery Rider Pursuant to G.S. 62-133.9 and Commission Rule R8-69. VOLUME:

#### **APPEARANCES**

DUKE ENERGY PROGRESS, LLC: Kendrick Fentress, Esq.

FOR CAROLINA INDUSTRIAL GROUP FOR FAIR UTILITY RATES II: Warren Hicks, Esq.

FOR CAROLINA UTILITY CUSTOMERS ASSOCIATION, INC.: Robert F. Page, Esq.

FOR NORTH CAROLINA SUSTAINABLE ENERGY ASSOCIATION: Benjamin Smith, Esq.

FOR NORTH CAROLINA JUSTICE CENTER, NORTH CAROLINA HOUSING COALITION, NATURAL RESOURCES DEFENSE COUNCIL, AND SOUTHERN ALLIANCE FOR CLEAN ENERGY: David L. Neal, Esq.

FOR THE USING AND CONSUMING PUBLIC: Lucy E. Edmonson, Esq., Public Staff Heather D. Fennell, Esq., Public Staff <u>WITNESSES</u> See Attached.

#### **EXHIBITS**

See Attached.

TRANSCRIPT ORDERED BY: Fentress, Smith, Edmondson and FennellOFFICIAL CONFIDENTIAL EXHIBITS ORDERED BY: Fentress, Smith, Edmondson and FennellREPORTED BY: Kim MitchellTRANSCRIPT PAGES:TRANSCRIBED BY: Kim MitchellPREFILED PAGES:DATE TRANSCRIBED: October 5, 2018TOTAL PAGES:263

FILED

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Clerk's Office N.C. Utilities Commission

1	EXHIBITS	
2	Identified / Adm	itted
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12	Confidential Exhibit JRH-1	/210
13	Williamson Exhibits 1 - 3	/228
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15	(Confidential filed under seal)	
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NORTH CAROLINA UTILITIES COMMISSION

DATE 9/18/18
DOCKET #: E-2 SNU-1174
NAME OF ATTORNEY Kenchick C. Jantes
TITLE ASSOCIATE Verene Council
FIRM NAME Diffe Energy
ADDRESS 410 WILMARD ST.
CITY Derlen W
ZIP2760
APPEARING FOR

	 			4
	/			
APPLICANT _	COMPLAINANT	INTERVENO	R	
PROTESTANT_	 RESPONDENT	DEFENDANT		

PLEASE NOTE: Electronic Copies of the regular transcript can be obtained from the NCUC website at HTTP://NCUC.commerce.state.nc.us/docksr ch.html under the respective docket number.

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Signature:

DATE 9/18/18
DOCKET #: E-2, Sub 1173; E-2, Sub 1174; E-2, Sub 1176
NAME OF ATTORNEY Warren Hicks
TITLE AHorney
FIRM NAME Bailey & Dixon
ADDRESS PO BOX 1351
CITY Ralein
ZIP 27602

APPEARING FOR: Carolena chalestrial granp Rates 11

 APPLICANT
 COMPLAINANT
 INTERVENO
 R

 PROTESTANT
 RESPONDENT
 DEFENDANT

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Signature:

DATE Septem 1173 E-2, Sub1174, E-2, Sub 1175 DOCKET #: NAME OF ATTORNEY Benjamin Smith TITLE Egulatory Coursel FUR NOSEA FIRM NAME ADDRESS 4800 Six Forks Road. Snife 300 CITY \_ Raleigh ZIP 27689

APPEARING FOR: North Carolina Sustainable Freigy Association

 APPLICANT
 COMPLAINANT
 INTERVENO R

 PROTESTANT
 RESPONDENT
 DEFENDANT

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Signature:

DATE 09/18/18	DOCKET #:	E-2. Sub 1174
NAME AND TITLE O	F ATTORNEY Robe	rt F. Page
FIRM NAME (ris)	tage, PLC	• 3
ADDRESS 4010 Barr	ett JDr., Suit	e 205
CITY Kaleigh		7609
A		
APPEARING FOR: (V	arolina Utility (	us tomers Association Inc.
·		
APPLICANT	COMPLAINANT	INTERVENER
PROTESTANT	_ RESPONDENT	DEFENDANT
PLEASE NOTE: EL	ectronic Copies	of the regular
Uranscript can p	e obtained from	the NCUC web site at
the respective d	erce.state.nc.us	/docksrch.html under
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transcript. The	re will be a cha	rge of \$5.00 for each
emailed copy. Pl-	ease indicate yo <sup>.</sup>	ur name, phone number
and email below.		¢ (
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regular transcri	pt (assuming a c	onfidentiality
agreement has be	en signed). Thi	s will be mailed.
Name:		
Phone #:	· <u> </u>	• •
Email:	<u> </u>	
	•	
signature:		

\*\*\*PLEASE SIGN BELOW IF YOU HAVE SIGNED A CONFIDENTIALITY AGREEMENT. CONFIDENTIAL PORTIONS OF TRANSCRIPT WILL ONLY BE PROVIDED UPON SIGNATURE!\*\*\*

Signature:

DATE9/18/2.18	
DOCKET #: $E - 2$ Sub 1174	
NAME OF ATTORNEY David L. Neal	
TITLE Service Attorney	-
FIRM NAME Southern Environmental Law Center	-
ADDRESS 60/ W/ Rosemary St ste 220	_
CITY <u>Chapel Hill</u> , NC	-
ZIP 275/6	_

 APPEARING FOR:
 NC Justice (enter NC Housing Conlined, Natural

 Resources
 Defense Council, and Southern Alliance for Clean Energy

 APPLICANT
 COMPLAINANT

 PROTESTANT
 COMPLAINANT

 DEFENDANT
 DEFENDANT

 PLEASE
 NOTE:

transcript can be obtained from the NCUC website at HTTP://NCUC.commerce.state.nc.us/docksr ch.html under the respective docket number.

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Signature:

#### NORTH CAROLINA UTILITIES COMMISSION PUBLIC STAFF - APPEARANCE SLIP

DATE September 18, 2018 DOCKET #: E-2, Sub 1174

PUBLIC STAFF MEMBER Lucy E. Edmondson & Heather D. Fennell

ORDER FOR TRANSCRIPT OF TESTIMONY TO BE **EMAILED** TO THE PUBLIC STAFF - PLEASE INDICATE YOUR DIVISION AS WELL AS YOUR EMAIL ADDRESS BELOW:

ACCOUNTING
WATER
COMMUNICATIONS
ELECTRIC
GAS
TRANSPORTATION
ECONOMICS
LEGAL lucy.edmondson@psncuc.nc.gov & heather.fennell@psncuc.nc.gov
CONSUMER SERVICES

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Number of copies of confidential portion of regular transcript (assuming a confidentiality agreement has been signed). Confidential pages will still be received in paper copies.

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#### Duke Energy Progress, LLC Docket No. E-2, Sub 1174 Summary of 2019 DSM/EE Rates

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		cents/kWh		
	Source:	Rate	Reg Fee	<b>Billing Rate</b>
Residential Rate				;
EMF Rate - DSM	Miller Exhibit 2, page 5	0.009	0.000	0.009
EMF Rate - EE	Miller Exhibit 2, page 4	-0.006	0.000	-0.006
Projected Rate - DSM	Miller Exhibit 2, page 2	0.120	0.000	0.120
Projected Rate - EE	Miller Exhibit 2, page 1	0.530	0.001	0.531
Total Residential Rate		0.653		0.654
General Service				
EE EMF Rate	Miller Exhibit 2, page 4	0.122	0.000	0.122
EE Projected Rate	Miller Exhibit 2, page 1	0.684	0.001	0.685
Total General Service EE Rate		0.806		0.807
DSM EMF Rate	Miller Exhibit 2, page 5	-0.018	0.000	-0.018
DSM Projected Rate	Miller Exhibit 2, page 2	0.062	0.000	0.062
Total General Service DSM Rate		0.044		0.044
Lighting EE Rate				
Lighting EE EMF Rate	Miller Exhibit 2, page 4	0.001	0.000	0.001
Lighting EE Projected Rate	Miller Exhibit 2, page 1	0.099	0.000	0.099
Total Lighting EE Rate	ž Ž	0.100		0.100

Miller Exhibit 2 page 1 of 7

#### DUKE ENERGY PROGRESS, LLC Docket No. E-2, Sub 1174 Energy Efficiency Rate Derivation

			EE Revenue Requirements											
		Rate Class	-					1	Non-DSDR		-			
		Energy						Al	located A&G	DS	DR Allocated			
	Adjusted NC Rate	Allocation	1	Residential				a	nd Carrying		A&G and		Total of	
NC Rate Class	Class kWh Sales	Factor <sup>(2)</sup>	Programs <sup>(3)</sup>		CIG Programs (4)		DSDR <sup>(5)</sup>		Costs <sup>(6)</sup>	Car	rrying Costs <sup>(7)</sup>	Allocated Costs		Total EE Rate
	(†)	(2)		(3)		(4)	(5)		(6)		(7)	(8)	= Σ (3 lhru 7)	(9) = (8) / (1)
Residential	15,740,238,953	60.65%	s	61.089.894	s	-	S 14.597,379	S	6,829,356	S	977,130	S	83,493,759	0.530
General Service	9,852,771,378	37. <del>9</del> 6%	s	-	s	52,049,316	S 9,137,386	s	5,609,117	S	611,645	\$	67,407,463	0.684
Lighting	361,265,217	1.39%	<u> </u>	-	\$	<u> </u>	<u>\$ 335,035</u>	<u>    s</u>		<u> </u>	22,427	\$	357,461	0.099
NC Retail	25.954.275.548	100%	s	61.089.894	s	52,049,316	S 24,069,799	s	12,438,473	S	1,611,202	<b>\$</b> 1	151,258,684	

NOTES:

(1) Rate Class Sales, excluding "Opt-Out" sales, are derived in Miller Exhibit 6

(2) Rate Class Energy Allocation Factor is derived in Miller Exhibit 5, page 5, column (4).

(3) Residential Program costs are allocated solely to the Residential Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.

(4) Non-Residential Program costs are allocated solely to the General Service Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.

(5) DSDR Costs allocated using the Rate Class Energy Allocation Factor from column (2) in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.

(6) Non-DSDR A&G and Carrying Costs are allocated on the basis of Non-DSDR revenue requirements (excluding incentives and net lost revenues).

(7) DSDR A&G Costs and Carrying Costs are allocated using the Rate Class Energy Allocation Factor from column (2).

Pease note: Exhibit may not foot due to rounding

Miller Exhibit 2 Page 2 of 7

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#### DUKE ENERGY PROGRESS, LLC Docket No. E-2, Sub 1174 Demand-Side Management Rate Derivation

NC Rate Class			DSM Revenue Requirements										
	Rate Cl Adjusted NC Demai Rate Class kWh Allocat Sales <sup>(1)</sup> Factor		EnergyWise Program Costs <sup>(3)</sup>	CIG DR Program <sup>(4)</sup>	Allocated A&G Costs <sup>(5)</sup>	Allocated Carrying Costs <sup>(5)</sup>	Total of Allocated Costs	Total DSM Rate					
	(1)	(2)	(3)	(4)	(5)	(6)	(7) = Σ (3 thru 6)	(8) = (7) / (1)					
Residential	15,740,238,953	67.12%	\$15,819,687	\$-	\$ 538,120	\$ 2,475,417	\$ 18,833,224	0.120					
General Service	9,737,467,991	32.88%	\$-	\$ 4,835,895	\$ 222,164	\$ 1,021,980	\$ 6,080,039	0.062					
Lighting	360,425,890	0.00%		<u> </u>	<u>\$ -</u>	<u> </u>	_\$	-					
NC Retail	25,838,132,834	100.00%	\$15,819,687	\$ 4,835,895	\$ 760,284	\$ 3,497,397	\$ 24,913,263						

#### NOTES:

(1) Rate Class Sales, excluding "Opt-Out" sales, are derived in Miller Exhibit 6,

(2) Rate Class Demand Allocation Factor is derived in Miller Exhibit 5, page 6, column (5).

(3) EnergyWise costs are directly assigned solely to the Residential Rate Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.

(4) CIG DR Program costs are directly assigned solely to the General Service Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15. (5) A&G and Carrying Costs are allocated on the basis of revenue requirements (excluding incentives and net lost revenues).

Please note: Exhibit may not foot due to rounding.

#### Miller Exhibit 2 page 3 of 7

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#### Docket No. E-2, Sub 1174 Rate Period Revenue Requirement Summary - NC Level January 2019 - December 2019

					_				NORINCARC	LINA JURISDIL	HUNALLY ALL	JUAIED KEI	AIL CUSTS ONI	т					
											lotome Three	ficine			Income Texas	Ray Record			
					42.6	Capitalized OS M	Amortivation of	Amortization of	Prior Petiod	OSOR Canital		Property	DEDR	Carning Costs	on Chroning	Bafora BBI R	N	Program	Reu Segmi 19/th
			D&M	Insurance	Evnense	and A&G	Carritalized O&M	Capitalized ASG	Amortization	Costs	Canital Costs	Taxat	Denseciation	Nat of Taxes	Cost		Net Lost Nevenue	Performance	DOLD ALL D
			(1)	/21	731	<i>[</i> ]	/51	///	Anionizetton	(10)	(11)	/174	/12)	(14)	(15)	(16)	£171	(18)	4101
			(4/	147	1-0	ET/ ECols(10bour3)	(1)-(2)((6) or 5 or 3	(107		1207	(11)	(12)	(23/	124)	(23)	TCoki5i/bud151	11/7	1207	TCob((S)Bou18)
	NC 0614 0-14-14					2001411020(0)	11/1/(2)/10/01/01/01/0	14/0								2000/030801103			Scool oteralist
	NC DSM Program Expenses																		
1	CIGDK	Per Forecast	2,242,859	1 1	-	2,242,859	747,620	•	1,808,922	1			-			2,556,542		809,758	3,366,300
2	EnergyWise	Per Forecast	11,585,804	( [	•	11,585,804	1,158,580	•	8,523,255	-						9,681,835		6,137,852	15,819,687
3	EnergyWise for Business	Per Forecast	2,030,607	<u> </u>	•	2,030,607	676,869		763,752	l						1,440,621	213,832	(\$4,858)	1,469,595
4	Total DSM	I Luces 1 thru 2	15,859,270	-	•	15,859,270	2,583,069	•	11,095,929	-	. •	•	•	-	•	13,678,998	113,832	6,852,752	20,655,582
5	DSM Assigned A&G and CCost	Per forecast			794,570	794,570		264,657	495,427		·			2,859,534	637,B63	4,257,681			4,257,681
6	Total DSM and Assigned Costs	2 Lines 4 thru 5	15,859,270	1	794,570	16,653,840	2,583,069	264,857	11,591,356	S				2,859,534	637,863	17,936,679	113,832	6,862,752	24,913,263
	NC EE Program Expenses												•						
7	Res Home Advantage	Per forecast		P1					317 2 34	Sea allower	ماجاء ويعجرن حجي فكجمرهم	مود بر برجه		,		817 234		168 458	485 693
8	Res Home Energy Improvem'l	Per Forecast	3 722 042	1 1		1 222 042	122 204		4 395 337	}ન ંૈ્સ્			,			4 717 541	774 AB1	331 825	5 773 847
9	Neighborhood Energy Saver	Per Lourant	1 640 297			1 640 197	161,030		1 /16 /07		•					1 600 637	159 104	551,625	3,773,047
10	Solar Hot Water Pilot	Res formers	2,040,237	1 - 1		1,040,235	204,000	-	1,410,457	3 9 4 5	·.	•				1,380,327	130,104	-	1,/38,/11
	Solar Hut Wester Fluit			]. ]				•	31,026	ε.	,		м <u>1</u>			51,026			31,026
	EE Ugnung (Kes)	Per Forecast Javaratea)	9,513,154	[ ]		9,515,184	1,902,637	•	8,642,428	1 - x - ,	۲		· · ·			10,745,065	5,377,430	4,281,624	18,404,120
12	Kes Applance Hecycung	Perforecost		1 1				-	681,344	1						681,344	•	120,467	801,811
15	why young Fuelds webou.	Perforecost	6,457,601	1 1		6,457,601	6,457,601	-	-	<b>1</b>			1			6,457,601	7,267,092	(76,809)	13,647,883
14	Residential New Construction	Per Furetast	10,255,599	1		10,255,599	1,025,560	•	4,161,785				i			5,187,345	1,776,751	904,849	7,868,944
15	Multi-Family	Per forecust	2,212,059	1		2,212,059	442,412	•	1,524,692							1,967,104	1,315,711	781,261	4,064,076
16	Energy Education Program for Scho	Pet Falecast	610,964	1 ° ′ /		610,964	122,193	•	476,552	1	<b>L</b> .		· ,			598,745	267,977	•	866,722
17	Save Energy and Water Kit	Per laterast	1,234,634	( i		1,234,634	246,927	•	502,990	٠. ١	- 1		·			749,917	3,750,041	1,370,632	\$,870,590
16	Residential Energy Assessments	Per Forecast	921,529	{ {		921,529	184,506	-	695,796			-1				661,102	495,978	158,392	1,536,472
19	Nome Depot CFL	Per Forecast		1 · 1		•			•	1 12	, .								•
20	Residential Found Revenue	Per Forecast	1	1. 1						5 5			•			-	-		
21	Subtotal-Residential	I Lines 7 thru 20	36,067,909	1 1	•	36,067,909	10.867.870		23.046.681	í		4 <u>1</u> 4		-		33.914.551	19 134 644	8.040.699	61 089 894
										· · · · · ·						*****	23,234,044	0,0-0,000	
22	CIG Energy Efficiency	Per Forecost							3 641 817				-			3 941 913			
23	EF Lighting (General Service)	Pet forectut (allocated)	1 153 016	t + 1		1 152 016	120 603		3,041,012	а.	. •					3,841,812			3,841,812
78	Courts Officianty for Business	Per Porecust (onotated)	1,233,010			1,122,010	230,003	•	1,075,488		2					1,304,091	832,240	1,486,980	3,623,310
24	Energy Ethiciency for Business	rer forecast							5,965,591				b.,			5,965,591	7,241,363		13,206,954
25	Smart Saver Prescriptive	Per Forecast	20,417,475			10,417,475	3,472,492		2,613,153	1 4		_				6,085,645		6,526,244	12,611,889
26	Smart Saver Custom	Per Forecast	1,588,219	1 1		1,588,219	529,405		399,463	ļ.,		-				928,869		335,732	1,264,601
27	Smart Saver Performance Incentive	Per Forecast		1					•							•	212,540	54,602	267,143
28	Small Business Energy Saver	Per farecost	7,444,308	! [		7,444,308	2,481,436	•	7,241,864	Ì						9,723,300	5,344,673	2,690,548	17,558,521
29	Business Energy Report	Per forecost	-	1 1		-	•	-	5,539				<u>ا</u> آد			5,539	•		5,539
30	General Service Found Revenue	Per Forecast		1						; ·							(330,453)		(330,453)
			1							<u>د</u>									
	Subtotal-General Service	I lines 22 thru 30	20,603,018	•		20,603,018	6,713,937		21,140,910	-			•	•	-	27.854.847	13,100,363	11.094.105	52 049 316
																	10,100,000	11,000,100	20,010,010
31	Total of EE Programs	2 Luces 21 + 30	56,670,927	r		56,670,927	17.581.807	-	44.187.591					· -		61 769 398	32 235 008	19 134 904	113 129 310
9Z	EE Assigned A&G and CCost	Per Foremst		1	3 544 357	3 544 357		1 181 457	2 076 601					7 506 074	1 674 146	12 4 29 4 33	32,233,008	13,134,004	113,133,210
33	Total EE and Assigned Costs	teres 31 + 27	56 670 937	1	3 644 257	60 215 204	17 591 007	1 1 81 451	45 754 502				·	7,506,074	1,074,346	12,430,473			12,458,473
			10,010,027	₽	3,344,337	00,213,204	11,301,007	1,101,432	40,204,192	مسجئة فيتسبع				7,506,074	1,674,346	/4,207,871	32,235,008	19,134,804	125,577,683
	NC DSDR Program Scoopers																		
3.4	DCOR Disease	nt		****															
34	Done trainer ( ) a constant	Per Forecast	4,409,208	666,199		5,075,407	507,541	•	4,938,575	6,323,991	1,410,664	603,B72	10,285,156			24,069,799	•	•	24,059,799
33 44	USUK Assigned AKG and Cost	Per Farecast			_	<u> </u>		_ ·	<u> </u>					1,317,347	293,855	1,611,202			1,611,202
\$6	Total USDR and Assigned Costs	2 Luces 34 thru 35	4,409,208	666,199	-	5,075,407	507,541	-	4,938,575	6,323,991	1,410,664	603,872	10,285,156	1,317,347	293,855	25,681,001	-	-	25,681,001
37	Rate Period Totals	Lmes 6 + 33 + 36	76,939,405	666,199	4,338,927	81,944,531	20,672,417	1,446,309	62,794,123	6,323,991	1,410,664	603,872	10,285,156	11,682,955	2,606,064	117,825,551	32,348,840	25,997,556	176,171,948

\*All Non-Residential programs are amortized over a 3 year period. The Residential Lighting Program, Multi-Family EE, EE Education, Save Energy and Water Kit and Residential Energy Assessments are recoverable over a S year period. My Home Energy Report is recoverable over a 1 year period. All other Residential EE programs are recoverable over 10 years.

Please note: Exhibit may not loot due to rounding

# DUKE ENERGY PROGRESS, LLC

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#### DUKE ENERGY PROGRESS, LLC Docket No. E-2, Sub 1174 Energy Efficiency Experience Modification Factor Rate Derivation

			EE EMF Revenue Requirement										
NC Rate Class	Aquisted NC Rate Class kWh Sales	Rate Class Energy Allocation Factor	Residential Programs <sup>3</sup>	CIG Programs <sup>4</sup>	DSDR <sup>5</sup>	Non-DSDR Allocated A&G and Carryng Costs <sup>15</sup> (6)	DSDR Allocated A&G and Carrying Costs <sup>(5)</sup> ( <sup>7</sup> )	Total of Allocated Costs (θ) = Σ (3 thru 7)	Less: Prior Period EE Rate Adjustment <sup>(7)</sup> (9)	Adjusted EE EMF Revenue Requirement (10)-(8)-(9)	Total EE EMF Rate (cents/kWh) (11) = (10) / (1)		
Residential	15 740 238 953	50 65 <del>°s</del>	S 58 531 465	SO	S 15 578 065	S 7,267,354	S 1,016,925	S 82,393,808	S 83,295,916	\$ (902,108)	(0.006)		
General Service	9 852 771 378	37 95%	<b>S</b> 0	<b>\$</b> 49 737 883	\$ 9751,257	\$ 5 536,262	S 636,555	\$ 65,661,956	\$ 53,649,216	\$ 12,012,740	0.122		
Ligning	361 265 217	1 39%	<u> </u>	S0	<u>\$ 357 543</u>	<u>s -</u>	<u>\$ 23,340</u>	\$ 380,883	\$ 377,991	\$ 2,892	0.001		
NC Retai	25 954 275 548	100 00%	S 58 531 465	<b>\$ 4</b> 9 737 883	S 25 686.864	S 12,803.616	S 1,676,820	S 148,436,648	\$ 137,323,123	\$ 11,113,524			

NOTES:

"I Rate Class Sales excluding "Opt-Out" sales are derived in Miller Exhibit 6

(2) Rate Class Energy Allocation Factor is derived in Miller Exhibit 5, page 5, column (4)

3) Residencial Program costs are allocated solely to the Residential rates in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.

14) Non-residencial Program costs are allocated solely to the General Service rates in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15,

(5) DSDR Costs allocated using the Rate Class Energy Allocation Factor from column (2) in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.

151 Non-DSDR A&G and Carrying Costs are allocated on the basis of Non-DSDR revenue requirements (excluding incentives and net lost revenues) assigned in preceding columns.

(7) Amounts are derived in Mater Exhibit 2, page 7.

Prease note. Exhibit may not foct due to rounding

#### DUKE ENERGY PROGRESS,LLC Docket No. E-2, Sub 1174 Demand-Side Management Experience Modification Factor Rate Derivation

								DSI	I EMF Rever	ue R	equirement					
NC Rate Class	Adjusted NC Rate Class kWh Sales '	Rate Class Demand Allocation Factor <sup>(2)</sup>	EnergyWise Program Costs <sup>(3)</sup>	( Pr	CIG DR ogram <sup>(4)</sup>	AI	ocated A&G Costs <sup>(5)</sup>		Allocated Carrying Costs <sup>(5)</sup>	All	Total of ocated Costs	L Pe Ad	ess: Prior eriod DSM Rate justment <sup>(6)</sup>	Adj EM Re	usted DSM F Revenue	Total DSM EMF Rate (cents/kWh)
	(1)	(2)	(3)	-	(4)		(5)		(6)	(7	) = Σ (3 thru 6)		(8)		(9)=(7)-(8)	(10) = (9) / (1)
Residential	15.740.238.953	67 12%	\$12.886.943	s	-	5	684,567	s	2,528,644	\$	16,100,154	s	14,703,167	\$	1,396,988	0.009
General Service	9,737,467,991	32.88%	s -	\$	2.606,451	\$	201,447		744,103	\$	3,552,001	S	5,278,956	\$	(1,726,955)	(0.018)
Lighting	360.425.890	0.00%	<u>s</u> -	s	<del>_</del>	<u>_s</u>		s				\$		<u> </u> \$	<u> </u>	-
NC Retad	25,838,132,834	100%	\$12,886,943	\$	2,606,451	5	886.014	\$	3,272,747	\$	19,652,155	5	19,982,122	\$	(329,967)	

#### NOTES:

(1) Rate Class Sales, excluding "Opt-Out" sales, are derived in Miller Exhibit 6.

(2) Rate Class Demand Allocation Factor is derived in Miller Exhibit 5, page 6, column (5).

(3) EnergyWise costs are directly assigned solely to the Residential Rate Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.

(4) CIG DR costs are directly assigned solely to the General Service Rate Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.

(5) A&G and Carrying Costs are allocated on the basis of revenue requirements (excluding incentives and net lost revenues) assigned in preceding columns.

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(6) Amounts are derived in Miller Exhibit 2, page 7

Pease note - Exhibit may not bot ave to rounding

#### DUKE ENERGY PROGRESS, LLC Docket No. E-2, Sub 1174 EMF Penod Revenue Requirement Summary - NC Level January 2017 - December 2017

																			Ē
											Income This	\$			Income Taxes	Rev Regmt		Program	
					ALG	East all and OEM	A-orteston of	Amortization of	Pres Period	DSD4 Capital	on DSDR	DSDR Property	DSDR	Carrying Costs	on Carrying	Before PPI &	Net Lost Revenue	Performance	Rev Regmt With
			EL0		{+}	H 165	Coursel CEV	Coorteland A&G	Amortization	Cents	Capital Cost	i line	Depreciation	Net of Teses	Cost	NLR	Recoupment	Incentive	PPI & NUR
			•	-	1	Con Tree 3	,	۶.	4	,4,	181	(10)	(11)	(12)	(13)	[14] Colo Super 13	(15)	(16)	(17) SColet 14thori 16t
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	The suggest store use				*24 * **	124 5 45		242 599	544,481	\$ . · ·				2.302.515	970.232	4 158 761		-, ,	4.158.761
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	and the Article Car	14 - 14 B	36,112,976	1		36,112,976	9,969,233		19,325,050	-	•		-			29,294,283	22,961,160	6,276,021	58,531,465
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•		Par Kala										and the second	1	1				-	-
	and and the firm and the second	/T A												1			8,952	7,194	16,146
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1			16,616	1 3 3 3		18 11 1	1117		39,860					1		45,399	577	-	45,975
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-	fate biland Augment and	2000 - C	10.7553	قہ سنے ا	• 'st kn	92 239 239	18 549 21.	7::.?*	1 2 2 2 3 S	1				6,683,696	2,616,397	64,414,251	39,996,311	16,662,401	121,072,963
	N. 2128 Program Lawrence													-					
•			* *** 242	735,060		4 733 572	471.152	2	4,436,876	5.339.403	2.672 04	603 847	11 031 510			75 651 757	147 107		16 686 854
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•	Time TVVF and Assembly ports	A 40 A 40 A 4	3,976,242	735,060	•	4,711,302	471,130	-	4,436,826	6,339,403	2,672,04	603,847	11,031,510	1,179,711	497,109	27,231,577	132,107		27,363,684
	Test Rends Totals		7 44. 7 2	15 200	: 412 4:4	63 5.34 677		1 142 422	48 900 911	5 339 473	2 673 741	603 647	11 (31 510	10 165 977	4 289 798	106 064 735	40 178 115	21 R46 452	169 098 003
				-									,,						100,000,003

TAL Non Aesiderical programs are amortized over a 3 year period. The Residential Lighting Program, Multi Family EE and EE Education are recoverable over a 5 year period. Mil mome Energy Report is recoverable over a 1 year period. All other Residential EE programs are recoverable over 10 years.

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Miller Exhibit 2 page 6 of 7

#### DUKE ENERGY PROGRESS, LLC Docket No E-2 Sub 1174 EMF Adjustment Summary January 2017 - December 2017

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			Pes-0	erca:			General 5	ence				Lightin	9				Totals	
<u>. ne</u>		5.9		<u>+1</u>		DSM	Do CA	έŧ	Total	DSM		DSDR	- 33	Total	DSM	DSDR	E	Total
· .	nt for and India 78 flater balances annum - Harr and ar setter s	5 14 708.257	* \$ 18 626 699 \$	64 015 210 S	<del>95</del> 345.076	\$ 5 02 4 209 \$	10.841 855 S	43,374 475	5 59,280,539	5	s	178,109	; .	\$ 378,309	\$ 19,727,376 \$	27,886,864	5 107,389,685 \$	155,003,924
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3 5	er or under collection of uncollections	́ <b>Қ</b> 4	**	<b>N</b> 4	N.÷	K, L	<b>N</b> /A	N/A	N/4	N/A		H/A	N/A	N/A	N/A	N/A	N/A	N/A
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• ••,	un us of vinitage 2018 unit Amerikanstrough Near 2015 I annur - Finitian I antini Juan - K			1, 545 437	1.345 437		5	(173,308)	(173,308)								1,172,129	1,172,129
: ••¢	anest of Ciantoplecticies, Funderscolarctions ans. a			U 207	(31 207)	:#9 529		, <del>44</del> 2, <del>96</del> 7)	(254,439)	۶		(318)	÷	(318)	188,529	(318)	{481,175}	(292,964)
- i 🖕	n Alburahmenta DSAL 16 (109 Clause	1 14 21 16	\$ 20 020 179 \$	60 009 217 5	97 999.043	\$ 5.273,956 \$	10.841 855 S	42 767 361	5 58,928,172	\$	5	377,991 5		5 377,991	5 19,982,122 5	27,886,545	109,435,578 \$	157,305,246
	فحيت والمد	يبرغ فيهندو ستبعا	<b>~·</b>	. 1	7.	د چرستر 2 میشده و دولیکط و	L	)			-		In Mile	t Eshibit 2 page 4 .	a Miller Exhibit 2 page 5	1	1	
				***			<b>1</b> 11111									Ϋ́		
			Te statur juna				233 549 2 To Willing ( 1944	20004								\$137,523 To Miller Fabilit	,123 Tenne 4	
		Actual OSU 3 The Company	EE Rare billings for	test penod (Janu An aquistment fo	ary 2017 trin Incolectore	s in this proceeds	017) 7 <b>9</b>											

The Company is not requesting an aquistment for uncollectibles in this proceeding.

"See Evans Exhibit 1 page 1 for a detail sist of Virtage 2015 programs impacted by EVSV true-ups

See Evans Exhibit 1 page 3 for a cetax sst of Vintage 2016 programs impacted by EUSV true-ups

" See Evans Exhibit 2 page 5 for a betax sst of Virtage 2015 programs impacted by EMSV true-ups

See Evans Exhibit 2 page 5 for a betail sst of Virzage 2016 programs impacted by EM&V the-ups Caculated interest obligation associated with test period (January 1: 2017 through December 31: 2017)

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meaning other multiple surgers is surgery

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Miller Exhibit 3, page 1 of 4

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# Duke Energy Progress, ILC Docket No. E-2, Sub 1174 Estimated Return Cakulation - Residential EE & DSM Programs Vintage 2017

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							-	-					1
		Since DEP is under-collected on program costs, but over-collected	on PPI and lost revenues, the Company is calculating a return due to	customers on the net balance in total.				-					
(Över)/Under Collection	46,963	37,316	36,176	29,037	91,939	116.76	47,820	15,396	10,836	32,478	30,518	40,281	156,672
iE Program Costs reence Collected	[9,805,015]	[31,790,936]	[7,552,897]	[6,062,391]	(6,668,403)	(21, 216, 7)	[9:533,946]	(188,772,91	18,525,910)	16,780,918)	[6,371,718]	[8, 409, 936]	
NC Readential EE Program 1 Collection 15 R	100 001	100 001	100 001	1000	100 001	10.00	1000	10.05	28.8	88	1000	18.3	!
ut Residential - I Benemue Collected	\$10,203.5	3190,936	7,552,597	6.062,391	6,668,403	211,212,7	9-451-9-6	1251126	d19.525.b	o,760.915	6 371,718	915 HOT R	910.24.23
Total Program Costs Incurred	5351 975	7.826.252	1 545,073	6,091,425	6.700.343	3 553.036	20 031 766	112.62.8 2	8.566 746	é 811 355	5 402 236	E.450.217	95 MJ, 748
esidential USO* Program Costs Inturted	13,92	1 356,027	1.314.5%	1,055.170	1.160,644	: 377 642	227 167 :	12:52	1 46 FRT 1	1 1 100 231	851	1.463 745	25.25.01
terudenturi DSM	1 655 54	1.315 553	151 5121	102 (20 :	450 A	: 136 561	\$3:	FSF 007911	COL 467 1	66C \$117	14 67.1	51 Q 17	14 180 14
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Note 1: Internet Nucle I, V Child Expansion Note 1: Program & Autority addations on a medical anticipe base based on fenemies solection

		51115			Curdeline	het Deferred					
		1000		Months Deferred D	rierred Income	27-r Ta	AI4	onthly A/T	VID After Tax	Gross up of Return (	Gross up of Return
		14004	1	INCOME TAX	141	Bulke	Monthy Return Retur	n on Deterral	Interest	lo Pretan Rale	to Pretax
	•		-V.S.Y tax rate				o 70%			0 764964	
i.	ş	64 H	11 3553	51 707 J.	1011/21	<b>3</b> 5 ¢.	2695630	E8	83	0 764964	109
:	tetration.	5.3	155 IS	スカゴコ	31,716	51,045	0 005632	233	316	0.764964	413
		54 X I	133	11 PCP 11	-7 -7	75 B 27	0 005632	363	679	0 764964	887
	1	267 672	1. S.	10,761 04	107'55	207	0 005632	478	1.157	0.764964	1,513
:		161 191	6.5.5	11 636 75	67 233	114 193	0 005632	586	1.74	0.764964	2,279
:	ţ	気的	17.7C	11 010 11	51,755	130,061	0 005632	01/	75772	0.764964	3,208
	5	53 E 2	555 C	17 722 00	010 65	162,152	0 005632	862	3,316	0 764964	4,335
	1	222.554	10 A 10	16.623.71	115,614	196.7.1	0 005632	1,027	4,343	0.764964	5,678
2		7.00	くれちこ	19 262 21	32.52	122.52	0 005632	1,180	5,524	0 764964	7,221
		616 264	くちょうこ	12 014 16	100,611	242.569	0 005632	1,310	6,834	0.764964	8,934
÷		164 913	11.51	11 016 11	116.141	262,077	1005632	224,1	8,256	0 764964	267,01
:		2004	C255 28	50 826 81	212 691	064785	0 005632	1.2.1	9,803	196192 0	12,815
								508,6		Į	12,815
			Tester motion return	und brit war End bau	1.Ce	257,430		19,424			25,392

38,207

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#### Duke Energy Progress, LLC Docket No. E-2, Sub 1174 Estimated Return Calculation -Non-Residential DSM Programs Vintage 2017

	-	Non-Residential DSM Program Costs Incurred	Non-Residential Allcoated Carrying Costs & 4&G	Total Program Costs Incurred	NC Non-Residential DSM Revenue Collected	NC Non- Residential DSM Program Collection %	Non- Residential DSM Program Costs Revenue Collected	(Over)/Under Collection	-
1017	Jamua:	188,617	70,209	258,825	373,056	100.0000%	(373,056)	(114,231)	· · · · · · · · · · · · · · · · · · ·
2017	fetru	188,807	70,280	259,087	373,433	100.0000%	(373,433)	(114,346)	DEP is overcollected on all components
2017	March	193,733	72,113	265,847	383,176	100.0000%	(383,176)	(117,330)	Interest is calculated on the entire
2017	1011	181,725	67,644	249,369	359,426	100.0000%	(359,426)	(110,057)	balance.
2017	Na,	209,257	77,891	287,148	413,879	100.0000%	(413,879)	(126,731)	
2017	Line	229.679	85,493	315,172	454,271	100.0000%	(454,271)	(139,099)	
2017	وهدو	253.508	94,363	347,871	\$01,402	100.0000%	(501,402)	(153,531)	
2017	الالا بعنه	249,242	92,775	342,017	492,964	100 0000%	(492,964)	(150,947)	
2017	Secter	249,815	92,990	. 342,807	494,103	100.0000%	(494,103)	(151,296)	
2017	Octoo	221.959	82,620	304.579	439,003	100.0000%	(439,003)	(134,424)	
2017	hover	187,499	59,793	257,291	370,845	100 0000%	(370,845)	(113,554)	
2017	Decen	156,389	59,380	255,769	368,651	100.0000%	(368,651)	(112,882)	<u> </u>
		2,540,233	945,550	3,495,783	5,024,209		(5,024,209)	(1,538,426)	

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hote 1. Revenue source: CBM CRY4 reports

Note 2. Program & Carrying Costs allocated on a weighted average basis based on revenues collected.

		Cumulative (Over)/Under Recovers	Current Income Tax Rate	Monthly Deferred Income Tax	Cumulative Deferred Income Tax	Net Deferred After Tax Balance	Monthly Return	Monthly A/T Return on Deferral	YTD After Tax Interest	Gross up of Return to Pretax Rate	Gross up of Return to Pretax
	•		2017 tax rate	2			10.00%			0.764964	
2017	, any ar	(114,231)	37 05 <del>99%</del>	(42,334)	(42,334)	(71,897)	0.008333	(300)	(300)	0.764964	(392)
2017	fetru.	(228,577)	37 0599%	(42,377)	(\$4,710)	(143,867)	0.008333	(899)	(1,199)	0.764964	(1,567)
2017	Varen	(345,907)	37 0599%	(43,482)	(128,193)	(217,714)	0.008333	(1,507)	(2,705)	0.764964	(3,536)
2017	April	(455,964)	37 0599%	(40,787)	(168,980)	(286,984)	0.008333	(2,103)	(4,808)	0.764964	(6,285)
2017	May.	(532,695)	37 0599%	(46,966)	(215,946)	(366,749)	0.008333	(2,724)	(7,532)	0.764964	(9,846)
2017	Loe	(721.794)	37 0599%	(\$1,550)	(267,496)	(454,298)	0.008333	(3,421)	(10,953)	0.764964	(14,318)
2017	وتسد	(575 324)	37 0599%	(56,898)	(324,394)	(550,930)	0.008333	(4,188)	(15,141)	0.764964	(19,794)
2017	لانتهنية	(1.026,271)	37 05995	(55,941)	(380,335)	(645,936)	0.008333	(4,987)	(20,128)	0.764964	(26,313)
2017	Septer	(1,177,567)	37 0599%	(56,070)	(436,405)	(741,162)	0.008333	(5,780)	(25,908)	0.764964	(33,868)
2017	Octob	(1,311,991)	37 0599%	(49,817)	(486,222)	(825,768)	0.008333	(6,529)	(32,437)	0.764964	(42,403)
2017	hover	(1 425:544)	37 0599%	(42,083)	(\$28,305)	(897,239)	0.008333	(7,179)	(39,616)	0.764964	(51,788)
2017	Decen	(1,538,426)	37 0599%	(41,834)	(\$70,139)	(968,287)	0.008333	(7,773)	(47,389)	0.764964	(61,949)
					-		-	(47,389)		-	(61,949)
	-		Twefre months return on 20	017 Year End Balance		(968.287)		(96,829)			(126,579)

Total return on Non-Residential Lighting

(188,529)

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#### Miller Exhibit 3, page 3 of 4

#### Duke Energy Progress, LLC Docket No. E-2, Sub 1174 Estimated Return Calculation -Üghting DSDR Programs Vintage 2017

	L. 	ighting DSDR Program Costs Incurred	Ughting Allocated Carrying Costs & A&G	Total Program Costs Incurred	NC Lighting Revenue Collected	NC Lighting Program Collection %	Lighting Program Costs Revenue Collected	(Over)/Under Collection	
									6
2017	Januar	30,433	1.990	32,473	32,254	100.0000%	(32,254)	219	· · · · · · · · · · · · · · · · · · ·
2017	feoru.	30,173	1.970	32,142	31,925	100.0000%	(31,925)	217	DEP is undercollected on the DSDRprogram,
2017	March	30,322	1,979	32,301	32,083	100.0000%	(32,083)	218	therefore, interest is calculated on the
2017	Apre	28,509	1,861	30,370	30,165	100.0000%	(30,165)	205	total.
2017	May	31,237	2,039	33,276	33,051	100.0000%	(33,051)	225	
2017	a.ne	29 794	1,945	31,739	31,524	100 0000%	(31,524)	214	
2017	والساد	29 637	1,935	31,572	31,359	100.0000%	(31,359)	213	
2017	-12015	29 512	1,946	31,758	31,543	100 0000%	(31,543)	215	
2017	Septer	29,366	1,917	31,283	31,071	100 0000%	(31,071)	211	
2017	Octob	30,232	1,974	32,205	31,988	100 0000%	(31,988)	218	
2017	hover	29,393	1,919	31,312	31,100	100.0000%	(31,100)	212	
2017	Decen	28,586	1,566	30,452	30,246	100 0000%	(30,246)	206	
	_	357,543	23,340	380,883	378,309		(378,309)	2,574	-

Note 1 Revenue source - CAU CR13 reports

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Note 2 Program & Carrying Costs allocated on a weighted average basis based on revenues collected

		Cumulative (Over)/Under Recovery	Current Income Tax Rate	Monthly Deferred	Cumulative Deferred Income Tax	Net Deferred After Tax Balance	Monthly Return	Monthly A/T Return on Deferral	YTD After Tax Interest	Gross up of Return to Pretax Rate	Gross up of Return to Pretax
			2017 tax rate		-		10.00%	_		0.764964	
2017	Januar	219	37 05 <del>99</del> %	81	81	138	0.008333	1	1	0.764964	1
2017	Febru	437	37 0599%	81	162	275	0.008333	2	2	0.764964	3
2017	March	655	37 0599%	81	243	412	0.008333	3	s	0.764964	7
2017	-bre	860	37 0599%	76	319	541	0.008333	4	9	0,764964	12
2017	Mar	1.035	37 0599%	83	402	683	0.008333	5	14	0.764964	19
2017	1.04	1 300	37 0599%	79	482	818	0.008333	6	20	0.764964	27
2017	<u>م د م</u>	1,513	37 0599%	79	561	952	0.008333	7	28	0.764964	36
2017	Augus	1,728	37.059%%	80	640	1,087	0.008333	8	36	0,764964	48
2017	Septer	1,939	37 0599%	78	719	1,220	0.008333	10	46	0.764964	60
2017	Octob	2,157	37 0599%	81	799	1,357	0.008333	11	57	0.764964	74
2017	hover	2,368	37 0599%	78	878	1,491	0.008333	12	69	0.764964	90
2017	Decen	2,574	37 0599*	76	954	1,620	0.008333	13	82	0.764964	107
								82		-	107

Twefve months return on 2017 Year End Balance

Total return on Non-Residential Lighting

1,620

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212 318 Miller Exhibit 3, page 4 of 4

Dula Énergy Progress UC Dou ler No. E-3, sub 1124 Estensted Return Gakulston -Non-Revdential EE & DSDR Programs Vintage 2017

350,118 353,575 353,575 382,0472 382,045 457,146 457,146 540,235 540,235 540,235 540,235 541,218 359,976 359,318 359,976 359,318 (Over)/Under Collection (202,096,2) (202,006,2) (202,006,2) (202,006,2) (202,006,2) (202,006,2) (202,0 NC bas fearerdai NC BSDe han NC Non. Personnal DSDR 118 frequen Total El Annue Annue Carporan DSDR frequencoss Total EE BSDR Constants Collected Collected Science Collected Renne Collected (92) 726 (738,696) (738,696) (788,288) (788,288) (788,288) (786,291) (10,073,999) (10,073,999) (10,05,391) (10,05,391) (10,05,291) (10,02,250) (1.468.476) (1.469.435) (1.469.50) (1.561.435) (1.561.435) (1.561.52) (1.561.52) (1.561.52) (1.561.52) (1.561.52) (1.561.52) (1.561.52) (1.561.52) (1.561.52) (1.561.52) "pour fragram const. Instit fragma fragmenta. Province No Antonia II No Antonia Isto nume 2004 Colo nume 111555531111 

المحد ] . فصحب بينيدة (كلارة ماديتهمان). المحد ] - الموجوع الدينية (كلارة ماديتهمان).

					Since DEP is under-collected on program costs and undercollected	m total, therefore the Company is calculating interest on the	program cost piece of the balance.									
:	rioss up of Return to Pressu		1118	1,253	266.7	716.EI	21,221	11.341	43,573	086 BS	76 796	97,280	119,928	141.151	141 151	298 813
	Gross up of Return to G Pretai Rate	1951910	0 764964	0 764964	0 764954	196192 0	0 761964	0 764964	0 764964	196192 0	0.764964	196192 0	0.764964	0 761964	1	
:	170 After Tau Interest		129	2, 488	5.657	10 187	16 2 3 4	219 02	195.66	412 116	347 22	74 416	11/ 16	110 273		
Menthe 4/1	Return on Deferral		621	1 864	9 1 6 9	4,531	6 D46	7 741	97X 6	11 552	i3 628	15 670	17,325	18 582	110 273	124 551
	Hontry, Petur	a Jo's	0 00%612	2(3400.0	0 005632	0 005632	2195000	0 005632	2195000	0.005632	0 005632	0 005632	0 005632	0 0056512		
	Ter Belenced Aller		141 042	\$ (T	682 374	129 926	1120641	1 52 4 66 3	1 375 673	2.228 678	2 611 305	£ 59 £ 56 C	1199075	184 286 6		1972161
	currents until ed		69. 677	2 2	7	53	62. FL	\$2.03 5	617 PC1 1	E42 STE 1	195 165 1	621 66. 1	1139 (87) 1	2191561		
	encon land		2.0	111 015	100 111	201135	121 121	Se 111	101 102	NUL N	17. EU	2: 8:	55 <b>H</b> 1	N in		e 2017 ver fre been
	Autor Posteria	No. The Pick	1.585	からい	よれし	1221	18.	100	1222	SAR L	くれのと	18.5 L	くたちに	1461		
	1000 C		10.34	11112	101101			75.	1631	Ϋ́́Ξ	1.11111	11. JAN 9	<i>t</i> , ""	11250		
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Miller Exhibit 4

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#### DUKE ENERGY PROGRESS, LLC Docket No. E-2, Sub 1174 2017 Actual Revenues

		DSM	DSDR	EE	Total
Rate Period	+				
Residential	\$	14,703,167	\$ 16,626,699	\$ 64,015,210	\$ 95,345,076
General Service		5,024,209	10,881,855	43,374,475	59,280,539
Lighting			378,309		378,309
Total	\$	19,727,376	\$ 27,886,864	\$ 107,389,685	\$ 155,003,924
EMF					
Residential	\$	54,363	\$ 889,280	\$ 19,513,373	\$ 20,457,015
General Service		4,759	569,682	4,887,581	5,462,023
Lighting			4,348	(161)	4,187
Total	\$	59,121	\$ 1,463,310	\$ 24,400,793	\$ 25,923,225

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Miller Exhibit 5 page 1 of 7

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#### DUKE ENERGY PROGRESS, LLC Docket No. E-2, Sub 1174 Allocation Factor Summary through test year 2015

					DSM		EE	
				-	NC	SC	NC	SC
Allo	cation Fac	tors						
4	May 09	10	Apr 00	Calendar 2007 Analysia	00 700/	10.070/	04.048/2	45 4000
I	way-oo	lo	Abt-0a	Calendar 2007 Analysis	80.73%	13.27%	84.81%	15.19%
1	May-09	to	Apr-10	Calendar 2008 Analysis '	86.16%	13.84%	85,06%	14.94%
2	May-10	to	Apr-11	Calendar 2009 Analysis <sup>2</sup>	85.89%	14.11%	85.41%	14.59%
3	May-11	to	Apr-12	Calendar 2010 Analysis <sup>3</sup>	86.49%	13.51%	85.53%	14.47%
4	May-12	to	Apr-13	Calendar 2011 Analysis	86.63%	13.37%	85.92% <sup>.</sup>	14.08%
5	May-13	to	Apr-14	Calendar 2012 Analysis <sup>3</sup>	86.47%	13.53%	86.06%	13.94%
6	May-14	to	Apr-15	Calendar 2013 Analysis	85.68%	14.32%	85.57%	14.43%
7	May-15	to	Apr-16	Calendar 2014 Analysis '	86.23%	13.77%	85.15%	14.85%
•	<b>.</b>		4					
Cus	tom Period	Fac	tors					
	Test Perio	d I						
8	Apr-10	to	Mar-11	Line 1 x 👌 + Line 2 x 11 x 👌	85,91%	14.09%	85.38%	14.62%
	Prospectiv	e Pe	riod <sup>4</sup>					
9	Apr-11	to	Jul-11	Line 2 x 1 + Line 3 x 1	86.34%	13.66%	85.50%	14.50%
	Rata Parin	41						
10	Dec 11	iu Io	Nov 12	1	PG 409/	10 6 10/	05 500	44 470/
10	Dec-11	10	1107-12	Line J	00.49%	13.31%	80,03% -	14.47%
	Calendar '	Year	2010*					
11	Jan-10	to	Dec-10	Line 1 x + + Line 2 x \	85.98%	14 02%	85.29%	14 71%
	Calendar '	Year	2011					
12	Jan-11	lo	Dec-11	Line 2 x + Line 3 x j	86 29%	13 71%	85 49%	14 51%
	Calendar	rear	2012					
13	Jan-12	10	Dec-12	Line 3x { + Line 4x }	86.58%	13 42%	85 79%	14 21%
	Calendar	Year	2013#					
14	Jan-13	la	Dec-13	Line 4 x \ + Line 5 x \	86.52%	13 48%	86.01%	13.99%
		.0	00010		00 02 /0	10 4074	00 01 /4	10 00 70
	Calendar \	Year.	2014 *					
15	Jan-14	to	Dec-14	Lune 5 x 1 + Lune 6 x 1	85 94%	14 06%	85 73%	14 27%
	Colondor	100-	00168				:	
40	Calondar	rear	2013	time and the second second	00.054	10.050		
16	Jan-15	10	Dec-15	Line G K 1 + Line 7 K 1	86 05%	13 95%	85 29%,	14 71%

#### Notos:

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<sup>1</sup> Allocation Factors values from Docket No. E-2. Sub 951

<sup>2</sup> Allocation Factors values from Docket No. E-2, Sub 977

<sup>3</sup> Allocation Factors values from Docket No. E-2, Sub 1002

<sup>4</sup> Allocation Factors values from Docket No. E-2, Sub 1019

<sup>5</sup> Allocation Factors values from Docket No. E-2, Sub 1030

<sup>6</sup> Allocation Factors values from Docket No. E-2, Sub 1044

<sup>7</sup> Allocation Factors values from Docket No. E-2, Sub 1070

\* Employed in the allocation of Utility Cost Fest (UC1) results for PPI determination -

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#### Duke Energy Progress, LLC Docket No. E-2, Sub 1174 Allocation Factor For Year 2016 Allocation Factors from 2016 Filed Cost of Service Study

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			MWh		
Line	Sales Allocator at Generation				
1	NC Retail MWh Sales Allocation	Company Records	38,844,804		
2	SC Retail MWh Sales Allocation	Company Records	6,620,461		
3	Total Retail	Line 1 + Line 2	45,465,264		
	Allocation 1 to state based on kWh sales				
4	NC Retail	Line 1 / Line 3	85.4384204%		
	Demand Allocators (kW)		NC	sc	Total
5	Residential	Company Records	3,530,456	484,305	4,014,761
6	Non Residential	Company Records	4,003,521	724,998	4,728,519
7	Total	Line 5 + Line 6	7,533,977	1,209,303	8,743,280
	Allocation 2 to state based on peak demand				
8	NC Retail	Line 7, NC / Line 7 Total	86.1687719%		
	Allocation 3 NC res vs non-res Peak Demand to retail system peak				
9	NC Residential	Line 5 NC/ Line 7 Total	40.3790797%		
10	NC Non-residential	Line 6 NC/ Line 7 Total	45.7896922%		
	Anotation 4 Ac res vs non-res reak Demano		45.050455324		
11			40.8604563%		
12	NU Non-residemiat	Line 6 NG 7 Line 7 NG	59.1395437%		

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#### Duke Energy Progress, LLC Docket No. E-2, Sub 1174 Allocation Factor For Year 2017 Allocation Factors from 2017 Filed Cost of Service Study

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•			MWh		
Line	Sales Allocator at Generation				
1	NC Retail MWh Sales Allocation	Company Records	38,923,501		
2	SC Retail MWh Sales Allocation	Company Records	6,596,650		
3	Total Retail	Line 1 + Line 2	45,520,150		
	Allocation 1 to state based on kWh sales				
4	NC Retail	Line 1/Line 3	85.5082864%		·
	Demand Allocators (MAI)		NC	50	Tetal
	Demand Anocators (KVV)		NL	<u> </u>	
5	Residential	Company Records	3,743,750	509, <b>2</b> 12	4,252,962
6	Non Residential	Company Records	4,012,019	736,825	4,748,844
7	Totał	Line 5 + Line 6	7,755,769	1,246,037	9,001,806
	Allocation 2 to state based on peak demand				
8	NC Retail	Line 7, NC / Line 7 Total	86.1579245%		
	Allocation 3 NC res vs non-res Peak Demand to retail system peak				
9	NC Residential	Line S NC/ Line 7 Total	41.5888790%		
10	NC.Non-residential	Line 6 NC/ Line 7 Total	44.5690455%		
	Allegation 4 MC assistance and Dank Demand				
	NC Devidential	Line & NC 21 yes 7 MC	49 3705 2097		
11	NO New residential		48.2705209%		
12	MC NOU-LORODINIA		51.7294791%		

NOTE: These allocation factors are used for Vintage 2017 based on the Cost of Service Study filed in May 2017.

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#### Duke Energy Progress, LLC Docket No. E-2, Sub 1174 Allocation Factor For Year 2018 Estimated Allocation Factor For Year 2019 Allocation Factors from 2018 Filed Cost of Service Study

			MWh		
Line	Sales Allocator at Generation				
1	NC Retail MWh Sales Allocation	Company Records	38,153,842		
2	SC Retail MWh Sales Allocation	Company Records	6,438,789		
3	Total Retail	Line 1 + Line 2	44,592,631	,	
	Allocation 1 to state based on kWh sales				
4	NC Retail	Line 1 / Line 3	85.5608674%		
	Demand Allocators (kW)		NC	<u>در</u>	Total
5	Residential	Company Records	3,699,632	487,425	4,187,058
6	Non Residential	Company Records	3,915,717	698,002	4,613,719
7	Total	Line 5 + Line 6	7,615,350	1,185,427	8,800,777
	Allocation 2 to state based on peak demand				
8	NC Retail	Line 7, NC / Line 7 Total	86.5304240%		
	Allocation 3 NC res vs non-res Peak Demand to retail system peak				
9	NC Residential	Line 5 NC/ Line 7 Total	42.0375642%		
10	NC Non-residential	Line-6 NC/ Line 7 Total	44.4928598%		
	Allocation 4 NC res vs non-res Peak Demand				
11	NC Residential	Line 5 NC / Line 7 NC	48,5812530%		
12	NC Non-residential	Line 6 NC / Line 7 NC	51.4187470%		

NOTE: These allocation factors are used for vintages 2018-2019 based on the most recently filed Cost of Service Study (May 2018)

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#### DUKE ENERGY PROGRESS, LLC Docket No. E-2, Sub 1174 Energy Allocation Factors - Applicable to EE Program Costs

#### North Carolina Rate Class Energy Allocation Factors

	Total NC Rate Class Sales (MWh) <sup>(1)</sup>	Opt-Out Sales <sup>(2)</sup>	Adjusted NC Rate Class MWh Sales	Rate Class Energy Allocation Factor
	(1)	(2)	(3) = (1) - (2)	(4) = (3) / NC Total in Column 3
Rate Class				
Residential	15,740,239	-	15,740,239	60.65%
General Service	21,297,783	(11,445,011)	9,852,771	37.96%
Lighting	378,515	(17,250)	361,265	1.39%
NC Retail	37,416,537	(11,462,261)	25,954,276	100.00

#### NOTES:

(1) Total NC Rate Class Sales (MWh) are for the forecasted year ending December 2019.

(2) Opt-Out sales are provided in Miller Exhibit 6. Since sales are not forecasted by individual customer, historic opt-out sales are assumed to be unchanged during the rate recovery period.

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#### DUKE ENERGY PROGRESS, LLC Docket No. E-2, Sub 1174 Demand Allocation Factors - Applicable to DSM Programs

#### North Carolina Rate Class Demand Allocation Factors

Total NC Rate Class Sales <sup>(1)</sup>	Sales Subject to Opt-Out <sup>(2)</sup>	Rate Class Demand <sup>(3)</sup>	Revised Rate Class Demand	Rate Class Allocation Factor
(1)	(2)	(3)	(4) = ((1 - 2) / 1) * 3	(5) = (4)/Total of Column 4
15,740,239	-	3,743,750	3,743,750	67,12%
21,297,783	(11,560,315)	4,012,019	1,834,318	32,88%
378,515	(18,089)	0	0	0.00%
37,416,537	(11,578,404)	7,755,769	5,578,068	100.00%
	Total NC Rate Class Sales <sup>(1)</sup> (1) 15,740,239 21,297,783 378,515 37,416,537	Total NC Rate Class Sales <sup>(1)</sup> Sales Subject to Opt-Out <sup>(2)</sup> (1)         (2)           15,740,239         -           21,297,783         (11,560,315)           378,515         (18,089)           37,416,537         (11,578,404)	Total NC Rate Class Sales <sup>(1)</sup> (1)         Sales Subject to Opt-Out <sup>(2)</sup> (2)         Rate Class Demand <sup>(3)</sup> (3)           15,740,239         -         3,743,750           21,297,783         (11,560,315)         4,012,019           378,515         (18,089)         0           37,416,537         (11,578,404)         7,755,769	Total NC Rate Class Sales (1)Sales Subject to Opt-Out (2)Rate Class Demand (3)Revised Rate Class Demand (4) = ((1 - 2) / 1) * 315,740,239- $3,743,750$ $3,743,750$ 21,297,783(11,560,315) $4,012,019$ $1,834,318$ 378,515(18,089)0037,416,537(11,578,404) $7,755,769$ $5,578,068$

#### NOTES:

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(1) Total NC Rate Class Sales (MWh) are for the forecasted year ended December 2019

(2) Opt-Out sales are provided in Miller Exhibit 6 Since sales are not forecasted by individual

customer, historic opt-out sales are assumed to be unchanged during the rate recovery period.

(3) The Coincident Peak ("CP") demands are based on the 2017 CP occurring on July 13 during the hour ended at 1700 EDT.

Miller Exhibit 5 page 7 of 7

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#### DUKE ENERGY PROGRESS, LLC Docket No. E-2, Sub 1174 Determination of Lighting Allocation Factors

January through March 2017

-	-	Bulb	%s	Allocation Factors	
1	Residential	82.30%	Per M&V	89.17% Lines 1 / (1 + 2)	)
2	General Service	10.00%	Per M&V	10.83% Lines 2 / (1 + 2)	)
3	Leakage	7.70%	Per M&V	0.00% -NA-	
4	Totals	100.00%	ΣLines 1 thru 3	$\sim 100.00\%$ S Lines 1 three	у <b>З</b>

April through December 2017

		Bulb	%s	Allocation Factors				
1	Residential	81.70%	Per M&V	89.19%	Lines 1 / (1 + 2)			
2	General Service	9.90%	Per M&V	10.81%	Lines 2 / (1 + 2)			
3	Leakage	8.40%	Per M&V	0.00%	, -NA-			
4	Totals	100.00%	ΣLines 1 thru 3	100.00%	Σ Lines 1 Ihru 3			

Miller Exhibit 6

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Duke Energy Progress, LLC Docket No. E-2, Sub 1174 Forecasted 2019 kWh Sales

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	Spring 2018 Sales Forecast - kWh	Total 2019		
Lina	North Carolina Retail:			
1	Residential	15,740,238,953		
2	Non-Residential	21,297,782,853		
3	Lighting	378,515,081		
4	Total Retail	37,416,536,887	•	
	Non-Residential	Gross kWh	Opt-outs	Net kWh
5	Energy Efficiency	21,297,782,853	(11,445,011,475)	9,852,771,378
6	DSM	21,297,782,853	(11,560,314,862)	9,737,467,991
7	Lighting - EE	378,515,081	(17,249,864)	361,265,217
8	Lighting - DSM	378,515,081	(18,089,191)	360,425,890

<sup>1</sup> Actual Opt-Out volumes for the twelve-months ending December 31, 2017

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#### Supplemental Miller Exhibit 1 REVISED

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#### Duke Energy Progress, LLC Docket No. E-2, Sub 1174 Summary of 2019 DSM/EE Rates

		cents/kWh		
	Source:	Rate	Reg Fee	<b>Billing Rate</b>
Residential Rate				
EMF Rate - DSM	Miller Exhibit 2, page 5	0.009	0.000	0.009
EMF Rate - EE	Miller Exhibit 2, page 4	-0.006	0.000	-0.006
Projected Rate - DSM	Miller Exhibit 2, page 2	0.120	0.000	0.120
Projected Rate - EE	Miller Exhibit 2, page 1	0.520	0.001	0.521
Total Residential Rate		0.643		0.644
General Service				
EE EMF Rate	Miller Exhibit 2, page 4	0.122	0.000	0.122
EE Projected Rate	Miller Exhibit 2, page 1	0.697	0.001	0.698
Total General Service EE Rate		0.819		0.820
DSM EMF Rate	Miller Exhibit 2. page 5	-0.018	0.000	-0.018
DSM Projected Rate	Miller Exhibit 2, page 2	0.063	0.000	0.063
Total General Service DSM Rate		0.045		0.045
Lighting EE Rate				
Lighting EE EMF Rate	Miller Exhibit 2, page 4	0.001	0.000	0.001
Lighting EE Projected Rate	Miller Exhibit 2, page 1	0.099	0.000	0.099
Total Lighting EE Rate		0.100		0.100

Supplemental Miller Exhibit 2 page 1 of 7 REVISED

#### DUKE ENERGY PROGRESS, LLC Docket No. E-2, Sub 1174 Energy Efficiency Rate Derivation

				Et Revenue Requirements											
NC Rate Class	Adjusted NC Rate Class kWh Sales <sup>(1)</sup>	Rate Class Energy Allocation Factor <sup>(2)</sup>	Residential Programs <sup>(3)</sup>		CIG Programs (4)		DSDR <sup>(5)</sup>	Al	Non-DSDR located A&G nd Carrying Costs <sup>(6)</sup>	DSDR Allocated A&G and Carrying Costs <sup>(7)</sup>		Total of Allocated Costs	Total EE Rate		
	(1)	(2)		(3)		(4)	(5)		(6)		(7)	(8) = Σ (3 thru 7)	(9) = (8) / (1)		
Residential	15,740,238,953	60.65%	\$	59,420,389	\$	-	\$ 14,597,379	\$	6,829,356	\$	977,130	\$ 81,824,254	0.520		
General Service	9,852,771,378	37.96%	\$	-	\$	53,311,105	\$ 9,137,386	\$	5,609,117	\$	611,645	\$ 68,669,252	0.697		
Lighting	361,265,217	1.39%	\$		\$		\$ 335,035	\$	=	\$	22,427	\$ 357,461	0.099		
NC Retail	25,954,275,548	100%	\$	59,420,389	\$	53,311,105	\$ 24,069,799	\$	12,438,473	\$	1,611,202	\$ 150,850,968			

NOTES:

(1) Rate Class Sales, excluding "Opt-Out" sales, are derived in Miller Exhibit 6.

(2) Rate Class Energy Allocation Factor is derived in Miller Exhibit 5, page 5, column (4).

(3) Residential Program costs are allocated solely to the Residential Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.

(4) Non-Residential Program costs are allocated solely to the General Service Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.

(5) DSDR Costs allocated using the Rate Class Energy Allocation Factor from column (2) in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.

(6) Non-DSDR A&G and Carrying Costs are allocated on the basis of Non-DSDR revenue requirements (excluding incentives and net lost revenues).

(7) DSDR A&G Costs and Carrying Costs are allocated using the Rate Class Energy Allocation Factor from column (2).

Please note: Exhibit may not foot due to rounding.

#### DUKE ENERGY PROGRESS, LLC Docket No. E-2, Sub 1174 Demand-Side Management Rate Derivation

			DSM Revenue Requirements											
NC Rate Class	Adjusted NC Rate Class kWh Sales <sup>(1)</sup>	Rate Class Demand Allocation Factor <sup>(2)</sup>	EnergyWise Program Costs <sup>(3)</sup>	CIG DR Program <sup>(4)</sup>	Allocated A&G Costs <sup>(5)</sup>	Allocated Carrying Costs <sup>(5)</sup>	Total of Allocated Costs	Total DSM Rate						
	(1)	(2)	(3)	(4)	(5)	(6)	(7) = Σ (3 thru 6)	(8) = (7) / (1)						
Residential	15,740,238,953	67.12%	\$15,819,687	\$ -	\$ 538,120	\$ 2,475,417	\$ 18,833,224	0.120						
General Service	9,737,467,991	32.88%	\$-	\$ 4,841,927	\$ 222,164	\$ 1,021,980	\$ 6,086,071	0.063						
Lighting	360,425,890	0.00%	<u> </u>	<u> </u>	\$ -	\$ -	\$ -	-						
NC Retail	25,838,132,834	100.00%	\$15,819,687	\$ 4,841,927	\$ 760,284	\$ 3,497,397	\$ 24,919,295							

#### NOTES:

(1) Rate Class Sales, excluding "Opt-Out" sales, are derived in Miller Exhibit 6.

(2) Rate Class Demand Allocation Factor is derived in Miller Exhibit 5, page 6, column (5).

(3) EnergyWise costs are directly assigned solely to the Residential Rate Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.

(4) CIG DR Program costs are directly assigned solely to the General Service Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.
 (5) A&G and Carrying Costs are allocated on the basis of revenue requirements (excluding incentives and net lost revenues).

Please note: Exhibit may not foot due to rounding.

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#### DUKE ENERGY PROGRESS, LLC Docket No. E-2, Sub 1174 Rate Period Revenue Requirement Summary - NC Level January 2019 - December 2019

									NORTH CAR	OLINA JURISDI	TIONALLY ALLO	CATED RET	TAIL COSTS ON	LY		_			
												DEDE							
					A&G	Capitalized O&M	Amortization of	Amortization of	Prior Period	DSDR Capital	ncome Taxes	DSDK	Detap	Comine Conte	Income Taxes	Rev Regmt		Program	
			08M	Insurance	Expense	and A&G	Capitalized O&M	Capitalized A&G	Amortization	Costs	Canital Costs	Тахес	Desceriation	Carrying Costs	on Carrying	Before PPI &	Nat Lost Revenue	Performance	Rev Regmt With
			(1)	(2)	(3)	(4)	(5)	(6)		(10)	(11)	(12)	/13J	(14)	(15)	/161	(17)	incontive	PPI & NCR
						ΣCols(1)thru(3)	((1)+(2))/10 or 5 or 3	(3)/3			•••	•	·/		(1-0)	Ecols(5)thrul 15)	12/1	(10)	ΣCok(t6kbo#18)
	NC DSM Program Expenses				_														
1	CIG DR	Per Forecost	2,242,859		•	2,242,859	747,620	-	1,608,922					3		2 556 547		800 759	2 266 200
2	EnergyWise	Per Forecast	11,585,804	1	•	11,585,804	1,158,580	•	8,523,255			de de la	$A_{ij} = A_{ij} = \frac{1}{2} \left( \frac{1}{2} - \frac{1}{2} \right)^{-1} \left( \frac{1}{2} - \frac{1}$	1		9.681.835		6 137 857	15 819 697
з	EnergyWise for Business	Per Forecast	2,030,607			2,030,607	676,869	-	763,752					1		1,440,621	119.854	(84 658)	1 475 627
4	Total DSM	I lines 1 thry 2	15,859,270		•	15,859,270	2,583,069		11,095,929		-	•			-	13.678.998	119.864	6 867,752	20.661.614
5	DSM Assigned A&G and CCost	Per Forecast	<u> </u>		794,570	794,570		264,857	495,427	1			· · · · · · · · · · · ·	2,859,534	637.863	4,257,681		0,002,702	4 257 6R1
6	Total DSM and Assigned Costs	I lines 4 thru 5	15,859,270		794,570	16,653,840	2,583,069	264,857	11,591,356	L				2,859,534	637.863	17.936.679	119.664	6 862,752	24 919 295
															-			-,,	
_	NC EE Program Expenses			Fee									•						
7	Res Home Advantage	Per Forecast	•			-	•	•	317,234	1		1.2		1		317,234		168.458	485 592
8	Res Home Energy Improvem't	Per Forecast	3,222,042			3,222,042	322,204	•	4,395,337	1.		승규는 그		j		4,717,541	570,884	331.825	5.620.250
9	Neighborhood Energy Saver	Per Forecast	1,640,297	1 1 1		1,640,297	164,030	•	1,416,497	1 · · ·			2 - 48 10 - 11	1		1,580,527	169,059	-	1,749,586
10	Solar Hot Water Pliot	Per Forecost	•			-	•	•	31,026					1		31,026			31.026
11	EE Lighting (Kes)*	Per Forecast (allocated)	9,513,184			9,513,184	1,902,637	•	8,842,428	1.1.						10,745,065	3,062,256	4,281,624	18,088,945
14	Res Appliance Recycling	Per Forecast		1		-	-	•	681,344	1				]		681,344	3,265	120,467	805,076
13	My Home Energy Report	Per Forecast	6,457,601			6,457,601	6,457,601	•	-					1		6,457,601	6,927,982	(76,809)	13,308,774
14	Residential New Construction	Per Forecast	10,255,599	1 1		10,255,599	1,025,560	•	4,161,785	[				{		5,187,345	1,488,436	904,849	7,580,629
12	Multi-Family	Per Forecast	2,212,059			2,212,059	442,412	•	1,524,692	[	· · ·					1,967,104	1,327,521	781,261	4,075,886
15	Energy Education Program for Scr	h Per Forecast	610,964	- · · · ]		610,964	172,193	•	476,552	E.		<u>-</u>				598,745	231,339		830,084
10	save chergy and water kit	Per Forecast	1,234,634			1,234,634	246,927	-	502,990	[		11.1		Į		749,917	3,279,423	1,370,632	5,399,972
10	Residential Energy Assessments	Per Forecast	921,529			921,529	184,305	-	696,796	🕻 🖉 🖉 🖓	e e ja	1	i standar a			881,102	404,975	158,392	1,444,469
73	Posidential Farred Barrens	Per Forecast	-	1 1		•	-	-	•	1		e di la sec						-	
20	Subtotal Paridential	Per Porecast		<u>+</u>							<u> </u>	4 - <sup>1</sup> - 1	<u> </u>	l		· ·			
**	Subtotarresidential	2 Lines 7 Inru 20	30,067,909		-	35,067,909	10,867,870	-	23,046,681	<b>i</b> serveler		Sec. 1	de pala de	- 1	÷ .	33,914,551	17,465,139	8,040,699	\$9,420,389
77	CIG Engrou Efficiency	Dec 6		1.822															
- 12	EF lighting (General Contex)	Per Forecost		1 1				•	3,841,812			¢10	11 N. 1994			3,841,817			3,841,812
24	Energy Efficiency for Business	Per Forecast (anacatea)	1,153,016			1,153,016	230,603	-	1,073,458							1,304,091	864,376	1,486,980	3,655,446
25	Smart Saver Depresiative	Per Porecusi	40 417 475						5,965,591	h	<u>.</u>					5,965,591	7,935,713		13,901,304
26	Smart Saver Curtom	Per Forecust	10,417,475	1		10,417,475	3,472,492		2,613,153	[		an a				5,085,645		6,526,244	12,611,889
27	Smart Saver Performance Incentiv	Per Porecus:	1,366,219			1,588,219	529,406		399,463				·			928,869		335,732	1,264,601
28	Small Business Energy Sound	And Farmant	7 644 300			*****	• • • • • • •		•			-	1.1.1			•	212,540	54,602	267,143
29	Business Energy Report	Per Forecast	7,444,300	1.11.1		7,444,508	2,461,436	•	7,241,864	- and its	1 A 1 A 1 A	· · · ·	1 A A			9,723,300	5,679,976	2,690,548	18,093,824
30	General Service Found Revenue	Performant	•			-	-	•	5,539		a de la composición d	in en				5,539	•		5,539
		'Er företast		1									1			<u> </u>	(330,453)		(330,453)
	Subtotal-General Service	Stines 72 thru 30	20 603 019	المحتمقيقين	_	30 603 019	C 713 637						ليسب منهضم فك						
			20,000,010	-		20,003,016	6,713,937	-	21,140,910	-	-	•	-	-	-	27,854,847	14,362,152	11,094,106	53,311,105
31	Total of EE Programs	I tines 21 + 30	56 670 927	F		56 670 977	17 591 907		44 197 601					1					
32	EE Assigned A&G and CCost	Per Forecast			3 544 357	3 544 157	1,101,001	1 101 (51	44,187,391			5 A.		• •	-	61,769,398	31,827,291	19,134,804	112,731,494
33	Total EE and Assigned Costs	Lines 31 + 32	56.670.927	1	3 544 357	50 215 284	17 5R1 807	1,181,452	2,076,601					7,506,074	1,674,345	12,438,473		-	12,438,473
-			,-,-,-,,	أتوجين مستعادا		JU;E13;204	101,007	1,101,472	40,204,192					7,506,074	1,674,346	74,207,871	31,827,291	19,134,804	125,169,967
	NC DSDR Program Expenses																		
34	DSDR Program	Per Forecast	4,409,208	666,199		5 075 407	507 541	_	4 038 575	6 323 001	1 410 654	603.032	10 305 455						
35	DSDR Assigned A&G and CCost	Per Forecast		,		5,075,407	507,541	-	4,230,2/3	0,323,931	1,410,664	003,872	10,285,155			24,069,799	-	-	24,069,799
36	Total DSDR and Assigned Costs	I Lines 34 thru 35	4,409,208	666,199		5.075.407	507.541		4.938 575	5 123 991	1 410 664	603 973	10 395 157	1,317,347	293,855	1,611,202			1,611,202
	-					-,, 147	,	-	-,	0,023,991	1,010,004	303,372	10,285,156	1,317,547	293,855	25,681,001	-	-	25,681,001
37	Rate Period Totals	Lines 6 + 33 + 36	76,939,405	666,199	4,338,927	81,944,531	20,672,417	1,446,309	62,794,123	6.323.991	1.410.664	603.872	10 285 154	11 682 955	2 606 064	117 035 55+	11 047 105		
		1		_											2,000,004	100,010	51,947,135	20,331,000	1/5,//0,263

\*All Non-Residential programs are amortized over a 3 year period. The Residential Lighting Program, Multi-Family EE, EE Education, Save Energy and Water Kit and Residential Energy Assessments are recoverable over a 5 year period. My Home Energy Report is recoverable over a 1 year period. All other Residential EE programs are recoverable over 10 years.

#### DUKE ENERGY PROGRESS, LLC Docket No. E-2, Sub 1174 Energy Efficiency Experience Modification Factor Rate Derivation

			EE EMF Revenue Requirement													
NC Rate Class	Adjusted NC Rate Class kWh Sales <sup>(1)</sup> (1)	Rate Class Energy Allocation Factor <sup>(2)</sup> (2)	Residential Programs <sup>(3)</sup> (3)	CIG Programs <sup>(4)</sup> (4)	DSDR <sup>(5)</sup> (5)	Non-DSDR Allocated A&G and Carrying Costs <sup>(6)</sup> (6)	DSDR Allocated A&G and Carrying Costs <sup>(5)</sup> (7)	Total of Allocated Costs (8) = 5 (3 thru 7)	Less: Prior Period EE Rate Adjustment <sup>(7)</sup> (9)	Adjusted EE EMF Revenue Requirement (10)=(8)-(9)	Total EE EMF Rate (cents/kWh) (11) = (10) / (1)					
Residential	15,740,238,953	60.65%	\$ 58,531,465	\$0	\$ 15,578,065	\$ 7,267,354	\$ 1,016,925	\$ 82,393,808	\$ 83,295,916	\$ (902,108)	(0.006)					
General Service	9,852,771,378	37.96%	\$0	\$49,704,414	\$ 9,751,257	\$ 5,536,262	\$ 636,555	\$ 65,628,487	\$ 53,649,216	\$ <b>11,979,27</b> 1	0.122					
Lighting	361,265,217	1.39%	\$0	\$0	\$ 357,543	<u> </u>	\$ 23,340	\$380,883	\$ 377,991	\$ 2,892	0.001					
NC Retail	25,954,275,548	100.00%	\$ 58,531,465	\$49,704,414	\$ 25,686,864	\$ 12,803,616	\$ 1,676,820	\$148,403,179	\$137,323,123	\$ 11,080,055						

#### NOTES:

(1) Rate Class Sales, excluding "Opt-Out" sales, are derived in Miller Exhibit 6.

(2) Rate Class Energy Allocation Factor is derived in Miller Exhibit 5, page 5, column (4).

(3) Residential Program costs are allocated solely to the Residential rates in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.

(4) Non-residential Program costs are allocated solely to the General Service rates in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.

(5) DSDR Costs allocated using the Rate Class Energy Allocation Factor from column (2) in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.

(6) Non-DSDR A&G and Carrying Costs are allocated on the basis of Non-DSDR revenue requirements (excluding incentives and net lost revenues) assigned in preceding columns.

(7) Amounts are derived in Miller Exhibit 2, page 7.

Please note: Exhibit may not foot due to rounding.

#### DUKE ENERGY PROGRESS,LLC Docket No. E-2, Sub 1174 Demand-Side Management Experience Modification Factor Rate Derivation

.

			DSM EMF Revenue Requirement													
NC Rate Class	Adjusted NC Rate Class kWh Sales <sup>(1)</sup>	Rate Class Demand Allocation Factor <sup>(2)</sup>	EnergyWise Program Costs <sup>(3)</sup>	Pi	CIG DR rogram <sup>(4)</sup>	All	located A&G		Allocated Carrying Costs <sup>(5)</sup>	Le: Per _Adju	Less: Prior Period DSM Rate Adjustment <sup>(6)</sup>		usted DSM F Revenue	Total DSM EMF Rate (cents/kWh)		
	(1)	(2)	(3)		(4)		(5)		(6)	(7	') = Σ (3 thru 6)		(8)		(9)=(7)-(8)	(10) = (9) / (1)
Residential	15,740,238,953	67.12%	\$12,886,943	\$	-	\$	684,567	\$	2,528,644	\$	16,100,154	\$ 14	,703,167	\$	1,396,988	0.009
General Service	9,737,467,991	32.88%	\$-	\$	2,558,730	\$	201,447		744,103	\$	3,504,280	\$ <del>5</del>	,294,310	\$	(1,790,030)	(0.018)
Lighting	360,425,890	0.00%	<u>\$ -</u>	\$		\$	-	\$	-	\$	-	\$	-	\$	_	-
NC Retail	25,838,132,834	100%	\$12,886,943	\$	2,558,730	\$	886,014	\$	3,272,747	\$	19,604,434	\$ 19	997,476	\$	(393,042)	

NOTES:

(1) Rate Class Sales, excluding "Opt-Out" sales, are derived in Miller Exhibit 6.

(2) Rate Class Demand Allocation Factor is derived in Miller Exhibit 5, page 6, column (5).

(3) EnergyWise costs are directly assigned solely to the Residential Rate Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.

(4) CIG DR costs are directly assigned solely to the General Service Rate Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.

(5) A&G and Carrying Costs are allocated on the basis of revenue requirements (excluding incentives and net lost revenues) assigned in preceding columns.

(6) Amounts are derived in Miller Exhibit 2, page 7.

Please note: Exhibit may not foot due to rounding.

#### Supplemental Miller Exhibit 2 page 6 of 7 REVISED

#### DUKE ENERGY PROGRESS, LLC Docket No. E-2, Sub 1174 EMF Period Revenue Requirement Summary - NC Level January 2017 - December 2017

																			r
					48.G	Conitalized OR M	Avenuella dina -6	a manala sa ta sa ta	0-1 01- 4		Income Taxes				Income Taxes	Rev Reqmt		Program	*
			0&M	Insurance	Expense	and A&G	Capitalized ORM	Camitalized ARG	Amortization	DSDR Capita	on DSDR	DSDR Property	DSDR	Carrying Costs	on Carrying	Before PPI &	Net Lost Revenue	Performance	<b>Rev Regrat With</b>
			(1)	(2)	(3)	(4)	(5)	(6)	/7)	(8)	(apitar costs (6)	/201		Net of Taxes	(1.2)	NLA	Recoupreent	Incentive	PPI & NLR
						ECols(1)Inru(3)	((1)+(2))/10	(3)/3		107	1-7	(10)	(11)	(12)	(15)	(14) SColoi51/ba/(12)	(15)	(16)	(17)
	NC DSM Program Expenses															2008(3)010(13)			20015(14)1001(18)
1	CIG DR	Per Books	1,254,690	1.00 Sec. 4.0	1	1,254,690	418,230	-	1.711.354					1		1 670 684			
2	EnergyWise	Per Books	10,809,353	유민가 지난 것	1	10,809,353	1,080,935		5.846.043	11111			-			7,029,004		233,850	1,863,435
3	EnergyWise for Business		1,145,187	16% of 16	<u>f</u>	1,145,187	381,729		321.354			월 10월 10일 (P	Sector de la composition	}	•	7,926,978	*0.000	4,959,965	12,886,943
4	Total DSM	£ Lines 1 thru 2	13,209,230			13,209,230	1,850,894	-	5,378,751	1	and a start			1 .		10 750 646	49,698	(57,480 6 136 330	695,295
5	DSM Assigned A&G and CCost	Per Books			724,598	724,598		241,533	644,481				an Tagairtí	2 302 515	970 232	A 158 761	43,038	3,130,330	15,445,574
6	Total DSM and Assigned Costs	I Lines 4 thru 5	13,209,230	i i i i i i i i i i i i i i i i i i i	724,598	13,933,828	1,850,894	241,533	9.023,232	N	Constant of the			1 2 302 515	970,232	4,156,751	40.000	6136330	4,158,751
	NC FE Program Excenses								•					1 1,000,010	310,232	14,410,407	45,058	3,130,330	19,604,434
7	Residential Home Adventage	Res Conto			,						والمراجع والأجر ومعالية فكفاره والتركان المر		•	-					
8	Home Energy Improvem't	Per Books	5 600 202		1			-	409,789					1 -	-	409,789	-	175,476	586,265
9	Neighborhond Energy Saver	Per Books	1 455 850		1	5,690,293	559,029		3,799,377					- 1	-	4,368,406	1,068,146	354,753	5,791,306
10	Solar Hot Water Pilot	Per Books	1,403,630			1,455,850	145,585		1,173,332					-	•	1,318,917	282,317	-	1,601,234
11	EE Lighting (Bes)*	Per Books (allacated)	8 014 021			0.014.024	-		39,343	1.151.6%	÷.			- 1	•	39,343	-	-	39,343
12	Appliance Recycling	Per Books (GADLOTED)	0,714,721 ş A SEE Î	An Are Show		0,914,921	1,/82,984		9,708,887					-	-	11,491,871	9,105,170	3,742,027	24,339,068
13	My Home Energy Report	Per Books	5 519 603			4,300	45/		633,458					{ - ·	•	633,915	396,451	119,754	1,150,119
14	Residential New Construction	Per Books	9 539 733			3,519,003	2,313,003					김 이 같이 다.		· ·	-	5,519,603	6,015,176	22,039	11,557,818
15	Home Depot CFL	Per Books	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			5,515,755	535,975		2,170,251					-	-	3,124,224	1,588,365	522,045	5,234,634
16	Energy Education Program for Schools	Per Books	683 286	1. 1. 1. 1. 1. 1.		602 706	175 427	-	21,623			20		1 -	-	21,623	-	-	21,623
17	Save Frierey & Water Kits	Per Books	776 505			083,280	150,037		253,900		an tha she she	Ne de la sec		1		390,557	335,531	•	726,088
18	Residential Energy Assessments	Des Backs	1 513 005			726,505	145,301		109,117			1. S.		Į		254,418	1,741,733	717,765	2,713,917
19	Multi-Family	Per Dooks	1,525,096			1,523,096	304,619		229,371	la dita -		지수 가지 아이지?	•	f		533,990	370,750	115,535	1,020,276
20	Found Revenue	Per Books	2,035,125	A 4.5 84 5		2,055,123	411,025		776,602	1.1.1	1 - 1 - A - A -		1. T.			1,187,627	2,056,521	505,626	3,749,773
21	Subtotal-Residential	Films 7 thru 20	36 117 976			46 113 076			10	6				<u> </u>					
		2 2463 / 010 20	30,112,370			36,112,976	9,969,233	-	19,325,050	-		-	-	•	-	29,294,283	22,961,160	6,276,021	58,531,465
22	CIG Energy Efficiency	Per Books		a Data i ser et						1. N. Q. Q. A			al de la com						
23	EE Lighting (Gen Svc)*	Per Books fallocated	1 080 475	NE STORES		1 080 475	216.005		4,181,401	4.5		Sector Carl		1 -	-	4,181,401			4,181,401
24	Non-Residential Energy Efficiency Progra	Ti Per Books	17 896 772			17 995 773	E DCE 601		1,175,424							1,394,519	2,605,783	1,213,527	5,213,828
25	Smart Saver Prescriptive	Per Books				17,030,772	3,563,391		3,517,308		2000		all and the	1		9,782,959	8,747,463	6,944,270	25,474,692
26	Smart Saver Custom	Per Books	1									S. Star						-	•
27	Smart Saver Performance Incentive	Per Books	l l						1									-	•
<b>Z</b> 5	Small Business Energy Saver	Per Books	7.168.664			7 168 664	2 389 555		4 612 610								B,952	7,194	16,146
28	Business Energy Report	Per Books	16.615			16 515	2,005,000		30 560					•	-	6,912,075	5,825,104	2,221,389	14,958,558
29	Found Revenue	Per Books					0,020		13,500				άξου, το 1			45,399	577	-	45,976
30	Subtotal-General Service	ΣLines 22 thru 29	26,162,527		_	25.162.527	8.576.779		13 739 573	<u></u>	<u> </u>	<u></u>					(186,197)		(186,197)
									10,700,000			•	•	-	•	22,316,352	17,001,682	10,386,380	49,704,414
31	Total of EE Programs	Lines 21 + 30	62,275,503			62,275,503	18,546,012		33.064 623	A Contract of	1407.000000			F .		F4 640 635	10.043.044		
32	EE Assigned A&G and CCost	Per Books		建成是他的	2,763,836	2,763,836		921,279	2 382 244		10 C			4 693 604	-	51,610,635	39,962,842	16,662,401	108,235,879
33	Total EE and Assigned Costs	Lines 32 + 32	62,275,503	Section 21	2,763,836	65,039,339	18,546,012	921,279	35,445,867		7. 200	2015 <b>a</b> 2017 7	8	6,003,070	2,810,397	12,803,616			12,803,616
			· · ·							<del></del>				0,000,090	2,010,397	64,4 <b>14,2</b> 5I	39,962,842	16,662,401	121,039,494
	NL USUK Program Expenses																		
34	DSDR Program	Per Books	3,976,242	735,060		4,711,302	471,130	-	4,436,826	6,339,403	2,672,041	603,847	11,031,510			25,554,757	132,107		25,686,864
32	USUK Assigned A&G and CCost	Per Books				•								1,179,711	497,109	1,676,820			1,676,820
20	TOTAL DODK AND ASSIGNED COSTS	2 Lines 34 thru 35	3,975,242	735,060	•	4,711,302	471,130	•	4,436,825	6,339,403	2,672,041	503,847	11,031,510	1,179,711	497,109	27,231,577	132,107		27,363,684
37	Test Period Totals	Lines 6 + 33 + 36	79,460,975	735,050	3,488,434	83,684,469	20,898,037	1.162.811	48,906,925	6 339 403	2 672 041	601 947	11 031 510	10 165 072	/ 103 337	105 054 235			
										0.000 100		003,047	11 031 310	10,103,922	4,283,738	100,064,236	40,144,647	21,798,731	168.007.613

\*All Non-Residential programs are amortized over a 3 year period. The Residential Lighting Program, Multi-Family EE and EE Education are recoverable over a 5 year period. My Home Energy Report is recoverable over a 1 year period. All other Residential EE programs are recoverable over 10 years.

Please note: Exhibit may not fool due to rounding.

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### DUKE ENERGY PROGRESS, LLC Docket No. E-2, Sub 1174 EMF Adjustment Summary January 2017 - December 2017

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• tea		Resid	ential			Genera	I Service				Lighting				Totolo	
LINE Description	DSM	DSDR	EE	Total	DSM	DSDR	EE	Total	DSM	DSDR	E FE	Total	D\$M	ÓSDR	i utais	
Test Period DSM/EE Rate Billings <sup>1</sup> Amounts from Miller Exhibit 4	\$ 14,703,167	\$ 16,626,699 \$	64,025,210	\$ 95,345,076	\$ 5,024,209	\$ 10,881,855	\$ 43,374,475	\$ 59,280,539	ş -	\$ 378,	309 \$ -	\$ 378,309	\$ 19,727,376 \$	27,886,864	\$ 107,389,685 \$	155,003,924
2 Less: Uncollectible Allowance in Rates <sup>2</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3 Over or (Under) collection of Uncollectibles <sup>3</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 True up of Vintage 2015 PPI <sup>4</sup> Amounts from Evans Exhibit 1 page 1	-		174,301	174,301			-				-	-	-	•	174,301	174,301
5 True up of Vintage 2016 PPI <sup>5</sup> Amounts from Evans Exhibit 1 page 3	•		212,573	212,573	74,686		9,162	83,848			-	-	74,685		221,735	295,421
6 True up of Vintage 2015 Lost Revenue through Year 2015 Amounts from Evons Exhibit 2 page 3-4	; <sup>6</sup>		959,904	959,904							-	-	-	-	959,904	959,904
7 True up of Vintage 2016 Lost Revenue through Year 2015 Amounts from Évons Exhibit 2 page 3 -4	, <sup>7</sup>		1,345,437	1,345,437			\$ (173,308)	(173,308)					•	-	1,172,129	1,172,129
8 Interest on Overcollections/(Undercollections)  Amounts from Miller Exhibit 3	-	-	(38,207)	(38,207)	195,415	-	(442,967)	(247,553)	-	(	318) -	(318)	195,415	(318)	(481,175)	(286,079)
9 Net Adjustments to DSM/EE EMF Clause	\$ 14,703,167	\$ 16.626.699 S	66 669 217	5 97 999 083	\$ 5 294 310	10 991 955	6 40 767 0.5	6 50000 505	_	-						
E Lines 1 through 8	Miller Exhibit 2 pag	<u>• • • • • • • • • • • • • • • • • • • </u>	1	7 57,555,005	5,254,310 .	<u>, 10,001,033</u>	<del>\$ 42,767,361</del>	> 58,943,525	<u> </u>	\$ 377,9	991 <u>5</u> -	\$ 377,991	\$ 19,997,476 \$	27,886,545	\$ 109,435,578 \$	157,320,600
		\$83,295, To Miller Exhibi	916 112 page 4		miner excitor 2 poge	\$53,64 To Miller Exhi	9,216 bit 2 page 4				To 141	ier Exhibit 2 page 4 :	Miller Exhibit 2 page 5	\$137,323 To Miller Schilt	J	
	<ol> <li>Actual DSM/El</li> <li>The Company</li> <li>The Company</li> <li>The Company</li> <li>See Evans Existing</li> <li>See Evans Existing</li> </ol>	E Rate billings for is not requesting is not requesting hibit 1 page 1 for hibit 1 page 3 for	test period (Jai an adjustment i an adjustment i a detail list of V a detail list of V	nuary 2017 thn for uncollectible for uncollectible intage 2015 pro intage 2016 pro	ough December as in this procee as in this procee ograms impacte ograms impacte	2017). ding. ding. d by EM&V true d by EM&V true	-ups -ups							iv muar exhibi	r a poys 4	

See Evans Exhibit 2 page 5 for a detail list of Vintage 2015 programs impacted by EM&V true-ups <sup>2</sup> See Evans Exhibit 2 page 5 for a detail list of Vintage 2016 programs impacted by EM&V true-ups

Please note: Exhibit may not fool due to rounding.

\* Calculated interest obligation associated with test period (January 1, 2017 through December 31, 2017).

Supplemental Miller Exhibit 3, page 1 of 4 NO CHANGE

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### Duke Energy Progress, LLC Docket No, E-2, Sub 1174 Estimated Return Calculation - Residential EE & DSM Programs Vintage 2017

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		Residential EE Costs, PPI & LR	Residential DSM Costs and PPI	Residential DSDR Program Costs Incurred	Total EE and DSM to be recovered	NC Residential Revenue Collected	NC Residential EE Program Collection %	EE Program Costs Revenue Collected	(Over)/Under Collection	
										-
2017	January	6,489,703	1,655,694	1,706,581	9,851,978	9,805,015	100.00%	(9,805,015)	46,963	
2017	February	5,156,632	1,315,593	1,356,027	7,828,252	7,790,936	100.00%	(7,790,936)	37,316	Since DEP is under-collected on program costs, but over-collected
2017	March	4,999,080	1,275,397	1,314,596	7,589,073	7,552,897	100.00%	(7,552,897)	36,176	on PPI and lost revenues, the Company is calculating a return due to
2017	April	4,012,550	1,023,707	1,055,170	6,091,428	6,062,391	100.00%	(6,062,391)	29,037	customers on the net balance in total
2017	May	4,413,655	1,126,039	1,160,648	6,700,343	6,668,403	100.00%	(6.668,403)	31,939	
2017	June	5,238,830	1,336,563	1,377,642	7,953,036	7,915,125	100.00%	(7.915.125)	37 911	
2017	ylut	6,608,133	1,685,909	1,737,725	10,031,765	9,983,946	100.00%	(9.983.946)	47.820	
2017	August	6,273,181	1,600,453	1,649,643	9,523,277	9.477.881	100.00%	(9.477.881)	45 396	
2017	September	5,643,094	1,439,702	1,483,951	8,566,746	8,525,910	100.00%	(8.525.910)	40,836	
2017	October	4,488,126	1,145,039	1,180,231	6,813,396	6,780,918	100.00%	(6,780,918)	32 478	
2017	November	4,217,286	1,075,941	1,109,009	6,402,236	6.371.718	100.00%	(6.371.718)	30,518	
2017	December	5,566,334	1,420,118	1,463,765	8,450,217	8,409,936	100.00%	(8,409,936)	40,281	
		63,106,604	16,100,154	16,594,990	95,801,748	95,345,076			456.672	

Note 1: Revenue source - CIM CRY4 reports

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Note 2: Program & Carrying Costs allocated on a weighted average basis based on revenues collected.

		Cumulative	<b>.</b>		Cumulative	Net Deferred					
		(Over)/Under	Current Income Tax	Monthly Deferred	Deferred Income	After Tax		Monthly A/T	YTD After Tax	Gross up of Return	Gross up of Return
		Recovery	Rate	Income Tax	Tax	Balance	Monthly Return	Return on Deferral	Interest	to Pretax Rate	to Pretax
			2017 tax rate				6.76%			0.764964	
2017	January	46,963	37.0599%	17,404,39	17.404	29.558	0.005632	83	83	0 764964	100
2017	February	84,279	37.0599%	13,829.30	31.234	53.045	0.005632	233	316	0.764964	109
2017	March	120,455	37.0599%	13,405.77	44,540	75.814	0.005632	363	679	0 764964	413
2017	April	149,492	37.0599%	10,761.04	55,401	94,090	0.005632	478	1 157	0 764964	1 512
2017	May	181,431	37.0599%	11,836.75	67,238	114,193	0.005632	586	1.744	0 764964	2,010
2017	June	219,342	37.0599%	14,049.74	81,288	138,054	0.005632	710	2,454	0.764964	3,2/3
2017	July	267,162	37.0599%	17,722.00	99,010	168,152	0.005632	862	3.316	0.764964	4 335
2017	August	312,558	37.0599%	16,823.71	115,834	196,724	0.005632	1.027	4,343	0.764964	5,678
2017	September	353,394	37.0599%	15,133.91	130,968	222,427	0.005632	1,180	5.524	0.764954	7 221
2017	October	385,873	37.0599%	12,036.46	143,004	242,869	0.005632	1,310	6.834	0.764964	8 934
2017	November	416,391	37.0599%	11,310.11	154,314	262,077	0.005632	1,422	8.256	0.764964	10 792
2017	December	456,672	37.0599%	14,928.05	169,242	287,430	0.005632	1,547	9,803	0.764964	12,815
								9,803			12,815
			Twelve months return	on 2017 Year End Ba	lance	287,430		19,424			25,392

Total return on Non-Residential Lighting

38,207

### Supplemental Miller Exhibit 3, page 2 of 4 REVISED

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### Duke Energy Progress, LLC Docket No. E-2, Sub 1174 Estimated Return Calculation -Non-Residential DSM Programs Vintage 2017

	-	Non-Residential DSM Program Costs Incurred	Non-Residential Allcoated Carrying Costs & A&G	Total Program Costs Incurred	NC Non-Residential	NC Non- Residential DSM Program Collection %	Non- Residential DSM Program Costs Revenue Collected	(Over)/Under Collection	
2017	lapırar	194 445	70 200	254 652					
2017	Febru:	184,443	70,209	254,653	373,056	100.0000%	(373,056)	(118,403)	
2017	March	100,031	70,280	254,911	3/3,433	100.0000%	(373,433)	(118,523)	DEP is overcollected on all components
2017	And	105,440	72,113	261,561	383,176	100.0000%	(383,176)	(121,615)	nterest is calculated on the entire
2017	April	177,706	67,644	245,349	359,426	100.0000%	(359,426)	(114,077) Ł	palance.
2017	Мау	204,628	77,891	282,519	413,879	100.0000%	(413,879)	(131,360)	
2017	June	224,599	85,493	310,092	454,271	100.0000%	(454,271)	(144 179)	
2017	July	247,900	94,363	342,264	501,402	100.0000%	(501,402)	(159 138)	
2017	Augus	243,729	92,775	335,504	492,964	100.0000%	(492,964)	(155,150)	
2017	Septer	244,292	92,990	337,281	494.103	100.0000%	(494,103)	(156,923)	
2017	Octob	217,050	82,620	299,669	439.003	100.0000%	(430,003)	(120,022)	
2017	Noven	183,351	69,793	253,144	370,845	100.0000%	(370,945)	(117 701)	
2017	Decen_	182,267	69,380	251,646	368,651	100.0000%	(368 651)	(117,701)	
		2,484,044	945,550	3,429,594	5,024,209		(5,024,209)	(1,594,615)	

Note 1: Revenue source - CIM CRY4 reports

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Note 2: Program & Carrying Costs allocated on a weighted average basis based on revenues collected.

	-	Cumulative (Over)/Under Recovery	Current Income Tax Rate	Monthly Deferred	Cumulative Deferred	Net Deferred After Tax Balance	Monthly Return	Monthly A/T Return on Deferral	YTD After Tax Interest	Gross up of Return to Pretax Rate	Gross up of Return to Pretax
			2017 tax rate				10.00%			0.764964	
2017	Januar	(118,403)	37.0599%	(43,880)	(43,880)	(74,523)	0.008333	(311)	(311)	0.764964	(406)
2017	Februi	(236,926)	37.0599%	(43,924)	(87,804)	(149,121)	0.008333	(932)	(1.242)	0.764964	(1 624)
2017	March	(358,540)	37.0599%	(45,070)	(132,875)	(225,666)	0.008333	(1,562)	(2.804)	0.764964	(2,024)
2017	April	(472,617)	37.0599%	(42,277)	(175,152)	(297,466)	0.008333	(2,180)	(4.984)	0.764964	(6,515)
2017	Мау	(603,977)	37.0599%	(48,682)	(223,833)	(380,144)	0.008333	(2,823)	(7.807)	0.764964	(10,206)
2017	June	(748,155)	37.0599%	(53,433)	(277,266)	(470,890)	0.008333	(3,546)	(11.353)	0.764964	(10,200)
2017	July	(907,294)	37.0599%	(58,976)	(336,242)	(571,052)	0.008333	(4.341)	(15.694)	0 764964	(20,517)
2017	Augus	(1,063,754)	37.0599%	(57,984)	(394,226)	(669,528)	0.008333	(5.169)	(20,864)	0.764964	(20,317)
2017	Septer	(1,220,576)	37.0599%	(58,118)	(45 <sup>2</sup> ,344)	(768,232)	0.008333	(5,991)	(26,854)	0.764964	(27,274)
2017	Octob	(1,359,909)	37.0599%	(51,637)	(503,981)	(855,928)	0.008333	(6,767)	(33,622)	0.764904	(43,003)
2017	Noven	(1,477,610)	37.0599%	(43,620)	(547,601)	(930.010)	0.008333	(7,441)	(41.062)	0.704904	(43,952)
2017	Decen	(1,594,615)	37.0599%	(43,362)	(590,963)	(1.003.652)	0.008333	(8,057)	(41,003)	0.704904	(53,680)
				-		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		(49,120)	(43,120)	0.704504	(64,212)
			Twelve months return on 20	17 Year End Balance		(1,003,652)		(100,365)			(131,203)

Total return on Non-Residential Lighting

(195,415)

### Supplemental Miller Exhibit 3, page 3 of 4 NO CHANGE

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### Duke Energy Progress, LLC Docket No. E-2, Sub 1174 Estimated Return Calculation -Lighting DSDR Programs Vintage 2017

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	Lig <del>i</del>	hting DSDR Program Costs Incurred	Lighting Allocated Carrying Costs & A&G	Total Program Costs Incurred	NC Lighting Revenue Collected	NC Lighting Program Collection %	Lighting Program Costs Revenue Collected	(Over)/Under Collection	
2017	Januar	30.483	1.990	32 473	37 754	100 0000%	(32.354)	210	
2017	Februi	30.173	1,970	32,142	31,925	100.0000%	(32,234)	213	DER is underceilected on the DSDResserem
2017	March	30,322	1,979	32,301	32,083	100.0000%	(32,083)	217	therefore interest is calculated on the
2017	April	28,509	1,861	30,370	30,165	100.0000%	(30,165)	205	total.
2017	May	31,237	2,039	33,276	33,051	100.0000%	(33.051)	225	
2017	June	29,794	1,945	31,739	31,524	100.0000%	(31.524)	214	
2017	July	29,637	1,935	31,572	31,359	100.0000%	(31,359)	213	
2017	Augus	29,812	1,946	31,758	31,543	100.0000%	(31,543)	215	
2017	Septer	29,366	1,917	31,283	31,071	100.0000%	(31,071)	211	
2017	Octob	30,232	1,974	32,205	31,988	100.0000%	(31,988)	218	
2017	Noven	29,393	1,919	31,312	31,100	100.0000%	(31,100)	212	
2017	Decen	28,586	1,866	30,452	30,246	100.0000%	(30,246)	206	
		357,543	23,340	380,883	378,309	-	(378,309)	2,574	

Note 1: Revenue source - CIM CRY4 reports

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Note 2: Program & Carrying Costs allocated on a weighted average basis based on revenues collected.

		Cumulative (Over)/Under		Monthly Deferred	Cumulative Deferred	Net Deferred After		Monthly A/T Return	VID After Tay	Gross up of Return to	Gross up of Poturn to
	-	Recovery	Current Income Tax Rate	Income Tax	Income Tax	Tax Balance	Monthly Return	on Deferral	Interest	Pretax Rate	Pretax
			2017 tax rate	-			10.00%			0.764964	
2017	Januar	219	37.0599%	81	81	138	0.008333	1	1	0.764964	1
2017	Februi	437	37.0599%	81	162	275	0.008333	2	2	0.764964	3
2017	March	655	37.0599%	81	243	412	0.008333	3	5	0.764964	7
2017	April	860	37.0599%	76	319	541	0.008333	4	9	0.764964	12
2017	Маү	1,085	37.0599%	83	402	683	0.008333	5	14	0.764964	19
2017	June	1,300	37.0599%	79	482	818	0.008333	6	20	0.764964	27
2017	July	1,513	37.0599%	79	561	952	0.008333	7	28	0.764964	36
2017	Augus <sup>.</sup>	1,728	37.0599%	80	640	1,087	0.008333	8	36	0.764964	48
2017	Septer	1,939	37.0599%	78	719	1,220	0.008333	10	46	0.764954	60
2017	Octob	2,157	37.0599%	81	799	1,357	0.008333	11	57	0.764964	74
2017	Noven	2,368	37.0599%	78	878	1,491	0.008333	12	69	0.764964	90
2017	Decen	2,574	37.0599%	76	954	1,620	0.008333	13	. 82	0.764964	107
							-	82			107

Twelve months return on 2017 Year End Balance

1,620

162

212

Total return on Non-Residential Lighting

dda		
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Duke Energy Progress, LLC Docket No. E-2, Sub 1174 Estimated Return Calculation -Non-Residential EE & DSDR Programs Vintage 2017

1	7			
Costs Incurred	ion-Residential Ef			
DSDR Costs incurred	Non-Residential			
Incurred	Total Program Costs			
Revenue Collected	NC EE Non-Residential			
Collection %	EE Program	NC Non-Residential		
Collected	<b>Total EE Revenue</b>			
Collected	Revenue	Residential	NC DSDR Non-	
Collection %	Program	Residential DSDR	NC Non-	
Revenue Collected	DSDR Program Costs			
<b>Revenue Collected</b>	Total EE & DSDR			
(Over)/Under Colle				

5,374,048	(32,866,378)	(10,881,855)		10,881,855	[21,984,523]		21,984,523	38,240,426	10,387,812	27,852,614		
291,318	(2,016,075)	(790,250)	100.000%	790,250	(1,225,825)	100.0000%	1,225,825	2,307,393	754,372	1,553,021	December .	7017
389,975	(2,392,633)	[796,181]	100.0000%	796,181	[1,596,452]	100.0000%	1,596,452	2,782,610	760,034	2,022,576	November	101/
543,879	(3,138,680)	[941,005]	100.0000%	941,005	(2,197,674)	100.0000%	2,197,574	3,682,559	898,283	2,784,276	Uctober	201/
607,923	(3,516,875)	(1,059,167)	100.000%	1,059,167	(2,457,708)	100,0000%	2,457,708	4,124,797	1,011,080	3,113,717	September	2017
560,858	(3,337,30S)	(1,056,393)	100.0000%	1,056,393	(2,280,912)	100.0000%	2,280,912	3,898,163	1,008,432	2,889,731	August	201/
551,335	(3,322,227)	(1,073,999)	100.000%	1,073,999	(2,248,228)	100.0000%	2,248,228	3,873,552	1,025,239	2,848,324	YILL	707/
489,386	(2,969,204)	(970,644)	%0000.001	970,644	(1,998,560)	100.000%	1,998,560	3,458,590	926,576	2,532,014	June	201/
467,146	(2,786,313)	(885,549)	100.0000%	885,549	(1,900,764)	100.0000%	1,900,764	3,253,459	845,345	2,408,114	¥ew.	/Tu7
388,061	(2,352,820)	(768,288)	100.0000%	768,238	(1,584,532)	100,0000%	1,584,532	2,740,881	/33,407	2,007,474	Apro	701/
380,472	(2,384,846)	(819,957)	100,0000%	819,957	(1,564,889)	100.000%	1,564,889	2,765,318	782,730	1,982,588	March	/107
353,575	(2,259,199)	(798,696)	100.0000%	798,696	(1,460,503)	100.0000%	1,460,503	2,612,774	762,434	1,850,339	February	/11/
350,118	(2,390,202)	(921,726)	100.0000%	921,726	(1,468,476)	100.000%	1,468,475	2,740,320	879,879	1,860,441	January	2017

Note 1: Revenue source - CIM CRY4 reports Note 2: Program & Carrying Costs allocated on a weighted average basis based on revenues collected.

	200,000										-	
	144 164			110 773								
	144.154	0.764964	110,273	18,537	0.005632	3,382,431	1,991,617	107,962	37.0599%	5,374,048	December	2017
	119,928	0.764964	91,741	17,325	0.005632	3,199,075	1,883,654	144,525	37.0599%	5,082,729	November	2017
	97,280	0.764964	74,416	15,670	0.005632	2,953,623	1,739,129	201,561	37,0599%	4,692,753	October	2017
	76,796	0.764964	58,746	13,628	0.005632	2,611,305	1,537,568	225,295	37.0599%	4,148,874	September	2017
	58,980	0.754964	45,118	11,557	0.005632	2,228,678	1,312,273	207,853	37.0599%	3,540,951	August	2017
	43,873	0.764964	33,561	9,586	0.005632	1,875,673	1,104,419	204,324	37.0599%	2,980,093	Anr	2017
	31,341	0.764964	23,975	7,741	0.005632	1,528,663	260'006	181,366	37.0599%	2,428,758	June	2017
program cost piece of the balance,	21,221	0,764964	16,234	6,046	0.005632	1,220,643	718,729	173,124	37.0599%	1,939,372	May	2017
In total, therefore the Company is calculating interest on the	13,317	0.764964	10,187	4,531	0.005632	926,621	\$45,605	143,815	37.0599%	1,472,226	April	2017
Since DEP is under-collected on program costs and undercollected	7,395	0.764964	5,657	3,169	0.005632	682,374	401,790	141,003	37.0599%	1,084,165	March	2017
	3,253	0.764964	2,488	1,858	0.005632	442,905	260,788	131,035	37.0599%	703,693	February	2017
	811	0,764964	621	621	0.005632	220,364	129,753	129,753	37.0599%	350,118	fanuary	2017
		0,764964			6.76%				2017 tax rate			
	to Pretax	Pretax Rate	Interest	Deferral	Monthly Return	Tax Balance	Income Tax	Income Tax	Rate	Recovery		
	Gross up of Return	Gross up of Return to	YTD After Tax	Return on		Net Deferred After	Cumulative Deferred	Monthly Deferred	Current Income Tax	(Over)/Under		
				Monthly A/T						Cumulative		

228,581 298,813 442,967

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Twelve months return on 2017 Year End Balance Total return on Non-Residential EE programs

3,382,431

Supplemental Miller Exhibit 3, pagé 4 of 4 NO CHANGE

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Supplemental Miller Exhibit 7

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Duke Energy Progress, LLC Docket No. E.2, Sub 1174 Calculation of % of Lost Revenues included in Base Rates

# Residential EE Sales Impacts and Resulting Overstatement of Sales Values

		Nov-16	Dec-16	1sn-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	71-jnr	Aug-17	Sep-17	Oct-17	Total	
۲	Incremental Savings 11-16 to 10-17	10,886	13,543	8,309	6,138	9,545	7,438	7,611	5,642	166,8	860'6	9.215	13,160	109.517 1	
~	NC Incremental Savings 11-16 to 10-17 (Allocation)	102'6	11,571	7,105	5,249	8,162	6,360	6,508	4,825	1,637	617,1	7,880	11,253	93,629 2	
÷	Savings Impacts (MWH) In Updated Test Period														
4	Nov-16	385	52	775	775	775	775	217	52	775	775	275	217	8.914	
'n	Dec-16		482	964	964	964	964	964	364	364	964	964	964	10.125	
6	1an-17			296	592	592	592	592	592	292	265	592	592	5,625	
~	Feb-17				219	437	437	(E <b>1</b>	437	437	437	437	437	3.718	
. 00	Mar-17					940	680	680	680	680	680	680	680	5 101	
n	Apr-17						265	530	530	530	530	230	530	3.445	
8	71-4EM							271	ž	542	273	542	3	2.983	
	Jur-17								201	407	402	402	402	1.809	
2	Jul-17									316	636	636	636	2227	
<b>2</b> :	Aug-17										324	648	648	1.621	
<b>1</b>	Sep-17											328	657	586	
5	044-17												469	469	
16	Total of Savings Impacts (MWh) in Updated Test Period	<b>3</b> 8E	1,257	5E0'Z	2,550	3,109	3,714	4,250	227,8	5,242	5,884	6,536	7,334	47,021	
11 12	Understatement of Lost Revenue (MWh) in Test Period (Lin Percentage of Understated Lost Revenue (MWh) (Line 17/	e 2 - Line 16) Line 2)												45,608 49.8%	

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NOCCAS: <sup>1</sup> Incremental EE Impacts (NNVN) *(MYHER Program impocts ore not recopnized)* <sup>2</sup> Allocated Incremental EE Impacts (NNVN) - NC Only

# Non Residential EE Sales Impacts and Resulting Overstatement of Sales Values

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		Jan-16	Feb-15	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Total
-	Incremental Savings 1-16 to 12-16	7,054	11,357	17,847	6,782	8,339	6,683	9,113	13,402	8,748	202'6	11,076	12,229	121,938 1
~	NC Incremental Savings 1-16 to 12-16 (Allocation)	6,027	£07,9	15,248	5,795	7,125	5,710	7,785	11,450	7,475	7,952	9,463	10,448	104,182 2
en.	Savings Impacts (MWH) In Updated Test Period													
4	Jan-16	151	105 205	202	205	205	ŝ	502	202	205	505	65	Ş	6 776
'n	Feb-16		<b>10</b>	508	603	608	503	503	608	508	508	503		0.016
9	Mar-16			635	1/2/1	1,271	1,271	1/2/1	1,271	1,271	1/2/1	1271	1221	202
~	Apr-16				241	<b>48</b> 3	483	483	483	483	483	483	483	4,105
89	May-16					297	594	594	594	594	594	594	294	4,453
n (	Jun-16						238	476	476	476	476	476	476	3,093
3:	Jul-16							324	619	649	649	649	679	3,569
4 9	Aug-16								477	954	954	954	<b>\$</b> 56	4,294
3 :	Sep-16									11E	623	623	623	2,180
n :	001-16										IEE	663	663	1,657
\$ :	Nov-16											394	789	1,183
2	Dec15												435	435
16	Total of Savings Impacts (MWh) in Updated Test Period	251	206	1,946	2,623	- 3,361	3,896	4,458	5,260	6,048	6,691	7,417	8,246	51,305
11 81	Understatement of Lost Revenue (MWh) in Test Period (Lin Percentage of Understated Lost Revenue (MWh) (Line 27/1	e 2 - Line 16) (ine 2)												52,876 50.8%

<u>NOtes:</u> <sup>1</sup> Incremental EE Impacts (MWh) *(BER Program Impacts are not recognized)* <sup>2</sup> Alocated Incremental EE Impacts (MWc) - *NC Galy* 

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# Duba Emergy Progress Evans (Ablint 1, page 1 Vintage 2015 True Up - January 1, 2015 to Dacamber 33, 2015 Docket Namber 2, 2, Jun 1174 Lood Impacts and Estimated Revenue Regularements by Program

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				•	C	D =(A-B)*C	E = (8+D)	F		G	H =O (from page 2)
Residential Programs	System kW Reduction - Summer Peak	System Energy Reduction (kWh)	System NPV of Avoided Costs	Total Cost	Shared Savings %	Incentive	Unadjusted Rev Requirement <sup>m</sup>	NC Retail kWh Sales Allocation Factor		NC Residential Unadjusted Bernica Residences	Adjusted Revenue Recuirement (FMS)
ff Brograms		<u> </u>	·			· <u> </u>					
to Frequence		4 403 063								• • • • • • • • • • • • • • • • • • • •	
Energy Education Descrete for Schenin	1101	4,407,033	3 1,308,367 C 1,676,341	5 1,224,463	13.00%	5 3//35	\$ 172/41A	65.2%0007%	11-11	5 1,072,879	
Energy Editions 1 Infetions	1120	61 202 076	t 15 010 710	5 14616116	11 000	5 3 Mai 106	5 10,009	63.236060/W	12.12	\$ 600,176	
Kome Factor Inconvenent Program	1911	605057	5 6659.604	\$ \$204,213	13,00%	\$ 2,700,293 \$ 303,874	5 5501,00	65.29000076	23-13	5 14,627,181	· ·
Multi-Secold	1 117	17 949 005	5 D 816 135	6 2615 745	11.00%	6 974 061	5 3,501,100	65.2 KOOOCK		\$ 4,091,894	3
Neishborhond Energy Sever	315	2 067 494	5 114611	5 1586.061	0.00%	\$ 556651	5 1586061	85.250000/W	13-13	5 5,029,526	5 [21,570]
Residential New Construction	2428	6 607 792	\$ 72.041.218	\$ 7447354	13.00%	5 607.415	5 8049473	65 2000000K	10 - FD	5 1,552,751	· · ·
Save Energy and Water KR			5	5 .	13.00%	5 <b>0</b> 0,015	ζ 0,043,071 ζ	85 300000W	£10.0 €10	\$ B,640,500	\$ (31,42)
Residential House Advantary			· · ·		13.00%		- E - E - E - E - E - E - E - E - E - E	85.2900000W	C10 110		
Total for Residential Concervation Programs	17 673	101.025.225	\$ 68 886 289	5 81 487 545		\$ 4 S42 088	5 11034623	0.2270000076		21 420 771	
						·				\$ 32,439,173	2 (55 <b>6,6</b> 5)
My Home Energy Report	17.341	105.857.358	\$ \$ 791 217	5 5.808.941	11.00%	٠.	C Saturdan	85 29000006	611 4 611	¢ 4564446	*
Total Residential Conservation and Behavioral Programs	34,614	206,882,643	5 74,677,506	\$ 39,295,526		\$ 4,547,088	5 43,843,614	0.1.1.0.0.0		\$ 37 204 710	3 227,039
-	-		-								
								NC Residential Peak			
								Demand Allocation Factor			
EnergyWise	28.015		\$ 32,617,642	\$ 5,205,545	8.00%	\$ 2,192,958	5 7,398,513	66.0466667%		\$ 6,166,174	۰.
Total Residential	62,829	206,643,643	\$ 107,295,146	\$ 44,502,071		\$ 6,740,055	\$ 51,242,126			\$ 43,760,393	\$ 174,301
				-							
	Systems & W		Suntam NOV of Augulan				flooding to d Paul				
	System NW Reduction - Summer	System Energy	System NPV of Avoided	Total Cost	Shared Savings %	incentive.	Unadjusted Ray	NC Retail kWh Sales		NC Residential Unadjusted	Adjusted Revenue
	System &W Reduction - Summer Peak	System Energy Reduction (kWh)	System NPV of Avoided Costs	Total Cost	Shered Savings %	Incentive	Unadjusted Rav Requirement (2)	NC Retail kWh Sales Allocation Factor		NC Residential Linadjusted Revenue Requirement (2)	Adjusted Revenue Requirement (EMF)
Non-Residential Programs	System &W Reduction - Summer Peak	System Energy Reduction (kWh)	Systam NPV of Avoided Costy	Total Cost	Shered Savings %	incentive	Unadjusted Rav Requirement (2)	NC Retail kWh Sales Allocation Factor		NC Residential Unadjunted Revenue Requirem <u>ent</u> (2)	Adjusted Revenue Requirement (EMF)
Non-Residential Programs	System kW Reduction - Summer Peak	System Energy Reduction (kWh)	System NPV of Avoided Costy	Total Cost	Shered Savings %	incestive	Unadjusted Rav Requirement (2)	NC Retail kWh Sales Allocation Factor		NC Residential Linadjusted Rovenue Requirement (2)	Adjusted Revenue Requirement (EMF)
Non-Residential Programs EE Programs	System &W Reduction - Summer Peak	System Energy Reduction (kWh)	System NPV of Avoided Costy	Total Cost	Shared Savings %	Incentive	Unadjusted Rav Requirement (2)	NC Retail kWh Sales Allocation Factor		NC Residential Unadjusted Revenue Requirement (2)	Adjusted Revenue Requirement (EMF)
Non-Residential Programs EE Programs Bulans: Entry Report	System &W Reduction - Summer Peak	System Energy Reduction (kWh)	System NPV of Avoided Costs	Tetal Cost	Shared Sevings %	5	Unadjusted Ray Regularment (2)	NC Retail kWh Sales Allocation Factor B5.2300000%	E13 * F13	NC Residential Unadjusted Revenue Requirement (2) \$ 63,433	Adjusted Revenue Requirement (EMF)
Non-Residential Programs EE Programs Bulmes Enry Report Enry Filterory for Bulansa Enry Of Maria Linking	System &W Reduction - Summer Peak 4,229 4,121	System Energy Reduction (NWh) \$7,355,602	System NPV of Avoided Costy 5 - 5 29,902,572 5 11,651,477	Tetal Cost \$ 74,374 \$ 6,226,453 6 1 715 056	Shared Savings %	locantive	Unadjusted Rev Requirement (2) \$ 74,374 \$ 9,004,322	NC Retail kWh Sales Allocation Factor 85.29000005 85.29000005	E13 * F13 E14 * F14	NC Residentis 1 Unadjusted Revenue Requirement (2) \$ 63,433 \$ 7,935,657	Adjusted Revenue Requirement (EMF) S -
Non-Residential Programs EE Programs Budnes Longy Report Europy Efficiency for Balance Europy Efficiency for Balance Europy Efficiency End	System &W Reduction - Summer Peak 4,829 4,122 6,819	System Energy Reduction (kWh) 57,355,602 19,250,609 43 319,078	System NPV of Avoided Cests \$	Total Cost \$ 74,374 \$ 6,226,453 \$ 1,775,954 \$ 9,74,136	Shared Savings %	Incentive \$ \$ 3,077,859 \$ 1,270,817 \$	Unadjusted Rev Requirement (2) \$ 74,374 \$ 9,504,322 \$ 8,046,775 \$ 11,752,816	NC Retail I-Wh Sales Allocation Factor 85.230000% 85.230000% 85.230000%	E13 ° F13 E14 ° F14 E15 ° F15	NC Residential Unadjusted Revenue Requirement (2) \$ 63,433 \$ 7,935,657 \$ 2,598,554	Adjusted Revenue Requirement (EMF) S - S - S -
Non-Residential Programs EE Programs Bulines Every Report Every filteery for Bulines Every filteery to Bulines Every filteery for Bulines Final Bulines Every Soviet	System kW Reduction - Summer Peak 4,829 4,172 6,829	System Energy Reduction (kWh) 57,365,602 10,250,609 42,318,074	System NPV of Avoided Costs 5 - 5 23,902,372 5 11,551,470 5 25,239,036 5 46 401 187	Total Cost \$ 74,374 \$ 6,226,453 \$ 1,775,958 \$ 9,780,196 \$ 1,721,5581	Shared Savings %	S 3,077,65 S 3,077,65 S 1,270,617 S 2,200,649 C 4 M4 15	Unadjusted Rav Requirement (2) \$ 74,374 \$ 9,304,322 \$ 8,045,75 \$ 11,789,845 \$ 4,314,414	NC Retail KWb Sales Allocation Factor BS.230000% BS.230000% BS.230000%	E13 * F13 E14 * F14 E16 * F16 E17 * F17	NC Residential Unaffunted Revenue Regularment (2) 5 63,433 5 7,935,657 5 2,598,554 5 10,055,557	Adjusted Revenue Requirement (EMF) S - S - S - S - S -
Non-Residential Programs EE Programs Budnes Every Repert Enzys (Fickers Uptale Enzys (Fickers Uptale Table Seas Exery Sever Table Jon Servey Sever Table for Non-Residential Conservation Programs	System kW Reduction - Summer Peak 4,829 4,172 6,829 15,830	System Energy Reduction (kWh) 57,355,602 19,250,609 42,318,074 118,934,285	System NEV of Avoided Costs \$ 23,902,372 \$ 11,551,670 \$ 25,239,036 \$ 66,612,877	Total Cost \$ 74,374 \$ 6,226,453 \$ 1,775,958 \$ 9,760,196 \$ 17,856,981	Shared Savings N 	5 5 3,077,869 5 1,270,817 5 2,2005,649 5 6,356,315	Unadjunted Rav Requirement (2) \$ 24,374 \$ 9,304,322 \$ 3,046,775 \$ 11,789,845 \$ 24,213,316	NC Retail I.Wh Sales Allocation Factor 85.250000% 85.250000% 85.250000% 85.250000%	E13 * F13 E14 * F14 E16 * F16 E17 * F17	NC Residential Unadjunted Revenue Requirement (2) 5 63,433 5 7,935,657 5 2,598,594 5 10,055,559 5 20,653,245	Adjusted Revenue Requirement (EMF) S - S - S - S - S -
Non-Residential Programs EE Programs Business Energy Report Energy Filtereny for Business Energy Filtereny for Business Sand Business Energy Saver To tal for Non-Residential Canseversion Programs To tal for Non-Residential Canseversion Programs	System &W Reduction - Summer Peak 4.829 4.172 6.829 15,830	System Energy Reduction (kWh) 57,365,602 19,250,609 42,318,074 118,934,285	System HPV of Avoided Costs \$ 29,902,372 \$ 11,513,470 \$ 25,239,036 \$ 66,622,677	Total Cost           \$         74,374           \$         6,226,453           \$         1,75,658           \$         9,780,196           \$         1,7456,981           \$         6,64,65	Shared Savings 15 13.00% 13.00% 13.00% 13.00%	Incentive \$ 3,077,869 \$ 1,270,817 \$ 6,354,955 \$	Unadjusted Ray Requirement [2] \$ 74,374 \$ 9,304,322 \$ 10,06,775 \$ 11,729,845 \$ 24,215,316 \$ cc.etc.	NC Retail XVIII Sales Allecation Factor 85.2500000% 85.2500000% 85.2500000% 85.2500000%	E13 * F13 E14 * F14 E16 * F16 E17 * F17	NC Residential Unaffusted Revenue Regularment (2) 5 63,438 5 7,935,657 5 2,598,594 5 10,055,559 5 20,653,243	Adjusted Revenue Requirement (EMF) S - S - S - S - S -
Non-Residential Programs EE Programs Budnes Every Report Energy Filders Uptuby Energy Filders Uptuby To Ul for Non-Beskismial Conservation Programs To Ul for Non-Beskismial Conservation Programs Every Wides for Babasas	System &W Reduction - Summer Peak 4,829 4,172 6,823 15,830	System Energy Reduction (kWh) 57,385,602 10,350,609 42,318,074 118,934,285	System NEV of Avoided Cents 5 . 5 23,902,972 5 11,551,470 5 64,602,877 5 10,54,490	Tetal Cost 5 74,374 5 8,226,453 5 1,775,558 5 9,720,136 5 17,456,901 5 65,455 5 10,444	Shared Savings K 	Incentive \$ 3,077,549 \$ 1,270,547 \$ 6,354,915 \$ 5 5,440	Unadjunted Ray Requirement [2] 5 74,374 5 5,304,322 5 10,045,775 5 24,215,316 5 65,565 5 65,517	NC Retail IsWh Sales Allocation Factor BS.2500000% BS.2500000% BS.2500000% BS.2500000% BS.2500000% BS.0466667% BS.0466667%	E13 * F13 E14 * F14 E16 * F16 E17 * F17 E17 * F17 E19 * F19 E19 * F19	NC Residential Unadjunted Revenue Requirement (2) 5 63,433 5 7,935,657 5 2,948,554 5 10,055,559 5 20,653,243 5 53,223	Adjusted Revenue Requirement (EMF) S - S - S - S - S - S - S - S - S - S -
Non-Residential Programs EE Programs Bulans: Every Report Every Efficiency for Bulansa Every Efficiency for Bulansa Every Efficiency Sever Total for Non-discidential Conservation Programs EveryWhe for Business Commercial (Industrial, & Governmental Demand Response Total for Non-discidential DOG Amarman	System &W Reduction - Summer Peak 4,829 4,172 6,819 15,830 834 834 834	System Energy Reduction (hWh) 57.355.602 19,250.609 42.218.074 118.934.285	Sprtam HEV al Avoided Conty \$ 23,502,372 \$ 11,551,470 \$ 22,219,030 \$ 66,622,877 \$ . \$ . \$ . \$ . \$ . \$ . \$ . \$ .	Total Cost \$ 74,374 \$ 0,226,453 \$ 1,775,598 \$ 9,780,198 \$ 17,855,491 \$ 65,456 \$ 500,444 \$ 64,4000	5hared Savings % 13.00% 13.00% 13.00% 13.00% 8.00%	Incentive \$ 3,077,649 \$ 1,270,847 \$ 2,209,647 \$ 6,354,955 \$ 5 \$ 5,464 \$ 5,464	Unadjusted Ray Requirement (2) 5 74,374 5 93,304,322 5 10,046,775 5 11,783,845 5 24,215,316 5 655,214 5 655,214 5 655,214	NC Retail XVII Sales Allocation Factor 85.250000% 85.250000% 85.250000% 85.250000% 85.250000%	E13 * F13 E14 * F14 E15 * F15 E17 * F17 E10 * F19 E20 * F20	NC Residential Unadjunted Revenue Requirement (2) 5 63,419 5 7,935,657 5 2,568,564 5 10,055,559 5 20,653,243 5 55,223 5 55,223 5 55,227 5 521,277	Adjusted Revenue Requirement (DMF) 5 - 5 5 - 5 5 - 5 5 - 5 5 - 5
Non-Residential Programs EE Programs Budnes Everg Repet Evergy Efficient Lytching Small Budnes Everg Sover Total for Non-Residential Conservation Programs EvergyWithe for Budness EvergyWithe for Budness EvergyWithe for Budness Total for Non-Residential Conservation Programs	System &W Reduction - Summer Peak 4,829 4,172 6,629 15,830 	System Energy Reduction (KWA) 57,385,602 10,255,609 42,318,074 118,914,255	System HEV of Avoided Cents 5 5 23,902,372 5 11,531,470 5 5 46,602,677 5 5 1,025,499 5 3,023,439	Tetal Cost           \$         74,374           \$         6,226453           \$         1,775,554           \$         9,700,396           \$         17,455,891           \$         65,456           \$         650,444           \$         654,900	Shared Savings %	Incentifive \$ 3,077,869 \$ 1,270,817 \$ 2,209,849 \$ 6,354,355 \$ . \$ 36,480 \$ 36,480	Unadjusted Ray Requirement [2] 5 74,374 5 5,304,322 5 10,45,75 5 24,215,315 5 65,524 5 65,524 5 67,524	NC Retail EWh Sales Allocation Factor BS 23000076 BS 25000076 BS 25000076 BS 29000076 BS 046666776 BS 046666776 BS 046666776	E13 * F13 E14 * F14 E16 * F16 E17 * F17 E19 * F19 E10 * F20	NC Residential Unadjunted Revenue Requirement (2) \$ 63,433 \$ 7,935,657 \$ 2,598,594 \$ 10,055,559 \$ 20,653,243 \$ 54,123 \$ 54,123 \$ 51,1177 \$ 577,700	Adjusted Revenue Requirement (EMF) S - S - S - S - S - S - S - S - S - S -
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		Rasidantial Programs	Chryspan	uman and Program.	E Programs 1 benear the second secon	() Derryyffictu (for Kadrens 11. Consensati, fraideria 23. Yeal (se ster einsteineld DAM Program 29. Yeal Mar Program 24. Anal Al Program 24. Anal Al Program

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# Dube Francy Program. Evans Enhibit 4, page 5 Vistage 2017 There Up - Insumary 1, 2017 to Domines 31, 2017 Dubert Hambert 2, Sydon 1174 Load Impacts and Estimated Revenue Requirements by Program

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Residential Programs	System KW Reduction - Summer Peak	System Energy Reduction (kWh)	System NPV of Avoided Costs	Total Cost	Shared Savings %	incentive	Unadjusted Rev Regularise nt #	NC Retail KWIs Sales Allocation Factor		NG Residential Unadjusted Revenue Requirement**	NC Residential Adjusted Revenue Requirement
EE Programs										-	
1 Appliance Recycling Program	•	-	s .	\$ 5,588	11.75%	\$ (656)	\$ 4,930	85.5082864%	£1=#1	\$ 4,215	\$ 119,754
2 Energy Education Program for Schools	976	2,353,765	5 1,376,442	5 835,991	0.00%	s ,	\$ \$15,991	85.5C82864%	E2 * #2	5 714,841	s .
3 Energy Efficient Lighting	4,314	29,913,877	\$ 29,337,262	5 10,904,279	11.75%	\$ 2,165,878	\$ 13,070,357	85.5C82864%	0"B	\$ 11,176,067	\$ 3,742,027
4 Pione Energy Ingrovement Program	1975	7,157,987	\$ 6,314,054	5 6,961,463	11.75%	\$ (76,071)	\$ 6,885,392	B5.5C82864%	£4 ° F4	5 5,807,502	\$ 354,753
2 Norderanny	2,192	16,150,507	\$ 10,237,157	\$ 2,514,413	11.75%	\$ 907,422	\$ 3,421,846	85.5082864%	E3 - F3	\$ 2,925,953	\$ \$05,676
B Marging and Canal American and	235	2,200,240	5 1,117,743	\$ 1,721,211	0.00%	\$	\$ 1,781,311	85.SO82864%	E <b>6 * F</b> 6	\$ 1,523,083	s .
Providential New Construction	410	1,007,730	3 1,303,959	5 1,863,466	11.75%	\$ 285,756	\$ 2,150,241	15.5082864%	6.6	\$ 1,858,634	\$ \$15,536
B Saue Sauer and Michae Kit		13,576,035	5 76,582,726	5 11,6/1,72	11.75%	5 1,515,647	5 13,188,590	85.5002864%	E7 * F7	\$ 11,277,338	\$ \$22,045
's serve courgy and ora or all. 10 Residential Nome Adventues	6,3//	12/051/421	* ***********************************	5 668,869	11.75%	\$ 1,915,052	5 2,003,921	85.5082864%	ED " FR	\$ 2,397,585	\$ 717,765
11 Total for Residential Concervation Programs	25 122	101 441 557	3	*7 *7 *7 *7	11.75%	· · · ·	<u>}</u>	B5.5082864%		<u>.</u>	5 176,476
		101,411,277	,,	37,427,021		5 6,715,246	2 ee'TeT'taa			5 17,745,297	5 6,253,982
12 My Home Energy Report 13 Total Residential Conservation and Behavioral Programs.	19,964 45,085	117,851,515 270,293,112	<u>\$ 6,972,509</u> <u>\$ 301,427,558</u>	5 6,753,153 5 44,180,174	11.75%	<u>5 25,774</u> 5 6,741,022	<u>5</u> <u>6,778,978</u> <u>5</u> <u>50,921,196</u>	85.5082864%	E21 * F31	<u>\$</u> 5,796,545 <u>\$</u> 43,541,842	\$ <u>27,039</u> \$ <u>6,776,021</u>
								NC Residential Peak Demand Allocation Factor	N° Allocation Easter (7)		
14 EnergyWise	33,428		5 62,965,960	\$ 6,502,032	11.75%	\$ 6,634,512	5 13,195,544	14.1579245%	48.2705.202%	5 6.722.114	\$ 4959 BKL
25 Total Residential	76,513	720,791,117	\$ 164,393,519	5 50,687,206		\$ 13,875,534	\$ 64,057,740			\$ 50,264,156	5 11,235,946
	System its Reduction - Summer Park	System Energy Reduction (kWh)	System KPV of Avolded Costs	Total Cost	Shared Savings %	Incentive	System Revenue Requirement	MC Retail tWh Sales Allocation Factor		NC Non-Reskientig Unicijustvi Revenup Resultatni prili	NC Non-Residentia) Adjusted Revenue
Non-Residential Programs	System IOV Reduction - Summer Peak	System Energy Reduction (kWh)	System NPV of Avoided Costs	Total Cest	Shared Savings %	hcentive	System Revenue Requirement	MC Retail tWh Sales Allocation Factor		NC Non-Revisionita) Unacjustral Revenue Requiriment <sup>a</sup>	NC Non-Residentia) Adjusted Revenue Requirement
Non-Residential Programs	System IOV Reduction - Summer Peak	System Energy Reduction (With)	System NPV of Avoided Costs	Total Cast	Shared Sardings 14	kacentive	System Revenue Requirement	MC Retail 11Wh Sales Aliocation Factor		NC Non-Residentia) Unadjustni Revenup Regularment <sup>us</sup>	N C Non-Residentia) Adjusted Revenue Requirement
Non-Residential Programs EE Programs	System IoW Reduction - Summer Peak	System Energy Reduction (kWh)	System KPV of Avoided Costs 	Total Cast	Shared Saringa %	incentive	Syntem Revenue Requirement	NC Retail 14Wh Sales Allocation Factor		NC Non-Revidentia) Unadjuated Reversue Requirement <sup>al</sup>	NC Non-Residentia) Adjusted Revenue Réquirement
Non-Residential Programs EE Programs 15 Seines Longy Repert	System kov Reduction - Summer Peak	System Energy Reduction (kWh)	System NPV of Avoided Coats 5 737	Tetal Cest 	Shared Savings %	kncentive	Syntem Revenue Requirement S 20,350	MC Retail two Sales Allocation Factor	E13 * #13	NC Non-Resklantia) Uhadjustad Reveous Requiriment <sup>us</sup> \$ 17,384	N C Non-Residentia) Adjusted Revenue Requirement
Non-Residential Programs EE Programs 56 Sucies Long Jacon 17 Gwyr Hideny far Jacinso 18 Gwyr Hideny Tabrid	System kw Reduction - Summer Peak 16,958	System Energy Reduction (NWh) 103,103,154	System NPV of Avoided Costs 5 737 5 78,870,008 6 0109 110	Total Cest 5 20,330 5 21,749,807	Shared Serings %	5 6,723,374	Syntem Revenue Requirement 5 20,330 5 22,473,180	MC Retail NWh Sales Aliocation Factor 85.5082854% B5.5082854%	E13 ° F13 E14 - 514	NC Non-Rev Identia Unequated Revenue Regulationni 5 17,384 5 24,346,929	NC Non-Residential Adjusted Revenue Requirement 5 6,944,270
Non-Residential Programs EE Programs 15 Sections Longy Report 15 Tempt Block of the Malana 15 Sectory Block of the Malana 15 Sectory Block of Langer Pederaman	System kw Reduction - Summer Peak 16,958 2,024 58	System Energy Reduction (NWh) 103,103,354 7,877,874 435 (108	System NPV of Avoided Costs 5 737 5 78,970,008 5 9,199,119 5 345 540	Tetal Cest	Shared Serings %	kacentive 5 6,723,174 5 975,003	System Revenue Requirement 5 20,330 5 28,473,180 5 2,150,041 6 to 100	NC Retail tWh Sales Aliocation Factor 85.50828645 85.50828645 85.50828645 85.50828645	E13 * F13 E14 * F14 E16 * 516	NC Non-Residentia) Unacjustel Reveaue Requiriment <sup>4</sup> 5 17,384 5 24,246,929 5 1,922,972	NC Non-Residential Adjusted Revenue Requirement 5 6,944,220 5 1,223,527
Non-Residential Programs EE Programs 5 Genines Long Japont 17 Gengy Elidency for Bolines 18 Genine Space Space Science Performance 19 Non-Res Space Science Performance 29 March Res Const Const Two	System kw Reduction - Summer Peak 16,958 2,024 58 9,00	System Energy Reduction (NVN) 103,103,354 7,877,874 435,108 40 40 115	System NPV of Avoided Costs 5 78,970,005 5 9355,599 5 3355,599 5 24 279,070	Tetal Cent 5 20,330 5 21,749,807 5 1,214,943 5 147,160 5 147,160	Ehared Savings %	kcentive	System Revenue Requirement 5 20,330 5 22,477,100 5 22,250,041 5 159,337 5 159,337	MC Retail twith Sales Allocation Factor 85.5082864% 85.5082864% 85.5082864% 85.5082864% 85.5082864%	E13 ° F13 E14 ° F14 E16 ° F16 E17 ° F15	NC Non-Residentia) Unacjuste Reversus Regulatment <sup>4</sup> 5 17,384 5 24,386,973 5 1943,972 5 1942,975	NC Non-Residentia) Adjusted Revenue Bequierment 5 6,944,270 5 8,233,527 5 8,233,527 5 7,174
Non-Residential Programs EE Programs 15 Sustants Longy Report 12 Swyth Shinet Ulyticity 13 Swyth Shinet Ulyticity 13 Sware Schwarz Shinet Priormance 20 Swale Sustants Lengt Swar 20 Swale Sustants Lengt Swar 20 Swale Schwarz Shinet Company	System kiv Peduction - Summer Peak 16,958 2,024 58 	System Energy Reduction (RVM) 103,103,354 7,877,874 435,108 435,108	System INPY of Avoided Costs 5 737 5 78,570,003 5 91,581,119 5 335,599 5 23,279,207 5 111,784,970	Tetal Cest 5 20,330 5 21,749,807 5 1,214,943 5 147,140 5 8,770,755 5 47,017,955	Shared Sarding %	kncentive	Syn bon Revenue Requirement 5 20,330 5 22,473,180 5 22,50,041 5 159,337 5 11,180,491 5 4 10 11 11	MC Retall SWh Sales Aliocation Factor B S S002864% B S S002864% B S S002864% B S S002864% B S S002864%	E13 * F13 E14 * F14 E16 * F16 E17 * F17 E18 * F16	NC Non-Revisiontial Unacijus bei Reversue Requisiment <sup>4</sup> 5 17,384 5 24,345,929 5 1,933,932 5 144,797 5 9,560,253	NC Roon-Residential Adjusted Revenue Bequinement 5 6,944,270 5 8,221,527 5 7,234 5 2,723,379
Non-Residential Programs EE Programs 16 Sections: Long Visport 17 Iongy Illidano; Ing Sections 18 Ione Res Sourci (John) 19 Ione Res Sourci (John) 19 Ione Res Sourci (John) 21 Tool Ion Men-Paulo nial Conservation Programs	System kw Reduction - Summer Peak 16,958 2,024 58 	System Energy Reduction (NVM) 103,103,354 7,877,874 435,108 4094,115 159,460,452	Syntam NPV of Avoided           Costs           \$         737           \$         76,970,008           \$         9,139,119           \$         335,879           \$         23,279,207           \$         117,783,970	Tetal Cest 5 20:330 5 11,749,807 5 1,24,941 5 147,186 <u>5 147,186</u> <u>5 32,012,995</u>	Ehared Sardeg: 14 11.75% 11.75% 11.75% 11.75%	kacentive \$ 6,723,174 \$ 725,023 \$ 725,025 \$ 725,025,025 \$ 725,025 \$ 725	Syntem Revenue Requirement           5         20,330           5         28,473,180           5         22,50,041           5         12,96,479           5         42,983,387	KC Retall NWh Sales Allocation Fector 85.5082864% 85.5082864% 85.5082864% 85.5082864% 85.5082864%	E13 * F33 E14 * F34 E16 * F36 E17 * F36 E18 * F16	NC Non-Rev klentiaj Una gustra Revo cua Regularmanți 1 5 17,344 5 1,923,972 5 144,777 5 15,202,573 5 144,777 5 15,202,573	NC Ron-Residential Adjusted Revenue Requirement 5 6,544,220 5 8,2213,527 5 7,154 5 7,154 5 10,2265,180
Non-Residential Programs EE Programs 15 Sustants Longy Report 15 Sustants Longy Report 15 Longy Richard Liphting 20 Sund Restants Largy Lawr 20 Sund Restants Largy Lawr 20 Sund Restants Largy Lawr 21 Tobl for Mon-Paulo static Conservation Programs 23 Tobl For Man-Paulo static	System kiv Reduction - Summer Peak 16,958 2,024 58 	System Energy Reduction (NVM) 103,103,354 7,877,874 435,108 46,044,115 159,460,452 983,712	5 yrtem kPv ef Avolded Cents 5 73,737 5 78,970,008 5 9,159,119 5 335,599 5 23,279,207 5 117,781,970 5 1,100,195	Total Cest           5         20:330           5         31,749,807           5         3,249,843           5         142,4983           5         142,160           5         32,012,995           5         32,012,995           5         31,905,4995	Shared String %	hcentive	Syntam Revenue Requirement           5         20,330           5         28,473,180           5         2,250,041           5         11,280,479           5         42,093,120           5         42,093,120           5         42,093,120	MC Retail W/h Salas Aliocation Facture 85.5082864% 85.5082864% 85.5082864% 85.5082864% 85.5082864%	813 * 813 814 * 514 816 * 516 817 * 517 818 * F15 818 * 518	NC Non-Rev klentiaj Unacijuste i Revo nuo Regulernienį 5 27,384 5 24,365 (29) 5 1,923,972 5 34,797 5 9,542,751 5 15,592,315	NC Ron-Residentia) Adjusted Revenue Bequies ment 5 6,544,270 5 1,223,527 5 7,754 5 10,226,180
Non-Residential Programs EE Programs 54 Busines Exargy Report 15 Busines Exargy Report 15 Busing Riskins (Ighting 19 Bana Resident Eghting 20 Bana Resident Eghting 20 Bana Resident Eghting 20 Bana Resident Busines 21 Bana Resident Bana Bana 22 Eamprivise Be Jauliess 21 Commendal, India Hal, & Coverseental Demend Bergonse	System kin Reduction - Summer Peak 16,958 2,024 58 9,000 28,460 8,461 1,959	System Energy Reduction (RVM) 103,103,354 7,877,874 435,108 44,044,115 159,460,452 983,712	Spitzm NPV of Avoided Costs           \$         737           \$         76,870,008           \$         335,879           \$         325,879           \$         21,279,207           \$         117,781,972           \$         1,500,195           \$         3,551,967	Total Cost           S         202.300           S         31,749.807           S         1,249.817           S         1,249.817           S         1,20,150           S         32,012,095           S         1,209,549           S         1,399,540	Shared String: %	bcentive 5 6,721,174 5 735,099 5 22,177 5 2,409,741 5 10,000,192 5 10,0518 5 253,602	Syntam Revenue Requirement           5         20,310           5         28,473,180           5         2,250,041           5         11,120,479           5         4,279,187           5         1,579,933           5         1,647,252	MC Retail SWh Salas Allocation Factor 85 Stat28645 85 Stat28645 85 Stat28645 85 Stat28645 85 Stat28645 85 Stat28645 85 Stat28645 85 Stat28645 85 Stat28645 85 Stat28645	613 * 613 614 * 614 816 * 816 817 * 617 618 * 618 619 * 619 619 * 619 619 * 619 619 * 619	NC Non-Rev klantiaj Unacijusta i Revocuo Regulariniani 5 27,384 5 24,346,972 5 14,273,972 5 14,273 5 14,273 5 14,573 5 14,573 5 1,419,279	NC Non-Austorrital Adjusted Rowrup Bequiemant 5 6,944,270 5 1,234,527 5 7,1954 5 10,326,180 5 10,326,180 5 10,765 5 211,850
Non-Residential Programs EE Programs 56 Guines Longy Report 15 Reny Richen (ne Robinsus) 18 Renger, Staden (ne Robinsus) 18 Renger, Staden (ne Robinsus) 20 Sand Badaris Lengy Sawr 20 Sand Badaris Lengy Sawr 20 Sand Badaris He Badasa 21 Sammeridal, India Hel, & Governmental Demand Bergonse 24 Yosh I Namfeeladentid DSM Program	System low Reduction - Summer Post 36,958 2,024 58 	System Feargy Reduction (NVIN) 1003,103,154 2,877,874 435,108 4,646,115 159,460,452 983,712	Sprism NPV ef Avolded Cents 5 737 5 76.370,008 5 9,151,105 5 335,599 5 24,279,207 5 117,783,970 5 1,551,967 5 4,852,166	Total Cost           5         20.300           5         31,749,807           5         31,749,807           5         1,24,943           5         92,160           5         32,012,995           5         1,399,640           5         2,746,199	Shared String: %	Incentive	Syn bm Revenue Requirement           5         20,350           5         24,471,160           5         24,471,160           5         11,280,491           5         42,993,187           5         1,467,352           5         1,647,352	NC Retail W/h Suiss Allocation Factor 65 S023645 55 S022645 55 S022645 85 S022645 85 S022645 85 S022645 85 S022645 85 J5792455 86 J5792455	E13 * F13 E14 * F16 E15 * F15 E13 * F15	NC Non-Rev Mential Unacjuste & Revocue Regularitient <sup>4</sup> 5 27,384 5 24,346,972 5 1,923,972 5 1,923,972 5 1,923,972 5 1,923,973 5 1,923,973 5 1,419,279 5 7,489,074	NC Non-Austorrital Adjusted Rowrup S 4,544 270 S 1,213,527 S 1,213,527 S 1,213,527 S 1,213,527 S 1,213,537 S 1,213,537 S 1,213,537 S 1,213,537 S 2,213,557 S 2213,550 S 224,065
Non-Residential Programs EE Programs 56 Suines Longy Report 15 Suines Longy Report 15 Europy Elicions (Hybrid 20 Smith Balains Len'ry Sawr 20 Smith Resolve Hoffmance 20 Smith Resolve Hoffmance 21 Smith Resolve Hoffmance 22 Dennywise Ber Balaines 23 Commercial, India Hish, & Commercial Demand Response 24 Yosh Nan-Residential 25 Total Nan-Residential	System low Reduction - Summer Prot 36,958 2,024 38 9,000 28,640 8,6451 3,997 8,640 8,6451	System Energy Reduction (NVM) 103,103,154 2,877,874 435,100 46,044,115 159,644 153,723 433,723 433,723 433,723 433,723	5 ptram MPr of Anolded Casts 5 737 5 75370/08 5 9193115 5 335.599 5 137,783,57 5 137,783,57 5 137,783,57 5 137,783,57 5 1352,967 5 4,552,165 3 127,563,166 3 127,563,166	Total Cost           S         200,300           S         31,749,807           S         1,24,949           S         1,24,949           S         200,295           S         1,390,649           S         2,784,199           S         2,784,199           S         2,784,199           S         2,784,199	Ehand Sring 9	Incentive	Syn bm Revenue Requirement           5         20,350           5         24,71,850           5         24,71,850           5         24,71,850           5         11,126,474           5         1,329,933           5         1,647,352           5         4,027,186           5         4,5276,327	NC Retail W/h Suiss Allocation Factor 45 Sci28645 85 Sci2865 85	E13 * F13 E34 * F36 E35 * F36 E35 * F36 E36 * F36 E30 * F39 E30 *	NC Non-Revision Resputiences 8 212384 5 212384 5 21436932 5 1543932 5 1543932 5 1543932 5 1543932 5 1543932 5 1543932 5 1543932 5 1543932 5 1543932 5 7849335 5 7849304 5 78492425	NC Non-Ansterrital Adjusted Revenue Bequiement 5 6,544,270 5 1,213,573 5 1,0,386,360 5 10,386,360 5 10,386,360 5 223,080 5 224,085 5 10,610,444
Non-Residential Programs EE Programs 15 Sectors Internet Research 21 Sectors Internet Research 22 Sectors Internet Research 23 Sectors Internet Research 23 Sectors Internet Research 24 Texto Internet Residential Didd Programs 25 Sector Nach Residential	System low Reduction - Summer Post 36,958 2,024 3,55 2,840 6,661 3,940 6,641 3,949 8,812 3,7070 115,341	System Francy Reduction (NVM) 101,103,154 415,100 415,100 415,100 415,100 415,100 415,100 415,100 410,115 110,444,153 140,444,153	System Kir ef Anolded Costs 5 73570.005 9 738119 5 325.007 5 117781970 5 117781970 5 1270197 5 4.650197 5 4.650196 3 127.656196 5 4.6502166	Total Cest           5         20,130           5         21,249,81           5         147,160           5         147,150           5         12,70,753           5         1,200,4995           5         1,200,4995           5         1,200,4995           5         1,200,4995           5         2,784,199           5         1,201,495,100           5         2,784,199	Shared Savings 54	Incentive	Syntam Revolution           Requirement           5         20,350           5         28,473,180           5         22,8473,180           5         22,8473,180           5         128,217           5         1,128,479           5         1,129,197           5         1,279,1347           5         1,647,132           5         4,077,186           5         -45,170,372           5         109,173,72	In C Retail W/h Salas Aliocation Factor 85.50828645 85.50828645 85.50828645 85.50828645 85.50828645 85.50828645 85.55828645 85.15782455 86.15782455 86.15782455	E13 * F13 E14 * F16 E14 * F16 E17 * F15 E18 * F15 E20 * F15 E20 * F20 <u>RC Allocation Factor (2)</u> SL72547315	NC Non-Revisitential Unacidus trei Revenue <u>Requisitentian</u> 5 17,344 5 24,346,929 5 1923,972 5 142,787 5 142,787 5 145,787 5 145,982,315 5 145,982,315 5 1419,275 5 7,889,074 5 41,882,477 5 94,146,355	NC Non-Residential Adjusted Revenue Requirement 5 6,544,270 5 1,212,527 5 7,154 5 7,154 5 7,154 5 7,154 5 7,154 5 7,155 5 10,385,180 5 10,385,180 5 2,212,890 5 2,212,890 5 2,212,800 5 2,
Non-Residential Programs EE Programs 15 Subset Longy Report 25 Subset Longy Report 20 Subset Longy Report 20 Sub Readows Lengt Lawre 20 Sub Readows Lengt Lawre 20 Sub Readows Lengt Lawre 20 Subset Lawre Lawre 21 Soft Lawre Lawre 22 Commercial, India Mala 22 Commercial, India Mala 23 Studi Non-Residential DMA Program 25 Studi Non-Residential DMA Program 25 Studi Non-Residential DMA Program	System low Reduction - Summer Post 15,955 2,024 35 9,600 28,660 28,660 1,969 8,431 8,432 1,969 1,359 1	System Francy Reduction (RVM) 101,103,154 2,877,273 45,51,08 46,046,115 155,460,452 383,722 983,721 160,444,155, 150,444,155, 160,444,155, 170,455,170,455, 170,455, 170,455,170,455, 170,455,170,455, 17	System KPV of Anolded Costs 5 737 5 7857000 5 9121119 5 9125170 5 9125170 5 1357027 5 137027 5 137007 5 1	S         202,120           S         21,749,807           S         21,749,807           S         21,749,807           S         24,746,907           S         2,727,755           S         2,014,995           S         2,744,199           S         2,744,199           S         25,479,467	Shared Sridge %	hcentible 5 6,723,374 5 725,093 5 22,177 5 12,000,923 5 10,000,923 5 10,048 5 2151,021 5 242,986 5 242,981 5 24	Syn bm Revolus           Requirement           5         20,330           5         28,471,380           5         28,471,380           5         21,200,41           5         11,204,791           5         11,204,791           5         1,275,923           5         1,647,252           5         4,027,148           5         -45,270,372           5         109,178,127	MC Retall W/h Salas Aliocation Factor 85.5082064% 85.5082064% 85.5082064% 85.5082064% 85.5082064% 85.1578245% 85.1578245% 86.1578245%	E13 * F13 E14 * F14 E16 * F16 E17 * F15 E19 * F15 E17 F15 F15 F15 F15 F15 F15 F15 F15 F15 F15	NC Non-Revisitential Unacidus tra Revenue <u>Requisitement</u> <sup>4</sup> 5 17,384 5 24,346,923 5 1923,972 5 344,787 5 344,787 5 344,787 5 344,787 5 344,787 5 344,787 5 344,787 5 344,924 5 7,289,034 5 43,482,472 5 44,246,535	NC Non-Residential Adjusted Rownue Bequiement 5 6,544,220 5 1,224,527 5 7,134 5 10,286,180 5 12,221,149 5 10,286,180 5 224,065 5 21,946,612
Non-Residential Programs EE Programs 15 Sectors Longy Report 25 Sectors Longy Report 20 Sectors Longy Report 20 Sectors Longy Lawre 20 Sectors Longy Lawre 20 Sectors Longy Lawre 20 Sectors Longy Lawre 21 Control for Ann-Residential Disk Program 22 Commercial, Industrial, & Covernmental Demand Response 23 Control New Residential Disk Program 23 Control New Residential 25 Cont New Residential	System low Reduction - Summer Post 16,958 2,024 3,029 28,660 28,660 28,660 1,969 8,631 1,969 8,631 1,969 8,632 1,969 115,583 and control of the state of the	System Franzy Reduction (NVM) 2,777,274 45,109 46,046,115 155,460,452 383,722 983,721 160,444,155 150,444,155 160,444,155 160,444,155 160,444,155 160,445 160,444,155 160,445 160,455 160,555 160,555 160,555 160,555 160,555 160,555 160,555 160,5555 160,5555 160,5555 160,55555 160,5555555 160,555555555555555555555555555555555555	System KiPs of Anolded Costs 5 737 5 73570/05 5 315579 5 31770/05 5 315579 5 31770/05 5 31579/07 5 117782/07 5 31578/07 5 31578/07 5 31578/07 5 4.650,166 5 31702/05/04 5 31702/05/04 5 31702/05/04	S         202,120           \$         12,749,807           \$         12,749,807           \$         12,749,807           \$         12,749,807           \$         12,749,107           \$         12,749,109           \$         1,993,650           \$         2,744,199           \$         15,479,467           \$         15,479,467           \$         11,465,179	Shared Sarding %	hcentible 5 6,723,174 5 6,723,074 5 22,077 5 22,07741 5 10,060,927 5 (10,018) 5 213,160 5 242,986 5 242,986 5 242,986 5 242,986 5 242,986	Syn bm Revenue Requirement           5         20,350           5         28,471,180           5         23,471,180           5         103,237           5         11,126,479           5         1,126,479           5         1,279,824           5         1,279,824           5         1,647,252           5         109,178,125           5         109,178,127           5         109,178,127           5         11,146,179	NC Retall W/h Salars Aliocation Factor 85.50820645 85.50820645 85.50820645 85.50820645 85.50820645 85.50820645 85.15792455 86.15792455	E13 * F13 E14 * F14 E14 * F16 E17 * F15 E19 * F15	NC Non-Rev klentiaj Unacijuste i Revo nov Regulernismi 5 17,384 5 24,366,973 5 1923,972 5 344,797 5 344,797 5 344,797 5 345,797 5 345,797 5 345,797 5 345,797 5 345,905 5 345,905 5 345,905 5 343,812,625 5 54,346,365	NC Ron-Residential Adjusted Revenue Requisement 5 6,044,220 5 1,224,527 5 12,285,187 5 10,288,180 5 221,289 5 224,086 5 224,086 5 21,846,652

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<ul> <li>2) Constraint of Constraints Constraints Constraint Response</li> <li>2) Carical An Indonésia</li> <li>3) Carical An Indonésia</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indo</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indo</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indo</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indo</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indo</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indo</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indo</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indo</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indo</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indo</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indo</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indo</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indo</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indo</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indo</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indo</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indo</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indo</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indo</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indo</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indó</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indó</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indó</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indó</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indó</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indó</li> <li>4) Tradi Annae Data Pargama Béconad Is Indéndé nel Indó</li> <li>4) Tradi Annae</li></ul>	Non-Rasidantia Programs EProgram 16 Nations George 23 Nanji Galava (Second 23 Nanji Galava (Second 23 Nanji Katala Mala 23 Nanji Katala Mala 23 Nanji Katala Mala 23 Nanji Katala Nanji Gausari Angres	14 Gaegyikka 15 Taal <del>ka</del> tumid	<ul> <li>S. Saver, S. Saver, Saver,</li></ul>	Residential Programs		
5 11(14.07) 5 12(14.07) 1 12(	5 5,749,041 5 191,009 5 6,619,170 5 6,619,170 5 6,619,170	5 5,716,117 5 11,440,740 NC becombs	5 (44) 5 (44) 5 (45),263 5 (45),267 5 (45),267 5 (45),267 5 (45),267 5 (45),267 5 (45),267 5 (45),267 5 (45),267 5 (45),267 5 (45),167 5 (45),1	NC investive		
Jacoba         1         1/1/2         1/	Take         Take           1 </td <td>17300 <u>1</u> (21160) <u>1 15270</u> 138 <u>5 (22403) 1 22306</u> 138 <u>5 (22403) 1 22306</u> 1000 (m) 1000 1000 (m) 1000 (m) 1000 1000 (m) 1000 (m) 10</td> <td>No.         Statut         Statut<td>usaarin. hoomo fuur Necesianne. Dhee usaarin. Tuduley ka hoo</td><td>Chai lear Phopea Lina Linka Linge Venap HJT Pruy, Jumon J, LKJ to December Decision Hauser (1, 161 J) Luid tayors and Columna Review III of the Luid tayors</td><td></td></td>	17300 <u>1</u> (21160) <u>1 15270</u> 138 <u>5 (22403) 1 22306</u> 138 <u>5 (22403) 1 22306</u> 1000 (m) 1000 1000 (m) 1000 (m) 1000 1000 (m) 1000 (m) 10	No.         Statut         Statut <td>usaarin. hoomo fuur Necesianne. Dhee usaarin. Tuduley ka hoo</td> <td>Chai lear Phopea Lina Linka Linge Venap HJT Pruy, Jumon J, LKJ to December Decision Hauser (1, 161 J) Luid tayors and Columna Review III of the Luid tayors</td> <td></td>	usaarin. hoomo fuur Necesianne. Dhee usaarin. Tuduley ka hoo	Chai lear Phopea Lina Linka Linge Venap HJT Pruy, Jumon J, LKJ to December Decision Hauser (1, 161 J) Luid tayors and Columna Review III of the Luid tayors	
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	Training         Training           1/17/271         62.044           1/17/271			Ver Greet	ne 108799 **●	¥.,
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10000         10000         10000         10000           1         1         1         1         1           1         1         1         1         1         1           1         1         1         1         1         1         1           1	201         201 <td>103300 Verlage 2011 Verlage 2</td> <td></td> <td>NA 1000 Vinniga 2000 Vinniga 1</td> <td></td> <td></td>	103300 Verlage 2011 Verlage 2		NA 1000 Vinniga 2000 Vinniga 1		
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1911日 19111 19111 19111 19111 19111 19111 19111 19111 19111 19111 1911	Isylfix         5         MCL12         5           100718         5         ULL012         5           100718         5         ULL012         5           100718         5         11         1           11         5         11         5         1           11         5         11         5         1         1           11         5         11         5         1 <td>March        </td> <td>311         7268           10         7268           11         7268           12         1200           13         1200           14         1200           15         1200           16         1200           17         1200           18         1200           19         1200           10         1200           10         1200           10         1200           10         1200           10         1200           11         1200           11         1200           11         1200           11         1200           11         1200           12         1200           13         1200           14         1200           15         1200           16         1200           17         1200           16         1200           17         1200           18         1200           19         1200           10         1200           10         1200           10</td> <td>U Vinue 2014 Vieue 2013</td> <td></td> <td></td>	March	311         7268           10         7268           11         7268           12         1200           13         1200           14         1200           15         1200           16         1200           17         1200           18         1200           19         1200           10         1200           10         1200           10         1200           10         1200           10         1200           11         1200           11         1200           11         1200           11         1200           11         1200           12         1200           13         1200           14         1200           15         1200           16         1200           17         1200           16         1200           17         1200           18         1200           19         1200           10         1200           10         1200           10	U Vinue 2014 Vieue 2013		
	Youngs 2010         Phytytewinith           Ph         5           1         2010.00           2         2010.00           3         2000.00           5         2000.00           5         2000.00           5         2000.00           5         2000.00           5         2000.00           5         2000.00           5         2000.00           5         2000.00           5         2000.00           5         2000.00           5         2000.00	3         1111100         3         627402           - <t< td=""><td>1         1011         1070           4         4400         107402           4         1011         10402           4         1011         10402           4         1011         10402           5         10101         10402           5         10102         10104           5         10104         10104           5         10104         10104           5         10104         10104           5         10104         10104           5         10104         10104           5         10104         10104           6         10114         10104           6         10114         10104           7         10104         10104           6         10114         10104           7         10104         10104           6         10104         10104           6         10104         10104           7         10104         10104           8         10104         10104           8         10104         10104           8         10104         10104           8</td><td>Vibrigo 2016 FN Volues for PN Test Period</td><td>f •</td><td></td></t<>	1         1011         1070           4         4400         107402           4         1011         10402           4         1011         10402           4         1011         10402           5         10101         10402           5         10102         10104           5         10104         10104           5         10104         10104           5         10104         10104           5         10104         10104           5         10104         10104           5         10104         10104           6         10114         10104           6         10114         10104           7         10104         10104           6         10114         10104           7         10104         10104           6         10104         10104           6         10104         10104           7         10104         10104           8         10104         10104           8         10104         10104           8         10104         10104           8	Vibrigo 2016 FN Volues for PN Test Period	f •	

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# Dube Energy Progress Eni në Lihbit, Li page 7 Vintagë 2018 Estimatë - January 1, 2019 to December 31, 2019 Decket Ng., 1-2, Sob 1174 Laad Impartis and Estimatinë Revenue Regulfemento by Program

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Residential Programs	System KW Reduction - Summer Pook	System Energy Reduction (KWh)	System NPV of Avoided Costs	Tota?Cout	Shared Savings %	lacanti-a	Unadjuated Rev Requirement <sup>us</sup>	NC Retail IXWIS Sales Allocation Fector	NC Alionation Factor (2)		RC Residential Unedjusted Revenue Regularments	NC Residential Adjusted Revenue Regularment
EE Programs 1 Appliance Recycling Program 2 Exercise Sciences Internas for Schemb	-		1.161.000		11.75%	مربع ا	·	a5.5608674%		£1 * M	s	\$ 120,467
3 Energy Efficient Signing 4 Hanna Energy Improvement	4,110 1,111	24,931,977 4,191,859	19,928,855	11,711,213	11.75%	\$ 957,348 \$ (65.500)	5 753,793 5 12,738,561 5 1919,569	85.5608874% 85.5608874% 85.5608874%		E1-62	\$ 644,952 \$ 10,899,221	\$ \$ 4,281,624
5 Multi-Family 6 Neighborhaud Energy Saver	2,131, 526	15,206,373 2,135,101	7,753,028 850,811	2,732,539 2,028,200	11.75%	\$ 589,225 \$	5 4,327,564 5 2,028,700	85.5608674% 85.5608674%		65°FS	5 2,847,093 5 1,735,346	5 761,261 5 761,261
7 Kasidentiai Energy Antersyments 8 Kusidentiai Nine Coru yurgian 9 Save Energy and Water Kit	428 7,101 8,915	2,565,216 16,446,576 30,940,131	1,656,142 23,483,512 17,934,660	1,114,441 12,641,151 1,517,511	11.75% 11.75%	\$ 60,825 \$ 1,268,079 \$ 1,937,640	\$ 1,199,306 \$ 13,959,430	85.5608674% 85.5608674%		67 * F7 64 * F6	\$ 1,026,137 \$ 11,943,809	5 156,392 5 904,049
10 Residential Home Adventage 11 Total for Residential Concervation Programs	25,101	98,723,759	76,222,731	36,643,956	11.75%	<u>\$</u> <u>\$</u> <u>4,737,618</u>	\$ 3,453,554 \$ - \$ 41,381,774	85,5608674%		E10 # F10	\$ 2,556,621 <u>\$ -</u> \$ 35,406,606	5 1,370,631 5 168,458 5 8,117,508
12 My Home Energy Report (1) 13 Total Residential Conservation and Behavioral Programs	20,008 45.109	119,273,463 217,997,222	7,230,046 \$ 83,452,777	7,994,059 \$ 44,638,015	11.75%	<u>\$ (89,777)</u> <u>\$ 4,648,046</u>	<u>5                                    </u>	85.5608674%		E31 ° F11	<u>\$ 6,762,977</u> <u>\$ 42,169,583</u>	<u>\$ (76,809)</u> \$ 8,040,699
14 EnergyWha = Hoona 13 Total Residentisi	27,116	217,997,332	<u>43,515,454</u> <u>\$ 132,069,231</u>	<u>5,288,465</u> <u>5 49,876,481</u>	11.75%	<u>\$</u> 5,096,796 <u>5</u> 9,744,843	<u>\$ 10,815,267</u> <u>\$ 59,621,823</u>	RC Residential Peak Demand Allocation Factor 86.530424776	44.5832530%	(F13+E23) *F13 *G13	<u>\$</u>	<u>\$ 6,137,852</u> \$ 14,178,551
Non-Resident)al Programs	System kW Reduction - Summer Peak	System Energy Reduction (1997)	System NPV of Avoided Costs	Total Coul	Shared Savings %	ţszentive	Unedjusted Rev Requirement #	NC Retail IWN Sales Allocation Factor			NC Residential Unadjusted Revenue Requirement <sup>14</sup>	NC Non-Residential Adjusted Revenue Requirement
EE Programa 15 Energy Efficient Lighting	1.702	6 572 618	6.746.853	1 677 906	11 75	C 525.001	t 1001007	AT 1000730		<i></i>		
27 Non-Residential Smart Sover Performance (Castora) 18 Non-Residential Smart Sover Performance (Prescripture) 29 Non-Residential Smart Sover Performances Incentive 20 Setabl Business Energy Sover 27 Tech be Busines Celebratic Control Content Sover Performances	1,584 7,337 751 <u>8,947</u> 75 331	13,879,016 48,474,009 6,576,526 46,011,147	6,291,089 26,084,465 2,981,012 23,392,278	2,719,960 31,608,605 845,910 9,794,966	11,75% 11,75% 21,75% 11,75%	\$ 419,608 \$ 1,724,437 \$ 250,874 <u>\$ 1,533,934</u>	\$ 1,139,567 \$ 13,132,842 \$ 1,094,783 <u>\$ 10,633,900</u>	85.5608674% 85.5608674% 85.5608674% 85.5608674%		E15 * 745 E16 * F16 E17 * F17 E14 * F14 E19 * F19	5 1,743,996 5 2,446,241 5 11,236,574 5 938,418 5 9,269,579	5 1,486,580 5 335,732 5 6,526,244 5 54,602 <u>5 2,690,548</u>
	10,571	121,313,336	2 62,992,697	5 25,697,247		S 4,499,845	5 10,296,992				\$ 25,836,809	\$ \$1,094,106
22 EnergyWise <sup>4</sup> for Business 23 Commercial Industrial Governmental Demand Response 24 Total Rot Non-Residential DSM Programs	0,886 7,357 16,241	1,536,576	1,694,124 12,595,610 \$ 14,289,734	2,476,808 6,123,483 5 6,600,290	11.75% 11.75%	\$ (91,965) \$ 760,675 \$ 668,510	5 2,514,843 5 6,883,957 5 9,268,800	RC Ron-Residential Pesh Demand Allocation Factor	51.4287470%	(E1J+E2M *F2J *G2J	\$ 2,244,257 <u>\$ 6,479,150</u> \$ 8,732,407	5 (84,858) <u>5 809,754</u> 5 276 900
25 Total Non Rasidential	36,564	121,049,913	5 78,281,431	5 14,297,417		5 5,268,354	519,465,791				\$ 34,559,215	\$ 11,619,005
26 Total Al Programs	108,789	341,047,115	\$ 210,351,662	5 84,179,918		5 14,913,197	\$ 99,007,114				5 84,969,868	5 25,997,556
	System kW Reduction - Summer Peak	System Energy Reduction (kWh)	Systems KPV of Avoided Costs	Total Cost.	Shared Savings %	Incentive	Unadjusted Rev Requirement <sup>19</sup>	MC Retail KWh Sales Allocation Factor	MC Retail kWh Sales Allocation Factor		NC DSDR Uns djusted	NC DSDR Adjusted
DSDR 1 DSDR	352,416	43,664,335		\$ 15,425,418		ş -	\$ 15,425,418				CARA INT INCOMENT.	THE PERSON INCOMPANY OF
Total All Programs with 0508.	461,206	384,711,471	\$ 210,351,662	5 99,599,336		5 14,913,197	\$ 114,512,513				5 64,969,868	5 25 197 556

(1) My Home Energy Report impacts reflect convictive capability as of end of vintage year, including impacts for participants from prior vistages (2) Total System DSM programs elected to Revidential and Non-Revidential based on contribution to retail system peak

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1 80 99 (\*)(10/ (\*) 104 19301 \$107 110 \$10 b10/ 1000 0/1-44 \$ ((1'1(0') 1181011 44505 May be here the second second second 12 \$ anna fi dan Manadaran Marian. I ann Marian Mariana Marian [000,205] 4553110 111222 1106,80 02 61 949 251 01 960 10 100 P 0191285 <u>- 75 ( 1991 5</u> 967 7 בנותושים בניוסולא ושהותב ברופולאנים בניוסולא ושיות לואיינישים ברופול בנור הנור בלוקיים משומת ברבי בניוסולא בייוס משומש בניוסולאיים משומש ברבי בניוסולאיים משומש בניוסול משומש בניוסוליוסול משומש בניוסוליוסול משומש בניוסוליוסול משומש בניוסוליוסוליוסוליוסול משומש בניוסול משומש בניוסול משומש בניוסוליוסול משומש בניוסול משומש בניו 81 24 91 2119 971 9 991 228 216 24P 96P 76 171 219 100 120 C 110 979 997 001 1 819 992 589 225 5 218 101 5 105 919 1 \$L 507 101 é 507 101 ..... 1=12102 late1 6107 #10*t* (1)100 5104 INITABURA PON +10 /90'051'91 978'877'5 119'04'0 \$ www.H.Jadroobue.e.S. See.J. Sold 51 list reteVV brin vyproriji nvači neuroveti teo.3 latož neuroveti latiteljinešti brinci 21 13 01 119 20/ 4 /90 051 11 095 156 1 03# 038 301 100 919 912 691 / 90 590 ZD 669 601 1 1/9 295 865 0/0 6/8 901 221 882 Head and Mark Construction 6 8 1 9 5 **7** 5 620'222 591 869 692 501 Neighburhood Energy Assertance Nicht Famity Martin Energy Assertance Martinel Innergen Construction 055 51 125 198 500 210 1 C1512 209 691 615 79 200 ESS 5 095 809 2 419 254 193 948 1 023 914 յկի լկուտ Ըստեի լլեհոս է ւրուտ Ըստեի լանստատու լետն ըստեի ըլկշտոլ բմորոց ըստեի ըզուցրու լետնուալ ու ըր 124 484 12 832 435 262 51 663 200 108 310 201 2 122 235 195 E95 E 599 222 \$ \$ 28 540 г 916 61 \$152 15 208 ٩ 580 S medicia Bundrog eroenkby ٤ 16701 6102 8107 (#)/10/ (#)9107 stor ¥107 (#150pptop eur1 ) 9107 #BHIMA SL IPPA SPE 019 995 \$ 5 616 591 1 109 021 aaca ٥z . leto1 6102 1100 (\*)2102 (=)9108 sto aasa 600'052'01 ¢ 016'518 \$ 097'160'5 685'106'9 5'244'080 Net Lost Non Residential Revenues 61 ¢ ¢ ¢ \$ Total Losi Revenues Form Residential Revenues 81 679 255 51 016 518 0921601 895 208 1 050 \$157 \$ 11 ssausing inj asimAlian j 91 MARK ABIAU ESSAUSING HEIDS 1251'925 9 262'510 \$ 922 8921 \$ 590 507 1 \$ 260'/0/ \$ \$I \$ Som(S) 10-040 [ Allow ] 5 515 980 126,026 \$ 6ZC 629 \$ \$16'978 150 150 2 \$ \$ ы 900 855'9 260 9/5 \$ 629 191 2 Friends ( [[[c]ence (or Business \$ 101'5++'2 \$ 929'990'1 ٤ı 5 \$ (\*)/ 107 14101 6102 8102 (\*)9107 \$108 lettrabiseR-noN 1014 BS8'852'80 \$62'976 \$ 978'209'5 5 062'629'5 598'162'9 Net Lost Residential Reven Z١ \$ Save Energy and Water Kil Total Lost Rovernes Found Revenues 11 01 169 CS/'91 16/ 926 929'209' SPR'16/19 1459'380 6829994221 Μειμάειται Νεω Construction Μειβήραιτοιοά Energy Savet Μειμάειται Νεω Construction 672'101'1 116'19 0/5'00 587,092 ŝ 05¥'25Z \$ \$ 621'252 59Z SI 206'26 166'69 24'224 24'234 962'524 962'526 4'054'545 192.264 \$99'606 268'606 \$ ŝ ŝ Vinne Fermin 82'008 829'908 59'981 59'481 862'690 201'100'0 108'021 092'296 ŝ 1 916'21C 860'20C'E 850,071 800,071 909'926'9 261'190 999'0Z1 895'14 s 238,215 \$ ē 215,928 \$ 591'97 c 800'997 605'CZ1 6107 (\*)/ 107 (#)9107 lato! 8107 stoz 1014 1sijnebizeA aun St teM-net A Vintege 2015 Updated Stor Stor 255'219'21 5 609'629'7 \$ 299'018'5 \$ 9ED'ERL'S \$ 262'596'6 Net Lost Non-Residential Revenues п 652 560 9 \$1 950'901'1 SEL'690'Z \$ 6/0'990'Z เมษะชื่อมูล ชื่นๆนอีก เจตุนอกเรื่อม แอง 01 6 8 \$ 1 123'096 2 \$ 055'702.4 \$ 210.921 \$ 672'505'1 \$ C99'5C2'2 \$ 170,522,5 \$ 150,266 \$ 5 \$26'6\*/ 2 Energy Efficiency for Business Small Buaness Energy Savet Program 802 602 9 \$ 929'608 1442,220 10.01 (=)/102 (#)9107 6107 5018[4] 5107 \$107 (m)uapisay-uon 50°122'422 \$ 819'69Z'E 173 **\$56'822'**9 \$ 158'216'9 \$ 220'682' Net Lost Residential Revenues 1 Appliance Recycling Program Prome Encrypting Program Realection Lighting Program Residential Wew Construction Residential New Construction Restatential Restign El Reventes \$ (892.)) \$ 602.172 \$ (862.) 291'609 960'991 292'25 Burne 9 5 7 7 7 7 922'518 80Ž'69 219,075 897,707,81 752,725 210,81 202,101,2 210,81 210,81 210,81 892,798,5 818,14 \$ \$ 561'149' \$ 196'122 \$ 196'852 272225 2726787 272722 2720221 ŝŝ SEI'I##'S \$ 1 801,915 299'501 151.477 \$ 561,951 ŝ \$ ı, letoT 6102 (\*)8107 (=)/10Z (\*)9102 STO 5014 Initrobizo A eni⊔ Vintage 2014

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North Carolina Net Lost Revenue for Vintages 2015 - 2019 Pocket Number E-2, Sub 1174

For the Period January J, 2015 - December 31, 2019

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Duke Energy Progress

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				Minten 201							Evans Exhib	it 2, page 2
Line	Residential		2014	2015		2016(a)		2017(a)	2018	2019	Total	
2	Appliance Recycling Program Energy Education Program for Schools						ş	-	· ·	\$ .	5	•
3	Energy Efficient Lighting							649 725	122,660	3 122,662	3	320,680
4	Home Energy Improvement Program						ĕ	216 278	0 1,341,240 1 420,443	0 1,044,207 6 401 106		3,735,818
5	Multi-Family						š	456 691	t 900.109	\$ 001 502	3 7	1,070,030
8	My Home Energy Report						ŝ	6 0 16 176	· · · ·	\$	e e	6 016 176
7	Neighborhood Energy Saver						š	42,581	89418	\$ 89.565	š	221 565
8	Residential Energy Assessments						ŝ	147,827	278 204	\$ 278.662	š	704 694
9	Residential New Construction						5	425,229	5 839,386	\$ 840,769	š	2,105 383
10	Save Energy and Water Kit						5	754.565	1,340,146	\$ 1,342,354	ŝ	3.437.064
11	Total Lost Revenues	\$		5	- 5	-	3	8,805,290	5,532,112	\$ 5,541,227	S 1	9,878,529
12	Found Residential Revenues						5		<b>i</b> -	<u>s</u>		•
13	Net Lost Residential Revenues	\$	-	\$	- \$		- \$	8,805,290	5 5,532,112	\$ 5,541,227	\$ 1	9,878,629
	Non-Residential		2014	2015		2016(a)		2017(a)	2018	2019	Total	
14	Rusiners Energy Report								<u> </u>	_		
15	Energy Efficiency for Business						3	577	•	5 -	\$	577
15	Energy Efficient Lieband							2,392,469	4,469,059	5 4,466,854	5 1	1,328,382
16	Small Rusiness Foreign Sever							1/3,636	406,647	5 407,517	5	968,000
17	Non-Ret SmatlSavet Performance							1,0/9,154 \$	1,987,679	5 1,986,908	5	5,053,741
18	Energy Aliza for Business							6,952 3	21,025	<b>3</b> 21,017	3	50,993
19	Total Lost Revenues	-		ī — — —				29,900 3	6 031 401	3 46.//J	<u>}</u>	123,529
20	Found Non-Residential Revenues			•				(72 644)	(106,206)	\$ 0,949,000 \$ (106,206)	a 1	1245,222
21	Net Lost Non-Residential Revenues	\$	•	\$	- 5	•	ŝ	3,612,109	6,825,105	\$ 6,822,772	5 1	7,259,986
	DSDR	2	014	2015		2016(=)		2017(a)	2018	2019	Total	
22	DSDR	\$	•	5	. 5		5	65,125 5	2.329	\$ .	\$	67 453
Ļne	Residential		ta14	<sup>1</sup> Vintage 2018 2015	<u> </u>	2016(=)		2017	2018 (e)	2019	Total	
	Applying Provide Brown							-				
;	Energy Education Browson for Schools								23.300	3 ·	2	29 966
÷.	Energy Education Program for Schools								5 39,410 616.478	3 99.020	2	139,037
4	Home Energy Improvement Program								74 005	a 1,172,042 t 103,400	3	268 305
5	My Honse Envice Report								7 182 188	S 193,400		7 187 188
6	Neighborhood Energy Saver							š	55 190	5 101 619	i	158 829
7	Multi Family Energy Efficiency							ŝ	379 045	769 220	š	1 148 268
8	Residential Energy Assessments							s	77,398	S 140.525	ŝ	217.923
9	Residential New Construction							s	439,985	\$ 886,107	Ś	328,092
10	Save Energy and Water Kit							5	591 129	\$ 1,495,300	\$ 3	2 086 429
11	Total Lost Revenues Found Residential Revenues	\$	1	•	*		5.	5	9,715,699	\$ 4,602,600	\$	4,578,558
13	Net Losi Residential Revenues	\$			• \$		- 5	· 5	9,715,899	\$ 4,862,660	\$ 14	4,578,558
	Non-Residentia)			1016		1011/-1		101.5	2018 (-1	1010	Faral	
				1013		2010[4]		2017	Note (n)	1014	19181	
14	Business Energy Reports Energy Ethnistry for Business							5	832.044	1 1 771 404	5	2 603 460
16	Ensure Efficient Limbons								474 003	250.013		414 021
12	Not Residential Small Saver Performance Incent	ive							103 200	1 71037	i	71 012
18	Small Business Energy Savet								1 160 751	2 10/1 917	i ·	3 363 686
19	EnergyWise @ for Business							ŝ	47 665	34 279	ŝ	82 144
20	Total Lost Revenues	\$	1		•				2210 049	4.324.304	1 0	534 354
21	Found Nos. Residential Revenues								(78.)27)	[144_767)	\$	(223 094)
22	Net Lost Non-Residential Revenues	\$			\$	•		5	2,131,722	4,179,517	5 (	5, 31 1, 250

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(a) Lost revenues were estimated by applying for control lost revenue rates for condential and non-residential customers to state specific for coasted program participation

			Vintage 2019					
Lme	Residential	2014	2015	/014(+)	2017	2018 (+)	2019	Total
1	Applance Recycling Program						1 1	
2	Energy Education Program for Octools						\$ 45.468 \$	45 408
3	Energy Efficient Lighting						5 660 301 5	660 301
4	Home Energy Improvement Program						8 100 046 5	109 946
5	My Home Energy Report						\$ 0.305 409 \$	6 365 499
6	Neighborhood Energy Sever						\$ 54 545 \$	54 545
1	Mate Family Every Effectency						\$ 456 975 \$	456 925
	Residential Linesgy Assessments						\$ 77.791 \$	77 791
9	Readential New Construction						\$ 47.875 \$	47 875
10	Save Energy and Water Bit	_					\$ 917.386 \$	912,388
11	Tulal Lost Revenues	1	1	1	\$	- <b>1</b>	\$ 6730756 \$	8 7 30 7 58
12	t constit Messionbal Nevences	<u> </u>	<u> </u>	<u> </u>	1	1	<u>11</u>	
0	Net Lost Readerskal Revenues	r .	\$	\$	\$	\$	\$ 8,710,758 \$	8,710,758
	Non Residential	2014	2015	2016{s}	2017	2038 (a)	1019	lotal
14	Basiness Energy Reports					1	1 1	
15	f natgy f thearnay les Business					1	\$ 1.003.105.5	1 003 105
16	Energy Efficient Lighting					1	\$ 174.071 \$	174 07 1
17	Nen Heuslenbal Smart Savet Performance Incents	w#				•	1 120 492 1	120 482
18	Benefi Birmenwon I margy Barat					1	\$ 950.627.5	960 627
18	CongyWee & for Downess					1	1 12/60 1	17,740
ю	Total Lost Hevenues	1	1	1	1		1 2201205-1	3 261 275
31	Finand Non-Readenbal Reconces	1	·	<u> </u>	<u> </u>	<u> </u>	1 (70 160) f	179 149)
22	Not i out from Pleastenical Playaessen	\$	\$	\$	\$	\$	\$ 1,711,446 \$	7,711,446

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7011	<u></u>	2 233 213 2	> 171 (76 (	<u> </u>	
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W11	<u> </u>	\$ 1227627	S PZEDICE	<u>s ·      s</u>	المراجين المراجعين والمراجع
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['#\$\$'EI	ş	\$ 192'919'9	5 6 <del>10'8</del> 11'6	<b>s</b> · · · s	ومراجع والمحاصر والأعراب والمحاصر والمحاصر والمحاصر والمحاصر والمحاصر والمحاصر والمحاصر والمحاصر والمحاصر والم
	s •	5 -	s	5 - 5	وعمره ومتصدحه ومصاحبا
'PSS'ET	s ·	\$ 192'919'9	\$ 690'851'6	s •	
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SEL	s .	\$ 92919	\$ 26.2.	i	CLA SLATT LAS 2 PLANA
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82L	s .	\$ 152.15	\$ 6.677	j	ar #1 12.4.3 200
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1,212,217 1,252 1,252 1,252 1,252	s - stoz پښت متشم s - sorع s - s -	5	(*)5105 (*)5102 (*)5102 (*)5102 (*)5102 5 6455206*	stor stor stor stor stor stor	ېېېېېې د داندې ولمگ مې <b>پېکېېېدوی</b> د د د د د د و د د د و د د د د و د د د د
(1877) (1877) (1877) (1877)	5 - 5078 - 5 - 5078 - 5 - 5 -	SF_ EX [#2102 #2 1001 page 40 5102 40 S [#2102 S	5 200 0 (*)9102 Nrawn 5 4.6 07. (*)9102 5 685200**	5 · · · 5 - · · · · · · · · · · · · · · · · · · ·	مەرمەيەر يەرىدە يەرمەيەر مەرمەيەر يەرىيەر يەرمەيەر مەرمەيدە يەرمەيدە يەرمەيدە مەرمەيدە يەرمەيدە يەرمەيدە مەرمەيدە يەرمەيدە يەرمەيدە
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Evans Eshibe 2, page 4

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Date Large Angres For the Parta Annuel, 1. 2014 - December 51, 2016 District Network 51, 2014 - 2014 District Condens for Large Mandeen Free Verlagen 2015 - 2016

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.re leveletal	2015	201644)	2017(s)	2018	- Total
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1001 4-		-	\$ 27. 51.	CF5 35	S	182,728

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### Evans Exhibit 2, page 5

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### Date Energy Progress For the Percel Jamasey 1, 2015 - December 31, 2016 Declert Bandes F-2, Sob 1174 North Carolina Bet Lett Benesie Two Up for Vestages 2015 - 2016

		Veter	2015 Vanimue	Lost Revenue 1985 5			
r =	heudentai		2015	2016(=)	201761	2018	Total
•	Accience Revising Program	5	- 5	· 5	18 528 - S	45 155 S	64 812
2	Energy Education Program for Schools	5	6779 5	14.741 5	23574 \$	24 481 5	71,525
3	Energy Empire and Long	5	- <b>S</b>	· 5	(797-366) \$	536 545 S	(250 721
4	Home Energy improvement integram	5	· 5	- 5	28.255 \$	65 CO9 S	93 264
•	Multi-Famou	5	50 S	52 CTB - S	92.29° S	182 264 S	185 375
4	Malmore Energy Report	5	₩ ¥2 \$	÷ 5	- S	· 5	1995 552
•	Negrophost Energy Selec	5		. 5	15 Se 1	15 255 S	34 852
۰.	Resource fore Constructor	5	39 904 \$	6°C - S	89 519 S	54 <del>54</del> 3 5	24E 137
i i	Seve Energy and Water Fit	5	- 1	• 5		• S	-
• 2	Los Felicentia Felerium	5	[974,396] \$	14,493 \$	(\$25,507) \$	924,793 \$	[560,617
••	Found Personnal Revenues	5		- 5		- S	•
	Neruss Revolution Revenues	5	[974,396] \$	14,493 \$	[\$25,507] \$	924,793 \$	(\$60,617
			2015	2016(.)	2017(4)	2018	Total
• •	é tarte é Tranté fre instant			_	244 702	174 092	588 114
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	Lange Lane Lynny					114 760	470.655
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		3	• •	• • •	[373,771] \$	#12/310 2	442,159
	0504 .		2015	2016(a)	2017[4]	2018	Total
,	25.4		•	•	•	· 5	•
		Vecar	e 2016 Vanance	Loss Revenue LWh S			
r			2015	2016(a)	2017(a)	2015	Total
•	Accounts Paratime Program	5			•9• 440 S	2 515 \$	188 925
:	Energy Education Program for Schools	ŝ		1 224 3	38 620 \$	2° 593 S	73 437
2	Energy Efficient Latting	5	3	. 5	* 36 36C+ S	432 565 \$	295 205
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	Ron Annorated		2015		2016(a)	2017(4)	2018	Total
	tuanes Energy Froots Energy Encance to Business Energy Encants others		•		191 245 55	• 206 42" "3 466,	532 371 97 498	191 245 1 838 722 1675 5681
4	Small Business Energy Seven Energy/Vies for Business		-		6 366	563 568 360	452 932 4 023	1 110 235 (14 872)
	han yasi kanifasisenta Revenues Found hani Revenues			•	173,308	1.089,209	1,186,824 (112,553)	2,449,341 (113.552)
.1	ter politionEexpertal Revenues	5	•		\$ 173,308 \$	1,089,209 \$	1,073,272 \$	2,335,789
			2015		2016(a)	2017(a)	2018	Total
• i	LSCA		•			•	- 5	•

Evans Exhibit 3

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### Duke Energy Progress Actual Program Costs for Vintage Years 2013 - 2017 Docket Number E-2 Sub 1174

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		Car	olines System ~ 12 Months Ended 12/31/2013	G 1:	rolinas System – 2 Months Ended 12/31/2014		Carolinas System - 12 Months Ended 12/31/2015	(	Carolinas System – 12 Months Ended 12/31/2016	Ca 17	rolinas System - 2 Months Ended 12/31/2017
1	Appliance Recycling Program	\$	1,473,097	5	1.158.732	\$	1.220,465	Ś	(137.009)	\$	5,586
2	Home Energy improvement Program	Ś	5,419,581	ŝ	4,815,836	s	5,298,232	s	6,013,170	\$	6,961,463
3	Residential Eighting Program	Ś	8,235,185	ŝ	19,568,417	ŝ	14,616,136	ŝ	15,552,184	ŝ	10,904,279
4	Neighborhood Energy Saver Program	Ś	2,051,973	\$	1,731,995	\$	1,586,061	Ś	2,052,535	\$	1,781,211
5	Residential New Construction	s	2,348,349	s	6,463,903	\$	7,447,258	5	9,405,615	\$	11,671,724
6	Residential Energy Efficient Benchmarking	Ś	591,861	s	171,840	s		ŝ	-	ŝ	
7	Residential Home Advantage	Ś	67,611	\$	· ·	ŝ	÷.	\$		ŝ	•
8	Energy Education Program for Schools	\$	•	\$	•	\$	703,689	\$	827,497	\$	835,991
9	Multi-Family	\$		\$		\$	2,615,745	\$	2,045,220	\$	2,514,413
10	My Home Energy Report	- S		\$	69,946	\$	5,808,941	5	5,890,093	5	6,753,153
11	Residential Energy Assessments							\$	1,417,924	\$	1,863,486
12	Save Energy and Water Kit							\$	674,538	\$	868,869
13	Business Energy Report	\$		\$		\$	74,374	\$	69,516	\$	20,330
14	Energy Efficiency for Business	\$	8,424,007	\$	7,247,613	\$	6,226,453	\$	14,159,310	\$	21,749,807
15	Energy Efficient Lighting	s	1.000.191	s	2.376.651	5	1,775,958	\$	1,889,694	\$	1,324,943
16	Non-Ret SmattSavet Performance									s	147,160
17	Small Business Energy Saver	s	3.345.513	\$	10.108.948	s	9,780,196	\$	9.335.274	ŝ	8,770,755
18	f nerevWise	ŝ	9 209 664	ŝ	9 898 621	ŝ	12 212 851	ŝ	11611666	ŝ	13.125.314
19	Energy Wise for Business			ł		÷	65 456	é	1 112 815	÷.	1 190 549
20	CIG DR	ś	1 153 172	ś	1.588.074	ś	1 899 146	ś	1,615 703	ŝ	1.523.514
			.,	-	1,540,014	-	*,d //,1 +0	-	1,017,107	-	.,
21	Total Energy Efficiency & Demand Side Program Co Sum(Lines	1-19) \$	44,020,203	\$	55,000,579	\$	71,350,960	\$	45,558,746	\$	92,232,546
		-						\$			

22	NC Allocation Factor for EE programs	Miller Exhibit 5 Pg.1 thec	86 01%	85 73%	85 29%	85 44%	85 5 1%
23	NC Allocation Factor for DSM programs	Miller Exhibit 5 Pg 1 thre	85 57%	85 94%	80.05%	86,17%	66 16%

			Caro N	linas System + 12 Lonths Ended 12/11/2013	N	C Allocated - 12 Aonths Ended 12/51/2014		NC Allocated - 12 Months Ended 12/91/2015 (L)		NC Allocated - 13 Months Ended 12/11/2016 (1)	N 1	C Allocated - 12 Aonths Ended 2/81/2017 (1)
24	Appliance Recycling Program	Line 1 * Line 21	5	1,267,059.20	\$	991,419.25	\$	1,040,934.99	\$	(117,05# 57)	5	4,176.58
25	Home Energy Improvement Program	Line 2 * Lose 21	\$	4,661,567,08	\$	4,128,777.14	\$	4 518 861 95	\$	5,117,557.41	5	5,952,627.50
26	Residential Lighting Program	Line 1 Line 21	\$	7,083,556.97	5	16,776,656 40	\$	17,446,107,61	\$	13 287 540 35	5	9,124,062.29
27	Neighborhood Loetgy Saver Program	Line 4 * time 21	\$	1,164,970 //	\$	1,484,496 87	5	1, 552, 753 03	\$	1,753,653.64	\$	1,523,082.68
28	Residential New Construction	Line 5 * Eine 21	\$	1019,891,95	5	5,541,719.25	\$	6,151,766.01	5	8,046,009.10	\$	1 160 191 02
29	Residential Energy Efficient Benchmarking	Lose 6 1 1ine 21	\$	501,071 59	\$	147,124 46	\$		\$		\$	
90	Residentigt Home Advantage	time 2 1 time 21	5	50.154.02	\$		5		\$		\$	
4	Envergy Education Program for Schools	tine B * Line 21	\$		\$		\$	600,176-12	\$	707,000.01	\$	714,041-12
12	Multi Family	Line 9 * Line 21	\$		\$		\$	1,230,968,51	\$	1,747,403-14	5	2,150,031 71
11	My Home Lorigy Report	Line 10 * Line 21	\$		5	53,966,69	5	4,054 445 77	\$	5,012,402.00	\$	5,774,505.65
94	Residential Lineagy Assessments	Line 11 <sup>4</sup> Line 21	\$		5		\$		\$	1,211,452.04	\$	1599,49459
15	Save Energy and Water Kill	Line 12 1 (ine 21	\$		5		\$		\$	576,114.67	\$	260,056-15
16	Business Energy Report	Line 13 5 Line 21	5		\$		\$	61,419.17	\$	52 103 75	\$	17,181 /0
	I pergy Effectency for Business	Line 14 * Line 21	\$	7,245,768.80	5	6,213,620.54	\$	5, 00, 541 74	\$	12,097,490 AZ	5	10,597,006,97
18	Energy Effectent Eighting	Line 15 * Line J1	\$	860 297 81	\$	2,017582.02	5	1,514,714.74	\$	1,614,524.95	\$	1,132,235,88
19	Non Rey SmartSever Partyringnie	Line 16 <sup>4</sup> Line <b>21</b>	\$		\$		\$		\$		5	125,854,21
40	Small Business Energy Saver	Line 17 * Line 21	\$	2,877,586.82	\$	8,666-738-31	\$	# 541 529 15	\$	7,976,765 21	\$	1 499,722 72
41	I morgyWrise	Long Ld. <sup>4</sup> Long 22	\$	0,401,125.00	\$	8,507,206 GF	5	10,508,250,22	\$	11,747,962.62	\$	11 100,498 16
47	EnergyWose for Business	Line (0.1 Line )2	5		\$		\$	56,121.08	\$	958 BVD 92	\$	1,198,064.16
45	C 143 \$PR	Line 20 * Line 22	5	1,170 MP3	\$	1,192,957	\$	1.644.152	\$	1, 197, 232	5	1,112,528
44	Total Energy Efficiency & Demand Side Program Co	Saan (Loom 21, 19)	1	17,519,664	\$	55,750,865	\$	60,945,452	\$	71,119,542	\$	18,970,868

[1] NC Alforations are been on some two-ghled average which are employed in the efficiation of schidy cost fact by fraults for PPC determination. This differs from the effortation used in Miller Labibl 2, which glocates actual costs by multip

### Evans Exhibit 4

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### Duke Energy Progress, LLC January - December 2017 Actuals January 2018 - December 2019 Estimates Docket Number E-2, Sub 1174 North Carolina Found Revenues

-

		Actual/Rep	ort	ed KWH		Estimated	ыкмн
		2016		2017		2018	2019
Economic Development	4	0,751,172	21	17,748,650		-	-
Lighting							
Residential		21,158		18,164		18,164	18,164
Non Residential (Regulated)		328,140		304,084		304,084	304,084
MV to LED Credit - Residential (Regulated)		(460,649)		(456,768)		(107,448)	(77,014)
MV to LED Credit - Non-Residential (Regulated)		(105,415)		(105,982)		(24,931)	(17,869)
Total KWH	4	0,534,406	2	17,508,148		189,869	227,365
	-						
Total KWH Included		(216,766)		(240,502)		189,869	227,365
Total KWH Included (net of Erop Biders 15%)		(184.051)		(204 427)		161 290	102 260
		(104,201)		(204,427)		101,309	193,200
Annualized Found Revenue - Non Residential	\$	113,553	\$	106,296	\$	144,604	\$ 146,565
Annualized Found Revenue - Residential	\$	(279,063)	\$	(297,693)	\$	(57,423)	\$ (59,570)
	Ľ	<u> </u>	<u> </u>	<u>, , ,</u>			, ( <i>)</i> <u>-</u>
		2016		2017		2018	2019
Vintage 2015 - Non Res	Ś	-		-		-	-
Vintage 2016 - Non Res	Ś	68.561		113.553		113.553	44,992
Vintage 2017 - Non Res	•	,	Ś	72.644		106.296	106.296
Vintage 2018 - Non Res			•	,.	Ś	78.327	144.767
Vintage 2019 - Non Res					•	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	\$ 79.389
Net Negative Found Revenues to Zero*		-		-		-	-
Subtotal - Non Res	Ś	68.561	Ś	186.197	Ŝ	298.176	\$ 375,444
	•		•	,	•	<b>,</b>	• -·-•
Vintage 2015 - Res	Ś	-		• -		-	
Vintage 2016 - Res	\$	(150,940)		(279.063)		(279,063)	(128,123)
Vintage 2017 - Res	-		\$	(160,772)		(297.693)	(297,693)
Vintage 2018 - Res			•	• • •	\$	(31,104)	(57,601)
Vintage 2019 - Res					•		\$ (32,267)
Net Negative Found Revenues to Zero*		150,940		439,836		607,860	515,684
Subtotal - Residential	\$	-	\$		\$	•	\$ -
Total Found Revenues	\$	68,561	\$	186,197	\$	298,176	\$ 375,444

\* Eliminates the inclusion of total negative found revenues at the Residential level

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Evans Exhibit 5

### Duke Energy Progress System Event Based Demand Response January 1, 2017 - December 31, 2017 Docket Number E-2, Sub 1174

Date	State	Program Name	Event Trigger	Customers Notified /Switches Dispatched	MW Reduction
1/8/2017	NC and SC	DSDR	Capacity Needs	-NA-	183
1/9/2017	NC	DEP EnergyWise Home	Economic Event	9,215/12,947	11.6
1/9/2017	NC and SC	DSDR	Capacity Needs	-NA-	200
3/16/2017	NC and SC	DSDR	Capacity Needs	-NA-	112
6/14/2017	NC and SC	EnergyWise Business	M&V / Economic Event	1872	2.4
7/13/2017	NC and SC	DEP DRA	Tariff - Minimum Event	19 Customers / 67 Sites	19
7/13/2017	NC and SC	EnergyWise Business	M&V / Economic Event	1915	2.9
7/21/2017	NC and SC	DEP DRA	Tariff - Minimum Event	19 Customers / 67 Sites	20
7/21/2017	NC and SC	EnergyWise Business	M&V / Economic Event	1838	2.3
8/17/2017	NC and SC	EnergyWise Business	M&V / Economic Event	1897	2.4
5/18/2017	NC and SC	DEP DRA	Tariff - Minimum Event	20 Customers / 70 Sites	22
\$/18/2017	NC and SC	DSDR	Capacity Needs	-NA-	92
8/21/2017	NC and SC	DEP EnergyWise Home	Economic Event	159,244/205,016	120.5
8/22/2017	NC and SC	EnergyWise Business	M&V / Economic Event	1895	2.4
10/9/2017	NC and SC	DSDR	Capacity Needs	-NA-	144
10/11/2017	NC and SC	DSDR	Capacity Needs	-NA-	218
10/12/2017	NC and SC	DSDR	Capacity Needs	-NA-	247
10/23/2017	NC and SC	DSDR	Capacity Needs	-NA-	63

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### Notes:

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- Customers Notified' is the number of participants notified to participate in the event

- Switches Dispatched' values represent the monthly active switch counts.

- MW Reduction' values are based on the average across all hours of the event

### A. Description

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The Appliance Recycling Program ("Program") promoted the removal and responsible disposal of operating refrigerators and freezers from Duke Energy Progress (DEP) LLC's (the "Company") residential customers. The refrigerator or freezer must have a capacity of at least 10 cubic feet but not more than 30 cubic feet. The Program recycled approximately 95% of the material from the harvested appliances.

### Audience

Eligible Program participants include the Company's residential customers who own operating refrigerators and freezers used in individually metered residences. Currently, this Program is closed to new participants.

### **B & C. Impacts, Participants and Expenses**

2017 Year End Results	Annual Forecast	Actual	Variations
Savings (MWH)	3,979	0	-3,979
Savings (MW)	0.53	0.00	-0.53
Participants	· · · ·	0	
2017 Program Expenses		\$5,591	- · · · · · · · · · · · · · · · · · · ·

### **D. Qualitative Analysis**

Highlights

No highlights to report.

Issues

No issues to report

**Potential Changes** 

No changes at this time.

### E. Marketing Strategy

No Marketing efforts were conducted.

## F. Evaluation, Measurement and Verification

No evaluation activities are planned in 2017.

Evans Exhibit 7

### Duke Energy Progress Estimate - January 1, 2019 - December 31, 2019 Docket Number E-2, Sub 1174 Projected Program/Portfolio Cost Effectiveness - Vintage 2019

Program	UCT	TRC	RIM	PCT
Residential Programs			•	
Appliance Recycling Program				
Energy Education Program for Schools	1.62	2.24	0.63	
Energy Efficient Lighting	1.79	2.58	0.61	8.39
Home Energy Improvement	0.91	0.57	0.41	1.73
• Multi-Family	3.00	5.58	0.50	
Neighborhood Energy Saver	0.46	1.55	0.28	
Residential Energy Assessments	1.54	1.71	0.49	
Residential New Construction	1.96	1.03	0.72	2.30
Save Energy and Water Kit	12.43	27.29	0.70	
Residential Home Advantage			_	
My Home Energy Report	0.96	0.96	0.41	
EnergyWise Home	9.28	58.30	9.28	
Residential Total	2.79	2.70	0.77	11.17
Non-Residential Programs				
Energy Efficient Lighting	4.63	7.98	0.95	16.31
Non-Residential Smart \$aver	2.45	1.07	0.77	1.99
<ul> <li>Non-Residential Smart \$aver Performance Incentive</li> </ul>	3.75	0.92	0.75	2.18
Small Business Energy Saver	2.57	1.60	0.70	3.71
EnergyWise <sup>®</sup> for Business	0.72	1.07	0.59	
Commercial Industrial Governmental Demand Response	2.06	33.28	2.06	
Non-Residential Total	2,41	1.56	0.84	3.04
Overall Portfolio total	2.63	2.12	0.84	4.76

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Exhibit E

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### Date Earry Progress Changes to DSM/EE Cost Recovery Whitey 2017 True by Jennary 1, 2017 - December 31, 2017 Changes treas Prior Faing Day to Applications of M&V and Participation Systems LWN and Wit Impacts. Net Free Relates at the Mast

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Realization Property.

			Filed in Deckel	11-2,						Variance due to Change	in impacts and				
	Med in Declart & Z	546 1145	Soft taxa		Overall Ven		E-2 5mb 1145	1-2 Selb Lana	Delta	Measure M	<u>ku</u>	Variance due to Change	in Participation	Sum of Vari	lan cas
Program Same	18*					1.6	Sister Pa	ne cation	Partopaton	4Wh	kŴ	LWD -	kW.	kWh	kW
Appendix Amounty Program	4 (4 ( 8)	351	1	i	-4 181 891)	.553,	7 200		[7,000]	-	•	(4,181,891)	(553)	(4,181,891)	(553)
times towater improving the langest	1 447 141	194	2.01.00	***	356 224	755	6 2002 j	9	304	287,011	791	69,013	7	356,024	798
Energy Effective Uprove	4.10.51	\$ 1+9	33247	4.744	12 9CH 341.	(2.455)	2.007,564	2 247 641	240,013	(18.023,238)	(2,592)	5,118,397	737	(12,904,841)	(1,855)
name Starge motowment Program	C 452 184	ided.	1 195 (M		4 565 800	**:	7 35 3	de 222	18,865	(1.529,557)	(1,536)	6,395,357	2,526	4,865,800	991
Angelianaas ( angelian	1 794 979	2.5	1,2201240	19	45256	31	4,500	4 873	373	321,456	5	143,810	25	465,266	31
head? Muchaeve		124	10 Lb. S.	2 X X 2	5,706 435	1.64	21.27	.97.437	96,765	680,272	675	5,026,163	493	5,706,435	1,168
heldenta (nego kaselmenti	8 282 <b>26</b> 2	524	19.44****	( 1942 )	2,315 676	346	25 375	34,290	12,715	746,257	124	1,569,379	262	2,315,676	386
Amounts has function	12 274 771	4 50.2	1999-1299		3.921.314	: ***	4 750	9,732,277	9,727,327	[20,627,679,497]	(8,930,854)	20,631,600,811	8,932,513	3,921,314	1,660
use Energy and Mater KE	15 mm R21	1 254	1 1121.431	\$ 1 <sup></sup>	5 354 51	2,123	1:6 437	463,254	147,417	2,055,839	6,538	7,298,692	584	9,354,531	7,123
hesoerta nore abartage			1			•			-	•	•	-	-	-	-
We manu Shanga Awatan	233 924 299	In the	21 151.51	· 7 ++-1	121 265,584.	1 6 7,	682,500 }	795 734	111,434	(38,329,368)	(22,477)	22,264,003	5,050	(15,065,384)	(16,427)
(regulate " none		22.239	L	11 4.14		.: 545		17, 760	6,694	· ·	(1.943)		13,332	-	11,389
Residential Programs Lated	125 AND 112	"1 <b>1</b> 21	27 291 122	78 513	16 167 0701	4 713	8.276.521	13 633 432	10,356,911	(20.681 470.605)	(8,951,268)	20,675,303,735	8,955,978	(6.167.070)	4,710

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			Filed in Capitet	1-2						Variance due to Change a	n impacts and				
	Filed - Decker & 2	140 1145			Overall Var	-	E-2 Sub 1145	E-2 Sude maan	Delta	Measure Ma		Variance due to Change	in Participation	Sum of Var	lances
Program Tantar	1.0	4.6	1.65	•	14"	1.6	\$150m Pa	nceator	Parsonation	sWh	LW .	k Wath	kW	kWh	kW
Sustain ( range Augusts	11,1146	432			3 878 49Ci	(632)	:: 643	421	[11,243]	(146,070)	[24]	(3,732,420)	(608)	(3,878,490)	(632)
there are to barres	55 44 <u>5</u> 744	12.067	* 129-029-954	28 954	39 411 345	6 871	155 544	: 792 : 35	1,635,671	(630,781,155)	(99,269)	670,192,540	105,140	39,411,385	5,871
Energy Efficient Lighting	23.552.556	4200	10.11	<b>≈</b> ≠1	,12 674 716.	C.209,	:43 MC	. 277, 500	28,538	(15,088,281)	(2,706)	2,413,565	497	(12,674,716)	(2,209)
فارته متراصة المتركير مزاوره			415 224	54	435,108	53			1	-		435,108	58	435,108	58
Share Kushens Denga Salar	PÍ CIIC He I	1.71	41 244 213	+ + x2 }	12 763 153	2,873	36 :00,000	AL_204 550	4,104,550	8,751,726	2,109	4,011,426	765	12,763,152	2,873
the press of the Sectors	Het 255	5.234	ai the	4 in :	(2 643,	1,415	:,sw	: 554	(232)	118,125	2,041	(120,768)	(617)	(2,643)	1,425
بة والرسول ووالمار المركز الرجان الرجان الرجاني ال		24 724	1	2 in f		(12-745)	14 300 1	1 873	(12.127)				(12,745)	•	(12,745)
tan Aredenius Prayrans Islat	124 / 6 204	42.423	100 644 193	17.525	M 253 757	i# 359,	\$6.5.6.945	42,279,269	5.746.278	(637,145.655)	(97,649)	673,199,452	93,490	36,053,797	(4,359)
And the Andrew Statement Property															
: <b></b> •	** 1,4 12*	112.217	1.1.1.1.45		(11 808 145)	22 463	• •			N/A N/	*	•	•	N/A N	/A
المتحاجبة المتحمد والمحاجة المتحاجبة	420 173 177	427-249	419 255 900	450 068	:1 040.542	22 839	39 623 506	55 906 595	16.103.189	(21.318,616,460)	(9,049,117)	21,348,503,187	9,049,468	29,886,727	350

### NCR . The actual per and segments are reflected at the following (MEX reports.

Program Surger As Filed	Dechet	Report Reference	Effective Date
1 - 1 - 1			6/5/2017
intel bornes trengs laver	1.1 Sec 1011	EMB + August for the Small Business Energy Saver Program Dure Energy Programs and Dure Energy Carpinals	3/1/2016
Started as he before	1. 1. 1. 1.		1/1/2016
. 1424	8 2 Sec 951	2016 EMB x Record for the Duke Energy Progress Commercial Inductivel and Covernmental Demand Records (CRA) Program	6/19/2017
Matterne trents Service Interes	1.4.1		1/1/2015
Lowergent and	6 2 Sec 82*	LW & x Association the Energy Mode name Demand Resource Program, A mar Pro2016-2017	7/6/2017
trents the second land of		i en illera (Bester (Meterlen et el 201). Mit ineste deve	1/1/2015
¥	( 2 July 141)	We note the present integram ( valuation	2/1/2015
(ann 1)	1.50.27		11/1/2015
Non-Austin and Contract of the	4 2 Jule 934	Duar Energy Caroina & Duar Energy Progress Non-September Program Evaluation Report	3/1/2017
and the set of the set			4/1/2017
and the second s	and the second second second		and a second sec
{			
	. ريغينية من المريح بالمنطق من من من مستحدة المسيحة المستحدة الم		and the second

# DE Progress DSM Opt-Out at December 31, 2016

North Carolina (excludes outdoor lighting)

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Evans Exhibit 9A Page 1 of 16

Customer's Name	DSM
3141 PROPERTIES LLC	1
333 VENTURES LLC	2
3700 GLENWOOD LLC	1
4208 SIX FORKS ROAD LLC	2
81ST REGIONAL SUPPT COMMAND	1
A STUCKI COMPANY	1
ADVANCED PLASTIC EXTRUSION LLC	2
AG PROVISION LLC	3
AJINOMOTO USA INC	3
ALAMAC AMERICAN KNITS LLC	2
ALBANY ROAD-WYCLIFF LLC	2
ALCAMI CAROLINAS CORPORATION	6
ALL TRUSS LLC	1
ALLEN HARIM FOODS LLC	1
ALPLA INC	1
AMCOR FLEXIBLES INC	1
AMCOR RIGID PLASTICS USA LLC	1
AMERICAN AIRLINES GROUP INC	1
AMERICAN GROWLER INC	2
AMERICAN SKIN COMPANY INC	1
AMERICAN TEL & TEL CO	1
AMERICHEM INC	3
AMISUB OF NORTH CAROLINA INC	1
ANGUS BARN LTD	6
ANSON MACHINE WORKS	4
APAC TENNESSEE INC	3
APEX OIL CO INC/TERMINALS DIVI	5
APEX TOOL GROUP LLC	1
ARAUCO PANELS USA LLC	4
ARCADIA DAIRY FARMS INC	2
ARCHER DANIELS MIDLAND CO	1
ARCLIN USA INC	6
ARDAGH GLASS INC	4
ARDEN CORPORATION	4
ASHEBORO CITY OF	3
ASHEBORO ELASTICS CORP	3
ASHEVILLE BUNCOMBE TECH	22
ASHEVILLE CITY OF	8
ASHEVILLE DYING AND FINISHING	2
ASHEVILLE WASTE PAPER CO INC	5
ASTON PARK HEALTH CARE CENTER	1
AT & T MOBILITY	3
ATEX TECHNOLOGIES INC	2
ATLANTIC CORP OF WILM INC	7
ATLANTIC VENEER CORP	3
Duke Energy Progress, LLC	Evans Exhibit 9
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North Carolina (excludes outdoor lighting)

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AUSTIN QUALITY FOODS INC	2
AUX KITCHEN LLC	1
B J CONSEW INC	1
B V HEDRICK GRAVEL & SAND CO	9
BAILEY FARMS INC	1
BALCRANK CORPORATION	1
BALDOR ELECTRIC CO	1
BARHAM FARMS INC	1
BARNES FARMING CORPORATION	8
BARTLETT MILLING CO	2
BB&T	2
BELK INC	7
BELLSOUTH TELECOMMUNICATIONS	12
BELT CONCEPTS OF AMERICA	1
BI-LO LLC	2
BILTMORE BAPTIST CHURCH	1
BILTMORE FARMS HOTEL GRP LLC	3
BILTMORE FOREST CNTRY CLUB INC	5
BJ'S WHOLESALE CLUB INC	8
BJT, INC	1
BLACK MTN CENTER	6
BLUE RIDGE PAPER PRODUCTS INC	29
BOISE CASCADE WOOD PRDCTS LLC	7
BOLIVIA LUMBER CO LLC	2
BONSAL AMERICAN INC	1
BORG WARNER TURBO SYSTEMS INC	2
BORGWARNER THERMAL SYSTEMS INC	1
BP SOLUTIONS GROUP INC	2
BRAIFORM ENTERPRISES INC	1
BRIER CREEK OFF #6 LLC	1
BRIER CREEK OFFICE # 1 LLC	1
BRIER CREEK OFFICE # 2 LLC	1
BRIER CREEK OFFICE # 5 LLC	1
BRIER CREEK OFFICE #4 LLC	1
BRM PARTNERS II LLC	1
BRM PARTNERS LLC	1
BROMLEY PLASTICS CORPORATION	1
BROOKS HOWELL RETIREMENT HOME	3
	5
BRUNSWICK CO	1
BRUNSWICK CO UTILITIES	1
BRUNSWICK COUNTY SCHOOLS	18
BSH HOME APPLIANCES	6
	2
	2
	L
Duke Energy Progress, LLC Docket No. E-2, Sub 1174	Evans Exhibit 9 Page 2 of 34

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North Carolina (excludes outdoor lighting)

-- ,

BURLINGTON INDUSTRIES LLC	2	
BUSINESS TELECOM INC	2	
BUTLER MFG CO	5	
CAMP DAVIS INDUSTRIAL PARK INC	6	
CAMPBELL SOUP SUPPLY CO LLC	4	
CAMPBELL UNIVERSITY	40	
CAN AM SOUTH LLC	2	
CANTON SAWMILL LLC	7	
CAPE FEAR ACADEMY	2	
CAPE FEAR COMMUNITY COLLEGE	13	
CAPE FEAR COUNTRY CLUB	7	
CAPE FEAR PUBLIC UTILITY AUTH	6	
CAPEL INC	6	
CAPITAL FUNDS INC	3	
CAPITOL BROADCASTING CO	13	
CARGILL INC	1	
CARLIE C OPERATION CENTER INC	10	
CAROLINA APPAREL GROUP INC	1	
CAROLINA BAY OF WILMINGTON LLC	5	
CAROLINA BEACH TOWN OF	1	
CAROLINA COUNTRY CLUB	3	
CAROLINA CRATE & PALLET INC	3	
CAROLINA CUSTOM FINISHING LLC	1	
CAROLINA DAIRY LLC	2	
CAROLINA EGG CO INC	1	
CAROLINA ELECTRONIC ASSEMBLERS	1	
CAROLINA ICE INC	4	
CAROLINA INNOVATIVE FOOD INGRE	3	
CAROLINA PRESERVE BY DEL WEBB	4	
CAROLINA TECHNICAL PLASTICS	3	
CARQUEST OF SRONCE	2	
CARTERET COMMUNITY COLLEGE	18	
CARTERET GENERAL HOSPITAL	3	
CARY TOWN OF	13	
CARY VENTURE LTD PRTNRSHIP	14	
CASCADES HOLDING US INC	4	
CASCADES MOULDED PULP	1	
CASE FARMS	8	
CATALENT PHARMA SOLUTIONS LLC	16	
CATERPILLAR INC	10	
CECIL BUDD TIRE COMPANY LLC	3	
CERTAINTEED CORPORATION	4	
CERTAINTEED GYPSUM NC INC	3	
CERTAINTEED INC	1	
CFVH - BLADEN HEALTHCARE	11	
CHATHAM CO	1	
Duke Energy Progress, LLC	Evans Exhibit 9	9
Docket No. E-2, Sub 1174	Page 3 of 34	

North Carolina (excludes outdoor lighting)

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CHATHAM CO BOARD OF EDUCATION	12
CHATHAM HOSPITAL INC	3
CHERRY HOSPITAL	21
CITY OF HENDERSON	2
CITY OF RALEIGH PARKS REC DEPT	11
CLIFFORD W ESTES CO INC	3 '
CLINTON CITY BD OF ED	8
CLINTON CITY OF	3
CLOVERLEAF COLD STORAGE CO	1
CMC CORPORATION	4
CMS FOOD SOLUTIONS INC	1
COAST LAMP MANUFACTORY	2
COASTAL CAR COMM COLL RES BLD	1
COASTAL CAROLINA COMM COLLEGE	13
COASTAL FEDERAL CREDIT UNION	1
COATINGS AND ADHESIVES CORP	7
COBB VANTRESS INC	1
COKER FEED MILL INC	1
COLONIAL CARTON CO	1
COLUMBUS COUNTY SCHOOLS	11
COLUMBUS REG HEALTHCARE SYSTEM	3
COMFORT TECH INC	1
COMPUTER DESIGN INC	1
CONESTOGA WOOD SPECIALTIES	2
CONSOLIDATED METCO INC	2
CONVEYOR TECHNOLOGIES OF SANFO	4
COOPER-STANDARD AUTOMOTIVE INC	2
CORE-MARK DISTRIBUTORS INC	2
CORNELIA NIXON DAVIS INC	4
CORNELIA NIXON DAVIS NURSING	1
CORNING INC	3
CORTEK	4
COSTCO	4
COTTLE STRAWBERRY NURSERY INC	8
COTY US LLC	5
COUNCIL TOOL CO INC	4
COUNTRY CLUB OF LANDFALL	17
COUNTY OF WAYNE	1 .
COURTYARD BY MARRIOTT	3
CPI USA NORTH CAROLINA LLC	1
CRABTREE PARTNERS LLC	1
CRAVEN CO BD OF ED	14
CRAVEN CO JUSTICE CENTER	2
CRAWFORD KNITTING INC	1
CROP PRODUCTION SERVICES INC	1
CROSS CANVAS COMPANY INC	3
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CSX TRANSPORTATION	2
CTC FURNITURE DISTRIBUTORS INC	1
DAK AMERICAS LLC	3
DALIAH PLASTICS CORP	4
DAY INTERNATIONAL INC	2
DCI INC	1
DEERFIELD EPISCOPAL RETIREMENT	18
DENNISON, WYNDHAM V	1
DEPT OF HEALTH & HUMAN RESOURC	34
DESCO INDUSTRIES INC	4
DEVIL DOG MFG CO INC	2
DEWEY DEVELOPMENT INC	2
DH RESEARCH TRIANGLE, LLC	1
DIXIE PIPELINE COMPANY	4
DRPFC I LLC	5
DUKE UNIV HEALTH SYSTEM INC	26
DUKE UNIVERSITY MARINE LAB	1
DUNN CITY OF	2
DUPLIN GENERAL HOSP	1
DUPONT E I DE NEMRS	1
DYNAPAR CORP	3
E CAROLINA METAL TREATING INC	2
EAGLE SPORTSWEAR LLC	5
EARTH FARE INC	4
EATON CORPORATION	6
EDWARDS BROTHERS INC	2
EDWARDS WOOD PRODUCTS INC	6
ELAND INDUSTRIES INC	1
ELASTIC THERAPY INC	3
ELECTRO SWITCH CORPORATION	1
ELEMENTIS CHROMIUM INC	4
ELKAY SOUTHERN PLANT 2	1
ELKINS SAWMILL INC	3
EMC CORPORATION	4
EMERGEORTHO PA	1
ENERGIZER BATTERY MANUFACTURIN	1
ENTERCO LLC	1
ENVIVA PELLETS SAMPSON LLC	1
ENVIVA PORT OF WILMINGTON, LLC	4
EOS ACQUISITION I LLC	1
ERICO INC	1
EVERGREEN PACKAGING INC	4
EXPRESS FOOD GROUP LLC	1
EXTREME NETWORKS INC	1
FAYETTEVILLE TECH COMM COLL	2
Duka Energy Progress 11.0	Evens Fuk
Duka Energy Prograss, LLC Desiret No. E. O. Sub 1174	
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North Carolina (excludes outdoor lighting)

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FCC (NC) LLC	1
FENNER DRIVES	1
FIRST BAPTIST CH OF ASHE INC	1
FIRST CITIZENS BANK	1
FIRST CITIZENS BANK & TRUST CO	5
FIRSTHEALTH FAMILY CARE CTR	1
FIRSTHEALTH OF THE CAROLINAS	. 20
FLETCHER BUSINESS PARK LLC	1
FLETCHER HOSPITALITY, LLC	1
FLOCO FOODS INC	2
FLOWSERVE US INC	1
FLYING J INC	1
FOOD LION LLC	166
FORTRON INDUSTRIES LLC	1
FOUNTAIN POWER BOATS INC	5
FOUR SEASONS MNGMT SVCS INC	6
FRANK THEATRES PARKSIDE COMMON	1
FRANKLIN BAKING COMPANY LLC	7
FRANKLIN COUNTY SCHOOLS	5
FRATERNITY/SORORITY LIFE	8
FRESH BUY INC	2
FRONTIER SPINNING MILLS	1
FUJIFILM DIOSYNTH BIOTEC USA	1
FUQUAY-VARINA TOWN OF	1
GALE FORCE SPORTS & ENTERTAIN	13
GALLOWAY RIDGE INC	17
GENERAL ELECTRIC CO	2
GENERAL INDUSTRIES INC	5
GENERAL PARTS DIST LLC	1
GENERAL SHALE BRICK INC	8
GENERAL TIMBER INC	4
GEORGIA PACIFIC CORP	2
GEORGIA PACIFIC WOOD PROD LLC	1
GH CRESCENT GREEN INC	1
GIBRALTAR PACKAGING GROUP INC	4
GILDAN YARNS LLC	1
GIVENS ESTATES INC	12
GIVENS HIGHLAND FARMS LLC	11
GKN DRIVELINE N AMERICA INC	4
GLAXOSMITHKLINE	6
GLEN RAVEN MILLS INC	1
GLENWOOD ASSET MANAGEMENT LLC	1
GLENWOOD HOSPITALITY ASSOC LLC	1
GLENWOOD PLACE VENTURES LLC	1
GLOBAL PACKAGING INC	1
GOLDSBORO CITY OF	2
Duke Energy Progress, LLC	Evans Exhibit 9
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GOLDSBORO HOUSING AUTHORITY	3
GOLDSBORO MILLING CO	13
GRANITE FALLS SWIM/ATHL CLUB	2
GREATER ASHEVILLE REG AIRPORT	1
GREDE II LLC	. 3
GRIFOLS THERAPEUTICS INC	6
H & H FURNITURE MFG INC	3
HALIFAX MEDIA HOLDINGS LLC	4
HANESBRANDS INC	2
HANSON AGGREGATES SE LLC	33
HANSON BRICK EAST LLC	1
HAPPY JACK INC	1
HARDEN ROAD ASSOCIATES	1
HARGER LIGHTNING & GROUNDING	1
HARNETT CO BD OF ED	23
HARNETT CO PUBLIC UTIL	6
HARNETT CO SHERIFF OFFICE	1
HARNETT HEALTH SYSTEM INC	19
HARRIS PRINTING CO INC	3
HARRIS TEETER INC	. 31
HASTY PLYWOOD CO	3
HAVELOCK CITY OF	1
HAYWOOD COUNTY LOCAL GOV	1
HAYWOOD REGIONAL MEDICAL CNTR	6
HEATMASTERS LLC	3
HERAEUS QUARTZTECH AMERICA LLC	1
HEXION INC	2
HIGHWOODS JOINT VENTURE	1
HIGHWOODS REALTY LP	27
HJH ASSOCIATES	1
HOG SLAT INC	3
HOLLY SPRINGS TOWN OF	1
HOME CARE PRODUCTS LLC	1
HOME DEPOT USA INC	9
HOPE COMMUNITY CHURH OF NC INC	1
HORNWOOD INC	3
HOUSE OF RAEFORD FARMS INC	11
HOUSING AUTH CITY OF RALEIGH	2
HUGHES FURNITURE INDUSTRIE INC	1
HULSING HOTELS INC	13
	1
HYDRO TUBE ENTERPRISES INC	1
	1
INGERSOLL-RAND	1
INGLES MARKETS INC	86
INN UN BILIMORE ESTATE INC	1
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INNOVATIVE LAMINATIONS CO	1
INTERNATIONAL BROADCAST BUREAU	1
INTERNATIONAL PAPER COMPANY	5
INVISTA S A R L	1
J & D WOOD INC	3
J P TAYLOR COMPANY LLC	4
J&J SNACK FOODS HANDHELDS CORP	2
JACKSONVILLE CITY OF	3
JACOB HOLM IND AMERICA INC	1
JOHN DEERE TURF CARE INC	3
JOHN O STEVENSON INC.	2
JOHNSTON CO BOARD OF EDUCATION	78
JOHNSTON CO PUBLIC UTILITIES	2
JOHNSTON MEM HOSPITAL AUTH	1
JORDAN LUMBER & SUPPLY INC	15
JOVC FOOD CORP INC	1
K MART CORP	7
KAYSER-ROTH HOSIERY INC	4
KENNAMETAL INC	2
KESSLER ASHEVILLE LLC	1
K-FLEX USA LLC	3
KILELEE, KATHRYN	1
KINGS HOLDINGS 4,LLC	3
KINGSLAND REALTY LLC	1
KLAUSSNER FURN IND INC	24
KOOPMAN DAIRIES INC	4
KORDSA INC	1
KROGER COMPANY	9
KRYOCAL, LLC	3
LAKE JUNALUSKA ASSEMBLY INC	51
LANCER INC	4
LAZAR INDUSTRIES LLC	4
LEAR CORPORATION	2
LEE BRICK & TILE COMPANY	7
LEE COUNTY COURT HOUSE	2
LEE IRON & METAL CO	3
LENOVO INTERNATIONAL	1
LEWIS SAUSAGE CO INC	1
LIBERTY HEALTHCARE SERVICES	1
LIFEWAY CHRISTIAN RESOURCES OF	43
LINAMAR NORTH CAROLINA INC	4
LINPRINT CO	1
LOCAL GOVERNMENT FED CREDIT UN	1
LOUISBURG COLLEGE INC	12
LOUISE WELLS CAMERON ART MUSEU	4
LOUISIANA PACIFIC CORP	3
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MURPHY BROWN LLC 1 N C TELEVISION INC 1 N RALEIGH CHRISTIAN ACADEMY 2 N RALEIGH MEDICAL REALTY LLC 1 NASH BRICK CO INC 2 NASH COMMUNITY COLLEGE 8 NASH COUNTY 1 NASH COUNTY MANAGERS OFFICE 1 NASH ROCKY MOUNT BD OF ED 23 NATIONAL FOAM INC 2 NATIONAL SPINNING CO INC 6 NATIONAL WIPER ALLIANCE INC 1 NATURAL BLEND VEG DEHYDR LLC 1 NATURES EARTH PELLETS INC LLC 3 NC AQUARIUM 3 NC DEPT OF AGRICULTURE 3 NC FARM BUREAU FEDERATION 1 NC STATE FAIRGROUNDS 5 NC STATE PORTS AUTH 3 NC STATE PORTS AUTHORITY 4 NC STATE UNIVERSITY 146 NC STATE VETERANS HOME 2 NC WILDLIFE COMMISSION 1 NESBITT ASHEVILLE VENTURE LLC 2 NEW BELGIUM BREWING CO INC 1 NEW HANOVER CO BD OF ED 47 NEW HANOVER REGIONAL MED CTR 32 NG PURVIS FARMS INC 3 NHC PROPERTY MANAGEMENT 3 NOBLE OIL SERVICES 4 NOMACO INC 3 NOMACORC LLC 3 NORCRAFT COMPANIES LP 2 NORTH CAROLINA MFG CO INC 1 NORTH HILLS TOWER II LLC 3 **NOVARTIS VACCINES & DIAGNOSTIC** 1 NOVIPAX LLC 4 NOVO NORDISK PHARMACUTICAL INC 4 NOVOZYMES NORTH AMERICA INC 6 NYPRO ASHEVILLE INC 2 OFFICE OF INFOR TECH SVCS 4 OHM HOTELS RTP, LLC 1 **OLDCASTLE LAWN & GARDEN INC** 5 **OLIVER RUBBER COMPANY** 2 OMNI GROVE PARK LLC 21 ONSLOW CO BD OF COMM 2 Duke Energy Progress, LLC

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ONSLOW CO BD OF EDUC	4	
ONSLOW MEMORIAL HOSPITAL AUTH	2	
ONSLOW WATER AND SEWER AUTH	5	
ORACLE AMERICA, INC	2	
OWENS & MINOR	1	
OXFORD CITY OF	1	
P G & C INC	2	
PACTIV LLC	1	
PAK A SAK FOOD STORES	1	
PALLET EXPRESS, INC	5	
PALZIV NORTH AMERICA INC	1	
PARADIGM ANALYTICAL	1	
PARK COMMUNICATIONS LLC	2	
PARK N SHOP FOOD MART INC	6	
PARKDALE AMERICA LLC	2	
PARRISH & RONE INC	1	
PCS PHOSPHATE CO INC	3	
PEAK 10 INC	3	
PENDER CO BD OF ED	17	
PENDER MEMORIAL HOSPITAL INC	7	
PENICK VILLAGE IN	2	
PENICK VILLAGE INC	10	
PENTAIR VALVES & CONTROLS US LP	3	
PENTAIR WATER POOL AND SPA INC	10	
PEPSI BOTTLING VENTURES LLC	4	
PEPSI COLA BOTTLING CO	1	
PEPSI COLA OF WILMINGTON	2	
PERDUE FARMS INC	23	
PERSON CO BD OF ED	2	
PETROLEUM TANK CO	2	
PFIZER INC	10	
PFRS CROSSROADS CORP	4	
PH HS LLC	1	
PHOENIX LTD PARTNERSHIP	1	
PIEDMONT NATURAL GAS	1	1
PIEDMONT NATURAL GAS CO	1	
PILGRIMS PRIDE CORPORATION	· 6	
PILKINGTON	1	
PINEHURST LLC	84	
PIONEER HI BRED INC	4	
PLASTEK IND INC (PA) NC	3	
PLASTICARD PRODUCTS INC	1	
POLYMER GROUP INC	3	
POLYZEN INC	1	I
PORT CITY COMMUNITY CHURCH	3	
PR II WADE PARK LLC	· 3	
Duke Energy Progress, LLC		Evans Exhibit 9
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PRAXAIR INC	2
PRC NC LLC	2
PRECISION HYDRAULIC CYL INC	1
PRECISIONAIRE INC	3
PREMIERE FIBERS INC	4
PRESTAGE AGENERGY OF NC LLC	2
PRESTAGE FARMS INC	36
PRESTIGE FABRICATORS INC	3
PRESTON TAYLOR FOOD INC	1
PRINTLOGIC LLC	2
PRO PALLET SOUTH INC	1
PSNC ENERGY	1
PUBLIC SCHOOLS OF ROBESON CO	1
PUBLIX NORTH CAROLINA LP	3
QUALCOMM INC	1
QUALITY CHEMICAL LABORATRS LLC	2
QUALITY TEXTILE SERVICES INC	1
RAEFORD CITY OF	1
RAILROAD FRICTION PRODUCT CORP	4
RALEIGH CITY OF	6
RALEIGH FITNESS & WELLNESS	1
RALEIGH HOTEL OPERATOR INC	1
RALEIGH PRECISION PRODUCTS INC	1
RANDOLPH COUNTY	9
RAVEN ANTENNA SYSTEMS INC	1
RC CREATIONS, LLC	2
RD AMERICA LLC	1
RDU AIRPORT AUTHORITY	6
RED HAT INC	1
RED WOLF COMPANY, LLC	1
REDDY ICE CORP	2
REGAL CINEMAS	3
REGAL ENTERAINMENT GROUP	4
RESINART EAST INC	1
REVLON CONSUMER PRODUCTS CORP	3
REX HEALTH CARE INC	14
REX MOB PARTNERS LLC	1
RHEINFELDEN AMERICAS LLC	1
RICHMOND COUNTY	1
RICHMOND COUNTY BOARD OF COMM	2
RICHMOND COUNTY SCHOOLS	2
RICHMOND SPECIALTY YARNS LLC	2
RIDGECREST CONFERENCE CENTER	1
KORFON CONNTA D22	1
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ROSTRA PRECISION CT INC	2
ROYAL TEXTILE MILLS INC	1
RUBY'S PROPERTIES II LLC	1
S AND J HOLDINGS LLC	1
S B SMITH & SON INC	3
S B SMITH & SON INC	1
S T WOOTEN CORPORATION	17
SAGE & EVANS INC	1
SAMPSON REGIONAL MEDICAL CTR	3
SANDHILLS COMM COLLEGE	12
SANFORD CITY OF	4
SANFORD LEE CO BD OF ED	39
SANFORD MILLING CO INC	2
SAPONA MFG CO INC	2
SAS INSTITUTE INC	43
SCHINDLER ELEVATOR CORP	2
SCOTLAND CONTAINER INC	2
SCOTLAND MANUFACTURING	1
SEARS ROEBUCK & CO	4
SENTRY FURNITURE LLC	1
SEPARATION TECHNOLOGIES LLC	2
SIGMA PHI EPSILON	1
SILAR LABORATORIES, INC.	1
SILER CITY TOWN OF	2
SILVER LINE PLASTICS CORP	11
SINCLAIR BROADCAST GROUP INC	1
SIX FORKS OFFICE, LLC	3
SKYLAND BEER DIST	3
SMITHFIELD PACKING CO INC	6
SMOKY MOUNTAIN MACHINING INC	3
SNEEDEN, NORMAN E	2
SNUG HARBOR MANAGEMENT LLC	1
SONOCO PRODUCTS CO	. 1
SOUTH RIVER EMC COMM ASST CORP	1
SOUTHCO INC OF NC	1
SOUTHEASTERN REGIONAL MED CTR	4
SOUTHERN BAG CORP	1
SOUTHERN FABRICATORS INC	4
SOUTHERN PINES TOWN OF	2
SOUTHERN PRODUCE DIST INC	8
SOUTHERN PRODUCTS & SILICA CO	6
SOUTHERN STATES CHEMICAL INC	3
SPANSET INC	1
	13
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STURIS PACIUNT LLC	3
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SPX FLOW TECHNOLOGY SYSTEMS	1
ST ANDREWS PRESBYTERIAN COLL	1
ST. DAVIDS SCHOOL	7
STAN JOHNSON & ASSOCIATES LLC	2
STANADYNE INC	- 2
STARPET INC	6
STATIC CONTROL COMP INC	11
STEEL & PIPE CORP	2
STEVEN ROBERTS ORIGINAL	- 2
STI POLYMER INC	- 1
SUN LIFE ASSURANCE CO OF CANAD	- 1
SUNBRIDGE REGENCY NC INC	2
SUNRISE SENIOR LIVING	1
SUPERIOR MODULAR PRODUCT INC	1
SUPERIOR PLASTICS EXTRUSION	1
SUPERTEX, INC	4
SURGERY CENTER OF PINEHURST	1
SURTRONICS	2
SVT VENTURES LP	10
SYRACUSE PLASTIC OF NC INC	1
TALBERT BUILDING SUPPLY INC	3
TARGET STORES	18
TCDC PARTNERSHIP, LLC	2
TE CONNECTIVITY CORPORATION	2
THE ATRIUM AT BLUE RIDGE, LLC	1
THE BILTMORE COMPANY	2
THE CHEESECAKE FACTORY	1
THE CHEMOURS COMPANY FC, LLC	7
THE COUNTRY CLUB OF NC INC	1
THE CYPRESS OF RALEIGH	7
THE HARRELSON BUILDING INC	1
THE NEWS REPORTER CO INC	1
THE QUARTZ CORP USA	17
THE UMSTEAD	1
THEO DAVIS SONS INC	1
THERMAL METAL TREATING INC	2
THIRD & GRACE LLC	2
THIRD STREET SCREEN PRNTNGINC	2
TIERPOINT LLC	3
TIPPER TIE INC	3
ТОР ТОВАССО СО	3
TOWN SQUARE WEST LLC	7
TRAM LUMBER LLC	3
TRAMWAY VENEERS INC	1
TRANS CAROLINA PRODUCTS LLC	1
TREEHOUSE FOODS INC	6
Duke Energy Progress, LLC	Evans
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TRIANGLE AQUATIC CENTER	1
TRIANGLE BRICK CO	6
TRIANGLE TOWN CENTER, LLC	22
TRINITY MANUFACTURING INC	5
TROPHY ON MAYWOOD LLC	1
TROY LUMBER CO	17
TROY POLYMER INC	1
TUCSON CARY, LLC	1
TURN BULL LUMBER COMPANY	1
TYCO ELECTRONICS	1
TYSON FOODS INC	3
U S REIF 4700 FALLS NC LLC	1
UCHIYAMA MANUF AMERICA LLC	3
UNC AT ASHEVILLE	8
UNC INSTITUTE OF MARINE SCI	3
UNC PUBLIC TV OF NC	1
UNCW	26
UNILEVER MANUFACTURING US INC	6
UNILIN NORTH AMERICA LLC	4
UNILIN US MDF	3
UNIMIN CORPORATION	49
UNISON ENGINE COMPONENTS INC	3
UNITED STATES COLD STORAGE INC	6
UNIVERSAL HEALTHCARE N RAL INC	1
UNIVERSAL LEAF NORTH AMERICA	2
UNIVERSITY OF NC AT PEMBROKE	16
UNIVERSITY RESEARCH UNIT	1
US ARMY	1
US ARMY FORT BRAGG	3
US DEPT OF AIR FORCE	1
US FLUE CURED TOBACCO GROWERS	1
US MARINE CORP	1
US MARINE CORPS	1
US POST OFFICE	3
US VETERANS ADMIN HOSPITAL	3
USS NC BATTLESHIP COMM	2
UWHARRIE FRAME MFG LLC	2
UWHARRIE LUMBER CO	3
VALLEY PROTEINS INC	15
VANGUARD CULINARY GROUP LTD	1
VENEER TECHNOLOGIES INC	7
VENTURE CENTER LLC	4
VERTEX RAILCAR CORPORATION	2
VICTAULIC CO OF AMERICA	· 2
VILLARI BROS FOODS LLC	1
VONDREHLE CORP	6
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North Carolina (excludes outdoor lighting)

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VULCAN CONST MATERIALS LP	21 !
W N WILDER CO INC	1
WADESBORO IGA INC	1
WAKE CO HOSP SYSTEM INC	4
WAKE COUNTY BOARD OF EDUCATION	207
WAKE COUNTY GENERAL SERVICES	16
WAKE STONE CORP	17
WAKEMED PROPERTY SERVICES	13
WAL MART PDC #6091	4
WALMART STORES INC	76
WARP TECHNOLOGIES INC	1
WARREN CO BD OF ED	5
WAYNE BAILEY INC	2
WAYNE CO PUBLIC SCHOOLS	1
WAYNE COMMUNITY COLLEGE	1 '
WAYNE COUNTY	4
WAYNE MEMORIAL HOSPITAL INC	9 '
WAYNESVILLE TOWN OF	1
WELLS FARGO BANK NA	2
WEST CRAVEN HIGH SCHOOL	3
WEST CRAVEN MIDDLE SCHOOL	1
WEST FRASER INC	5
WESTERN NC HEALTHCARE INNO III	1 '
WESTERN NC HEALTHCARE INNO LLC	1 '
WEYERHAEUSER NR COMPANY	5 '
WHITEVILLE FABRICS LLC	4
WILLIAM BARNET & SON INC	5
WILLIAMS PROPERTY GROUP INC	1 '
WILMINGTON CITY OF	2
WILMINGTON HOTEL ASSOC CORP	2
WILMINGTON INTL AIRPORT	2
WILMINGTON MACHINERY INC	1
WILSONART INTERNATIONAL	4
WNC PALLET & FOREST PRDCTS INC	5
WRDC LLC	1 '
WRIGHT FOODS INC	2
WRIGHT MACHINE & TOOL CO INC	1
YALE INDUSTRIAL PRODUCTS INC	1
YAMCO LLC	1
YMCA OF WESTERN NORTH CAROLINA	2
Total	4,099

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Customer's Name	EE
1922 SKIBO CROSS CREEK LLC	1
3141 PROPERTIES LLC	1
333 VENTURES LLC	2
3700 GLENWOOD LLC	1
4208 SIX FORKS ROAD LLC	2
5400 RALEIGH CRABTREE KKC	1
81ST REGIONAL SUPPT COMMAND	1
A STUCKI COMPANY	1
ADVANCED PLASTIC EXTRUSION LLC	2
AG PROVISION LLC	3
AIR SYSTEM COMPONENTS INC	1
AJINOMOTO USA INC	3
ALAMAC AMERICAN KNITS LLC	2
ALBANY ROAD-WYCLIFF LLC	2
ALCAMI CAROLINAS CORPORATION	6
ALL TRUSS LLC	1
ALLEN HARIM FOODS LLC	1
ALPLA INC	1
AMCOR FLEXIBLES INC	1
AMCOR RIGID PLASTICS USA LLC	1
AMERICAN AIRLINES GROUP INC	1
AMERICAN GROWLER INC	2
AMERICAN SKIN COMPANY INC	1
AMERICAN TEL & TEL CO	1
AMERICHEM INC	3
AMISUB OF NORTH CAROLINA INC	1
ANGUS BARN LTD	6
ANSON COUNTY WATER DEPT	1
ANSON COUNTY WTR SYSTEM	1
ANSON MACHINE WORKS	4
APAC TENNESSEE INC	3
APEX OIL CO INC/TERMINALS DIVI	5
APEX TOOL GROUP LLC	2
ARAUCO PANELS USA LLC	4
ARCADIA DAIRY FARMS INC	2
ARCHER DANIELS MIDLAND CO	1
ARCLIN USA INC	6
ARDAGH GLASS INC	4
ARDEN CORPORATION	4
ASHEBORO CITY OF	3
ASHEBORO ELASTICS CORP	3
ASHEVILLE BUNCOMBE TECH	22
ASHEVILLE CITY OF	8
ASHEVILLE DYING AND FINISHING	2

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ASTON PARK REALTH CARE CENTER	1
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BALDOR ELECTRIC CO	1
	1
BARNES FARMING CORPORATION	8
BARTLETT MILLING CO	2
BB&T	3
BELKINC	7
BELLSOUTH TELECOMMUNICATIONS	12
BELT CONCEPTS OF AMERICA	1
BI-LO LLC	2
BILTMORE BAPTIST CHURCH	1
BILTMORE FARMS HOTEL GRP LLC	3
BILTMORE FOREST CNTRY CLUB INC	5
BJ'S WHOLESALE CLUB INC	8
BJT, INC	1
BLACK MTN CENTER	6
BLUE RIDGE PAPER PRODUCTS INC	29
BOISE CASCADE WOOD PRDCTS LLC	7
BOLIVIA LUMBER CO LLC	2
BONSAL AMERICAN INC	1
BORG WARNER TURBO SYSTEMS INC	2
BORGWARNER THERMAL SYSTEMS INC	1
BP SOLUTIONS GROUP INC	2
BRAIFORM ENTERPRISES INC	1
BRIER CREEK OFF #6 LLC	1
BRIER CREEK OFFICE # 1 LLC	1
BRIER CREEK OFFICE # 2 LLC	1
BRIER CREEK OFFICE # 5 LLC	1
BRIER CREEK OFFICE #4 LLC	1
BRM PARTNERS II LLC	1
BRM PARTNERS LLC	1
BROMLEY PLASTICS CORPORATION	1
BROOKS HOWELL RETIREMENT HOME	3
BROOKWOOD FARMS INC	5

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DE	Progress	EE	Opt-Out	at Decem	ber 31, 201	7
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		I.
BRUNSWICK CO	1	ł
BRUNSWICK CO UTILITIES	1	
BRUNSWICK COUNTY SCHOOLS	18	1
BSH HOME APPLIANCES	6	I I
BURCAM CAPITAL II LLC	1	
BURLINGTON INDUSTRIES LLC	2	
BUSINESS TELECOM INC	2	
BUTLER MFG CO	5	
CAMP DAVIS INDUSTRIAL PARK INC	6	
CAMPBELL SOUP SUPPLY CO LLC	4	
CAMPBELL UNIVERSITY	40	
CAN AM SOUTH LLC	2	
CANTON SAWMILL LLC	7	I
CAPE FEAR ACADEMY	2	
CAPE FEAR COMMUNITY COLLEGE	13	
CAPE FEAR COUNTRY CLUB	7	
CAPE FEAR PUBLIC UTILITY AUTH	6	
CAPEL INC	6	1
CAPITAL FUNDS INC	3	ł
CAPITOL BROADCASTING CO	13	:
CARGILL INC	1	
CARLIE C OPERATION CENTER INC	8	
CAROLINA APPAREL GROUP INC	1	•
CAROLINA BAY OF WILMINGTON LLC	5	
CAROLINA BEACH TOWN OF	1	
CAROLINA COUNTRY CLUB	3	
CAROLINA CRATE & PALLET INC	3	
CAROLINA CUSTOM FINISHING LLC	1	1
CAROLINA DAIRY LLC	2	
CAROLINA EGG CO INC	1	
CAROLINA ELECTRONIC ASSEMBLERS	1	l I
CAROLINA ICE INC	4	:
CAROLINA INNOVATIVE FOOD INGRE	3	I
CAROLINA PRESERVE BY DEL WEBB	13	
CAROLINA TECHNICAL PLASTICS	3	
CARQUEST OF SRONCE	2	ł
CARTERET COMMUNITY COLLEGE	18	,
CARTERET GENERAL HOSPITAL	3	I
CARY TOWN OF	13	İ
CARY VENTURE LTD PRTNRSHIP	14	
CASCADES HOLDING US INC	4	
CASCADES MOULDED PULP	1	Ì
CASE FARMS	8	i i
CATALENT PHARMA SOLUTIONS LLC	17	
CATERPILLAR INC	9	

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North Carolina (excludes outdoor lighting)

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CECIL BUDD TIRE COMPANY LLC	3
CERTAINTEED CORPORATION	4
CERTAINTEED GYPSUM NC INC	3
CERTAINTEED INC	1
CFVH - BLADEN HEALTHCARE	11
CHATHAM CO	1
CHATHAM CO BOARD OF EDUCATION	12
CHATHAM HOSPITAL INC	3
CHERRY HOSPITAL	21
CITY OF HENDERSON	2
CITY OF RALEIGH PARKS REC DEPT	11
CLIFFORD W ESTES CO INC	3
CLINTON CITY BD OF ED	8
CLINTON CITY OF	3
CLOVERLEAF COLD STORAGE CO	1
CMC CORPORATION	4
CMS FOOD SOLUTIONS INC	1
COAST LAMP MANUFACTORY	2
COASTAL CAR COMM COLL RES BLD	1
COASTAL CAROLINA COMM COLLEGE	13
COASTAL FEDERAL CREDIT UNION	1
COATINGS AND ADHESIVES CORP	7
COBB VANTRESS INC	1
COKER FEED MILL INC	1
COLONIAL CARTON CO	1
COLUMBUS COUNTY SCHOOLS	11
COLUMBUS REG HEALTHCARE SYSTEM	3
COMFORT TECH INC	1
COMPUTER DESIGN INC	1
CONESTOGA WOOD SPECIALTIES	2
CONSOLIDATED METCO INC	2
CONVEYOR TECHNOLOGIES OF SANFO	4
COOPER-STANDARD AUTOMOTIVE INC	2
CORE-MARK DISTRIBUTORS INC	2
CORNELIA NIXON DAVIS INC	5
CORNELIA NIXON DAVIS NURSING	1
CORNING INC	3
CORTEK	4
COSTCO	4
COTTLE STRAWBERRY NURSERY INC	<b>8</b> ·
COTY US LLC	5
COUNCIL TOOL CO INC	4
COUNTRY CLUB OF LANDFALL	17
COUNTY OF WAYNE	1
COURTYARD BY MARRIOTT	3

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CPI USA NORTH CAROLINA LLC	1
CRABTREE PARTNERS LLC	1
CRAVEN CO BD OF ED	14
CRAVEN CO JUSTICE CENTER	2
CRAWFORD KNITTING INC	1
CROP PRODUCTION SERVICES INC	1
CROSS CANVAS COMPANY INC	3
CRUMPLER PLASTIC PIPE INC	4
CSX TRANSPORTATION	2
CTC FURNITURE DISTRIBUTORS INC	1
DAK AMERICAS LLC	3
DALIAH PLASTICS CORP	4
DATACHAMBERS LLC	1
DAY INTERNATIONAL INC	2
DCLINC	1
DEERFIELD EPISCOPAL RETIREMENT	18
DENNISON, WYNDHAM V	1
DEPT OF HEALTH & HUMAN RESOURC	34
DESCO INDUSTRIES INC	4
DEVIL DOG MFG CO INC	2
DEWEY DEVELOPMENT INC	2
DH RESEARCH TRIANGLE, LLC	1
DIXIE PIPELINE COMPANY	4
DRPFCILLC	5
DUKE UNIV HEALTH SYSTEM INC	26
DUKE UNIVERSITY MARINE LAB	1
DUNN CITY OF	2
DUPLIN GENERAL HOSP	3
DUPONT E I DE NEMRS	10
DYNAPAR CORP	3
E CAROLINA METAL TREATING INC	2
EAGLE SPORTSWEAR LLC	4
EARTH FARE INC	3
EATON CORPORATION	6
EDWARDS BROTHERS INC	2
EDWARDS WOOD PRODUCTS INC	6
ELAND INDUSTRIES INC	1
ELASTIC THERAPY INC	3
ELECTRO SWITCH CORPORATION	1
ELEMENTIS CHROMIUM INC	4
ELKAY SOUTHERN PLANT 2	1
ELKINS SAWMILL INC	3
EMC CORPORATION	4
EMERGEORTHO PA	1
ENERGIZER BATTERY MANUFACTURIN	1

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North Carolina (excludes outdoor lighting)		ľ
ENTERCO LLC	1	1
ENVIVA PELLETS SAMPSON LLC	- 1	
ENVIVA PORT OF WILMINGTON, LLC	4	
	1	
ERICO INC	1	
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EXPRESS FOOD GROUP LLC	1	
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	39	
FLETCHER HOSPITALITY, LLC	1	
	2	
FLOWSERVE US INC	1	
FLYING JINC	1	
FOOD LION LLC	180	I
FORTRON INDUSTRIES LLC	1	
FOUNTAIN POWER BOATS INC	5	
FOUR SEASONS MGNT SVCS INC	1	I.
FOUR SEASONS MNGMT SVCS INC	6	
FRANK THEATRES PARKSIDE COMMON	1	
FRANKLIN BAKING COMPANY LLC	7	
FRANKLIN COUNTY SCHOOLS	5	
FRATERNITY/SORORITY LIFE	8	
FRESH BUY INC	2	i i
FRONTIER SPINNING MILLS	1	
FUJIFILM DIOSYNTH BIOTEC USA	1	
FUQUAY-VARINA TOWN OF	1	
FURNITURE FAIR INC	3	
GALE FORCE SPORTS & ENTERTAIN	13	
GALLOWAY RIDGE INC	17	
GENERAL ELECTRIC CO	2	
GENERAL INDUSTRIES INC	5	
GENERAL PARTS DIST LLC	1	1
GENERAL SHALE BRICK INC	8	
GENERAL TIMBER INC	4	I
GEORGIA PACIFIC CORP	, 2	ľ
GEORGIA PACIFIC WOOD PROD LLC	- 1	
GH CRESCENT GREEN INC	1	
GIBRALTAR PACKAGING GROUP INC	Â	

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North Carolina (excludes outdoor lighting)

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GILDAN YARNS LLC	1
GIVENS ESTATES INC	12
GIVENS HIGHLAND FARMS LLC	11
GKN DRIVELINE N AMERICA INC	4
GLAXOSMITHKLINE	6
GLEN RAVEN MILLS INC	1
GLENWOOD ASSET MANAGEMENT LLC	1
GLENWOOD HOSPITALITY ASSOC LLC	1
GLENWOOD PLACE VENTURES LLC	1
GLOBAL PACKAGING INC	1
GOLDSBORO CITY OF	2
GOLDSBORO HOUSING AUTHORITY	3
GOLDSBORO MILLING CO	13
GRANITE FALLS SWIM/ATHL CLUB	2
GREATER ASHEVILLE REG AIRPORT	1
GREDE II LLC	3
GRIFOLS THERAPEUTICS INC	6
H & H FURNITURE MFG INC	3
HALIFAX MEDIA HOLDINGS LLC	4
HANESBRANDS INC	2 .
HANSON AGGREGATES SE LLC	33
HANSON BRICK EAST LLC	1
HAPPY JACK INC	1
HARDEN ROAD ASSOCIATES	1
HARGER LIGHTNING & GROUNDING	1
HARNETT CO BD OF ED	24
HARNETT CO PUBLIC UTIL	6
HARNETT CO SHERIFF OFFICE	1
HARNETT HEALTH SYSTEM INC	19
HARRIS PRINTING CO INC	3
HARRIS TEETER INC	31
HASTY PLYWOOD CO	3
HAVELOCK CITY OF	1
HAYWOOD COUNTY LOCAL GOV	1
HAYWOOD REGIONAL MEDICAL CNTR	6
HCL AMERICA INC	1
HEATMASTERS LLC	3
HERAEUS QUARTZTECH AMERICA LLC	1
HEXION INC	2
HIGHWOODS JOINT VENTURE	1
HIGHWOODS REALTY LP	27
HJH ASSOCIATES	1
HOG SLAT INC	3
HOLLY SPRINGS TOWN OF	1
HOME CARE PRODUCTS LLC	1

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HOME DEPOT USA INC	9	
HOPE COMMUNITY CHURH OF NC INC	2	
HORNWOOD INC	3	
HOUSE OF RAEFORD FARMS INC	11	
HOUSING AUTH CITY OF RALEIGH	2	
HUGHES FURNITURE INDUSTRIE INC	1	
HULSING HOTELS INC	13	
HUVEPHARMA INC	1	
HYDRO TUBE ENTERPRISES INC	1	
IAC TROY LLC	1	
IMMEDION LLC	3	
INGERSOLL-RAND	1	
INGLES MARKETS INC	86	
INN ON BILTMORE ESTATE INC	1	
INNOVATIVE LAMINATIONS CO	1	
INTERNATIONAL BROADCAST BUREAU	1	
INTERNATIONAL PAPER COMPANY	6	
INVISTA S A R L	1	
J & D WOOD INC	3	
J A MCNEILL & SONS	1	
J C HOWARD FARMS LLC	7	
J P TAYLOR COMPANY LLC	4	
J&J SNACK FOODS HANDHELDS CORP	2	
JACKSONVILLE CITY OF	4	
JACOB HOLM IND AMERICA INC	1	
JOHN DEERE TURF CARE INC	3	I
JOHN O STEVENSON INC.	2	
JOHNSTON CO BOARD OF EDUCATION	80	ı
JOHNSTON CO PUBLIC UTILITIES	2	1
JOHNSTON MEM HOSPITAL AUTH	1	t
JORDAN LUMBER & SUPPLY INC	15	
JOVC FOOD CORP INC	1	
K MART CORP	8	
KAYSER-ROTH HOSIERY INC	4	
	2	
	1	
K-FLEX USA LLC	3	
KILELEE, KATHRYN	1	
KINGS HOLDINGS 4,LLC	3	I
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LAKE JUNALUSKA ASSEMBLY INC	51	
LANCER INC	4	
LAZAR INDUSTRIES LLC	4	!
LEAR CORPORATION	2	i
LEE BRICK & TILE COMPANY	7	
LEE COUNTY COURT HOUSE	1	
LEE IRON & METAL CO	5	
LENOVO INTERNATIONAL	1	1
LEWIS SAUSAGE CO INC	1	, i
LIBERTY COMMONS WARREN CO LLC	1	
LIBERTY HEALTHCARE SERVICES	3	
LIFEWAY CHRISTIAN RESOURCES OF	43	
LINAMAR NORTH CAROLINA INC	4	
LINPRINT CO	1	
LOCAL GOVERNMENT FED CREDIT UN	1	
LORD CORPORATION	2	
LOUISBURG COLLEGE INC	12	
LOUISE WELLS CAMERON ART MUSEU	4	
LOUISIANA PACIFIC CORP	3	
LOW & BONAR INC	1	
LOWER CAPE FEAR WATER & SEWER	1	
LOWES COMPANIES INC	25	
LOWES FOODS LLC	26	
LUMBERTON CELLULOSE LLC	4	
M ADLER'S SON, INC	1	
MAGNETI MARELLI USA INC	4	
MANHATTEN AMERICAN	1	
MANOR CARE OF PINEHURST INC	1	
MANUFACTURING METHODS, LLC	1	
MARS PETCARE US, INC	7	
MARTIN MARIETTA MATERIALS INC	58	÷
MAS US HOLDINGS INC	6	
MATTHEWS & MATTHEWS INC	1	
MAY FURNITURE INC	3	
MCDOWELL LUMBER CO INC	11	
MCGILL ENVIRONMENTAL SYS OF NC	1	
MCLAMBS ABATTOIR AND MEATS INC	1	
MCMURRAY FABRICS INC	7	
MEASUREMENTS GROUP INC	4	ļ
MEDICAL ACTION INDUSTRIES INC	1	
MEDICAL SPECIALTIES INC	1	ł
MEMORIAL MISSION HOSPITAL INC	1	·
MEREDITH COLLEGE	6	I
MERTEK SOLUTIONS INC	1	
METAL-CAD & STEEL FRAMING	1	

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North Carolina	(excludes outdo	oor lighting)
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METCHEM, LLC	1
METHODIST UNIVERSITY	3
METROPOLITAN SEWAGE DISTRICT	5
MHG ASHEVILLE AL LP	1
MICROSPACE COMM CORP	1
MINE SAFETY APPL CO INC	1
MISSION HEALTH SYSTEM INC	16
MISSION ST JOSEPH HEALTH SYS	1
MISSION ST JOSEPH HOSPITAL	1
MITCHELL CO BD OF ED	2
MMIC-TL INC PARTNERS LLC	1
MOEN INC	4
MONTGOMERY COUNTY OF	2
MOORE COUNTY	3
MOORE COUNTY SCHOOLS	18
MOORE MACHINE COMPANY	5
MOORE'S INLET LIMITED PRTNRSHP	1
MOUNTAIN PRODUCTS BRIDGEWE LLC	1
MOUNTAIRE FARMS INC	21
MT OLIVE PICKLE CO	17
MULE CITY SPEC FEED INC	2
MURPHY BROWN LLC	1
N C TELEVISION INC	1
N RALEIGH MEDICAL REALTY LLC	1
NASH BRICK CO INC	2
NASH COMMUNITY COLLEGE	8
NASH COUNTY	1
NASH COUNTY MANAGERS OFFICE	1
NASH ROCKY MOUNT BD OF ED	23
NATIONAL FOAM INC	2
NATIONAL SPINNING CO INC	5
NATIONAL WIPER ALLIANCE INC	1
NATURAL BLEND VEG DEHYDR LLC	1
NATURES EARTH PELLETS INC LLC	3
NC DEPT OF AGRICULTURE	3
NC FARM BUREAU FEDERATION	1
NC STATE FAIRGROUNDS	5
NC STATE PORTS AUTH	12
NC STATE PORTS AUTHORITY	17
NC STATE UNIVERSITY	146
NC STATE VETERANS HOME	2
NC WILDLIFE COMMISSION	1
NESBITT ASHEVILLE VENTURE LLC	2
NEW BELGIUM BREWING CO INC	1
NEW HANOVER CO BD OF ED	20

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NEW HANOVER REGIONAL MED CTR	32	
NG PURVIS FARMS INC	3	
NHC PROPERTY MANAGEMENT	1	:
NOBLE OIL SERVICES	4	
NOMACO INC	3	
NOMACORC LLC	3	
NORCRAFT COMPANIES LP	2	
NORTH CAROLINA MFG CO INC	1	
NORTH HILLS TOWER II LLC	3	
NOVARTIS VACCINES & DIAGNOSTIC	1	
NOVIPAX LLC	4	
NOVO NORDISK PHARMACUTICAL INC	4	
NOVOZYMES NORTH AMERICA INC	6	
NYPRO ASHEVILLE INC	2	
OFFICE OF INFOR TECH SVCS	4	
OHM HOTELS RTP, LLC	1	
OLDCASTLE LAWN & GARDEN INC	5	
OLIVER RUBBER COMPANY	2	
OMNI GROVE PARK LLC	21	
ONSLOW CO BD OF COMM	2	
ONSLOW CO BD OF EDUC	4	
ONSLOW MEMORIAL HOSPITAL AUTH	2	
ONSLOW WATER AND SEWER AUTH	5	
ORACLE AMERICA, INC	2	
OWENS & MINOR	1	
P G & C INC	2	
PACTIV LLC	1	
PAK A SAK FOOD STORES	1	
PALLET EXPRESS, INC	4	I
PALZIV NORTH AMERICA INC	1	
PARADIGM ANALYTICAL	1	
PARK COMMUNICATIONS LLC	2	
PARK N SHOP FOOD MART INC	6	
PARKDALE AMERICA LLC	2	1
PARRISH & RONE INC	1	1
PCS PHOSPHATE CO INC	3	
PEAK 10 INC	3	
PENDER CO BD OF ED	17	
PENDER MEMORIAL HOSPITAL INC	7	I
PENICK VILLAGE IN	2	
PENICK VILLAGE INC	10	
PENTAIR VALVES & CONTROLS US LP	3	i
PENTAIR WATER POOL AND SPA INC	10	I.
PEPSI BOTTLING VENTURES LLC	4	
PEPSI COLA BOTTLING CO	1	1

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North Carolina (e	cludes outdoor	lighting)
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PEPSI COLA OF WILMINGTON	2	
PERDUE FARMS INC	23	,
PERSON CO BD OF ED	2	,
PETROLEUM TANK CO	2	
PFIZER INC	12	
PFRS CROSSROADS CORP	4	
PH HS LLC	1	
PHOENIX LTD PARTNERSHIP	1	÷
PIEDMONT NATURAL GAS	1	
PIEDMONT NATURAL GAS CO	1	
PILGRIMS PRIDE CORPORATION	6	
PILKINGTON	1	
PINEHURST LLC	84	
PINEHURST MEDICAL CLINIC	1	
PIONEER HI BRED INC	4	
PLASTEK IND INC (PA) NC	3	
PLASTICARD PRODUCTS INC	1	
POLYMER GROUP INC	3	
POLYZEN INC	1	
PORT CITY COMMUNITY CHURCH	3	
PR II WADE PARK LLC	3	ı
PRAXAIR INC	2	
PRC NC LLC	2	
PRECISION HYDRAULIC CYL INC	3	
PRECISIONAIRE INC	3	
PREMIERE FIBERS INC	4	I.
PRESTAGE AGENERGY OF NC LLC	2	
PRESTAGE FARMS INC	36	
PRESTIGE FABRICATORS INC	3	
PRESTON TAYLOR FOOD INC	1	
PRINTLOGIC LLC	2	
PRO PALLET SOUTH INC	1	
PSNC ENERGY	1	
PUBLIC SCHOOLS OF ROBESON CO	1	I
PUBLIX NORTH CAROLINA LP	2	•
QUAIL HAVEN OF PINEHURST LLC	1	,
QUALCOMM INC	1	
QUALITY CHEMICAL LABORATRS LLC	2	
QUALITY TEXTILE SERVICES INC	1	I
RAEFORD CITY OF	1	
RAILROAD FRICTION PRODUCT CORP	4	
RALEIGH CITY OF	6	!
RALEIGH FITNESS & WELLNESS	1	1
RALEIGH HOTEL OPERATOR INC	1	
RANDOLPH COUNTY	9	

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North Carolina (excludes outdoor lighting)

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RAVEN ANTENNA SYSTEMS INC
RC CREATIONS, LLC
RD AMERICA LLC
RDU AIRPORT AUTHORITY
RED HAT INC
RED WOLF COMPANY, LLC
REDDY ICE CORP
REGAL CINEMAS
REGAL ENTERAINMENT GROUP
RESINART EAST INC
REVLON CONSUMER PRODUCTS CORP
REX HEALTH CARE INC
REX MOB PARTNERS LLC
RHEINFELDEN AMERICAS LLC
RICHMOND COUNTY
RICHMOND COUNTY BOARD OF COMM
RICHMOND COUNTY SCHOOLS
RICHMOND SPECIALTY YARNS LLC
RIDGECREST CONFERENCE CENTER
ROBESON COUNTY DSS
ROCKINGHAM CITY OF
RODECO CO
ROSTRA PRECISION CT INC
ROYAL TEXTILE MILLS INC
RUBY'S PROPERTIES II LLC
S AND J HOLDINGS LLC
S B SMITH & SON INC
S B SMITH & SON INC
S T & F PRECISION INC
S T WOOTEN CORPORATION
SAMPSON REGIONAL MEDICAL CTR
SANDERSON FARMS INC
SANDHILLS COMM COLLEGE
SANFORD CITY OF
SANFORD LEE CO BD OF ED
SANFORD MILLING CO INC
SAPONA MFG CO INC
SAS INSTITUTE INC
SCHINDLER ELEVATOR CORP
SCOTLAND CONTAINER INC
SCOTLAND MANUFACTURING
SEARS ROEBUCK & CO
SENTRY FURNITURE LLC
SEPARATION TECHNOLOGIES LLC
SIGMA PHI EPSILON

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SILAR LABORATORIES, INC.	1	
SILER CITY TOWN OF	2	I
SILVER LINE PLASTICS CORP	11	
SINCLAIR BROADCAST GROUP INC	1	I.
SIX FORKS OFFICE, LLC	3	
SKYLAND BEER DIST	3	I
SMITHFIELD PACKING CO INC	6	I
SMOKY MOUNTAIN MACHINING INC	3	
SNEEDEN, NORMAN E	2	I I
SNUG HARBOR MANAGEMENT LLC	1	
SONOCO PRODUCTS CO	1	
SOUTH RIVER EMC COMM ASST CORP	1	
SOUTHCO INC OF NC	1	
SOUTHEASTERN CONTAINER INC	1	
SOUTHEASTERN REGIONAL MED CTR	4	
SOUTHERN BAG CORP	1	
SOUTHERN FABRICATORS INC	4	
SOUTHERN PINES TOWN OF	3	I
SOUTHERN PRODUCE DIST INC	8	
SOUTHERN PRODUCTS & SILICA CO	6	
SOUTHERN STATES CHEMICAL INC	3	1
SPANSET INC	1	
SPECGX LLC	13	
SPIRIT AEROSYSTEMS INC	2	
SPORTS FACTORY LLC	3	
SPX FLOW TECHNOLOGY SYSTEMS	1	
ST ANDREWS PRESBYTERIAN COLL	1	·
ST. DAVIDS SCHOOL	- 7	
STAN JOHNSON & ASSOCIATES LLC	2	I
STANADYNE INC	2	I
STARPET INC	6	1
STATIC CONTROL COMP INC	11	I
STEEL & PIPE CORP	2	
STEVEN ROBERTS ORIGINAL	- 2	
STI POLYMER INC	- 1	
SUN LIFE ASSURANCE CO OF CANAD	1	
SUNBRIDGE REGENCY NC INC	2	
SUNRISE SENIOR LIVING	1	
SUPERIOR MODULAR PRODUCT INC	1	I
SUPERIOR PLASTICS EXTRUSION	1	
SUPERTEX. INC	Λ	i
SURGERY CENTER OF PINEHURST		I
SURGICAL CARE AFFILIATES	1	ı
SURTRONICS	2	
SVT VENTURES LP	10	
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North Carolina (excludes outdoor lighting)

.

SYRACUSE PLASTIC OF NC INC	1
TALBERT BUILDING SUPPLY INC	2
TARGET STORES	18
TCDC PARTNERSHIP, LLC	2
TE CONNECTIVITY CORPORATION	2
THE ATRIUM AT BLUE RIDGE, LLC	1
THE BILTMORE COMPANY	2
THE CHEESECAKE FACTORY	1
THE CHEMOURS COMPANY FC, LLC	7
THE COUNTRY CLUB OF NC INC	1
THE CYPRESS OF RALEIGH	7
THE HARRELSON BUILDING INC	1
THE NEWS REPORTER CO INC	1
THE QUARTZ CORP USA	17
THE UMSTEAD	1
THEO DAVIS SONS INC	1
THERMAL METAL TREATING INC	2
THIRD & GRACE LLC	2
THIRD STREET SCREEN PRNTNGINC	2
TIERPOINT LLC	3
TIPPER TIE INC	3
ТОР ТОВАССО СО	3
TOWN SQUARE WEST LLC	7
TRAM LUMBER LLC	3
TRAMWAY VENEERS INC	1
TRANS CAROLINA PRODUCTS LLC	1
TREEHOUSE FOODS INC	6
TRIANGLE AQUATIC CENTER	1
TRIANGLE BRICK CO	6
TRIANGLE TOWN CENTER, LLC	19
TRINITY MANUFACTURING INC	5
TROY LUMBER CO	17
TROY POLYMER INC	1
TUCSON CARY, LLC	1
TURN BULL LUMBER COMPANY	1
TYCO ELECTRONICS	1
TYSON FOODS INC	3
U S REIF 4700 FALLS NC LLC	1
UCHIYAMA MANUF AMERICA LLC	3
UNC AT ASHEVILLE	8
UNC INSTITUTE OF MARINE SCI	3
UNC PUBLIC TV OF NC	1
UNCW	29
UNILEVER MANUFACTURING US INC	6
UNILIN NORTH AMERICA LLC	4

Duke Energy Progress, LLC Docket No. E-2, Sub 1174

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UNILIN US MDF	3
UNIMIN CORPORATION	49
UNISON ENGINE COMPONENTS INC	3
UNITED STATES COLD STORAGE INC	6
UNIVERSAL HEALTHCARE N RAL INC	1
UNIVERSAL LEAF NORTH AMERICA	3
UNIVERSITY OF NC AT PEMBROKE	16
UNIVERSITY RESEARCH UNIT	1
US ARMY	1
US ARMY FORT BRAGG	3
US DEPT OF AIR FORCE	1
US FLUE CURED TOBACCO GROWERS	1
US MARINE CORP	1
US MARINE CORPS	1
US POST OFFICE	3
US VETERANS ADMIN HOSPITAL	3
USS NC BATTLESHIP COMM	2
UWHARRIE FRAME MFG LLC	2
UWHARRIE LUMBER CO	3
VALLEY PROTEINS INC	15
VANGUARD CULINARY GROUP LTD	1
VENEER TECHNOLOGIES INC	7
VENTURE CENTER LLC	4
VERTEX RAILCAR CORPORATION	2
VICTAULIC CO OF AMERICA	2
VONDREHLE CORP	6
VULCAN CONST MATERIALS LP	26
W N WILDER CO INC	1
WADESBORO IGA INC	1
WAKE CO HOSP SYSTEM INC	4
WAKE COUNTY BOARD OF EDUCATION	210
WAKE COUNTY GENERAL SERVICES	16
WAKE STONE CORP	17
WAKEMED PROPERTY SERVICES	13
WAL MART PDC #6091	4
WALMART STORES INC	76
WALNUT CREEK AMPHITHEATER	5
WARP TECHNOLOGIES INC	1
WARREN CO BD OF ED	5
WAYNE BAILEY INC	2
WAYNE CO PUBLIC SCHOOLS	1
WAYNE COMMUNITY COLLEGE	1
WAYNE COUNTY	4
WAYNE MEMORIAL HOSPITAL INC	9
WAYNESVILLE TOWN OF	1



T.

Evans Exhibit 9 Page 32 of 34

DE Progress EE Opt-Out at December 3	31, 2017
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North Carolina (excludes outdoor lighting)

Total	4,165
YMCA OF WESTERN NORTH CAROLINA	2
YAMCO LLC	1
YALE INDUSTRIAL PRODUCTS INC	1
XELLIA PHARMACEUTICALS USA LLC	1
WRIGHT MACHINE & TOOL CO INC	1
WRIGHT FOODS INC	2
WRDC LLC	1
WNC PALLET & FOREST PRDCTS INC	5
WILSONART INTERNATIONAL	4
WILMINGTON MACHINERY INC	1
WILMINGTON INTL AIRPORT	2
WILMINGTON ICE VENTURES LLC	1
WILMINGTON HOTEL ASSOC CORP	2
WILMINGTON CITY OF	2
WILLIAMS PROPERTY GROUP INC	1
WILLIAM BARNET & SON INC	5
WHITEVILLE FABRICS LLC	4
WEYERHAEUSER NR COMPANY	5
WESTERN NC HEALTHCARE INNO LLC	1
WESTERN NC HEALTHCARE INNO III	1
WEST FRASER INC	5
WEST CRAVEN MIDDLE SCHOOL	1
WEST CRAVEN HIGH SCHOOL	3
WELLS FARGO BANK NA	2

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## Duke Energy Progress, Inc

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#### Industrial and Commercial Accounts that Opted In (2017)

Customer's Name	EE	DSM	Grand Total
Elastic Therapy, Inc.	0	2	2
Elastic Therapy, Inc.	0	1	1
Vulcan Construction Materials	0	3	3
Carlie C Operation Center, Inc.	0	4	4
Carteret General Hospital	0	3	3
Target Stores	11	0	11
Bjt, inc	1	0	1
Sandhills Comm College	9	0	9
Belk Inc	1	0	1
Campbell University	1	0	1
General Industries Inc	· 1	0	1
The Harrelson Building Inc	1	0	1
Jovc Food Corp Inc	1	. 0	1
PG&CInc	1	0	1
H & H Furniture Mfg Inc	1	0	1
Ohm Hotels Rtp, Llc	1	0	1
Haywood Regional Medical Cntr	1	0	1
Steel & Pipe Corp	1	0	1
Total		Tant St.	44

Evans Exhibit 10 Page 1 of 2

#### **EM&V** Activities

Planned Evaluation, Measurement and Verification (EM&V) Activities through the rate period (Dec. 31, 2018)

Evaluation is a term adopted by Duke Energy Progress (DEP), and refers generally to the systematic process of gathering information on program activities, quantifying energy and demand impacts, and reporting overall effectiveness of program efforts. Within evaluation, the activity of measurement and verification (M&V) refers to the collection and analysis of data at a participating facility/project. Together this is referred to as "EM&V."

Refer to the accompanying Evans Exhibit 11 chart for a schedule of process and impact evaluation analysis and reports that are currently scheduled.

#### **Energy Efficiency Portfolio Evaluation**

DEP has contracted with independent, third-party evaluation consultants to provide the appropriate EM&V support, including the development and implementation of an evaluation plan designed to measure the energy and demand impacts of the residential and non-residential energy efficiency programs.

Typical EM&V activities:

- Develop evaluation action plan
- Process evaluation interviews
- Collect program data
- Verify measure installation and performance through surveys and/or on-site visits
- Program database review
- Impact data analysis
- Reporting

The process evaluation provides unbiased information on past program performance, current implementation strategies and opportunities for future program improvements. Typically, the data collection for process evaluation consists of surveys with program management, implementation vendor(s), program partner(s), and participants; and, in some cases, non-participants. A statistically representative sample of participants will be selected for the analysis.

The impact evaluation provides energy and demand savings resulting from the program. Impact analysis may involve engineering analysis (formulas/algorithms), billing analysis, statistically adjusted engineering methods, and/or building simulation models, depending on the program and the nature of the impacts. Data collection may involve surveys and/or site visits. A statistically representative sample of participants is selected for the analysis. Duke Energy Progress intends to follow industry-accepted methodologies for all measurement and verification activities, consistent with International Performance Measurement Verification Protocol (IPMVP) Options A, C or D depending on the measure.

The field of evaluation is constantly learning from ongoing data collection and analysis, and best practices for evaluation, measurement and verification continually evolve. As updated best practices are identified in the industry, DEP will consider these and revise evaluation plans as appropriate to provide accurate and cost-effective evaluation.

#### **Demand Response Program Evaluation**

DEP has contracted with independent, third-party evaluation consultants to provide an independent review of the evaluation plan designed to measure the demand impacts of the residential and non-residential demand response programs and the final results of that evaluation.

Typical EM&V activities:

- Collect program data
- Process evaluation interviews
- Verify operability and performance through on-site visits
- Collect interval data
- Program database review
- Benchmarking research
- Dispatch optimization modeling
- Impact data analysis
- Reporting

The process evaluation provides unbiased information on past program performance, current implementation strategies and opportunities for future improvements. Typically, the data collection for process evaluation consists of surveys with program management, implementation vendor(s), program partner(s), and participants; and, in some cases, non-participants. A statistically representative sample of participants will be selected for the analysis.

The impact evaluation provides demand savings resulting from the program. Impact analysis for EnergyWise involves a simulation model to calculate the duty cycle reduction, and then an overall load reduction. Impact analysis for CIG-DR involves statistical modeling of an M&V baseline load shape for a customer, then modeling the event period baseline load shape and comparing to the actual load curve of the customer during the event period.

The field of evaluation is constantly learning from ongoing data collection and analysis, and best practices for evaluation, measurement and verification continually evolve. As updated best practices are identified in the industry, DEP will consider these and revise evaluation plans as appropriate to provide accurate and cost-effective evaluation.

Evans Exhibit 11

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# DEP DSM/EE Programs - Anticipated EM&V Schedude

			Short	2018	2018	2019	2019	2019	
	MC Dochert	SC Doctart	a lig	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	<b>3rd Quarter</b>	2019 4th Quarter
Correcta Cenard Reporte	Dociet No. E-2 Sub 553	Docket 2010- 41-E	H S S S				REP (2018)		
	Dociet No E-2	Docter 2005-							
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<u> Portsoerta Snat Sae EE Prouci 5 Assessment (Presong.e)</u>	Docter No E-2 Sub 938	Docket 2005- 150-F	653					PROC/IMP	
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	Docret No E-2	Docted 2009-		REP (szuri)		to Fourth			
EnergyWise	Sub 527	190-E	ž	REP (W2017/2018)		REP (acump)		REP (WZ016/2016)	
	Docet No E-2	Docket 2015-		00471					
Energy/Mise for Business	Sub 1066	163-E	EMB	REP			REP (2016)		
	Docuer No E-2	-710Z 194000			Den (2012/2018)				
Erroy Ellowoy Ellowor	- Sue 1060	420-E	K12		KEN				
	Doctet No E-2	Docket 2016-	-	010					
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	Doctet No E-2	Docker 2010-							
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	Dociet No E-2	Docret 2014-			970				
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WILL DUPLES EVERY SAVE	Sub 1022	163-6	SBES	NET					
				LECEND					
	PROC	Process surve	ys/interviews	(customers or other) for p	purposes of report that follo				
	IMP	Impact data co	Itection (onsi	tes, billing data) and anal	ysis for purposes of report i	hat follows			
	REP	Evaluation, Me	asurement &	Verification Report					

NOTE THESE DATES ARE SUBJECT TO CHANGE

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2016 EM&V Report for the Duke Energy Progress Commercial, Industrial, and Governmental Demand Response Automation (DRA) Program

**Prepared for:** 

**Duke Energy Progress** 

Prepared by:

Navigant Consulting, Inc.



June 19, 2017

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# Energy Efficiency Education in Schools Program Year 2015 - 2016 Evaluation Report

Submitted to Duke Energy Progress in partnership with Research into Action

July 28<sup>th</sup>, 2017

# Principal authors:

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Ryan Bliss, Jordan Folks, Jen Loomis, Mersiha McClaren, Research into Action



# EM&V Report for the EnergyWise Home Program

p.1 of 73 fuld vi stocket /Α

Summer 2016

Presented for: Duke Energy Progress

Prepared by: Navigant Consulting, Inc.



June 5, 2017

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# EM&V Report for the EnergyWise Home Demand Response Program

Winter PY2016/2017

**Prepared for:** 

**Duke Energy Progress** 



#### July 6, 2017

Presented by: Stuart Schare Managing Director

Primary contributing authors: Peter Steele-Mosey, Associate Director Dana Max, Senior Consultant

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EM&V Report for the EnergyWise Home Demand Response Program

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EM&V Report for the EnergyWise Home Demand Response Program

## **EVALUATION SUMMARY**

The EnergyWise Home (EnergyWise) demand response (DR) program offers Duke Energy Progress (DEP) residential customers the opportunity to earn credits on their electricity bill by allowing DEP to remotely control air conditioners in the summer months (available system wide) and space- and water-heating equipment in winter (Western region customers only) during times of seasonal peak consumption. This report covers the evaluation, measurement, and verification (EM&V) activities for the winter of 2016-2017.

At the time of the single event called by Duke Energy during the winter of 2016-2017, there were over 8,390 participants with water heaters and over 4,060 participants with sets of heat pump auxiliary heat strips enrolled in the program.

As shown in Table 1, the estimated program-level impact for the EnergyWise winter Program Year (PY) 2016/2017 DR program was 7.13 MW. The system impact and per customer impact by device type are also presented in Table 1.

#### Table 1. Average Demand Reduction Impact by Technology: PY2016/2017

Device Curtailed	Average Per Participant Impact (kW)	Participants Controlled	System Impact (MW)	Relative Precision (+/-)*
Auxiliary Heat Strips	0.90	4,060	3.65	32%
Electric Water Heater	0.42	8,390	3.49	24%
Total System Impact:			7.13	

\*At 90% confidence level

Source: Navigant Analysis, PY2016/2017 weather, and PY2014/2015 modeling results

#### **Evaluation Methods**

Navigant estimated DR impacts for auxiliary heat strips by applying the regression coefficients estimated as part of the PY2014/2015 evaluation<sup>1</sup>, and the proportion of auxiliary heat strips that were fully responsive or partially responsive to DEP's curtailment signal as observed in the PY2014/2015 evaluation,<sup>2</sup> and the hourly observed heating degree hours in the appropriate quarter-hour of the PY2016/2017 DR event.

Navigant estimated DR impacts for water heaters by applying the regression coefficients estimated as part of the PY2014/2015 evaluation to the appropriate quarter-hour of the PY2016/2017 DR event.

<sup>&</sup>lt;sup>1</sup> Navigant Consulting, Inc., on behalf of Duke Energy Progress, *EM&V Report for the EnergyWise Home Program: Winter* 2014/2015, June 2015.

<sup>&</sup>lt;sup>2</sup> In that evaluation (as in the PY2011/2012 winter evaluation), Navigant divided auxiliary heat strips based on a visual examination of logger data into "fully responsive," "partially responsive," "unused," and "unresponsive" categories—referred to as dispositions. Separate equations were used to estimate impacts for fully and partially responsive devices.

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EM&V Report for the EnergyWise Home Demand Response Program

#### **Evaluated Impacts**

The principal EM&V findings regarding the PY2016/2017 winter event demand impacts are as follows:

- Auxiliary heat strips delivered an average DR impact of 0.90 kW per household. The total estimated program impact of the 4,060 participating households was 3.65 MW.
- Auxiliary heat strip impacts were lower on average for PY2016/2017 than PY2014/2015 due to the single PY2016/2017 event occurring on a relatively mild weather day. In PY2014/2015, there were three events where the average event temperature was at or below approximately 5°F. In contrast, for the PY2016/2017 event, the average event temperature was approximately 19°F.
- Water heaters delivered an average DR impact of 0.42 kW per household. The total program impact of the 8,390 participating households was 3.49 MW.

EM&V Report for the EnergyWise Home Demand Response Program

## **1. INTRODUCTION**

The EnergyWise program provides residential customers the opportunity to earn credits on their electricity bill by allowing DEP to remotely control air conditioning (in the summer) and water heater and heat pump auxiliary heating strips (in the winter – Western region customers only) during times of seasonal peak consumption. This report covers the EM&V activities for the winter of PY2016/2017.

EM&V is a term adopted by DEP and refers generally to the assessment and quantification of the energy and peak demand impacts of an energy efficiency or DR program. For DR, estimating reductions in peak demand is the primary objective, as energy impacts are generally negligible. EM&V also can encompass an evaluation of program processes and customer feedback typically conducted through participant surveys. The winter PY2016/2017 EM&V cycle did not include a process evaluation.

#### 1.1 Objectives of the Evaluation

This report is intended to verify program impacts per the requirements established by the North Carolina Utilities Commission and the Public Service Commission of South Carolina. Since no data loggers were deployed to participating homes in the winter of PY2016/2017, the principal objective of the PY2016/2017 evaluation is to apply the results of the PY2014/2015 EM&V report to PY2016/2017 weather and participation data to estimate the impact of direct load control on residential demand in the winter.

#### **1.2 Program Overview**

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The EnergyWise program was developed in response to DEP's determination that a curtailable load program would be a valuable resource for the company, and that it would provide an opportunity to engage directly with customers to help reduce costly seasonal peak demand. The program seeks to attract DR resources by providing incentives to residential customers to allow DEP to remotely control two of the most important drivers of winter peak demand typically found in the home—auxiliary heat strips and water heaters.

The program offers an annual bill credit of \$25 (per appliance type controlled) to customers that choose to allow DEP to control their electric auxiliary heat strips and/or water heaters.

**Eligibility.** To be eligible for participation in the winter component of the EnergyWise program, a household must meet the following criteria:

- Participants must occupy the residence where the controls are installed. Renters must complete a Tenant Authorization Form and the landlord/property owner must approve.
- · Residential electricity service must be in the name of the participant.
- Must reside in DEP's Western region (Asheville area).
- Participants must be in an area that can receive the EnergyWise Home paging signal.
- Participation also requires that participants have an electric water heater and/or a centrally ducted heat pump (for auxiliary heat strip control).

**Incentives.** Each participant receives a \$25 bill credit per appliance or load type upon joining the program, and then an additional \$25 bill credit every 12 months per appliance or load type to encourage continued participation.

EM&V Report for the EnergyWise Home Demand Response Program

**Marketing.** DEP is responsible for all marketing of the EnergyWise program. Participant enrollments are generated through a mix of direct mail, bill inserts, email, outbound calling, and door-to-door canvasisng.

#### **1.3 Reported Program Participation**

This section reports the overall program participation for the winter EnergyWise program in the winter of PY2016/2017.

DEP called one DR event in winter PY2016/2017 on January 9, 2017. There were a total of 4,060 auxiliary heat strip participants and 8,390 water heater participants during the winter PY2016/2017 event.

The number of participants and number of appliances controlled by appliance type are shown in Table 2. Both devices were curtailed from 6:30 a.m. to 9:30 a.m., using a 100% cycling strategy. All winter EnergyWise participants are located in DEP's Western region.

#### Table 2. Overall Winter PY2015/2016 Program Participation by Appliance

Appliance	Number of Participants	Number of Appliances Controlled
Auxiliary Heat Strips	4,060	4,399
Electric Water Heater	8,390	8,548
Source: DEP EW Control Event Tracking Report		

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EM&V Report for the EnergyWise Home Demand Response Program

### 2. EVALUATION METHODS

This section of the EM&V report describes the approach used to estimate the DR and snapback impacts of the EnergyWise program for PY2016/2017.

Navigant estimated DR impacts from auxiliary heat strip by applying the regression coefficients estimated as part of the PY2014/2015 evaluation<sup>3</sup> and the device responsiveness shares as observed in the PY2014/2015 evaluation<sup>4</sup> to the hourly observed heating degree hours in the appropriate quarter-hour of the PY2016/2017 DR event.

Navigant estimated DR impacts from water heaters by applying the regression coefficients estimated as part of the PY2014/2015 evaluation to the appropriate quarter-hour of the PY2016/2017 DR event.

This section is divided into three subsections:

- Demand Reduction Impacts: How the demand reduction impacts were estimated based on regression-estimated parameters obtained from the PY2014/2015 evaluation report other technology-specific variables.
- **Snapback Impacts:** How the snapback impacts were estimated, using the coefficients estimated in the PY2014/2015 analysis.
- Energy Impacts: How energy impacts were estimated, using the DR and snapback estimated impacts.

#### 2.1 Demand Reduction Impacts

This section details methodology for demand reduction impacts for both the auxiliary heat strip and water heater programs.

#### 2.1.1 Auxiliary Heat Strip Demand Reduction Impacts

Navigant estimated DR impacts from auxiliary heat strips by applying the regression coefficients estimated as part of the PY2014/2015 evaluation<sup>5</sup> and the device responsiveness shares as observed in the PY2014/2015 evaluation<sup>6</sup> to the hourly observed heating degree hours in the appropriate quarter-hour of the PY2016/2017 DR event.

<sup>&</sup>lt;sup>3</sup> Navigant Consulting, Inc., on behalf of Duke Energy Progress, EM&V Report for the EnergyWise Home Program: Winter 2014/2015, June 2015.

<sup>&</sup>lt;sup>4</sup> In this evaluation, as in the PY2011/2012 winter evaluation, Navigant divided auxiliary heat strips based on a visual examination of logger data into "fully responsive," "partially responsive," "unused," and "unresponsive" categories—referred to as dispositions. Separate equations were used to estimate impacts for fully and partially responsive devices.

<sup>&</sup>lt;sup>5</sup> Navigant Consulting, Inc., on behalf of Duke Energy Progress, *EM&V Report for the EnergyWise Home Program: Winter* 2014/2015, June 2015.

<sup>&</sup>lt;sup>6</sup> In this evaluation, as in the PY2011/2012 winter evaluation, Navigant divided auxiliary heat strips based on a visual examination of logger data into "fully responsive," "partially responsive," "unused," and "unresponsive" categories—referred to as dispositions. Separate equations were used to estimate impacts for fully and partially responsive devices.
EM&V Report for the EnergyWise Home Demand Response Program

The DR parameters estimated for auxiliary heat strips in the PY2014/2015 evaluation provide an estimate of the relationship between the observed outdoor heating degree hours (HDH) during a given quarter-hour of the day, and the demand reduction impact in that same quarter-hour when a DR event is called. Navigant estimated PY2016/2017 impacts of each auxiliary heat strip disposition type (see below for more details) by applying this relationship to the HDH observed in the appropriate quarter-hour of the day for the PY2016/2017 event.

The average impacts per device were estimated based on a weighted average of disposition-specific estimated impacts. The weights were derived from the average distribution of device dispositions observed during the PY2014/2015 evaluation.

Customers can have more than one set of auxiliary heat strips or more than one water heater controlled. As a result, the Navigant team multiplied auxiliary heat strip impact by the average number of devices controlled per participant (1.08 devices per participant) and multiplied the water heater impact by the average number of water heaters controlled per participant (1.02 per participant) to obtain an estimate of the average impact per participant.

#### 2.1.2 Water Heater Demand Reduction Impact

Navigant estimated DR impacts from water heaters by applying the regression coefficients estimated as part of the PY2014/2015 evaluation to the appropriate quarter-hour of the PY2016/2017 DR event.

#### 2.2 Snapback Impact

Snapback refers to the increase in demand observed in the hours immediately following a DR event. During a winter DR event, space heating or water heating is curtailed. When curtailed, the home or water tank cools beyond the customer's preferred settings, reducing electricity demand during the event. Snapback refers to the incremental electricity required to restore the water tank or home to the setpoint temperature in the period immediately following the event.

#### 2.2.1 Auxiliary Heat Strip Snapback Impact

In PY2014/2015, Navigant estimated auxiliary heat strip snapback impacts as a function of the total HDH observed during the DR event, and the number of periods that had elapsed since the end of the event (i.e., the relative quarter-hour of snapback). In PY2016/2017, Navigant estimated snapback impacts by aligning the relative quarter-hour estimated parameters with the appropriate quarter-hours following the PY2016/2017 event and then applying event period weather data.

As with DR impacts, snapback impacts were weighted by disposition for impacts per device and scaled by number of devices per participant to get impacts per participant.

#### 2.2.2 Water Heater Snapback Impact

In PY2014/2015, Navigant estimated water heater snapback impacts as a function of the number of periods that had elapsed since the end of the event (i.e., the relative quarter-hour of snapback). In

1

# NAVIGANT

EM&V Report for the EnergyWise Home Demand Response Program

PY2016/2017, snapback impacts were estimated by aligning the relative estimated quarter-hour parameters with the appropriate quarter-hours following the PY2016/2017 event.

Snapback impacts were constrained such that the total energy recovered during the snapback (as a proportion of energy saved during the event period) was equal to that estimated in PY2014/2015. More specifically, snapback impacts are constrained such that total energy taken back during the snapback period is equal to approximately 94% of total energy saved during the curtailment period.

This constraint meant that some of the regression-estimated snapback parameters had to be adjusted slightly. The curtailment period observed in PY2016/PY2017 was longer than any of the curtailment periods observed in PY2014/2015; consequently, without adjustment, the regression-estimated snapback parameters would not deliver the appropriate level of net energy savings. The additional energy required to be taken back by the snapback (that was not accounted for by the existing parameters) was allocated across the snapback periods in proportion to the snapback demand impact in each quarter-hour of that period.

The logic used to calculate snapback may be observed directly in the Excel spreadsheet that accompanies this report (Appendix A).

#### 2.3 Energy Impacts

Total energy impacts were estimated by subtracting the energy use increase estimated to have occurred in the snapback period from the energy reduction estimated to have been delivered during the event period.

EM&V Report for the EnergyWise Home Demand Response Program

## **3. IMPACT FINDINGS**

This section provides the estimated demand reduction and snapback impacts for the EnergyWise program for the winter of PY2016/2017. Section 2.1 details how these impacts were estimated. Impacts are based on the results of the PY2014/2015 evaluation report, and PY2016/2017 weather and participation as applicable.

The estimated average DR impact by equipment type is shown in Table 3.

Device Curtailed	Average Per Participant Impact (kW)	Participants Controlled	System Impact (MW)	Relative Precision (+/-)*	
Auxiliary Heat Strips	0.90	4,060	3.65	32%	
Electric Water Heater	0.42	8,390	3.49	24%	
Total System Impact:			7.13		

\*At 90% confidence level

Source: Navigant Analysis, PY2016/2017 weather, and PY2014/2015 modeling results

Hour-by-hour results are shown graphically in Figure 1 and Figure 2. In Figure 1, DR impacts are represented as a negative number (i.e., demand reduction) and snapback as a positive (i.e., an increase in demand). Note that due to ramping, there is still a lingering DR impact in the first quarter-hour of the snap-back period (i.e., the negative value of the first gray column in the figure below).



#### Figure 1. Auxiliary Heat Strip Demand Response Impact

Source: Navigant Analysis, PY2015/2016 weather, and PY2014/2015 modeling results

The PY2016/2017 auxiliary heat strip DR impact (0.90 kW) is approximately two-thirds the average DR impact reported for auxiliary heat strips in PY2014/2015 (1.37 kW). This is due to the lower temperatures observed during the PY2014/2015 DR events. In that program year, the average outdoor event temperature was less than 16°F, and for three of the ten events was less than 6°F. In contrast, during

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EM&V Report for the EnergyWise Home Demand Response Program

PY2016/2017 the average outdoor temperature observed during the single event was approximately 19°F.

The most suitable event from PY2014/2015 with which to compare the impacts of the single PY2015/2016 event occurred on February 13, 2015. For this event, the average outdoor temperature was 19°F. The event lasted from 6:30 a.m. to 9:00 a.m.; the estimated DR impact of heat strips for that event was 0.9 kW.

The estimated quarter-hour impacts of water heater curtailment are shown in Figure 2. In this graphic, as in the above, the convention is to represent DR impacts as a negative number (i.e., demand reduction) and snapback as a positive (i.e., an increase in demand).



Figure 2. Water Heater Demand Response Impact

The PY2016/2017 water heater DR impact (0.42 kW) is slightly higher than the average DR impact reported for water heaters in PY2014/2015 (0.4 kW). This is because the PY2016/2017 event extended until 9:30 a.m., whereas eight out of the ten events in PY2014/2015 ended at 9:00 a.m. or earlier.

As seen in Figure 3, the estimated DR impacts climb steadily through the morning, peaking in the period between 8 a.m. and 9 a.m. Since the magnitude of water heater DR impacts reflects the underlying hot water usage patterns, this suggests that a high proportion of the EM&V participants in the PY2014/2015 logger data study shower at or slightly after 8 a.m.

EM&V Report for the EnergyWise Home Demand Response Program



Figure 3. Water Heater DR Impacts by Quarter-Hour

As noted previously, energy impacts were estimated by taking the difference between the average energy savings realized during the curtailment period and the average energy increases that occurred in the snapback period. Estimated energy impacts are presented in Table 4. The estimated energy impacts are small, and reflect the patterns estimated as part of the PY2014/2015 study.

Table	4.	Estimated	I Energy	Impacts

Device Curtailed	DR Energy Savings (kWh)	System Energy Savings (MWh)	
Auxiliary Heat Strips	1.74	7.06	
Electric Water Heater	0.08	0.67	
Total System Impact:	7.73		

Source: Navigant Analysis, PY2016/2017 weather, and PY2014/2015 modeling results

Water heater energy savings are small and reflect the closed nature of the system being curtailed; effectively, participants' water heaters are being used as an electric/thermal battery. The small savings that are realized may be due to reduced standby losses during curtailment.

Auxiliary heat strip energy savings are, relatively speaking, much larger, although still trivial in absolute terms. The much lower energy take-back in the snapback period could be due to a number of factors: participants adjusting their thermostats (or having their thermostats programmed to adjust) to reduce setpoint during the working hours when they may not be home, and rising temperatures as the sun rises reducing the proportion of heat pumps that need to rely on their auxiliary heat strips.

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Source: Navigant Analysis, PY2014/2015 modeling results



EM&V Report for the EnergyWise Home Demand Response Program

## 4. SUMMARY FORM

EnergyWise Home		
Winter PY2016/2017	-	
Completed EMV Fact Sheet		

#### **Description of Program**

Duke Energy's EnergyWise program is a DR program offered to residential customers in the DEP territory.

EnergyWise is a direct load control program. Participants receive an incentive to allow Duke Energy to control their air conditioners (in the summer), their heat pump auxiliary heat strips (in the winter), or their electric water heaters (winter or summer). Only participants in the Western region are curtailed in the winter.

This report evaluates the impact of the program in the winter of 2016-2017. Only a single event was called, on January 9, 2017.

Date:	July 6, 2017
Region:	DEP
Evaluation Period	Winter PY2016/2017
DR Event Impact per Par	ticipant (kW)
Water Heaters	0.42
Auxiliary Heat Strips	0.90
DR Event Program Impac	st (MW)
Water Heaters	3.49
Auxiliary Heat Strips	3.65
Net-to-Gross Ratio	1

#### **Evaluation Methods**

Navigant estimated DR impacts for auxiliary heat strips by applying the regression coefficients estimated as part of the PY2014/2015 evaluation, and the proportion of auxiliary heat strips that were fully responsive or partially responsive to DEP's curtailment signal, as observed in the PY2014/2015 evaluation, to the hourly observed heating degree hours in the appropriate quarter-hour of the PY2016/2017 DR event.

Navigant estimated DR impacts for water heaters by applying the regression coefficients estimated as part of the PY2014/2015 evaluation to the appropriate quarter-hour of the PY2016/2017 DR event.

#### Impact Evaluation Details

- Auxiliary heat strips delivered an average DR impact of 0.90 kW per household. The total estimated program impact of the 4,060 participating households was 3.65 MW.
- Auxiliary heat strip impacts were lower on average for PY2016/2017 than PY2014/2015 due to the single PY2016/2017 event occurring on a relatively mild weather day. In PY2014/2015, there were three events where the average event temperature was at or below approximately 5°F. In contrast, for the PY2016/2017 event the average event temperature was approximately 19°F.
- Water heaters delivered an average DR impact of 0.42 kW per household. The total program impact of the 8,390 participating households was 3.49 MW.

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EM&V Report for the EnergyWise Home Demand Response Program

## **5. CONCLUSION**

The principal EM&V findings regarding the winter event demand impacts for PY2015/2016 are as follows:

- Auxiliary heat strips delivered an average DR impact of 0.90 kW per household. The total estimated program impact of the 4,060 participating households was 3.65 MW.
- Auxiliary heat strip impacts were lower on average for PY2016/2017 than PY2014/2015 due to the single PY2016/2017 event occurring on a relatively mild weather day. In PY2014/2015, there were three events in which the average event temperature was at or below approximately 5°F. In contrast, for the PY2016/2017 event the average event temperature was approximately 19°F.
- Water heaters delivered an average DR impact of 0.42 kW per household. The total program impact of the 8,390 participating households was 3.49 MW.





# EM&V Report for the Duke Energy Multifamily Energy Efficiency Program

**Prepared for:** 

**Duke Energy Progress, Duke Energy Carolinas** 





October 4, 2016 Revised June 27, 2017

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Exhibit F Page 1 of 411

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# Duke Energy Carolina/ Duke Energy Progress Non-Residential Prescriptive Program

Evaluation Report – Final

March 25, 2018

Opinion **Dynamics** 



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JUN 2 0 2018

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# Duke Energy Carolinas and Progress

EnergyWise for Business Programs Evaluation Report – Final

June 12, 2017

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# **1.** Evaluation Summary

# **1.1 Program Summary**

The Duke Energy Carolinas (DEC) and Duke Energy Progress (DEP) EnergyWise for Business Program is a demand response (DR) and energy efficiency (EE) program that provides small businesses with the opportunity to participate in DR events, earn incentives, and realize additional energy efficiency (EE) benefits. The program was introduced in 2016 and offers participants either a programmable, two-way WiFi Smart Thermostat or a Load Control Switch. Participants can select one of three levels of DR participation— 30% cycling, 50% cycling, and 75% cycling—with varying levels of earned incentives based on the selected cycling strategy. Smart thermostat participants who have a heat pump with electric resistance heat strips are also offered the option of participating in winter DR events and can earn additional incentives per season. Customers who opt for the smart thermostat have the ability to manage their thermostat remotely with presets that help them potentially realize energy savings. Duke Energy contracted with Comverge to implement this program.

The program targets small businesses with a qualifying central air conditioning system and a minimum usage of 1,000 kWh per month during the billing months of May through September. By the end of 2016, the program had enrolled a total of 606 customers and 1,202 devices. The program called three summer but no winter DR events in 2016.

# **1.2** Evaluation Objectives

The 2016 evaluation included a deemed savings review and an engineering-based gross impact analysis to answer the following key research questions:

- 1. What were the estimated gross demand response impacts from the program in 2016?
- 2. What were the estimated gross energy efficiency impacts from the program in 2016?

It should be noted that this evaluation did not include a regression-based modeling approach, which is the industry-standard approach to estimating impacts from DR events. As such, the results of this evaluation should be interpreted as directional. The upcoming evaluation of the 2017 EnergyWise for Business Program will include a regression-based model approach to estimating both DR and EE impacts.

# 1.3 High-Level Findings

Based on our engineering-based impact analysis, the EnergyWise for Business Program fell short of planned savings in 2016, realizing between one-quarter (DEP) and one-third (DEC) of planned DR savings and just above 40% of planned EE savings.

Table 1-1 presents the results of our DR and EE analyses, including ex ante and ex post values for the number of devices, per device savings, and overall impacts, by jurisdiction. The table also presents the resulting realization rates.

	DEC				DEP		
Estimate	Ex Ante	Ex Post	Realization Rate	Ex Ante	Ex Post	Realization Rate	
Demand Response Impacts							
Average # of Participating Devices <sup>A</sup>	625	442	71%	355	262	74%	
Average Per Device kW Savings	3.59	1.54	43%	3.59	1.25	35%	
Total Demand Response Savings	2,244	682	30%	1,274	329	26%	
Energy Efficiency Impacts			•				
Number of Enrolled Thermostats <sup>B</sup>	750	692	92%	426	447	105%	
Average Per Thermostat kWh Savings	1,450	641	44%	1,450	562	39%	
Total Energy Efficiency Savings	1,087,500	443,344	41%	617,700	251,433	41%	

#### Table 1-1.Summary of Gross Impact Analysis

A Ex post values represent the average number of devices (across the three 2016 DR events) that were enrolled during the event and did not opt out. These are the devices that achieved demand reductions during the 2016 events.

<sup>B</sup> Ex ante and ex post values represent thermostats enrolled at the end of 2016.

Two factors contributed to the shortfall in savings:

- Per-unit savings assumptions: Our deemed savings review found that ex ante per-unit savings were too high, mostly due to an overestimate of the size (tonnage) of the controlled air conditioning units. Since equipment size is directly correlated with savings, the smaller than expected controlled units significantly affected realized EE and DR savings. On the DR side, other contributors to lower than expected per unit savings were a higher than planned adoption of thermostats (which in 2016 were estimated to achieve lower DR savings than switches) and a slight under-enrollment in the more aggressive cycling strategies for DEP.
- 2. Enrollment: By the end of 2016, the program had almost met its planned number of enrolled devices: Enrollment for DEC was 92% of projections while enrollment for DEP exceeded projections (105%). As a result, enrollment assumptions did not significantly contribute to the shortfall in EE savings. Device enrollment did affect DR impacts, however, as some of the devices were not installed until after the summer DR events. As a result, participation levels in the DR events were just short of three-quarters of planned participation.

#### **1.4** Evaluation Recommendations

Because this evaluation was limited to an engineering-based analysis, there is uncertainty about the program impacts achieved in 2016. However, based on our comparison of planning and verified assumptions, we provide the following recommendations for future program planning.

#### Adopt More Conservative HVAC Average Tonnage Values

The tonnage values tracked in the program participation database suggest that Duke Energy's current planning values are too high. Pending results from the 2017 evaluation, the program may wish to lower its planning values as smaller units, everything else being equal, will achieve lower savings compared to larger units. As a result, an erroneous tonnage assumption might result in the program not achieving its savings goals.

#### Increase Promotion of Higher Cycling Strategies among Program Enrollees

Participants in DEP seemed to shy away from enrolling in the 75% cycling strategy and opted for strategies that result in lower savings. As such, we encourage Duke Energy to put additional emphasis on 75% cycling when recruiting participants, as it will lead to greater savings. Another alternative would be for Duke Energy to adjust its ex ante assumptions regarding cycling strategies. While this would not increase savings, it would provide more realistic planning assumptions and improve realization rates.

# 2. Program Description

# 2.1 Program Design

The Duke Energy Carolinas (DEC) and Duke Energy Progress (DEP) EnergyWise for Business program is a demand response (DR) and energy efficiency (EE) program that provides small businesses with the opportunity to participate in DR events, earn incentives, and realize additional EE benefits. The program was introduced in 2016 and offers participants either a programmable, two-way WiFi Smart Thermostat or a Load Control Switch. Participants can select one of three levels of DR participation—30% cycling, 50% cycling, and 75% cycling—with varying levels of earned incentives based on the selected cycling strategy. Smart Thermostat participants who have a heat pump with electric resistance heat strips are also offered the option of participating in winter DR events and can earn additional incentives per season. Customers who opt for the smart thermostat have the ability to manage their thermostat remotely with presets that help them potentially realize energy savings. Duke Energy contracted with Converge to implement this program.

The program targets small businesses with a qualifying central air conditioning system and a minimum usage of 1,000 kWh per month during the billing months of May through September.

The program was first implemented by Comverge in the DEC and DEP territories in 2016. The evaluation period considered in this report is January 1, 2016 to December 31, 2016.

## 2.2 Program Implementation

Duke Energy contracted with Comverge in 2016 to implement the EnergyWise for Business program. Once a customer enrolls in the program, a representative visits the site to install the devices and to show participants how to program their devices and access the web portal. Events are called on weekdays when average temperature criteria are met and a high system peak is projected. Each time an event is scheduled, participants are notified via email and through the web portal. During the event, the devices display a message that an event is in progress. Participants are able to opt out of events at any time before or during the event.

## 2.3 **Program Participation**

Based on the program-tracking database, the program distributed 1,202 devices in 2016, associated with 606 unique customer accounts. Customers overwhelmingly opted for Smart Thermostats (95%) over Load Control Switches (5%). The 30% cycling strategy was the most popular among customers, with 63% of devices enrolled into that cycling level. Only 23% of devices were enrolled in the 50% cycling strategy and 14% in the 75% cycling strategy. Table 2-1 provides the distribution of device types and cycling strategies.

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Jurisdiction and	Number of Devices			Percentage of Total Devices in Jurisdiction			
Cycling Strategy	Thermostat	Switch	Total	Thermostat	Switch	Total	
DEC							
30%	393	12	405	54%	2%	56%	
50%	169	16	185	23%	2%	25%	
75%	130	9	139	18%	1%	19%	
Jurisdiction Total	692	37	729	95%	5%	100%	
DÉP	•	•		• •	• •••	•	
30%	289	19	308	61%	4%	65%	
50%	113	5	118	24%	1%	25%	
75%	45	2	47	10%	<1%	10%	
Jurisdiction Total	447	26	473	95%	5%	100%	
Overall Total	1,139	63	1,202	95%	5%	100%	

#### Table 2-1. Counts of Enrolled Devices, Device Jurisdiction, Type, and Cycling Strategy

-

# **3.** Overview of Evaluation Activities

To address the research objectives for this evaluation, Opinion Dynamics performed a range of data collection and analytic activities. These activities are summarized in this section.

#### 3.1 **Program Staff Interviews**

We conducted an in-depth interview with the Duke Energy EnergyWise for Business program manager. This interview took place in January 2016. The purpose of this interview was to understand the program's current design and implementation, and to determine the priorities for the impact evaluation.

### 3.2 **Program Materials Review**

To inform the subsequent analyses, Opinion Dynamics reviewed program materials, including program design and implementation materials, relevant research reports, and most notably the program-tracking database.

# 3.3 Engineering-Based Impact Analysis to Determine Ex-Post Savings and Realization Rate

To determine program impacts, the evaluation team used a three-step process: (1) we conducted a deemed savings review; (2) we performed an analysis of the program participation database; and (3) we estimated ex post savings and calculated realization rates.

**Step 1: Deemed Savings Review.** Opinion Dynamics reviewed inputs and algorithms provided by Duke Energy to document existing (ex ante) assumptions and claimed EE and DR savings. We then performed an engineering analysis using various Technical Reference Manuals (TRMs) and secondary sources to develop verified (ex post) per-unit savings estimates for Smart Thermostats and Load Control Switches. As part of this analysis, we looked up cooling equipment characteristics, based on model numbers, for a sample of 54 participants to update program assumptions about equipment efficiency. We then updated the ex ante savings values based on our engineering analysis and the customer data we received. The deemed savings review, including references to all sources used, is presented in Appendix A.

**Step 2: Participation Analysis.** The evaluation team reviewed program-tracking data to assess program participation during the evaluation period. This effort included:

- A review of the program participation database to determine the total number of devices and participants, the type of devices installed, and the cycling strategies employed, as well as device installation dates.
- A review of thermostat and switch reports to identify opt-outs.

Step 3: Estimation of Ex Post Savings and Realization Rates. To estimate ex post savings, we applied the ex post per-unit savings values from the deemed savings review (Step 1) with participation counts from the participation analysis (Step 2). We then calculated realization rates for both energy and demand impacts by dividing ex post (evaluated) savings by ex ante (claimed) savings.

# 4. Gross Impact Evaluation

Our gross impact evaluation included three main analytic steps: (1) a deemed savings review, (2) a participation analysis, and (3) estimation of ex post savings analysis and realization rates for the demand response and energy efficiency components of the program. Figure 4-1 depicts this process.





The following subsections describe our approach and the results for each of the three steps.

## 4.1 Deemed Savings Review

The goal of the deemed savings review was to examine existing program savings values and assumptions and to develop new estimates that the program can use going forward. Our review consisted of several activities:

- We reviewed inputs and algorithms provided by Duke Energy. We also reviewed source documents and program filings to determine existing assumptions about per-device DR and EE savings.
- We reviewed the TRMs for Arkansas, Illinois, Indiana, and the Mid-Atlantic, as well as secondary sources to establish an algorithm for EE savings and to inform assumptions for new per-unit savings estimates for Smart Thermostats and Load Control Switches.
- We used tonnage information from the program-tracking database to update default program assumptions.
- We conducted a look-up of 54 equipment model numbers to develop an estimate of the average efficiency (expressed as the Seasonal Energy Efficiency Ratio [SEER]) of participants' cooling equipment.

Based on the results of these activities, we developed new per-device savings values.

Below, we summarize the inputs for estimating both DR and EE impacts and present the results of the analysis. The full deemed savings review is included in Appendix A.

## 4.1.1 Demand Response Load Impacts

Our evaluation of the 2016 EnergyWise for Business Program did not include a model-based analysis of DR events.<sup>1</sup> However, one of the key determinants of summer DR event savings is the size (tonnage) of the

<sup>&</sup>lt;sup>1</sup> Note that a full, model-based DR impact analysis will be performed as part of our 2017 program evaluation.

controlled cooling equipment. Our comparison of program tonnage assumptions with actual tonnage information in the program-tracking database found that the size of participants' cooling equipment is substantially smaller than the program assumption. Everything else being equal, smaller equipment size would lead to smaller per-device DR event savings. To provide updated per device-DR savings, we therefore developed a ratio of actual to assumed equipment size (i.e., average ex post tonnage/average ex ante tonnage). We applied this ratio to the program's ex ante per-device savings assumptions (by device type and cycling strategy), using the following formula:

#### Per-Device kW Event Savings = Ex Ante kW \* Ex Post Tons/Ex Ante Tons

Table 4-1 provides the ex ante and ex post tonnage assumptions, by device type and jurisdiction, and the resulting tonnage ratios. Tonnage ratios range from 0.36 for equipment controlled by DEP load control switches to 0.46 for equipment controlled by DEC smart thermostats.

		Smart Thermosta	L	Load Control Switch		
		Ex P	ost		Ex P	ost
Parameter	Ex Ante	DEC	DEP	Ex Ante	DEC	DEP
Tonnage	9.62	4.41	4.08	9.62	4.02	3.48
Tonnage Ratio		0.46		0.42	0.36	

#### Table 4-1. Tonnage Assumptions for Estimating DR Event Impacts

<sup>A</sup>In instances where tonnage values were missing from the program participation database (n = 65 devices), the average tonnage for that device and jurisdiction value was imputed.

Table 4-2 shows the program's ex ante per-device savings assumptions for thermostats and switches, by cycling strategy, and the ex post values that result from applying the tonnage ratios to the ex ante values. Given the relatively low tonnage ratios, estimated ex post kW savings are less than half of ex ante savings, across both jurisdictions and device types.

	Sm	Smart Thermostat			Load Control Switch		
		Ex Post kW			Ex Po	st kW	
Cycling Strategy	Ex Ante kW	DEC	DEP	Ex Ante	DEC	DEP	
30% Cycling	2.02	0.93	0.86	2.50	1.04	0.90	
50% Cycling	3.77	1.73	1.60	4.25	1.78	1.54	
75% Cycling	6.27	2.88	2.66	6.75	2.82	2.44	

#### Table 4-2. Assumptions for Estimating Per Device DR Event Savings (kW)

#### 4.1.2 Energy Efficiency Impacts

The program's energy efficiency impacts are associated with smart thermostats only. Duke Energy provided tonnage assumptions as well as per device ex ante savings, but did not provide the algorithm used to develop these savings. We compared the ex ante tonnage assumption with actual tonnages from the program tracking databases and calculated per thermostat ex post savings using the following equation, which is common to most TRMs for thermostat measures:

Table 4-3 summarizes the ex ante tonnage and per device savings assumptions (provided by Duke Energy) and provides the ex post inputs into the EE savings formula. These inputs include the average equipment

tonnage, the average equipment efficiency (SEER), Equivalent Full Load Cooling Hours (EFLHcool), and the Energy Savings Factor (ESF). The deemed savings review memo (Appendix A) provides more detail about these inputs, including the sources of information.

	Ex Ante	e Value	Ex Pos	t Value
Parameter	DEC	DEP	DEC	DEP
Tonnage	9.62	9.62	4.41	4.08
SEER	Unknown		11.2	11.8
EFLHcool	Unknown		1,355	1,355
ESF	Unknown		10%	10%
Savings per Thermostat (kWh)	1,450	1,450	641	563

Similar to the per device DR impacts, the greater ex ante tonnage assumption was largely responsible for the difference between ex ante and ex post per-thermostat EE savings. While we do not have ex ante values for SEER, EFLHcool, and ESF, nor the algorithm used, we calculate per-thermostat EE savings of 1,397 kWh (DEC) and 1,326 kWh (DEP) when using the ex post energy savings equation and assumptions but substituting in the ex ante tonnage assumptions. These values are very close to the ex ante EE savings value of 1,450 kWh, so differences in assumptions other than tonnage would be minor.

### 4.2 Participation Analysis

The second step in the gross impact analysis consisted of an analysis of program enrollment and event participation, based on program tracking data and customer opt out reports. Both are described in this section.

#### 4.2.1 Program Enrollment

According to information provided by Duke Energy, anticipated participation in the program was 1,250 devices for DEC and 710 devices for DEP. The program further assumed that 60% of devices would be thermostats and 40% would be load control switches.

Review of the program tracking data showed a total 2016 enrollment of 729 thermostats and switches in the DEC service territory and 473 thermostats and switches in the DEP service territory, just over half of what was anticipated in the program filings. It should be noted that approximately 34% of these devices were installed after the 2016 summer event season, and therefore were not able to participate in these events. The tracking data also showed a different mix of thermostats and switches from what was anticipated, with fewer customers choosing to install switches than projected.

Table 4-4 provides ex ante and ex post enrollment numbers, by device type and jurisdictionTable 4-4. Projected and Actual Program Enrollment.

		Demand Response			Energy Efficiency		
Jurisdiction	Device Type	# Projected	# Achieved	% Achieved	# Projected	# Achieved	% Achieved
	Thermostat	750	692	92%	750	692	92%
DEC	Switch	500	37	7%	0	0	n/a
	Overall	1,250	729	58%	750	692	92%
	Thermostat	426	447	105%	426	447	105%
DEP	Switch	284	26	9%	0	0	n/a
	Overall	710	473	67%	426	447	105%

#### Table 4-4. Projected and Actual Program Enrollment (Number of Devices)

To develop expected savings from DR events, the program also projected the share of customers that would select the different cycling strategies. The program projected 50% of enrollment in the 30% cycling strategy, 30% of enrollment in the 50% cycling strategy, and 20% of enrollment in the 75% cycling strategy. These projections were fairly accurate for DEC customers, but DEP customers showed a stronger preference for the 30% cycling strategy at the expense of the 75% cycling strategy. Everything else being equal, a lower cycling percentage will generate lower DR savings. To realize expected savings, the program may therefore need to more strongly promote the higher cycling strategies, particularly among DEP customers.

Table 4-5 provides the projected and actual distributions of enrollment in the three cycling strategies.

Table 4-5. Ex Ante and Ex Post Distribution of Cycling Strategies by Jurisdiction

Jurisdiction	Projected <sup>A</sup>	Actual				
30% Cycling Strategy	-	i				
DEC	50%	55.6%				
DEP	50%	65.1%				
50% Cycling Strategy						
DEC	30%	25.4%				
DEP	50%	24.9%				
75% Cycling Strategy						
DEC	20%	19.1%				
DEP	20/0	9.9%				

ABased on 9/19/2014 PowerPoint presentation, entitled "Small Business Demand Response – Evaluation Gate Presentation"

#### **4.2.2** Participation in Demand Response Events

In 2016, the program called three summer DR events, on July 8<sup>th</sup>, July 14<sup>th</sup>, and July 27<sup>th</sup>. The average peak temperature on these three event days was 96 °F.<sup>2</sup> There were no winter events called in 2016.

To assess participation in the three summer DR events, Opinion Dynamics reviewed override reports to assess the number of event opt-outs. These data were then merged with the program tracking data to determine opt-out rates by jurisdiction. As shown in Table 4-6, opt-out rates for events were low, and review of the data does not suggest that opt-outs vary as a function of cycling strategy. It is worth noting that as of the third event on July 28<sup>th</sup>, only 797 devices had been installed (66% of the total enrolled devices in 2016).

<sup>&</sup>lt;sup>2</sup> Average peak temperature is based on weather information for Charlotte and Raleigh, NC.

Thus, about a third of 2016 participants were not able to participate in any of the 2016 DR events as they had not yet had their devices installed.

Event Date & Jurisdiction	Enrolled Devices	Device Opt-Outs	Part. Devices	Device Part. Rate
7/8/2016				
DEC	424	1	423	99.8%
DEP	235	1	234	99.6%
Total	659	2	657	99.7%
7/14/2016	-			
DEC	443	16	427	96.4%
DEP	258	8	250	96.9%
Total	701	24	677	96.6%
7/27/2016				· · · · · ·
DEC	495	20	475	96.0%
DEP	302	1	301	99.7%
Total	797	21	776	97.4%

Table 4-6. Device Participation by Event and Jurisdiction

# 4.3 Estimation of Ex Post Savings

The third step in our gross impact evaluation was to estimate program DR and EE savings using the ex post deemed savings values and information from the program participation database developed in the previous steps. Below, we describe the inputs and algorithms used for the DR and EE ex post savings analyses and present the results.

#### 4.3.1 Demand Response Impacts

For each summer DR event, we estimated kW impacts by multiplying the per-device ex post savings (shown in Table 4-2) by the number of participating devices. Since per unit ex post savings estimates vary by jurisdiction, device type, and cycling strategy, we developed 6 different ex post savings values for each jurisdiction and each event (2 device types x 3 cycling strategies). We then summed over these values to estimate the total event savings by jurisdiction.

Table 4-7 provides the number of participating devices per event, average per device savings (i.e., the weighted average across the three cycling strategies), and overall kW savings. Across both DEC and DEP, both participating devices and savings increased with each event, as a result of the program enrolling new customers as the event season progressed. On average, in DEC savings were 682 kW per event and in DEP savings were 329 kW per event, including savings from both thermostats and switches.

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	DE	C	DEP	
Event Date	Therm.	Switch	Therm.	Switch
7/8/2016				
Number of Participating Devices	401	22	226	8
Average Per-Device kW Savings	1.52	1.86	1.28	1.18
Total Event kW Savings	609	41	288	9
7/14/2016				
Number of Participating Devices	403	24	242	8
Average Per-Device kW Savings	1.54	1.79	1.29	1.18
Total Event kW Savings	619	43	312	9
7/27/2016				
Number of Participating Devices	450	25	288	13
Average Per-Device kW Savings	1.53	1.83	1.22	1.07
Total Event kW Savings	687	46	352	14
Overall Average				
Number of Participating Devices	418	24	252	10
Weighted Average Per-Device kW Savings	1.53	1.83	1.26	1.13
Total Event kW Savings	638	44	317	11

#### Table 4-7. DR kW Savings by Event

**Error! Reference source not found.** shows the average ex post summer DR event impacts, by jurisdiction, relative to the ex ante values taken from program filings. Overall, the program achieved just under onequarter of its anticipated DR savings. This shortfall is driven by two key factors: (1) the lower than projected size of participating air conditioning units and (2) the lower than expected enrollment at the time of the 2016 summer events.

The lower per-unit savings realization rate for DEP, compared to DEC, results from the relative underenrollment in the 75% cycling strategy in that jurisdiction as well as a slightly greater tonnage adjustment compared to DEC.

#### Table 4-8. Program DR Impacts

		DEC			DEP	
Estimate	Ex Ante	Ex Post	Realization Rate	Ex Ante	Ex Post	Realization Rate
Average # of Participating Devices	625	442	71%	355	262	74%
Average Per Device kW Savings <sup>A</sup>	3.59	1.54	43%	3.59	1.25	35%
Total Program Savings	2,244	682	30%	1,274	329	26%

AEx post kW values represent the weighted average of thermostats and switches.

#### 4.3.2 Energy Efficiency Impacts

To estimate EE savings, we multiplied the per thermostat savings (shown in Table 4-3. Assumptions for Estimating EE kWh ImpactsTable 4-3), by the number of enrolled thermostats (shown in Table 2-1). Table 4-9

summarizes ex ante and ex post thermostat counts and per unit savings values and shows the resulting realization rates.

		DEC			DEP	
Estimate	Ex Ante	Ex Post	Realization Rate	Ex Ante	Ex Post	Realization Rate
Number of Enrolled Thermostats <sup>A</sup>	750	692	92%	426	447	105%
Average Per Thermostat kWh Savings	1,450	641	44%	1,450	562	39%
Total Energy Efficiency Savings	1,087,500	443,344	41%	617,700	251,433	41%

#### Table 4-9. Program Energy Efficiency Impacts

A Ex ante and ex post values represent thermostats enrolled at the end of 2016.

Duke Energy achieved just over 40% of its anticipated EE kWh savings. The discrepancy between the ex ante and ex post savings is mainly due to the shortfall in per thermostat savings resulting from the lower than expected size (tonnage) of the controlled air conditioning units.

# 5. Conclusions and Recommendations

## 5.1 Conclusions

Based on our engineering-based impact analysis, the EnergyWise for Business Program fell short of planned savings in 2016, realizing between one-quarter (DEP) and one-third (DEC) of planned DR savings and just above 40% of planned EE savings.

Table 5-1 presents the results of our DR and EE analyses, including ex ante and ex post values for the number of devices, per device savings, and overall impacts, by jurisdiction. The table also presents the resulting realization rates.

	DEC			DEP		
Estimate	Ex Ante	Ex Post	Realization Rate	Ex Ante	Ex Post	Realization Rate
Demand Response Impacts						
Average # of Participating Devices <sup>A</sup>	625	442	71%	355	262	74%
Average Per Device kW Savings	3.59	1.54	43%	3.59	1.25	35%
Total Demand Response Savings	2,244	682	30%	1,274	329	26%
Energy Efficiency Impacts						
Number of Enrolled Thermostats <sup>B</sup>	750	692	92%	426	447	105%
Average Per Thermostat kWh Savings	1,450	641	44%	1,450	562	39%
Total Energy Efficiency Savings	1,087,500	443,344	41%	617,700	251,433	41%

#### Table 5-1.Summary of Gross Impact Analysis

<sup>A</sup> Ex post values represent the average number of devices (across the three 2016 DR events) that were enrolled during the event and did not opt out. These are the devices that achieved demand reductions during the 2016 events. <sup>B</sup> Ex ante and ex post values represent thermostats enrolled at the end of 2016.

Two factors contributed to the shortfall in savings:

- Per-unit savings assumptions: Our deemed savings review found that ex ante per-unit savings were too high, mostly due to an overestimate of the size (tonnage) of the controlled air conditioning units. Since equipment size is directly correlated with savings, the smaller than expected controlled units significantly affected realized EE and DR savings. On the DR side, other contributors to lower than expected per unit savings were a higher than planned adoption of thermostats (which in 2016 were estimated to achieve lower DR savings than switches) and a slight under-enrollment in the more aggressive cycling strategies for DEP.
- 2. Enrollment: By the end of 2016, the program had almost met its planned number of enrolled devices: Enrollment for DEC was 92% of projections while enrollment for DEP exceeded projections (105%). As a result, enrollment assumptions did not significantly contribute to the shortfall in EE savings. Device enrollment did affect DR impacts, however, as some of the devices were not installed until after the summer DR events. As a result, participation levels in the DR events were just short of three-quarters of planned participation.

# 5.2 Recommendations

Because this evaluation was limited to an engineering-based analysis, there is uncertainty about the program impacts achieved in 2016. However, based on our comparison of planning and verified assumptions, we provide the following recommendations for future program planning.

#### Adopt More Conservative HVAC Average Tonnage Values

The tonnage values tracked in the program participation database suggest that Duke Energy's current planning values are too high. Pending results from the 2017 evaluation, the program may wish to lower its planning values as smaller units, everything else being equal, will achieve lower savings compared to larger units. As a result, an erroneous tonnage assumption might result in the program not achieving its savings goals.

#### Increase Promotion of Higher Cycling Strategies among Program Enrollees

Participants in DEP seemed to shy away from enrolling in the 75% cycling strategy and opted for strategies that result in lower savings. As such, we encourage Duke Energy to put additional emphasis on 75% cycling when recruiting participants, as it will lead to greater savings. Another alternative would be for Duke Energy to adjust its ex ante assumptions regarding cycling strategies. While this would not increase savings, it would provide more realistic planning assumptions and improve realization rates.

# 6. Summary Form

# Duke Energy Carolinas and Progress EnergyWise for Business Program Completed EMV Fact Sheet

1	. {	

Duke Energy Progress' and Carolinas' EnergyWise for Business Program is a demand provides response program that small businesses with the opportunity to participate in DR events, earn incentives, and realize additional EE benefits. The program offers either a programmable, two-way WiFi Smart Thermostat or a Load Control Switch to customers. Customers can select one of three levels of DR participation: 30% cycling, 50% cycling, and 75% cycling with varying levels of earned incentives based upon the selected cycling strategy. Thermostat participants having a heat pump with electric resistance heat strips are also offered the option of participating in winter DR, and can earn additional incentives per season.

Date	June 12, 2017			
Region(s)	Duke Energy Carolinas & Progress			
Evaluation Period	1/1/16 through 12/31/16			
Total kWh Savings	DEC: 641 kWh DEP: 563 kWh			
Coincident kW Impact	DEC:681 kW DEP:328 kW			
Measure Life	Not evaluated			
Net-to-Gross Ratio	Not evaluated			
Process Evaluation	No			
Previous Evaluation(s)	None			

To determine program impacts, the evaluation team used a three-step process: (1) we conducted a deemed savings review; (2) we performed an analysis of the program participation database; and (3) we estimated ex post savings and calculated realization rates.

**Step 1: Deemed Savings Review.** The evaluation team reviewed the inputs and algorithms used by Duke Energy to estimate ex ante savings. The team adjusted these values based on information from program-tracking data and secondary sources. The full deemed savings review is provided in Appendix A.

**Step 2: Participation Analysis.** The evaluation team reviewed program-tracking data to assess program participation during the evaluation period. This effort included:

- A review of the program participation database to determine the total number of devices and participants, the type of devices installed, and the cycling strategies employed, as well as device installation dates.
- A review of thermostat and switch log data to determine device operability rates and to identify optouts.

Step 3: Estimation of Ex Post Savings and Realization Rates. To estimate ex post savings, we applied the ex post per-unit savings values from the deemed savings review (Step 1) with participation counts from the participation analysis (Step 2). We then calculated realization rates for both energy and demand impacts by dividing ex post (evaluated) savings by ex ante (claimed) savings.  $\varepsilon_{\rm c}$ 

# 7. **DSMore Table**

The embedded Excel spreadsheets below contains measure-level inputs for Duke Energy Analytics. Permeasure savings values in the spreadsheet are based on the gross and net impact analysis reported above. Measure life estimates have not been updated as part of this evaluation since it was not part of the evaluation scope.

[DSMore Tables provided in separate files]

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# Appendix A. Deemed Savings Review

[Deemed Savings Review provided in a separate file]

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Exhibit H Page 1 of 146

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# Duke Energy Progress & Duke Energy Carolinas

**Energy Efficient Lighting & Retail LED Programs** 

**Evaluation Report – Final** 

April 6, 2018

REPORT



Reimagine tomorrow.



# My Home Energy Report Program Evaluation

Submitted to Duke Energy Progress July 31, 2017

# **Principal authors:**

Rush Childs, Consultant Candice Potter, Managing Consultant Patrick Burns, Senior Vice President

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# EM&V Report for the Small Business Energy Saver Program

**Duke Energy Progress and Duke Energy Carolinas** 

**Prepared for:** 

**Duke Energy** 



**Submitted by:** Navigant Consulting, Inc. 1375 Walnut Street Suite 100 Boulder, CO 80302

303.728.2500 navigant.com

September 27, 2016 Revised June 6, 2017



# Save Energy and Water Kits 2016 Program Year Evaluation Report

Submitted to Duke Energy in partnership with Research into Action November 29<sup>th</sup>, 2017 **Principal authors:** Wyley Hodgson, Vikram Sridhar, Patrick Burns, Nexant

Ryan Bliss, Jordan Folks, Anne Weaver, Research into Action
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#### Duke Energy Progress Supplemental Evans Subbit 1, page 1 Vintege 2014 Trae Up - I numy 1, 2016 to December 31, 2016 Decket Number 2, Juli 3174 Load Impacts and Estimated Revense Requisements by Program

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2 Energy Education Program for Schools	1,061	2,553,617	\$ 1,693,087	5 827,497	0.00%	\$ .	5 827,497	55.4384204%	E2 • F2	\$ 707,000	· ·
3 Energy Efficient Lighting	6,006	41,649,479	\$ 33,990,627	5 15,552,184	11.75%	5 2,167,481	\$ 17,719,665	85.4384204%	64 - 63	\$ 15,149,401	
4 Home Energy Improvement Program	1.904	6,289,385	5 6,991,668	\$ 6,013,170	11.75%	\$ 114,976	5 6,125,195	83.438420476	Ed - 64	5 5,235,791	2 IS
S Multi-Family	1,400	12,452,450	3 7,133,324	5 2,045,220	11.73%	5 500,306	5 2,045,127	85.430420476	CD - P3	5 2,200,406	5 (16.76.5)
5 Neighborriodd Energy Sever	504	4 141 942	\$ 2,107,000	5 2,052,555	11 25%	c 171 165	\$ 2,032,335 \$ 1,680,000	85 43243044	67 * 67	2 1,733,094 6 1,443,121	
7 Residential Energy Assessments	6 20 3	4/243/047	a 5,765,744	\$ 0,417,924	11 754	t 1170600	¢ 10776315	EE 4384304#	67967	6 0 107 112	e 3947
G Style Energy and Water Kit	5.014	17 671 957	¢ 12.071,513	\$ 674538	11 754	\$ 1,570,097	\$ 3735,419	BS 438420476	E8 * E9	\$ 1901362	\$ (104.416)
20 Basidential Nome Adventure	3,924	11,0/1005/	s 12,013,313	5 074,550	11 75%	5	c	85 43943045		¢	5 (104,110)
21 Total for Besidential Conservation Programs	72 110	97 976 479	\$ 89753752	\$ 37.851.674	1	\$ 6100.758	\$ 43 957 412	0143042047		\$ 37552263	\$ (113.279)
11 total britesbanda conderenson Programs	011,10	34,520,475	4 65,733,732	J 37,032,074		5 0,100,550	a 40,002,402			\$ 57,552,205	v (1222-0)
12 My kome Energy Report	16 905	102 921 181	\$ 7 574 461	5 5 890 091	11,75%	\$ 192,038	5 6.082.131	85,4384204%	F11 * F11	\$ 5,196,477	\$ 325,852
13 Total Residential Conservation and Bahavioral Program	39.015	200 847 659	\$ 97,278,213	\$ 43,741,757		5 6.292.796	5 50,034,563			5 42.748.740	\$ 212.573
			<u> </u>			<u></u>		NC Residential Peak			
								Demand Allocation	NC Allocation Factor		
								Fector (2)	[2]		
14 EnergyWhe	34,059	<u> </u>	\$ 70,854,171	\$ 6.867,758	11.75%	\$ 7,516,054	5 14.403,811	86.1687719%	46.8604563%	5 6,220,487	<u>s</u> .
15 Total Residential	73,074	200,847,659	\$ 168,132,384	\$ \$0,629,524		\$ 13,808,850	<u>\$ 64,438,374</u>				<u> </u>
	System kW Reduction - Summer	System Energy Reduction (kWh)	System NPV of Avolded Costs	Total Cost	Sharod Savinga %	Incentive	System Revenue Requirement	NC Retail kWh Sales Allocation Factor		NC Non-Residential Unadjusted Revenue Regulament <sup>en</sup>	NC Non-Residentia) Adjusted Revenue Requirement
Non-Residential Programs	System KW Reduction - Summer Perk	System Energy Reduction (kWh)	System NPV of Avoided Costs	Total Cost	Shared Savings %	Incentive	System Revenue Requirentent	NC Retall kWh Sales Allocation Factor		NC Non-Residential Unadjusted Revenue Requirement <sup>es</sup>	NC Non-Residential Adjusted Revenue Requirement
Non-Residential Programs EE Programs	System kW Reduction : Summer Pesk	System Energy Reduction (kWh)	System NPV of Avolded Costs	Total Cost	Shared Sevings %	Incentive	System Revenue Requirement	NC Retall kWh Sales Allocation Factor		NC Non-Residential Unadjusted Revenue Requirement**	NC Non-Residentia) Adjusted Revenue Requirement
Non-Residential Programs EE Programs 15 Business Energy Report	System kW Reduction - Summer Pesk 740	Systam Energy Reduction (kWh) 4.546,814	System NPV of Avoided Costs	Total Cost \$ 69.516	Shared Savings %	Incentive	System Revenue Requirement \$ 69,516	NC Retail KWh Sales Allocation Factor 85,4384204%	E13 * F13	NC Non-Residential Unadjusted Revenue Requixement <sup>m</sup>	NC Non-Residential Adjusted Revenus Requirement
Non-Residential Programs EE Programs 15 Business Energy Report 16 Energy Filteney for Business	System kW Reduction - Summer Pesk 740 10,201	Systam Energy Reduction (NWH) 4.546,814 71,154,719	System NPV of Avoidad Costs \$ 309,365 \$ 47,824,935	Total Cost \$ 69,516 \$ 14,159,310	Shared Sevings X	Incentive \$	System Revenue Requirentant \$ 69,516 \$ 18,115,021	NC Retall KWh Salen Allecation Factor 85,4384204% 85,4384204%	E13 * F13 E14 * F14	NCNon-Residential Unadjustad Revenue Reguliement <sup>m</sup> 5 59 <sub>2</sub> 393 \$ 15,477,188	NC Non-Residential Adjusted Revenue Requirement S S - 272
Non-Residential Programs EE Programs 15 Dunieus Energy Report 16 Energy Efficiency for Business 27 Energy Efficient Lighting	System KW Reduction - Summer Peek 740 10,201 2,518	Systam Energy Reduction (kWh) 4.546,814 71,154,719 12,180,303	System NPV of Avoided Costs \$ 309,955 \$ 47,824,935 \$ 10,864,259	Total Cost \$ 69,516 \$ 14,199,310 \$ 1,893,994	Shared Savings N 	(ncentive \$	System Revenue Requirement \$ 69,516 \$ 18,115,021 \$ 2,946,556	NC Retall kWh Sales Alfacetion Factor 85.4384204% 85.4384204% 85.4384204%	E13 * F13 E14 * F24 E16 * F16	NCNon-Residential Unadjusted Revenue Requirement <sup>44</sup> 5 59,393 5 15,477,188 5 2,517,491	NC Non-Residential Adjusted Revenue Requirement S S S S S S
Non-Residential Programs EE Programs 15 Dutines Entry Report 16 Entry Efficient Jahlung 19 Ental Bundens Entry Swer	System kW Reduction - Summer Pesk 740 10,201 2,818 8,675	Systam Energy Reduction (tWh) 4.546,814 71,154,719 12,180,303 49,979,294	System NFV of Avoided Costs \$ 309,365 \$ 47,824,935 \$ 10,844,259 \$ 22,968,457	Total Cast 5 69,516 5 14,199,310 \$ 1,899,694 \$ 9,335,374	Shared Savings % 	Incentive \$	System Revenue Requirentant 5 69,516 \$ 18,115,021 \$ 2,946,556 \$ 2,115,455	NC Retall kWh Sales Allecation Factor 85.4384204% 85.4384204% 85.4384204%	E13 * F13 E14 * F24 E16 * F16 E17 * F27	NC Non-Residential Unadjusted Revenue Redularment** \$ 59,393 \$ 15,477,188 \$ 2,517,491 \$ 10,351,255	NC Non-Residential Adjusted Revenue Requirement S - S - S - S - S - S - S - S - S - S -
Non-Residential Programs EE Programs 15 Durines Europ Report 16 Europy Efficient Liphting 18 Europy Efficient Liphting 18 Fand Buulees Energy Swer 19 Total for Non-Residential Conservation Programs	System &W Reduction - Summer Peak 740 10,201 2,818 8,675 22,434	System Energy Reduction (kWh) 4.546,814 72,154,719 12,180,303 49,979,294 137,861,130	System NPV of Avoided           Costs           \$ 309,365           \$ 47,824,935           \$ 10,844,259           \$ 22,989,857           \$ 92,007,456	Total Cost \$ 69,516 \$ 14,199,310 \$ 1,89,894 \$ 9,336,274 \$ 2,354,87,74	Shared Sevings % 11.75% 11.75% 11.75%	Incentive \$ 3.955,711 \$ 1.0056,861 \$ 2.779.183 \$ 7,791.755	System Revenue Requirement 5 69,516 \$ 18,115,021 \$ 2,046,556 \$ 12,115,457 \$ 33,246,550	NC Retall kWh Sales Allocation Factor 85.4384204% 85.4384204% 85.4384204% 85.4384204%	€13 * €13 €14 * €24 €16 * €15 €17 * €17	NC Non-Residential Unadjusted Recenue Requirement** \$ 59,393 \$ 15,477,188 \$ 2,517,491 \$ 10,351,255 \$ 244,05,327	NC Non-Residential Adjusted Revenue Requirement S S 272 S - S - S - S - S - S - S - S - S - S -
Non-Residential Programs EE Programs 15 Dutions Dargy Report 16 Genery Billions for Business 17 Genery Efficient Lighting 18 smal Business Rengy Sever 19 Total for Non-Residential Conservation Programs	System KW Reduction - Summer Pesk 740 10,201 2,518 8,675 22,434	Systam Energy Reduction (kWh) 4.546,814 71,154,739 12,180,303 49,979,794 137,861,130	System NPV of Avoided Costs \$ 309,365 \$ 47,824,935 \$ 10,844,259 \$ 32,549,867 \$ 92,007,456	Total Cost 5 69,516 5 14,159,310 5 1,889,694 5 9,336,274 5 25,454,794	Shared Savings % 11.75% 11.75% 11.75%	Incentive \$ 3.955,71 \$ 1.055,661 \$ 2,779,183 \$ 7,792,755	System Revenue Requiremant 5 69,516 5 18,115,021 5 2,246,556 5 12,115,457 5 33,216,550	NC Reptill SWh Sales Allocation Factor 85.4384204% 85.4384204% 85.4384204% 85.4384204%	E13 * F13 E14 * F14 E16 * F16 E17 * F15	NC Non-Residential Unadjusted Revenue Redukement** \$ 59,393 \$ 15,477,184 \$ 2,517,491 \$ 10,351,255 \$ 26,405,927	NC Non-Residential Adjusted Revenue Requirement S 272 S 272 S 275 S 9,162
Non-Residential Programs EE Programs 15 Wurkes Darge Report 16 Generg Billiones for Business 17 Corray Efficient Lighting 19 Total for Non-Residential Conservation Programs 20 EnergyWas for Business	System KW Reduction : Summer Pesk 740 10,201 2,518 6,675 22,434 523	Systam Energy Reduction (kWh) 4.546,814 71,154,719 12,180,303 49,979,7294 137,861,130 412,047	System NFV of Avoided Costs 5 309,365 5 47,824,935 5 10,844,239 5 22,007,456 5 20,007,456	Total Cast \$ 69,516 \$ 14,59,310 \$ 1,459,310 \$ 2,5454,794 \$ 21,5454,794 \$ 1,112,815	Shared Saving: 5 11.75% 11.75% 11.75% 11.75%	(ncentive \$ 3.955,711 \$ 1.056,861 \$ 7.79183 \$ 7,791755 \$ (111,404)	System Revenue           Requiremant           \$         69,516           \$         18,115,021           \$         2,946,556           \$         12,115,457           \$         3,3,245,550           \$         1,001,411	NC Retail Why Sales Allocation Factor 85.4384204% 85.4354204% 85.4354204% 85.4354204% 85.4354204%	613 * f13 E14 * f14 E16 * f16 E17 * f17 E19 * f19	NC Non-Residential Unadjunted Revenue Requirement** \$ 59,393 \$ 15477,184 \$ 2,517,401 \$ 10351,255 \$ 22,405,327 \$ 7,054,004	NC Non-Residential Adjusted Revenue Requirement 5 272 5 272 5 2,5 5 9,162 1 5 74,686
Non-Residential Programs EE Programs 15 Business Energy Report 16 Energy Efficient Lighting 19 Enal Business Energy Sever 19 Total for Non-Residential Conservation Programs 20 EnalgyWebs for Business 21 Commercials, Industrial, & Governmental Demand Report	System KW Reduction - Summer Peek 740 10,201 2,518 <u>6,675</u> 22,434 533 (5,344)	Systam Energy Reduction (1997) 4,546,814 71,154,715 12,180,303 49,979,294 137,861,130 412,047	System NPV of Avoided Costs \$ 309,365 \$ 47,824,335 \$ 10,844,259 \$ 22,969,857 \$ 92,007,456 \$(10,644,733) \$(10,644,733)	Total Cost 5 09,516 5 14,159,310 5 2,889,094 5 2,552,794 5 2,554,794 5 1,112,815 5	Shared Savings % 11.75% 11.75% 11.75% 11.75%	(ncentive \$ 395,711 \$ 1056,861 \$ 2779,183 \$ 7,792,735 \$ (111,204) \$	System Revenue Requirestant 5 09516 5 18,115,021 5 2,246,556 5 12,115,457 5 33,246,550 5 1,001,431 5 1,001,431	NC Retail NWh Sales Allecation Fector 85.4384204% 85.4384204% 85.4384204% 85.4384204% 85.4384204% 85.4384704% 85.4384704%	E13 * F13 E14 * F14 E16 * F15 E17 * F15 E17 * F15 E19 * F19 E20 * F20	NC Non-Residential Unadjusted Revenue Redukement** \$ 15,477,188 \$ 2,517,08 \$ 2,517,08 \$ 2,547,5327 \$ 28,405,327 \$ 7,054,004 \$ .	NC Non-Residential Adjunted Revenue Requirement 5 272 5 272 5 2,527 5 9,162 1 5 74,686 5
Non-Residential Programs EE Programs 15 Durines Europ Report 16 Europy Efficient Lighting 18 Final Buulees Energy Swer 19 Total for Non-Residential Conservation Programs 20 EnergyWas for Buatness 21 EnergyWas for Buatness 21 EnergyWas for Buatness 22 Total for Non-Residential DSM Programs	System &W Reduction - Summer Pesk 740 10,201 2,518 5,675 22,434 523 (3,344) (4,821)	Systam Energy Reduction (NVA) 4,546,814 7,1154,719 12,180,303 49,772,724 137,781,130 412,047 412,047	System NPV of Avoided Costs \$ 309,365 \$ 47,874,935 \$ 10,44,259 \$ 92,007,456 \$	Total Cast \$ 69,516 \$ 14,159,310 \$ 1,289,064 \$ 9,356,774 \$ 2,554,794 \$ 1,112,815 \$ 2,112,815	Shared Savings % 11.75% 11.75% 11.75% 11.75% 11.75%	(ncentive \$	System Revenue Requirement           \$         69,516           \$         18,115,021           \$         2,946,556           \$         12,115,457           \$         3,3245,550           \$         1,001,411           \$         1,001,411	NC Repil & Why Sales Allecation Factor 85.4384204% 85.4384204% 85.4384204% 85.4384204% 85.4384204% 85.4384204% 86.1687719% 86.1687719%	E13 * F13 E14 * F14 E16 * F15 E17 * F15 E20 * F15 E20 * F15 F20 * F13 F20 * F13 F20 * F14 F15 F20 * F14 F15 F20 * F14 F15 F20 * F14 F15 F20 * F15 F20 * F15	NC Non-Residential Unadjunted Recenue Requirement™ \$ 59,393 \$ 12,477,185 \$ 25,17,491 \$ 10,351,255 \$ 24,405,327 \$ 7,054,004 \$ . \$ 7,054,004	NC Non-Residential Adjunted Revenue Requirement 5
Non-Residential Programs EE Programs 15 Business Dargy Report 16 Genery Billiones for Business 17 Corray Efficient Lighting 19 Small Business Songra Swer 19 Total for Non-Residential Conservation Programs 20 EnargyWise for Business 21 Commercial, Industrial, & Governmental Demand Respo 22 Total for Non-Residential	System &W Reduction - Summer Peak 740 10,201 2,818 6,675 22,434 523 (5,344) (4,821) 17,613	Systam Energy Reduction (W/h) 4.546,814 7,1154,719 12,180,703 49,779,724 137,861,330 412,047 	System NFV of Avoided Costs           \$ 309,365           \$ 10,844,393           \$ 22,007,456           \$ 22,007,456           \$ (10,644,733)           \$ (10,520,037)           \$ 31,467,419	Total Cast           \$         69,516           \$         14,159,310           \$         1,858,954           \$         1,858,954           \$         1,512,815           \$         1,112,815           \$         1,112,815           \$         28,562,609	Shared Seving: % 11.75% 11.75% 11.75% 11.75% 11.75%	Incentive \$ 3.955,711 \$ 1.056,861 \$ 7,791,83 \$ 7,791,755 \$ (111,404) \$ (111,404) \$ 7,660,352	System Revenue Requirement           5         69,516           5         18,115,021           5         1,201,627           5         1,213,647           5         1,201,411           5         1,001,411           5         3,247,961	NC Retall SWh Sales Allocation Factor 85.4384204% 85.4354204% 85.4354204% 85.4354204% 86.1687719% 86.1687719%	E13 * F13 E14 * F14 E16 * F15 E17 * F17 E19 * F19 E20 * 70 NC Allocodin Sector (2) 53.1995437%	NC Non-Residential Unadjunted Revenue Requirement™ \$ 59,393 \$ 15477,186 \$ 25,17401 \$ 10351,255 \$ 28,405,327 \$ 7,054,004 \$ 7,054,004 \$ 25,455,331	NC Non-Residential Adjusted Revenue Requirement 5 72  5 5 72  5 72  5 72  5 72  5 74,686  74,686  74,68
Non-Residential Programs EE Programs 15 Dutines there Report 16 Energy Efficiency for Butters 17 Denry Efficient Lighting 18 Small Butters Steer? 19 Total for Non-Residential Conservation Programs 20 EnergyWale for Butters 21 Commercials Infourthil, & Governmental Demand Respo 22 Total for Non-Residential DSM Programs 23 Total Non-Residential	System KW Reduction: Summer Pesk 740 10,201 2,518 6,675 22,434 523 (5,344) (4,821) 17,613 90,647	Systam Energy Reduction (2Wh) 4.546,814 7.1154,729 12,180,703 49,079,203 412,047 412,047 412,047 339,120,236	System NFV of Avoided Costs \$ 309,365 \$ 47,824,335 \$ 10,844,239 \$ 22,64,854 \$ 2,007,456 \$ (10,844,729) \$ (10,520,037) \$ 31,467,219 \$ 24,619,300	Total Cast 5 69,516 5 14,159,310 5 1,2889,694 5 2,5542,794 5 1,112,815 5 5 1,112,815 5 2,25542,709 5 2,25542,709 5 77(197,134)	Shared Savings % 11.75% 11.75% 11.75% 11.75% 11.75%	Incentive           \$ 3955,711           \$ 1,056,861           \$ 7,791,755           \$ (111,404)           \$ 7,764,352           \$ (111,404)           \$ 7,764,352           \$ 22,459,201	System Revenue Requirement           5         69,516           5         18,115,021           5         2,046,556           5         12,115,457           5         1,001,411           5         1,001,411           5         3,242,530           5         1,001,411           5         34,247,961           5         94,646,335	NC Retall kWh Sales Allocation Factor 85.4384204% 85.4384204% 85.4384204% 85.4384204% 86.1687719% 86.1687719%	E13 * F13 E14 * F14 E16 * F15 E17 * F15 E20 * F15 E20 * F15 F20 *	NC Non-Residential Unadjusted Revenue Requirement™ \$ 59,393 \$ 15,477,188 \$ 2517,491 \$ 10,351,255 \$ 28,405,327 \$ 7,054,004 \$ \$ 7,054,004 \$ \$ 7,054,004 \$ \$ 5,054,004 \$ \$ br>\$ 5,054,004 \$ \$ \$ 5,054,004 \$ \$ \$ 5,054,004 \$ .	NC Non-Residential Adjusted Revenue Requirement 5 272 5 3272 5 350 5 9,162 5 74,646 5 74,646 5 326421 5 206,421
Non-Residential Programs EE Programs 15 Univers Energy Report 16 Energy Efficient Lighting 19 Enail Suncess Energy Swer 19 Total for Non-Residential Conservation Programs 20 EnergyWise for Busines 21 Commercial, Industrial, & Governmental Demand Respo 22 Total for Non-Residential DSM Programs 23 Total Non Residential 24 Total AliPrograms (1) My Inome Energy Report Impacts reflect Camulations ca	System &W Reduction: Summer Pesk 740 10,201 2,518 5,675 22,434 5,23 (5,344) (4,821) 17,613 90,687 ability or of red of virita	Systam Energy Reduction (RWh) 4.546,814 7.1154,729 12.106,030 49,272,234 412,047 412,047 412,047 339,120,336 gr yet, foldoing impact	System NFV of Available Costs 5 300,365 5 47,824,935 5 10,844,259 5 32,067,456 5 22,007,456 5 22,007,456 5 21,0044,733 5 (10,844,733) 5 (10,844,733) 5 31,427,419 5 249,619,802 5 participants from proor	Total Cast           \$         69,516           \$         14,159,310           \$         2,849,694           \$         2,849,694           \$         1,112,815           \$         2,112,815           \$         2,112,815           \$         2,112,815           \$         2,7,159,134	Shared Saving: % 11.75% 11.75% 11.75% 11.75% 11.75%	Incentive           \$         3.955,711           \$         1.055,861           \$         7.791,755           \$         (111,404)           \$         1.014,043           \$         7.760,352           \$         21,489,201	System Revenue Requirement           5         69,516           5         18,115,021           5         2,046,556           5         12,115,497           5         33,246,550           5         1,001,411           5         1,001,411           5         98,646,335	NC Retall &WY: Sales Allocation Factor 85.4384204% 85.4384204% 85.4384204% 85.4384204% 85.4384204% 86.1687719% 86.1687719%	E13 + F13 E14 + F14 E16 + F15 E17 + F15 E17 + F19 F10 + F19 F10 + F19 F10 + F19 S3.1395437%	NC Non-Residential Unadjustad Revenue Requirement™ 5 59,393 5 15,477,188 5 25,17,491 5 26,405,327 5 7,054,004 5 7,054,004 5 7,054,004 5 82,455,331 5 84,428,533	NC Non-Residential Adjusted Revenue Requirement 5 272 5 272 5 275 5 9,162 5 74,646 5 74,646 5 296,421
Non-Residential Programs EE Programs 15 Durins Exerg Report 16 Exerge Efficiency for Buthess 17 Exerge Efficiency For Buthess 19 Small Buthess Energy Swer 19 Total for Non-Residential Conservation Programs 20 During Write & Covernmental Domain Respondent 21 Contended, Industrial & Covernmental Domain Respondent 22 Total for Non-Residential 23 Total Non-Residential 24 Total All Programs (1) My Home Energy Report Impacts reflect Cumulative co	System &W Reduction - Sommer Perk 740 10,201 2,210 2,24,44 (5,344) (5,344) (4,521) 17,613 90,647 pability m.of. end of write above a social social of end of write above a social	Systam Energy Reduction (RWA) 4.546,814 71,154,715 12,106,001 49,272,254 137,460,130 412,047 136,773,177 136,773,177 136,773,177 136,773,177 235,120,336 ge year, including imgett	System NPV of Avoided Costs           \$ 309,365           \$ 47,874,935           \$ 10,844,259           \$ 22,989,867           \$ 92,007,456           \$ (10,544,733)           \$ (10,520,037)           \$ 249,519,802           \$ 50,545,800           \$ 249,519,802           \$ 50,565,800	Total Cost           \$         69,516           \$         14,159,310           \$         9,256,174           \$         9,256,174           \$         1,112,815           \$         1,312,815           \$         2,255,269           \$         77,157,134	Shared Savings % 11.75% 11.75% 11.75% 11.75% 11.75%	Incentive           \$ 3955,711           \$ 1055,861           \$ 2,779,133           \$ 7,79,1255           \$ (111,404)           \$ 7,640,352           \$ 21,489,201	System Revenue Requirement \$ 09,516 \$ 18,115,021 \$ 2,046,556 \$ 12,014,550 \$ 1,001,411 \$ 1,001,411 \$ 2,4247,961 \$ 98,646,335	NC Retall SWh Sales Allocation Factor 85.4354204% 85.4354204% 85.4354204% 85.4354204% 86.1687719% 86.1687719%	E13 * F13 E14 * F14 E16 * F15 E17 * F17 E19 * F19 E20 * 70 RC Allocodin Sector (2) 53.1995437%	NC Non-Residential Unadjusted Revenue Redulement** \$ 59,398 \$ 12,647,186 \$ 25,17,401 \$ 10,351,255 \$ 24,403,327 \$ 7,054,004 \$ 7,054,004 \$ 25,455,311 \$ 84,428,533	NC Non-Residential Adjunted Revenue Requirement 5
Non-Residential Programs EE Programs 15 Universities Energy Report 16 Energy Efficient Jahiting 18 mail Bunchens Konry Swer 19 Total for Non-Residential Conservation Programs 20 Enargy The for Bunches Science State 21 Commercial, Industrial, & Governmental Demand Respo 22 Total for Non-Residential 23 Total Non Residential 24 Total ABP rograms (2) Total System DSM programs allocated to Residential 24 DSDR	System &W Reduction: Summer Pesk 740 10,201 2,518 6,525 22,434 (3,344) (4,521) 17,613 90,647 pability of end of write pability of end of write addition Residential based	Systam Energy Reduction (RWA) 4.546,8214 72,1154,729 12,180,803 9,972,924 137,861,130 412,047 412,047 138,6273,177 138,6273,177 138,6273,177 33,710,836 gs year, including impact and impact the second secon	System NFV of Avoided Costs           \$ 309,365           \$ 47,824,935           \$ 10,844,239           \$ 22,007,456           \$ 22,007,456           \$ 10,644,733           \$ (10,542,037)           \$ 41,487,419           \$ 246,619,802           \$ (10,520,037)      \$	S         69,516           \$         14,159,310           \$         1,4,159,310           \$         1,889,694           \$         1,812,815           \$         1,112,815           \$         1,112,815           \$         2,5,657,609           \$         7,7197,134           Yr/1bges         7,944,728	Shared Saving: %	Incentive \$ 3.955,711 \$ 1.056,861 \$ 7,791,755 \$ (111,404) \$ 7,680,352 \$ 22,489,201	System Revenue Requirement           5         69,516           5         18,115,021           5         2,946,556           5         12,113,647           5         12,113,647           5         12,001,411           5         1,001,411           5         98,646,335           5         7,2944,728	NC Retall SWh Sales Allocation Factor 85.4384204% 85.4384204% 85.4384204% 85.4384204% 86.1687719% 86.1687719%	E13 * F13 E14 * F14 E16 * F16 E17 * F19 E23 * F19 E23 * F19 KC Allocotion Foctor (2) S3,1395437%	NC Non-Residential Unadjunted Revenue Requirement™ \$ 59,393 \$ 15,477,185 \$ 25,17,401 \$ 10,357,255 \$ 28,405,327 \$ 7,054,004 \$ 7,054,004 \$ 7,054,004 \$ 25,455,331 \$ 85,455,331 \$ 84,428,555	NC Non-Residential Adjusted Revenue Requirement 5 272 5 274,646 5 5 274,646 5 5 274,646
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including imp \$ 20,764,517 iss of end of vinta ential bared on co Total All Program (3) Energy Efficient ter (3) Total System DSM (

24 Total Non Residently

5 2,401,204 5 4,444,105

5 167.075 5 1,658,903

112,197 2

11012 5 1.944,121

\$ 504,083

5 742,134 622,020,5 2

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RENTLE'S 169,910 \$ 619,911 \$

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5 (7,510,076) 5 12,756,486 acts for performs fram prior visitions then pres.

\$ 1.641.770

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# Duka Energy Progress Supplemental Event Echibit 12, page 7 Vintuge 2019 Estimate - January 1, 2018 to Decamber 31, 2019 Docket No. E-3, Sub 1174 Load Impacts and Estimatad Reserve Requirements by Program

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construction of the	ne wed an eurering	av Program

			*	8	c	D =(A-B)*C	£ = (B+D)	,	G		н	l =K (from page 2)
Residential Programs	System kW Reduction - Summer Peak	System Energy Reduction (kWh)	System NPV of Avoided Casts	Tatal Cost	Shared Savings %	Incentive	Unadjusted Rev Requirement *	NC Retail tWh Sales Allocation Factor	NC Allocation Factor (2)		NC Residential Unedjusted Revenue Requirement*	NC Residentiaj Adjusted Rovenue Requirement
EE Programs												
1 Applance Recycling Program	•	•	•	-	11.75%	s -	s .	85.5608674%		E1 * F1	5.	5 120.467
2 Energy Education Program for Schools	980	2,314.526	1,158,100	753,793	0.00%	s -	\$ 753,793	85.5608674%		E2 * F2	\$ 644,952	\$ .
A Horbe Energy Line (warrant	4,110	24,931,977	19,926,859	11,781,213	11.75%	\$ 957,348	\$ 12,738,561	85.5608674%		E3 * F3	\$ 10,899,223	\$ 4,281,624
5 Multi-Femily	3,121	4,183,859	5,427,625	3,985,069	11.75%	\$ (65,500)	\$ 3,919,569	85.5608674%		E4 * F4	\$ 3,353,618	\$ 331,625
6 Neishborhood Energy Saver	326	2 126 101	1,755,023	2,/38,339	11.75%	5 589,225	\$ 3,327,564	85.5608674%		£5 * F5	\$ 2,647,093	\$ 761,261
7 Residential Energy Assessments	428	2,565,215	1 655 147	1 118 481	11 75m	2 · ·	5 2,028,200	85,5608674%		26 * F6	\$ 1.735,346	\$
6 Residential New Construction	7.201	16.446.576	23,413,512	1,130,401	11.75%	\$ 50,825 \$ 1,369,070	5 1,199,306	B5.5608674%		67 67	\$ \$,026,137	\$ 158,392
9 Save Energy and Water Kit	8,915	30,940,131	17,934,660	1.527.511	11.75%	5 1927 ann	\$ 2,455,251	63.30U8674%		E8 - F8	\$ 11,943,809	5 904,849
10 Residential Home Advantage			· ·		11.75%		\$ 3,133,331	65.5606674%		E9 - 19	5 2,956,428	5 1,370,632
11 Total for Residential Conservation Programs	25,101	98,723,759	76,222,731	36,643,956		\$ 4,737,818	\$ 42,381,774	023000174		240 110	\$ 35,406,506	\$ 8,117,508
12 My Home Energy Report (1)	20,008	119,273,463	7.230,046	7,994,059	11.75%	\$ (89,772)	<u>5 7.904,288</u>	85.5608674%		E11 • F11	\$ 6,762,977	\$ (76,809)
13 Total Kelidentili Lonservation and Behavioral Programs.	45,109	217,997.222	<u>\$ 83,452,777</u>	\$44,638.015		\$ 4,648,046	5 49,286,062				5 42,169,583	\$ 8.040,699
								NC Residential Peak Demand Allocation				
14 EnergyWise Home	77.116		48 615 654	5 718 465	11 764	4 T 000 704		Fector	-			
15 Total Residentiai	72,225	217.997.222	\$ 132,058,231	5 49.826.481	44.1374	<u>3 3,076,798</u>	5 10,135,262	85.5304240%	48,5822530%	(E13+E23) *F13 *G29	5 8,241,070	5 6,137,852
						3 3,749,843	3 39/021/32 <u>3</u>				5 50,410,653	<u>\$ 14,178,351</u>
	System kW Reduction - Summer Peak	System Energy Reduction (kWh)	System NPV of Avoided Costs	Total Cost	Shared Savings %	incentive	Unadjusted Rev Requirement #	NC Retail kWh Sales			NC Residential Unadjusted	NC Non-Residential Adjusted Revenue
Non-Residential Programs			·						•		Revenue Requirement*	Requirement
FF Programs												
16 Formy Efficient Universe	1.00	5 F 77 C14										
17 Non-Residential Smart Saver Performance (Custom)	1 584	13,879,016	0,244,533	1,427,906	11.75%	\$ 565,991	5 1.993,897	B5.5608674%		E25 * #15	\$ 2,705,995	\$ 1,486,980
18 Non-Residential Smart Savar Performance (Prescriptive)	7.337	48,474,009	26.084.485	31 409 405	11.75%	\$ 419,608	\$ 3,139,567	85.5508674%		E16 * F16	\$ 2,686,241	\$ 335,732
19 Non-Residential Smart Saver Performance Incentive	751	6.576.526	2.981.012	445 910	11 75%	6 350.974	5 15,132,542 C 5,056,786	83.3008574%		217 F17	5 11,235,574	5 6,526,244
20 Small Business Energy Sever	6,947	46,011.147	22,392,278	9,294,966	11.75%	5 1,538,934	\$ 10833900	85.5608674%		E18 * F18	5 938,41B	\$ \$4,602
21 Total for Non-Residential Conservation Programs	20,321	121,513,336	\$ 63,993,697	\$ 25,697,147		\$ 4,499,845	\$ 30,196,992			619 114	\$ 25,836,808	\$ 11,094,106
								NC Non-Residential Peak				
								Demand Allocation				
22 EnergyWhe <sup>®</sup> for Business	8,844	1.536.576	1 694 174	3 476 400	11 754	t (03)		Fector			-	
23 Commercial Industrial Governmental Demand Response	7.357	11001310	12 595 510	6 173 412	11.75%	\$ (91,965) \$	\$ 2,384,643				\$ 2,244,257	\$ (84,856)
24 Total for Non-Residential DSM Programs	16,243	1.535.576	\$ 14,289,734	\$ 8,600,290	41.73%	5 668 510	<u> </u>				<u>\$ 6,478,150</u>	5 809.758
25 Tatal Non Residential	16 564	112049.913				3 800,510	5,205,500	63.7 MM (4477)	31.418/4/076	(613+623) *23 *678	\$ 8,722,407	\$ 724,900
		123,43,313	3 70,283,431	<u>&gt; 34,297,437</u>		5 5,168,354	\$ 39,465,791				\$ 34,559,215	\$11,819,005
28 Total AJ Programs		341,047,135	\$ 210,351,662	\$ 84.173.918		\$ 14,913,197	\$ 99,087,114				\$ 84,969,868	\$ 25,997,555
									NC Retail 1 Wh			
	System KW	Evene Farmer	System NPV of Avoided	Total Cost	Shared Savings %	Incentive	Unadjusted Rev		Sales			
	Peak	System Energy	Losts				Requirement **	NC Retail kWh Sales	Allocation		NC DSDR Unadjusted	NC DSDR Adjusted
DSDB								Aflocation Factor	Factor		Revenue Regulrement <sup>el</sup>	Revenue Requirement
1 0608												
1 USUN	354,416	43,564,336		\$ 15,425,418	N/A	5.	\$ 35,425,418					
Total All Programs with DSDR	461,204	384,711,471	\$ 210,351,662	\$ 99,599,336		5 14,913,197	\$ 114,512,533				\$ 84.969.86	\$ 25.997554
<ol> <li>My Home Energy Report Impacts reflect cumulative capability as (2) Total System OSM programs allocated to Residential and Non-Re</li> </ol>	of end of sintage year, includin sidential based on contribution	g impacts for participan to retail system peak	ts from prior vintages									× £3,727,530

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NO CHANGE	¥÷	PPI Values for Test Parlod	5 130467 5 4281.54 5 4281.54 5 4281.54 5 1282.5 5 1282.55 5 1284.58 5 1284.5	5 1,486,580 5 13,575 5 6,513,575 5 5,510,546 5 5,540,546 11,561,516 5 (84,856) 5 (84,856) 5 (84,856) 11,561,516 11,561,516 13,5691,516
		Vintage 2018 Ppi	111 111 111 111 111 111 111 111	\$ 156,496 \$ 156,496 \$ 475,277 \$ 475,277 \$ 475,277 \$ 475,277 \$ 475,319 \$ 1669,141 \$ 5 376,319 \$ 1669,141 \$ 1669,161 \$ 1669,016
		Vintage 2017 PPI	5 (73) 5	\$ 191.677 \$ 2.180,999 \$ 731.698 \$ 731.698 \$ 731.698 \$ 731.698 \$ 10.64.459 \$ 10.64.459\$\$ 10.64.450\$\$ 10.64.450\$\$ 10.64.450\$\$ 10.64.450\$\$ 10
		Vintaga 2016 PPI	100. 2 10	\$ 218,730 \$ 2.18,730 \$ 5 5 5 \$ 5 5 5 2,261,632 2,261,632 5 5 5 2,261,632 5 5 5 2,261,632 5
		Vintage 2015 PPI	4,402 4,	5 152,430 5 369,180 5 241,061 762,661 762,661 161,075 161,075
		Vintage 2014 PP1	2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2	216,186 216,186 211,239 211,239 21,139 21,139 21,130 21
		Vintage 2015 PPt	21,008 55,058,05 55,058,05 55,057 55,057 55,057 55,057 55,057 56,057 57,057 56,057 57,057 56,057 57,057 57,057 56,057 57,057 57,057 56,057 57,	5 171.971 5 678.77 5 678.77 5 97.74 9 91.15 9 91.15 9 9.74 9 9.14 9 9.14 9 9.14
		Vintage 2012 PP1	28(4) 28	\$ 113.107 \$ 722.66 \$ 722.66 \$ 875,773 \$ 875,773 \$ 10.915 \$ 10.915\$ \$ 10.9
		Vintage 2011 PP1	5 20,99 5 20,99 5 20,46 5 20,46 7 3 20,46 7 20,46 7 20,46 7 20,46 7 20,46 7 20,56 7 20,567 7 20,577 7 20,577 7 20,577 7 20,577 7 20,577 7 20,577 7 20,5777 7 20,5777 7 20,57777 7 20,5777777777777777777777777777777777777	\$ 74572 \$ 649,807 \$ 649,807 \$ 774,478 \$ 774,478 \$ 176,55 1 176,55
		Vintage 2010 PPJ	3 33,477 5 33,4575 5 75,575 5 75,5755 5 75,5755 5 75,5755 5 75,57555 5 75,575555555555	41,14,85 41,14,85 41,14,85 41,14,85 54,1777 54,1777 54,1777 54,1777 54,1777 54,17777 54,1777
		Vintage 2009 Pri	мия 500 на станование и на станование и	· · · · · · · · · · · · · · · · · · ·
	-	I Prior Period PPI	<ul> <li>\$ 10,4,6'</li> <li>\$ 409,79</li> <li>\$ 409,79</li> <li>\$ 409,79</li> <li>\$ 409,79</li> <li>\$ 50,500</li> <li>\$ 13,4,594</li> <li>\$ 12,40,40</li> <li>\$ 12,40,40</li> <li>\$ 12,40,40</li> <li>\$ 12,40,40</li> </ul>	1000011 1000011 100001 100001 100001 100001 1000001 1000001 1000000
	-	Idd bessnjpe	**************************************	11552 11555 11555 11555 11555 11555 11555 11555 11555 11555 11555 11
	표 같	Income Tax Gross-Up Factor	76.50% 76.50% 76.50% 76.50% 76.50% 76.50% 76.50% 76.50% 76.50% 76.50% 76.50% 76.50%	76.50% 76.50% 76.50% 76.50% 76.50% 76.50%
, 2019 Poprem	G - Purt (E.F.D)	Vimiage Year 2019 - Year 1 PPI	5 10001 5 10001 5 10001 5 10001 5 101000 5 101000 5 101000 5 101000 5 101000 5 101000 5 101000 5 1010000 5 1010000 5 10100000 5 10100000 5 101000000 5 101000000 5 1010000000 5 1010000000000	5 88,66 5 103,554 5 42,152 5 42,152 5 42,152 5 42,152 1,064,045 1,159,567 1,159,5777 1,159,5777 1,159,5777 1,159,577
a 1. pega 6 10 December 3 174 Life	r.	PPI Amontitard on Period	NA MA NA NA NA NA NA NA NA NA NA NA NA NA NA	医变化变变 主角
nergy Progre Evens Exhibit uary 1, 2019 Io. E-2, Sub 1 Revenue Neo	-	Discount Rate	C C C C C C C C C C C C C C C C C C C	1.04% 1.66% 1.66% 1.66% 1.64% 1.64% 1.64%
Duke E Supplemental 2019 Estimate - Jur Docines P acts and Estimated	₽ ¥	Net-of-Tax PPI - Total NPV	5 805,594 5 805,594 5 805,594 5 812,579 5 120,799 5 100,799 5 100,	5 370,447 5 774,557 5 774,557 5 1,200,244 6 1,000,244 5 1,000,244
Vintage Leed truy	۰ ۲	Income Yana	\$ 193,1243 \$ 193,1243 \$ 11173 \$ 113,124 \$ 193,0460 \$ 193,0460 \$ 193,0460 \$ 193,0460 \$ 193,0460 \$ 193,0460 \$ 193,04716 \$ 1,035,2760 \$ 1,035,2700 \$ 1,035,2700\$ \$ 1,035,2	(10.0 % 11) \$ (0.0
	æ	fincome Yax Rute	215.555 21.5566 21.5566 21.5566 21.5566 21.5566 21.5566 21.5566 21.5566 21.5566	80572 805720
	•	NCIncentive	s s s s s s s s s s s s s s s s s s s	2 (12) 2 (12)
		Residential Programs	<ol> <li>Applicante Recycling Fragmin 2. Rangy Education Program 2. Rangy Education Program for Service 3. Rangy Education Programment 3. Machinel Corrupt American 3. Machinel Corrupt American 3. Machinel Corrupt American 2. Reduction Development 3. Reduction Development 3. Service American 3. Service</li></ol>	E: Forgenitationa 2) toropy Biblionitational 2) toropy Biblionitational 2) toropy Biblionitational Source Speecher 3) torophysical Source Source Source 2) total torophysical Source Source 2) torophysical Source Source 2) torophysical Source Source 2) torophysical Source Source 2) torus Source Source Source Source 2) torus Source Source Source Source Source 2) torus Source S

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Supplemental Evans Exhibit 2, page 1 REVISED

#### Duke Energy Progress For the Period January 1, 2015 - December 31, 2019 Docket Number E-2, Sub 1174 North Carolina Net Lost Revenue for Vintages 2015 - 2019

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					Vintage 2014										
Line	Residential	_	2014		2015	-	2016(a)		2017(a)	2018(a)	:	2019		Tota	ı
1	Appliance Recupies Reserve										-				
;	Home Energy Improvement Response	5	120,357	s	258,341	5	257,297	\$	138,135	75	-		\$		774,131
3	Residential Lighting Program	ě	169,864	5	271,941	\$	270,841	s	103,462	- 15	i i				816,108
4	Neighborhood Energy Saver Program	\$	2,207,004	ę	0,441,135	\$	5,401,532	ş	2,897,296	15 -	Į.				16,707,768
5	Residential New Construction	š	184 096	ŝ	271 500	ş	10,072	2	41,516	<b>S</b> •	;				237,327
6	Residential Energy Efficient Benchmarking	š	809.163	š	(4.268)	ę	210,412	- 3 - 6	69,208	18	*				815,226
7	Net Lost Residential Revenues	Ś	4 289 032	č	6 317 951	ě	6 379 654	- <del>-</del>		<u></u>	<u>.</u>				804,895
		•	4,200,032		0,327,631	2	0,218,334	ş	3,269,618	1	2		Ş		20,155,455
	Non-Residential		2014		2015		2016(a)		2017(2)	2019/-1	1,	1010			
								_	2027(0)	1 2010(0)	<u>,                                     </u>	.019		100	
8	Energy Efficiency for Business	\$	1,442,220	\$	2,222,371	s	2,235,683	s	809.474	· .	1		e		6 700 740
9	Small Business Energy Saver Program	\$	749,923	\$	1,496,286	\$	1,505,249	ŝ	756.072	15 -			9		0,709,748
10	Non-Residential Lighting Program	\$	1,153,089	\$	2,064,379	s	2,069,735	s	1,108,056	{s _	1				6 395 259
11	Net Lost Non-Residential Revenues	\$	3,345,232	\$	5,783,036	\$	5,810,667	\$	2,673,603	15	[		\$		17 612 537
													•		,0,057
			•												
				,	Vintage 2015					Jan-Mar 15					
Line	Residentia		2014		2015		2016(a)		2017(a)	2018	,	010		Tanal	
											4	013		10131	
1	Appliance Recycling Program			\$	123,909	s	238 215	s	246 008	\$ 48 195			e		054 047
2	Energy Education Program for Schools			\$	71,588	ŝ	120,888	ŝ	124 841	5 24.481			æ		654,317
3	Energy Efficient Lighting			\$	1,665,788	\$	3,332,098	5	3,441,107	\$ 536 645					341,797
4	Home Energy Improvement Program			\$	170,038	\$	347,916	\$	359,298	\$ 65,009					0,970,030
5	Multi-Family			\$	429,296	\$	909,897	s	939,665	\$ 182,264					2 JB1 122
5	My Home Energy Report			\$	4,024,242	\$	-	\$	· · ·	\$ -					4 024 242
	Nerghbornood Energy Saver			\$	54,534	\$	89,993	S	92,937	\$ 15,265					252 729
ő	Residential New Construction			\$	252,450	\$	390,785	\$	403,570	\$ 54,943					1.101.749
9 10	Save Energy and water Kit			\$	<u> </u>	\$		\$	·	5 -					.,
11	Found Residential Revenues	ş	•	5	6,791,845	\$	5,429,790	5	5,607,426	\$ 924,793			\$		18,753,854
12	Net Lost Residential Revenues	~		5		\$	<u> </u>	<u>\$</u>	_ •						
	Net Lost Residentia: Revenues	ş	•	Ş	6,791,845	Ş	5,429,790	\$	5,607,426	\$ 924,793			\$		18,753,854
	Non-Residential		2014												
	Kon-Keabendal		2014		2015		2016(a)	_	2017(a)	2018	-20	319		Total	
13	Enormy Efficiency for Rusiness			_	_										
	Chergy Efficiency for Basiness			\$	1,386,578	\$	2,353,629	s	2,443,707	\$ 374,092			\$		6,558,006
14	Energy Efficient Lighting			s	420,420	\$	846,915	5	879,329	\$ 126.026			5		2 272 690
15	Small Business Energy Saver			\$	737,092	s	1,703,045	s	1.768.224	\$ 315 792			÷		4 504 450
16	EnergyWise for Business			s		s		¢		e					4,324,155
17	Total Lost Revenues	\$		Ś	2,544,090	\$	4 903 589	Ť	5 001 280	\$ 816.010			<u> </u>		
18	Found Non-Residential Revenues			ŝ		š	-	š	0,001,200	4 013,910			¢		13,354,849
19	Net Lost Non-Residential Revenues	\$		\$	2,544.090	Ś	4.903.589	Ś	5.091.260	\$ 915.010			-,		
				-		•	,,		0,051,200	<i>y</i> 013,310			2		13,354,849
	DSDR				2015		2016/a)		2017(-)	2018					
20	DSDR	\$	-	\$	420 831	\$	145 979	¢	(u)	<u> </u>	24	113	<u> </u>	Total	
		•		•	420,001	•	143,578	2	•	ş .			5		566,810
			ſ		Intran 2016										
Line	Residential		2014	*	anage zuito					Jan-Mar 15					
	Active Anthenia		2014		2015		2016(a)		<u>2017(a)</u>	2018	20	)19		Total	
1	Appliance Recycling Program					_									
2	EDergy Education Program for Schools					5	5,095	\$	12,308	\$ 5,330	\$	3,265	\$		25,998
3	Energy Efficient Lighting					è	59,240	\$	135,532	\$ 44,845	\$	18,760	\$		258,377
4	Home Energy Improvement Program					а с	1,033,814	ş	2,116,981	5 642,767	Ş	233,337	\$		4,026,900
5	My Home Energy Report					e e	103,848	\$	370,108	\$ 104,359	S	31,983	\$		670,297
6	Neighborhood Energy Saver					ş S	0,410,024 44 340	e	105 000	è -	S	1	5		5,418,524
7	Multi-Family					ŝ	112 768	e e	105,283 1	\$ 31,366	5	10,875	. \$		191,842
8	Residential Energy Assessments					š	74 109	č	222,102	180,201	3	50,332	5		1,221,466
9	Residential New Construction					š	298 122	ě	A70 259 3	3 00,000	\$	23,120 1	15		386,746
10	Save Energy and Water Kit					ŝ	362 685	š	987 169	\$ 103,321	3 e	79,000	3		1,202,988
11	Total Lost Revenues	\$		\$		Š	7.792.613	ŝ	5 278 828	<u> </u>	-	10,992 4	<u> </u>		1,699,788
12	Found Residential Revenues					Ś	-	š	0,210,020	\$ 1,525,005	•	301,040	\$		15,102,926
13	Net Lost Residential Revenues	\$		\$			7.792.613	· ·	5,278 826	1 579 639	_	501 949	ć	_	
										2,222,023		301,040	2		19,102,926
	New To 11 of 1														
	Non-Kesidential		2014	_			2016(a)		2017(a)	2018	20	19		Total	
14	Business Enormy Recent														
17	Energy Efficiency for Ducing				5	5	191,245	\$	•	\$	\$	-	\$		191.245
16	Energy Enciency for business				5	5	1,638,505	5	3,101,812	\$ 1,851,190	\$	694,350	\$		7,285.857
17	Small Business Enemy Saver				5	5	246,438	5	478,231	\$ 285,436	5	125,435	\$		1,135,539
18	EnergyWise for Business				3	2	1,100,746	s	2,221,654	5 1,326,012	\$	535,303	\$		5,183,715
19	Total Lost Revenues	\$		<u> </u>			7,298	5	19,733 1	<u>\$ 11,778</u>	<u>s</u>	6,032	\$		44,841
20	Found Non-Residential Revenues	*	•	÷		2	3,104,232	ş e	5,821,430	3 3,474,415	5 1,	,361,119	\$		13,841,197
21	Net Lost Non-Residential Revenues	s		\$		-	3 115 673	<u>ي</u> د	(113,353)	<u>9 (113,553)</u>	<u>&gt;</u>		<u> </u>		(295,666)
		•	-	•	- 3		3,113,012	÷	5,707,877	> 5,360,863	> 1,	,361,119	Ş		13,545,531
	DSDR		2014		2015		2016(a)		2017/-1	7050					
22 -	DSDR	\$-		5			115 745	-	<u>zur(a)</u>		20:	19		Total	
		*	•	v	- \$	•	115,745	\$	6,983				\$		182.728

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Supplemental Evans Exhibit 2, page 2 REVISED

					Vintage 20	17							
Line	Residential		2014		2015	_	<u>2016(a)</u>		2017(a)	2018	2019		Total
4	Appliance Recording Deserve							_		_			_
2	Energy Education Reports for Schools	,						Ş	-	5 -	s -	5	-
3	Energy Education Program for Schools							5	75,158	\$ 78,876	S 67,465	\$	221,498
4	Home Energy Improvement Program							2	649,785	\$ 1,108,222	S 995,775	5	2,753,782
5	Multi-Family							ې د	233,276	₽ 2/3,/6/ E 823,000	5 235,556	5	744,601
6	My Home Energy Report								400,091	a 032,090 r	\$ \$92,483	3	1,653,264
7	Neighborhood Energy Saver	•						د. ع	42 591	5 50 071	5 E	3	6,016,176
8	Residential Energy Assessments							ŝ	147 827	a 00,972- t 197,915	S 31,044	<u>с</u>	152,597
9	Residential New Construction							š	425 220	5 571.058	S 501/269	4 S	490,003
10	Save Energy and Water Kit							s	754 585	6 905 753	\$ 702 743	e e	7,457,000
11	Total Lost Revenues	\$		- \$		- \$		. s	8,805,290	3.815.952	5 3 369 874	\$	15 901 116
12	Found Residential Revenues							\$	-	5 -	S -	•	10,001,110
13	Net Lost Residential Revenues	\$		- \$		- \$		- \$	8,805,290	\$ 3,815,952	\$ 3,369,874	\$	15,991,116
	Non-Residential		2014		2015		7016/a)		2017(a)	2019	3010		Tatal
				-					2027(0)	2010	2013		
14	Business Energy Report							s	577 5	6 -	s -	\$	577
15	Energy Efficiency for Business							Ś	2,392,469	4,469,059	5 4,486,854	š	11.328 382
15	Energy Efficient Lighting							5	140,167	327.687	\$ 314,218	ÍŠ	782 073
16	Small Business Energy Saver							<b>`</b> \$	1,079,154	1,987,679	S 1,986,908	ิร์ ร	5.053.741
17	Non-Res SmartSaver Performance							S	8,952	21,025	\$ 21,017	\$	50,993
18	EnergyWise for Business							\$	29,965 5	5 46,791	\$ 46,773	S	123,529
19	Found New Revenues	\$		- \$		- \$		<b>\$</b>	3,651,284	6,852,241	\$ 6,835,770	\$	17,339,295
20	Found Norr-Residential Revenues							\$	(72,644)	<u>(106,296)</u>	\$ (106,296)		(285,236)
21	Net Losi Non-Residential Revenues	\$	•	<b>\$</b>		- \$		\$	3,578,640	6,745,945	\$ 6,729,474	\$	17,054,059
	DSDR		2014		2015		<u>2</u> 016(a)		2017(a)	2018	2019		Total
22	DSDR	\$		. \$		- \$		5	65,125 \$	2,329	S -	\$	67,453
Line	Residential		2014		Vintage 201 2015		2016(a)		2017	2018 (a)	2019		Total
	And the second									_			
1	Appliance Recycling Program								\$	59,968	s -	\$	59,966
z	Energy Education Program for Schools								\$	39,410	\$ 99,626	5	139,037
2	Energy Emolent Lighting								\$	616,478	\$ 1,172,842	\$	1,789,321
š	Ny Home Energy Improvement Program								\$	74,905	\$ 193,400	\$	268,305
6	Neighbachaod Energy Report								\$	7,382,388	\$-	\$	7,382,388
ž	Multi-Earnity Earny Efficiency								3	55,190	\$ 103,639	\$	158,829
Å	Residential Energy Encounty								3	379,048	5 769,220	\$	1,148,268
ĝ	Residential New Construction								5	77,398	5 140,525	5	217,923
10	Save Energy and Water Kit									439,865	⇒ 888,107	2	1,328,092
11	Total Lost Revenues	\$		\$		- \$	-	\$		9715,000	s 4 883 600	÷	2,066,429
12	Found Residential Revenues	-		-		•	-	š	- 4	0,110,000	→ →,002,000	4	14,578,558
13	Net Lost Residential Revenues	\$	-	\$		- \$		- \$	- \$	9,715,899	\$ 4,862,660	\$	14,578,558
	Non-Residential		2014		3015		2017/-1		2041				
	Thom Residentias	_	2014		2015		2016(9)		2017	2018 (ə)	2019		Total
14	Business Energy Reports												
15	Energy Efficiency for Business								3	833 044	3	è	-
16	Energy Efficient Linkston								0 0	032,005 163,750	a 1,771,404	è	2,603,469
10	Cheigy Entriebt Lighting								4	103,309	✓ ∠00,002	÷	414.021
17	Non-Residential Smart Saver Performance Incenti	ve							\$	-	5 71 022	\$	71 033
17 18	Non-Residential Smart Saver Performance Incenti Small Business Energy Saver	ve							\$	1.166.751	\$ 71,032 \$ 2,196,937	\$ \$	71,032
17 18 19	Non-Residential Smart Saver Performance Incenti Small Business Energy Saver EnergyWise © for Business	ve							\$ \$ \$	1,166,751 47,865	\$ 71,032 \$ 2,196,937 \$ 34,279	\$ \$ \$	71,032 3,363,688 82,144
17 18 19 20	Energy Endean Lighting Non-Residential Smart Saver Performance Incenti Small Business Energy Saver EnergyWise Ø for Business Total Lost Revenues	ve - \$		\$		- \$			\$ \$ \$	1,166,751 47,865 2,210,049	\$ 71,032 \$ 2,196,937 <u>\$ 34,279</u> \$ 4,324,304	\$ <u>\$</u> \$	71,032 3,363,688 82,144 6,534,354
17 18 19 20 21	Energy Encient Lighting Non-Residential Smart Saver Performance Incenti Small Business Energy Saver EnergyWise & for Dusiness Total Lost Revenues Found Non-Residential Revenues	ve \$		\$		- \$			\$ \$ \$	1,166,751 <u>47,865</u> 2,210,049 (78,327)	\$ 71,032 \$ 2,196,937 <u>\$ 34,279</u> \$ 4,324,304 \$ (144,767)	\$ 5 5 5 5	71,032 3,363,688 82,144 6,534,354 (223,094)
17 18 19 20 21 22	Energy Encient Lighting Non-Residential Smart Saver Performance Incenti Small Business Energy Saver EnergyWise © for Business Total Lost Revenues Found Non-Residential Revenues Net Lost Non-Residential Revenues	ve \$ \$		\$		- \$ - \$			\$ \$ \$ \$ \$	1,166,751 <u>47,865</u> 2,210,049 (78,327) 2,131,722	\$ 71,032 \$ 2,196,937 \$ 34,279 \$ 4,324,304 \$ (144,767) \$ 4,179,537	\$ \$ \$ \$ \$	71,032 3,363,668 82,144 6,534,354 (223,094) 6,311,259

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(a) Lost revenues were estimated by applying forecasted lost revenue rates for residential and non-residential customers to state specific forecasted program participation.

1       Appliance Recycling Program       \$	Line	Residential		<u>2</u> 014		<u>۷</u>	intage 20 2015	19	-	2016(a)			2017			2018 (a)		2019		Total
2       Energy Education Program for Schools       5       45,488       5       45,488       5         3       Energy Efficient Lighting       5       660,301       5       660,301         4       Home Energy Improvement Program       5       660,301       5       660,301         5       My Home Energy Report       5       6,365,499       5       6,365,499       5       6,365,499         5       Residential Energy Efficiency       5       645,455       5       5       5       456,925       5       45,935       5       7,771       5       77,791       5       77,791       5       77,791       5       77,791       5       7,791       5       7,30,758       5       8,730,758       5       5	1	Appliance Recycling Program															ę		e	
3       Energy Efficient Lighting       5       49,485       5       49,485       5       60,301       5       600,301       5       6,365,499       5	2	Energy Education Program for Schools																46 400	÷	
4       Home Energy Improvement Program       5       600,301       5       800,301       5	3	Energy Efficient Lighting																401400 CC0 201	*	40,405
5       My Home Energy Report       \$       109,946       \$       109,946       \$         6       Neighborhood Energy Saver       \$       6,365,499       \$       6,365,499       \$         6       Neighborhood Energy Saver       \$       5,4545       \$       5,4545       \$         7       Multi-Family Energy Assessments       \$       5,4545       \$       5,4545       \$         8       Residential Energy Assessments       \$       5       -       \$       456,925       \$       456,925       \$       456,925       \$       97,791       \$       77,791       \$       77,791       \$       77,791       \$       97,795       \$       912,388       \$       912,388       \$       912,388       \$       9,730,758       \$       8,730,758       \$       8,730,758       \$       8,730,758       \$       8,730,758       \$       8,730,758       \$       8,730,758       \$       8,730,758       \$       8,730,758       \$       8,730,758       \$       \$       14       Business Energy Reports       \$       \$       \$       \$       \$       14,071       \$       174,071       \$       174,071       \$       174,071       \$       174,071	4	Home Energy Improvement Program															-	400,301	9	660,301
6       Neighborhood Energy Saver       5       6,005,499       5       66,545       54,545	5	My Home Energy Report																109,946		109,946
7       Multi-Family Energy Efficiency       5       35,945       5       36,425         8       Residential Energy Assessments       5       456,925       5       456,925         9       Residential New Construction       5       457,925       5       456,925         10       Save Energy and Water Kit       5       47,791       5       77,791       5       77,791         11       Total Lost Revenues       5       - \$       \$       - \$       \$       912,388	6	Neighborhood Energy Saver															2	6,365,499	ş	6,365,499
8       Residential Energy Assessments       5       450,925       360,925       360,925         9       Residential New Construction       5       77,791       5       77,791         9       Residential New Construction       5       47,875       5       47,875         11       Total Lost Revenues       5       -       5       -       5       912,388         12       Found Residential Revenues       5       -       5       -       5       -       5       912,388         12       Found Residential Revenues       5       -       5 <td< td=""><td>7</td><td>Multi-Eamily Energy Efficiency</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>54,545</td><td>ð</td><td>54,545</td></td<>	7	Multi-Eamily Energy Efficiency																54,545	ð	54,545
Residential New Construction       \$ 17,791 \$ 77,791         D       Save Energy and Water Kit       \$ 912,388         Total Lost Revenues       \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	8	Residential Formy Assessments															2	456,925	\$	456,925
10       Save Energy and Water Kit       3       47,875       3       47,875       3       912,388 <t< td=""><td>9</td><td>Residential New Construction</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>s</td><td>77,791</td><td>ş</td><td>77,791</td></t<>	9	Residential New Construction															s	77,791	ş	77,791
Solution and fraction       Solution       Solution and fraction	10	Save Enanty and Water Kit															Ş	47,875	\$	47,875
11       Juild Coll Notice       3       -	11	Total Lost Revenues			_	¢	_		-			_		_	_	_	\$	912,388	\$	912,388
Inc.       Inc.       Inc.       S	12	Found Residential Revenues	e e		-			-		-	•	ş		-	\$	-	5	8,730,758	\$	8,730,758
Non-Residential       2014       2015       2016(a)       2017       2018 (a)       2019       Total         14       Business Energy Reports       5       -	12	Not Lest Residential Organiza	0 4		<u> </u>	3		-	<u>&gt;</u>	•		<u>.</u>		-	\$	-	\$		\$	
Non-Residential         2014         2015         2016(a)         2017         2018 (a)         2019         Total           14         Business Energy Reports         \$	13	Net Lost Residential Revenues	Ş		-	\$		-	\$		•	\$		•	\$	-	\$	8,730,758	\$	8,730,758
14       Business Energy Reports       \$ </td <td></td> <td>Non-Residential</td> <td></td> <td>2014</td> <td></td> <td></td> <td>2015</td> <td></td> <td></td> <td>2016(a)</td> <td></td> <td></td> <td>2017</td> <td></td> <td></td> <td>2018 (a)</td> <td></td> <td>2019</td> <td></td> <td>Tetal</td>		Non-Residential		2014			2015			2016(a)			2017			2018 (a)		2019		Tetal
14       Business Energy Reports       \$ </td <td></td> <td>4040 14/</td> <td></td> <td>4043</td> <td></td> <td>Tetal</td>																4040 14/		4043		Tetal
15       Energy Efficiency for Business       \$	14	Business Energy Reports													s		s		\$	-
16       Energy Efficient Lighting       \$       -       \$       1,005,103       \$       1,005,103       \$       1,005,103       \$       1,005,103       \$       1,005,103       \$       1,74,071	15	Energy Efficiency for Business													š		š	1 003 105	ě	1 003 105
17       Non-Residential Smath Saver Performance Incentive       5       -       5       -       17       18       17       17       18       17       17       18       17       17       18       17       18       17       18       17       18       17       18       17       18       17       18       17	16	Energy Efficient Lighting													š		ŝ	174 071	ě	174 071
18       Small Business Energy Saver       12,942	17	Non-Residential Smart Saver Performance Incentive	•												š	-	š	120 492	ě	174,071
19         EnergyWise @ for Business         5         30,780         \$         30,780	18	Small Business Energy Saver													ŝ		ě	980 827	č	120,482
20         Total Lost Revenues         5         -         5         -         5         -         5         -         5         -         5         -         5         -         5         -         20         20         7         5         -         5         -         5         -         5         -         5         -         20         7         -         5         -         5         -         5         -         20         7         -         5         -         5         -         5         -         20         7         -         5         -         5         -         5         -         5         -         7         -         5         - <td>19</td> <td>EnergyWise @ for Business</td> <td></td> <td>ě.</td> <td></td> <td>é</td> <td>30 790</td> <td>e</td> <td>300,027</td>	19	EnergyWise @ for Business													ě.		é	30 790	e	300,027
21         Found Non- Residential Revenues         \$         <	20	Total Lost Revenues	5	-	-	5		-	s	-		5	_		ŝ		÷	2 201 275		32,700
22 Net Lost Non-Residential Revenues \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	21	Found Non- Residential Revenues	5		-	s		-	ś	_		ŝ		-	š	-	š	(70 380)	ę	2,291,213
	22	Net Lost Non-Residential Revenues	\$		-	\$			s			Ś			ŝ		č	2 211 986	÷	2 211 996

# Supplemental Evans Exhibit 2, page 3 NO CHANGE

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# Duke Energy Progress For the Period January 1, 2015 - December 31, 2016 Docket Number E-2, Sub 1174 North Carolina Net Lost Revenue True Up for Vintages 2015 - 2016

47

		Vintage 2015 as Filed Lost Revenue kWh \$							
Line	Residential		2015		2016(a)	2017(a)	2018		Total
4	Appliance Reguling Brooker			-					
2	Energy Education Program for Schools	3	123,909	š	238,215	\$ 227,380	s -	S	589,505
3	Energy Efficient Lighting	5	1 665 768	ŝ	3 732 098	\$ 101,267 \$ 4 238 474	а - с	÷	270,272
4	Home Energy Improvement Program	ŝ	170.038	5	347.916	\$ 331.043	5		5,230,300 848,906
5	Multi-Family	\$	456,463	s	971,916	\$ 847,368	5 -	š	2 275 747
6	My Home Energy Report	ŝ	5,020,104	5		\$ -	s -	š	5.020.104
7	Neighborhood Energy Saver	\$	54,634	\$	89,993	\$ 73,350	\$ -	ŝ	217.877
8	Residential New Construction	\$	212,546	\$	329,015	\$ 314,051	\$-	\$	855,612
9	Save Energy and Water Kit	\$	<u> </u>	\$		<u>s</u> .	\$ -	_\$	-
10	Lost Residential Revenues	\$	7,766,241	\$	5,415,298	\$ 6,132,933	\$ -	\$	19,314,472
11	Found Residential Revenues	\$	•	S		<u>s</u> .	\$.	s	
12	Net Lost Residential Revenues	\$	7,766,241	\$	5,415,298	\$ 6,132,933	\$ -	\$	19,314,472
	Non-Residential		2015		2016/a1	2017(a)	2018		Total
							2020		
13	Energy Efficiency for Business	5	1,366,578	\$	2,353,629	\$ 2,229,685	s -	\$	5,969,892
14	Energy Efficient Lighting	5	420,420	\$	846,915	\$ 1,621,916	\$-	\$	2,889,251
15	Small Business Energy Saver	\$	737,092	\$	1,703,045	S 1,613,361	s -	\$	4,053,498
16	EnergyWise for Business	<u> </u>	<u> </u>	\$		<u>5</u> 69	<u>s                                    </u>	5	69
17	Net Lost Non-Residential Revenues Found Non- Residential Revenues	\$	2,544,090	\$	4,903,589	\$ 5,465,031	\$ -	\$	12,912,710
19	Net Lost Non-Residential Revenues	\$	2,544,090	\$	4,903,589	\$ 5,465,031	<u> </u>	\$	12.912.710
	DEDP		2015		2015/-)				
20	0808	-	2013		_2016(a)	2017(a)	2018		Total
	5000	3	420,831	\$	145,979	5 -	s -	Ş	566,810
					1.5				
Line	Peridential		2015		VINTA DOLCI-1	ige 2016 as filed Los	a Revenue Ryyn Ş	,	
Line	Residential		2015		2010(8)	Z017(a)	2018	_	Total
1	Appliance Recycling Program	\$		¢	5 095	5 203 747	e _		200 040
2	Energy Education Program for Schools	š		š	52 016	\$ 203,747	e .	ě	208,843
3	Energy Efficient Lighting	s	-	š	1.033 814	\$ 2 253 342	\$	ě	3 297 166
3	Home Energy Improvement Program	s	-	ŝ	163 889	\$ 122,724	\$ -	š	286 613
4	My Home Energy Report	\$	-	\$	6,776,039	\$ .	\$ -	s	6 776 039
5	Neighborhood Energy Saver	\$	-	\$	44,319	\$ 84,254	\$ -	Ś	128.573
6	Mutti-Family	5	-	\$	361,415	\$ 535,662	s -	s	897.077
7	Residential Energy Assessments	5	-	s	74,198	\$ 61,525	s -	\$	135,723
8	Residential New Construction	\$	-	s	294,653	\$ 436,338	s -	\$	730,991
8.	Save Energy and Water Kit	_5	-	\$	332,610	\$ <u>621,659</u>	s	\$	954,269
10	Lost Residential Revenues	\$	-	\$	9,138,049	\$ 4,416,263	\$-	\$	13,554,312
11	Found Residential Revenues	_\$	•	\$	-	<u>s</u>	\$. <u>-</u>	\$	
12	NET LOST RESIGENDAL REVENUES	ş	•	\$	9,138,049	\$ 4,416,263	\$-	ş	13,554,312
	Non-Residentíal		2015		2016(a)	2017(e)	2018		Total
11	Business Energy Reports			\$	-	s -	<b>s</b> -	\$	-
12	Energy Efficiency for Business			\$	1,638,561	\$ 1,895,405	s -	\$	3,533,966
13	Energy Enricent Lighting.			\$	246,438	\$ 1,251,716	<b>s</b> -	\$	1,498,155
15	ornan ousiness Energy Saver			5	1,107,111	5 1,657,986	\$ :-	5	2,665,097
40	Enclywine for Desidential Destances			5	18,814	<u>s 27,113</u>	<del>5</del> -	5	45,927
10	Net Lost Non-Residential Revenues	s	-	ş	3,010,924	\$ 4,732,221	ş -	\$	7,743,145
40	Found Non-Residential Revenues	<u>_</u>	-	5	(68,561)	5 (113,553)	<u> </u>	\$	(182,114)
5	Net Lost Non-Residential Révénués -	Ş	-	\$	2,942,363	\$ 4,618,668	د \$	\$	7,551,031
	DSDR		2015		2016(a)	2017(a)	2018		Total
19	DSDR			5	115.746	5 66,983	s -	\$	187 728

#### Supplemental Evans Exhibit 2, page 4 NO CHANGE

Total

182,728

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#### Duke Energy Progress For the Period January 1, 2015 - December 31, 2016 Docket Number E-2, Sub 1174 North Carolina Net Lost Revenue True Up for Vintages 2015 - 2016

DSDR

19 DSDR

		Vintage 2015 True Up Lost Revenue kWh \$					
Line	Residential	_	2015	2016(a)	2017(a)	2018	Total
1	Appliance Recycling Program		122.000	038.046	• • • • • • • • •		
2	Energy Education Program for Schools	š	71 588	120,210		ə 45,185 Ş	654,317
з	Energy Efficient Lighting	š	1.665.788	3 332 098	\$ 9,441,107	ə 24,401 ə S 536645 S	341,797
4	Home Energy Improvement Program	Ś	170,038	347,916	\$ 359 298	5 65,000 S	0,813,030
5	Multi-Family	\$	429,296	909,897	\$ 939,665	\$ 182,264 \$	2 461 122
5	My Home Energy Report	\$	4,024,242	-	S -	\$-\$	4.024.242
.,	Residential New Construction	S	54,534	89,993	\$ 92,937	\$ 15,265 \$	252,729
9	Save Energy and Water Kit	ş	252,450	390,785	\$ 403,570	\$ 54,943 \$	1,101,749
10	And Residential Revenues			<u> </u>	<u> </u>	<u>s s</u>	<u> </u>
11	Eound Residential Revenues	2	6,791,845	5,429,790	\$ 5,607,426	\$ 924,793 \$	18,753,854
12	Net Lost Residential Revenues	<u> </u>	- 3		<u>s</u>	<u>s - s</u>	<u> </u>
		÷	6,791,845 ;	5,429,790	\$ 5,607,426	\$ 924,793 \$	18,753,854
	Non-Residential		2015	2016(=)	2017(a)	2018	Total
13	Energy Efficiency for Business					-	
14	Energy Efficient Lighting	è	1,365,578 \$	2,353,629	\$ 2,443,707	\$ 374,092 \$	6,558,005.99
15	Small Business Energy Saver	ě	420,420 3	846,915	\$ 879,329	5 126,026 \$	2,272,690.21
16	EnergyWise for Business	ŝ		1,703,045	5 1,768,224 5 -	5 315,792 5 S - \$	4,524,152.76
17	Net Lost Non-Residential Revenues	\$	2,544,090 \$	4,903,589	\$ 5,091,260	\$ 815,910 \$	13.354.849
18	Found Non- Residential Revenues	_\$	<u> </u>	<u> </u>	<u>s</u>	<u>s</u> - s	
19	Net Lost Non-Residential Revenues	\$	2,544,090 \$	4,903,589	\$ 5,091,260	\$ 815,910 \$	13,354,849
	DSDR		2015	2016fa)	2017(a)	2018	Total
20	DSDR	\$	420,831 \$	145,979	5	3 - \$	566,810
				Vintag	e 2016 True Up Lost Rev	enue kWh \$	
t ine	Deridential						
Line	Residential		2015	2016(a)	2017(a)	2018	Total
Line 1	Residential	5	_2015	2016(a)	2017(a)	2018	Total
Line 1 2	Residential	\$ \$	2015 	2016(a) 5,095 59 240	2017(a) \$ 12,308 5 \$ 135,532 6	2018 2,515 \$	Total 19,918
Line 1 2 3	Residential Appliance Recycling Program Energy Education Program for Schools Energy Efficient Lighting	\$ \$ \$	_2015 - S - S - S	2016(a) 5,095 59,240 1.033,814	2017(a) \$ 12,308 5 \$ 135,532 5 \$ 2,116,981 5	2018 2,515 \$ 27,693 \$ 432,555 \$	Tota) 19,918 222,465 3 593,264
Line 1 2 3 3	Residential Appliance Recycling Program Energy Education Program for Schools Energy Efficient Lighting Home Energy Improvement Program	\$ \$ \$ \$		2016(a) 5,095 59,240 1,033,814 163,848	2017(a) \$ 12,308 5 \$ 135,532 5 \$ 2,116,981 5 \$ 370,108 5	2018 2,515 \$ 27,693 \$ 432,565 \$ 75,625 \$	Tota) 19,918 222,465 3,583,361 609 590
Line 1 2 3 3 4	Residential Appliance Recycling Program Energy Education Program for Schools Energy Efficient Ughting Home Energy Improvement Program My Home Energy Report Nickhows	\$ \$ \$ \$ \$		2016(a) 5,095 59,240 1,033,814 163,848 5,418,524	2017(a) \$ 12,309 5 \$ 135,532 5 \$ 2,116,981 5 \$ 370,108 5 \$ 370,108 5	2018 2,515 \$ 27,693 \$ 432,565 \$ 5 75,625 \$ 134,484 \$	Total 19,918 222,465 3,583,361 609,580 5,553,007
Line 1 2 3 4 5	Residential Appliance Recycling Program Energy Education Program for Schools Energy Efficient Lighting Home Energy Improvement Program My Home Energy Report Ny Home Energy Report Neighborhood Energy Saver	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		2016(a) 5,095 59,240 1,033,814 163,848 5,418,524 44,319	2017(a) \$ 12,309 5 \$ 135,532 5 \$ 2,116,981 5 \$ 370,108 5 \$ 5 - 5 \$ 105,283 5	2018 2,515 \$ 27,693 \$ 432,665 \$ 75,625 \$ 134,484 \$ - \$	Total 19,918 222,465 3,583,361 609,580 5,553,007 149,602
Line 1 2 3 3 4 5 6 7	Residential Appliance Recycling Program Energy Education Program for Schools Energy Efficient Ughting Home Energy Improvement Program My Home Energy Report Neighborhood Energy Saver Multi-Family Residential Energy Assessments	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$		2016(a) 5,095 59,240 1,033,814 163,848 5,418,524 44,319 332,768	2017(a) \$ 12,309 5 \$ 135,532 5 \$ 2,116,981 5 \$ 370,108 5 \$ 370,108 5 \$ 5 105,283 5 \$ 658,165 5	2018 27.693 \$ 432,565 \$ 75,625 \$ 134,484 \$ 21,513 \$	70ta) 19.918 222,465 3,583,361 609,560 5,553,007 1,012,445 1,012,445
Line 1 2 3 3 4 5 6 7 8	Residential Appliance Recycling Program Energy Education Program for Schools Energy Education Program for Schools Energy Education Program Home Energy Improvement Program My Home Energy Report My Home Energy Raver Multi-Family Residential Energy Assessments Residential New Construction	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		2016(a) 5,095 59,240 1,033,814 163,844 5,418,524 44,319 332,768 74,118 74,118	2017(a) \$ 12,308 4 \$ 135,532 5 \$ 2,116,981 5 \$ 370,108 5 \$ 105,283 5 \$ 105,283 5 \$ 222,923 5 \$ 222,923 5	2018 2,515 \$ 27,693 \$ 432,565 \$ 75,625 \$ 134,484 \$ 2,513 \$ 2,1513 \$ 45,550 \$	Total 19,918 222,465 3,583,361 609,580 5,553,007 149,602 1,012,445 342,671
Line 1 2 3 3 4 5 6 7 8 9	Residential Appliance Recycling Program Energy Education Program for Schools Energy Efficient Lighting Home Energy Improvement Program My Home Energy Report Neighborhood Energy Saver Multi-Pamily Residential Energy Assessments Residential Energy Assessments Residential Energy Advector Save Energy and Water Kit	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		2015(a) 5,095 59,240 1033,814 163,848 5,418,524 44,319 332,768 74,198 298,122 962,665	2017(a) \$ 12,309 5 \$ 135,532 5 \$ 2,116,891 5 \$ 370,106 5 \$ 370,106 5 \$ 370,106 5 \$ 5 105,283 5 \$ 658,165 5 \$ 222,923 5 \$ 670,358 5 \$ 670,500 5 \$ 700,500 5 \$ 700,	2018 2,515 \$ 27,693 \$ 432,665 \$ 75,625 \$ 134,484 \$ 21,513 \$ 445,550 \$ 445,550 \$ 136,975 \$	Total 19,918 222,465 3,583,361 609,580 6,553,007 149,602 1,012,445 342,671 1,105,445
Line 1 2 3 4 5 6 7 8 9 10	Residential Energy Assessments Residential Energy Assessments Residential Revenues	*****		2016(a) 5,095 59,240 1,033,814 163,849 5,418,524 44,319 332,768 74,198 298,122 362,685 7,705,615	2017(a) \$ 12,309 9 \$ 135,532 9 \$ 2,116,981 9 \$ 370,108 5 \$ 370,108 5 \$ 5 658,165 5 \$ 658,165 5 \$ 658,165 5 \$ 222,923 5 \$ 670,358 6 \$ 987,169 5 \$ 987,169 5 \$ 977,276 9 \$ 977,	2018 2,515 \$ 27,693 \$ 432,565 \$ 75,625 \$ 34,484 \$ 21,513 \$ 45,550 \$ 134,675 \$ 201,709 \$ 201,709 \$	Total         19.918           222,465         3,563,361           609,563         609,500           149,602         1,012,445           342,671         1,105,455           1,551,563         1,551,563
Line 1 2 3 4 5 6 7 8 9 10 11	Residential Appliance Recycling Program Energy Education Program for Schools Energy Education Program for Schools Energy Efficient Lighting Home Energy Improvement Program Wy Home Energy Report Neighborhood Energy Saver Multi-Family Residential Energy Assessments Residential New Construction Save Energy and Water Kit Lost Residential Revenues Found Residential Revenues	*****		2016(a) 5,095 59,240 1,033,814 163,848 5,418,524 44,319 332,768 74,198 298,122 362,865 7,792,613	2017(a) \$ 12,309 9 \$ 155,532 9 \$ 2,116,881 8 \$ 370,108 8 \$ 5 105,283 8 \$ 5 658,165 5 \$ 222,93 8 \$ 670,388 9 \$ 987,159 8 \$ 987,159 8 \$ 5,278,826 6	2018 2,515 \$ 27,693 \$ 432,655 \$ 75,625 \$ 134,484 \$ 21,513 \$ 45,550 \$ 136,975 \$ 20,709 \$ 1,078,628 \$	Total 19,918 222,465 3,583,361 609,580 5,553,007 149,602 1,012,445 342,671 1,105,455 14,150,067
Line 1 2 3 3 4 5 6 7 8 9 10 11 12	Residential Appliance Recycling Program Energy Education Program for Schools Energy Education Program for Schools Home Energy Improvement Program My Home Energy Report Neighborhood Energy Saver Multi-Family Residential Energy Assessments Residential Energy Assessments Residential Revenues Save Energy and Water Kit Lost Residential Revenues Found Residential Revenues Net Lost Residential Revenues	*****		2016(a) 5,095 59,240 1,033,814 163,848 5,418,524 44,319 332,768 74,198 298,122 362,685 7,792,613	2017(a) \$ 12,309 5 \$ 15,532 5 \$ 2,116,841 5 \$ 370,108 5 \$ 5,522,933 5 \$ 658,165 5 \$ 222,933 5 \$ 670,358 5 \$ 987,159 5 \$ 5,7278,826 5 \$ 5,728,826 5	2013 2,515 \$ 27,693 \$ 432,565 \$ 134,484 \$ 21,513 \$ 44,844 \$ 21,513 \$ 44,550 \$ 138,975 \$ 201,709 \$ 1,078,628 \$	Total 19,918 222,465 3,583,361 609,580 5,553,007 149,602 1,012,445 342,671 1,105,4553 1,551,563 14,150,067 14,150,672
Line 1 2 3 3 4 5 6 7 8 9 10 11 12	Residential Appliance Recycling Program Energy Education Program for Schools Energy Efficient Lighting Home Energy Improvement Program My Home Energy Report Neighborhood Energy Saver Multi-Family Residential Energy Assessments Residential Energy and Water Kit Lost Residential Revenues Found Residential Revenues Net Lost Residential Revenues	******	_2015 - S - S - S - S - S - S - S - S - S - S	2016(a) 5,095 59,240 1,033,814 163,848 5,418,524 44,319 332,768 74,188 298,122 362,665 7,792,613	2017(a) \$ 12,308 5 \$ 2,116,841 5 \$ 2,116,841 5 \$ 370,108 5 \$ 105,243 5 \$ 658,165 5 \$ 222,923 5 \$ 670,358 5 \$ 677,159 5 \$ 5,278,826 5 \$ 5,278,826 5 \$ 5,278,826 5	2013 2,515 \$ 27,693 \$ 432,655 \$ 134,484 \$ 21,513 \$ 44,844 \$ 21,513 \$ 44,550 \$ 136,975 \$ 201,709 \$ 1,078,628 \$ (451,010,51)	Total 19.918 222,465 3,583,361 609,580 6,553,007 149,602 1,012,445 322,671 1,105,455 1,551,563 14,150,067 14,150,067
Line 1 2 3 3 4 5 6 7 8 9 10 11 12	Residential Appliance Recycling Program Energy Education Program for Schools Energy Education Program for Schools Home Energy Improvement Program My Home Energy Report Neighborhood Energy Saver Multi-Family Residential Energy Assessments Residential Energy ad Water Kit Lost Residential Revenues Found Residential Revenues Net Lost Residential Revenues	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	_2015 - S - S - S - S - S - S - S - S - S - S	2016(a) 5,095 59,240 1,033,814 163,848 5,418,524 44,319 332,768 74,198 298,122 362,685 7,792,613	2017(a) \$ 12,309 5 \$ 15,532 5 \$ 2,116,841 5 \$ 370,108 5 \$ 105,283 5 \$ 658,165 5 \$ 22,293 5 \$ 670,358 5 \$ 987,159 5 \$ 3,278,826 5 \$ 5,278,826 5	2013 2,515 \$ 27,693 \$ 432,565 \$ 134,484 \$ 21,513 \$ 45,500 \$ 136,875 \$ 201,709 \$ 1,078,628 \$ (451,010,51)	Total 19.918 222,465 3,583,361 609,560 6,553,007 149,602 1,012,445 322,671 1,105,455 1,551,563 14,150,067 14,150,067
Line 1 2 3 3 4 5 6 7 8 9 10 11 12	Residential Appliance Recycling Program Energy Education Program for Schools Energy Education Program for Schools Home Energy Improvement Program Wy Home Energy Residential Energy Assessments Residential Energy Assessments Residential Revenues Found Residential Revenues Net Lost Residential Revenues Net Lost Residential Revenues	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	_2015 - S - S - S - S - S - S - S - S - S - S	2016(a) 5,095 59,240 1,033,814 163,848 5,418,524 44,319 332,768 74,198 298,122 362,685 7,792,613 7,792,613	2017(a) \$ 12,309 5 \$ 15,532 5 \$ 2,116,841 5 \$ 370,108 5 \$ 105,283 5 \$ 658,165 5 \$ 222,923 5 \$ 670,358 5 \$ 987,169 5 \$ 3,278,826 5 \$ 5,278,826 5 \$ 2017(a)	2013 2,515 \$ 27,693 \$ 432,565 \$ 75,625 5 134,484 \$ 21,513 \$ 44,84 \$ 21,513 \$ 44,550 \$ 138,975 \$ 201,709 5 201,709 5 201,709 5 201,707 6,28 \$ (451,010.51)	Total 19,918 222,465 3,563,261 609,580 5,553,007 149,602 1,012,445 342,671 1,105,455 1,551,663 14,150,067 14,150,067
Line 1 2 3 3 4 5 6 7 8 9 10 11 12	Residential Appliance Recycling Program Energy Education Program for Schools Energy Education Program for Schools Energy Efficient Lighting Home Energy Improvement Program My Home Energy Saver Multi-Pamily Residential Energy Assessments Residential Revenues Save Energy and Water Kit Lost Residential Revenues Net Lost Residential Revenues Net Lost Residential Revenues Net Lost Residential Revenues	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2015 - S - S - S - S - S - S - S - S	2016(a) 5.095 5.9,240 1.033,814 163,848 5,419,524 44,319 332,768 74,198 298,122 362,685 7,792,613 7,792,613	2017(a) \$ 12,309 5 \$ 155522 5 \$ 2,116,841 5 \$ 370,108 5 \$ 507,05283 5 \$ 658,165 5 \$ 658,165 5 \$ 670,358 5 \$ 670,358 5 \$ 5,278,826 5 \$ 5,278,826 5 \$ 2017(a)	2018 2,516 \$ 27,693 \$ 432,565 \$ 75,525 \$ 134,484 \$ 21,513 \$ 21,513 \$ 45,550 \$ 136,975 \$ 201,709 \$ 1,078,528 \$ (451,010.51) 2018	Total 19,918 222,465 3,563,361 609,580 5,553,007 1,512,445 342,671 1,105,455 342,671 1,105,455 14,150,067 14,150,067
Line 1 2 3 3 4 5 6 7 8 9 10 11 12 11 12	Residential Appliance Recycling Program Energy Education Program for Schools Energy Efficient Lighting Home Energy Improvement Program My Home Energy Saver Multi-Family Residential Energy Assessments Residential New Construction Save Energy and Water Kit Lost Residential Revenues Net Lost Residential Revenues Net Lost Residential Revenues Net Lost Residential Revenues Net Lost Residential Revenues Non-Residential Business Energy Reports	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2015 - S - S - S - S - S - S - S - S	2016(a) 5,095 59,240 1,033,814 163,848 5,418,524 4,439 332,768 7,4,198 298,122 362,685 7,792,613 7,792,613 2016(a)	2017(a) \$ 12,309 \$ 15,532 \$ 2,116,881 \$ 370,108 \$ 5 5 05,278,826 \$ 377,159 \$ 377,159 \$ 377,159 \$ 397,7159 \$ 397,715	2018 2,515 \$ 27,693 \$ 432,655 \$ 75,625 \$ 134,484 \$ 21,513 \$ 445,550 \$ 136,975 \$ 201,709 \$ 1,078,628 \$ (451,010.51) 2018	Total  19,918 222,465 3,583,361 3,583,367 149,602 1,012,445 3,42,671 1,105,455 1,451,563 14,150,067 14,150,07
Line 1 2 3 3 4 5 6 7 8 9 10 11 12 11 12 .	Residential           Appliance Recycling Program Energy Education Program for Schools           Energy Education Program Home Energy Improvement Program My Home Energy Report           Neighborhood Energy Saver Multi-Family Residential Energy Assessments           Residential Energy Assessments           Residential Revenues           Save Energy and Water Kit           Lost Residential Revenues           Found Residential Revenues           Net Lost Residential Revenues           Net Lost Residential Revenues           Business Energy Reports           Energy Efficiency for Business	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	_2015 - S - S - S - S - S - S - S - S - S - S	2016(a) 5,095 59,240 1,033,814 163,848 5,418,524 4,319 332,768 74,198 298,122 362,685 7,792,613 7,792,613 191,245 1,638,505 1,638,505	2017(a) \$ 12,309 5 \$ 15,532 5 \$ 2,116,841 5 \$ 370,108 5 \$ 105,283 5 \$ 658,165 5 \$ 222,923 5 \$ 670,358 5 \$ 987,159 5 \$ 3,278,826 5 \$ 5,278,826 5 \$ 5,278,826 5 \$ 3,101,812 5 \$ 3,102,812 5 \$ 3,102,812 5 \$ 3,102,812 5	2013 2,515 \$ 27,693 \$ 432,565 \$ 75,625 5 134,484 \$ 21,513 \$ 44,84 \$ 21,513 \$ 44,550 \$ 136,975 \$ 201,707 \$ 201	Total 19,918 222,465 3,583,361 609,580 5,553,007 149,602 1,012,445 342,671 1,105,455 14,150,067 14,150,067 14,150,067 14,150,067 191,244,69 5,372,688,80
Line 1 2 3 3 4 5 6 7 8 9 10 11 12 11 12 11 12 13 14	Residential           Appliance Recycling Program           Energy Education Program for Schools           Energy Education Program           Home Energy Improvement Program           My Home Energy Improvement Program           My Home Energy Report           Neighborhood Energy Saver           Multi-Family           Residential Energy Assessments           Residential New Construction           Save Energy and Water Kit           Lost Residential Revenues           Found Residential Revenues           Non-Residential           Business Energy Reports           Energy Efficient Upting           Small Business Energy Efficient Exercise	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2015 - S - S - S - S - S - S - S - S	2016(a) 5,095 5,9240 1,033,814 163,848 5,418,524 44,319 332,768 7,4188 298,122 362,665 7,792,613 7,792,613 1,038,505 2016(a) 191,245 1,638,505 246,438	2017(a) \$ 12,309 5 \$ 135,532 6 \$ 2,116,981 8 \$ 370,108 5 \$ 658,165 5 \$ 658,165 5 \$ 222,923 8 \$ 670,358 2 \$ 370,159 5 \$ 3,778,826 5 \$ 5,278,826 5 \$ 5,278,827 5 \$ 5,278,826 5 \$ 5,278,827 5 \$ 5,278,827 5 \$ 5,278,827 5	2018 2,516 \$ 27,693 \$ 432,565 \$ 75,625 \$ 134,484 \$ 21,513 \$ 45,550 \$ 136,975 \$ 130,975 \$ 20,778,628 \$ 1,078,628 \$ 45,1010,511 \$ 2018 2018	Total 19,918 222,465 3,563,361 6,09,560 5,553,007 149,602 1,012,445 342,671 1,05,455 14,150,067 14,150,067 14,150,067 14,150,067 14,150,067
Line 1 2 3 3 4 5 6 7 8 9 10 11 11 12 11 12 11 14 15	Residential Appliance Recycling Program Energy Education Program for Schools Energy Efficient Lighting Home Energy Improvement Program My Home Energy Saver Multi-Family Residential Rengy Assessments Residential New Constructon Save Energy and Water Kit Lost Residential Revenues Net Lost Residential Revenues Net Lost Residential Revenues Net Lost Residential Revenues Net Lost Residential Revenues Energy Efficiency for Business Energy Efficiency for Business Energy Efficiency Gausses Small Business Energy Saver Energy State Lighting Small Business Energy Saver Energy State Lighting Small Business Energy Saver Energy Saver	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		2016(a) 5,095 59,240 1,033,814 163,848 5,419,524 44,319 332,758 74,198 298,122 362,865 7,792,613 7,792,613 2016(a) 191,245 1,638,655 246,438 1,100,745 1,100,745	2017(a) \$ 12,309 \$ 15,532 \$ 2,116,881 \$ 370,108 \$ 5 5 022,933 \$ 650,165 \$ 222,933 \$ 670,358 \$ 670,358 \$ 5,278,826 \$ 397,159 \$ 5,278,826 \$ 5,278,826 \$ 5,278,826 \$ 5,278,825 \$ 3,101,812 \$ 3,101,812 \$ 3,2017(a) \$ 3,2017(a)	2018 2,515 \$ 27,693 \$ 432,655 \$ 75,625 5 134,484 \$ 21,513 \$ 45,550 \$ 136,975 \$ 201,709 \$ 1,078,628 \$ 451,010.51) 2018 2018 2018	Total 19,918 222,465 3,563,361 3,563,307 149,602 1,012,445 3,42,671 1,105,455 14,150,067 14,150,067 14,150,067 14,150,067 14,150,067
Line 1 2 3 3 4 5 6 7 8 9 10 11 12 3 11 12 11 12 11 12 11 12 13 14 5 6 7 8 9 10 11 12 13 14 5 6 7 8 9 10 11 11 12 13 14 5 6 7 8 9 10 11 11 12 13 14 5 6 7 8 9 10 11 11 12 13 14 5 6 7 8 9 10 11 11 12 13 14 15 10 11 11 12 11 11 12 13 14 15 10 11 11 12 13 11 11 12 13 11 11 12 13 11 11 12 13 11 12 13 11 12 13 14 15 15 11 12 13 11 12 13 14 15 15 15 15 15 15 15 15 15 15	Non-Residential           Business Energy Reports           Energy Efficiency for Business	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2015 - S - S - S - S - S - S - S - S	2016(a) 5.095 5.9,240 1.033,814 163,848 5.419,524 44,319 332,768 74,198 298,122 362,685 7,792,613 7,792,613 191,245 191,245 2016(a) 191,245 246,438 1,100,746 2,288	2017(a) \$ 12,309 4 \$ 135,532 6 \$ 2,116,841 8 \$ 370,106 8 \$ 5,000,000 8 \$ 658,165 8 \$ 658,165 8 \$ 670,358 8 \$ 670,458 8 \$ 670,458 8 \$ 670,458 8 \$ 670,458 8 \$ 670,458 8 \$ 70,654 8 \$ 70,733 8 \$ 70,758 8	2018 2,515 \$ 27,693 \$ 432,565 \$ 75,525 \$ 134,484 \$ 21,513 \$ 45,550 \$ 136,975 \$ 201,709 \$ 1,078,528 \$ (451,010.51) 2018 2018 5 37,499 \$ 452,932 \$ 4,023 \$ 4,023 \$ 4,023 \$	Total 19,918 222,465 3,583,361 609,580 5,553,007 149,602 1,012,445 342,671 1,105,455 14,150,067 14,150,067 14,150,067 191,244.69 5,372,688,80 822,166,50 3,775,331,82 31,054,46 31,054,05 31,055 3
Line 1 2 3 3 4 5 6 7 8 9 100 11 12 13 4 15 16 17 16 17 16 17	Residential           Appliance Recycling Program           Energy Education Program for Schools           Energy Education Program           Wome Energy Improvement Program           My Home Energy Report           Neighborhood Energy Saver           Multi-Family           Residential Energy Assessments           Residential New Construction           Save Energy and Water Kit           Lost Residential Revenues           Found Residential Revenues           Net Lost Residential Revenues           Residential Program           Non-Residential           Business Energy Reports           Energy Efficient Ughting           Small Business Energy Saver           Energy Efficient Ughting           Small Business Energy Saver           Energy With of Business           Energy Saver           Energy West of Business           Energy Saver           Energy West of Business           Energy Efficient Ughting           Small Business Energy Saver           Energy West of Business           Energy West of Business           Energy West of Business           Energy West of Business	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2015 - S - S - S - S - S - S - S - S	2016(a) 5,095 5,9240 1,033,814 163,848 5,419,524 44,319 332,768 2,98,122 362,665 7,792,613 7,792,613 2016(a) 191,245 1,638,505 246,438 1,100,745 3,184,322 3,184,322	2017(a) \$ 12,309 9 \$ 135,532 9 \$ 2,116,881 8 \$ 370,108 3 \$ 5 105,283 8 \$ 5 658,165 5 \$ 222,923 8 \$ 670,388 5 \$ 987,169 8 \$ 987,21,826 8 \$ 977,216 8 \$	2018 2,516 \$ 27,693 \$ 432,565 \$ 75,625 \$ 134,484 \$ 21,513 \$ 45,550 \$ 136,975 \$ 1,078,628 \$ 1,078,628 \$ 45,500 \$ 2018 2018 2018	Total 19,918 222,465 3,583,361 609,580 5,553,007 149,602 1,012,445 342,671 1,05,455 14,150,067 14,15
Line 1 2 3 3 4 5 6 7 8 9 10 11 12 13 14 5 16 17 16 17 18 17 18 10 10 10 10 10 10 10 10 10 10	Residential           Appliance Recycling Program           Energy Education Program for Schools           Energy Education Program for Schools           Home Energy Improvement Program           My Home Energy Report           Neighborhood Energy Saver           Multi-Family           Residential Energy Assessments           Residential New Construction           Save Energy and Water Kit           Lost Residential Revenues           Found Residential Revenues           Net Lost Residential Revenues           Energy Efficiency for Business           Energy Efficiency Saver           Energy Efficiency Saver           Non-Residential Revenues           Found Non-Residential Revenues           Found Non-Residential Revenues           Found Non-Residential Revenues	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		2016(a) 5,095 59,240 1,033,814 163,848 5,419,524 44,319 332,768 74,198 298,122 362,685 7,792,613 7,792,613 7,792,613 191,245 1,638,655 246,438 1,100,746 3,3184,332 (68,561) 2016(a)	2017(a) \$ 12,309 \$ 15,532 \$ 2,116,841 \$ 370,108 \$ 5 5 052,933 \$ 650,165 \$ 222,933 \$ 670,358 \$ 670,358 \$ 670,358 \$ 987,159 \$ 5,278,826 \$ 3,101,812 \$ 12,102 \$ 12,102	2018 2,515 \$ 27,693 \$ 432,565 \$ 75,625 5 134,484 \$ 21,513 \$ 45,550 \$ 20,7709 \$ 2018 2018 2018 5 20 5 20 20 20 20 20 20 20 20 20 20	Total 19.918 222,465 3,563,3261 609,580 1,012,445 342,671 1,105,455 1,551,663 14,150,067 14,
Line 1 2 3 3 4 5 6 7 8 9 101 11 12 3 14 15 16 17 18	Residential           Appliance Recycling Program           Energy Education Program for Schools           Energy Education Program for Schools           Home Energy Improvement Program           My Home Energy Report           Neighborhood Energy Saver           Multi-Family           Residential Energy Assessments           Residential Revolues           Found Residential Revenues           Found Residential Revenues           Non-Residential           Non-Residential           Business Energy Reports           Energy Efficiency for Business           Energy Efficiency for Susiness           Energy Efficiency for Business           Energy Efficiency for Business           Energy Efficiency for Business           Energy Wins for Business           Energy Wins for Business           Nerl Lost Non-Residential Revenues           Neural Business           Net Lost Non-Residential Revenues           Neural Stationess           Business           Energy Wins for Business           Neural Stationess           Neural Stationess           Neural Stationess           Neural Stationess           Neural Stationess           Neural Stationess	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2015 - S - S - S - S - S - S - S - S	2016(a) 5.095 5.9,240 1.033,814 163,848 5,419,524 44,319 332,768 7,4198 298,122 362,685 7,792,613 7,792,613 191,245 1,638,505 246,438 1,100,745 3,118,432 (68,561) 3,115,672	2017(a) \$ 12,309 5 \$ 15,532 5 \$ 2,116,841 5 \$ 370,108 5 \$ 5,105,283 5 \$ 658,165 5 \$ 658,165 5 \$ 670,358 5 \$ 670,358 5 \$ 670,358 5 \$ 5,278,826 5 \$ 5,278,826 5 \$ 2017(a) \$ 2017(a) \$ 3,101,812 5 \$ 478,231 5 \$ 2,221,654 5 \$ 19,733 5 \$ 5,821,430 5 \$ 19,733 5 \$ 5,821,430 5 \$ 19,733 5 \$ 5,707,877 5 \$ 5,707,877 5	2018 2,516 \$ 27,693 \$ 432,565 \$ 134,484 \$ 21,513 \$ 201,709 \$ 1,078,628 \$ 1,078,628 \$ (451,010,51) 2018 2018 2018 2018 2018 2018	Total      19,918     222,465     3,583,361     609,580     5,553,007     5,553,007     1,012,445     342,671     1,105,455     14,150,067     14,150,07     14,150,07     14,150,07     1

\$

-Z015 2016(s) 2017(a) 2018 - 5 115,745 \$ 66,983 \$

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Supplemental Evans Exhibit 2, page 5 NO CHANGE

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#### Duke Energy Progress For the Period January J, 2015 - December 31, 2016 Docket Number E-2, Sub 1174 North Carolina Net Lost Revenue True Up for Vintages 2015 - 2016

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S. 1

		Vinta	ge 2015 Variano	e Lost Revenue kWh S		-		•
Uni	Residential		2015	2016(a)	_2017(a)	2018		Total
1	Appliance Recycling Program	5	- s	- 5	18 628	S AG 185	•	64 949
2	Energy Education Program for Schools	5	8,729 \$	14,741 \$	23.574	\$ 40,185	ŝ	54,812 71,576
3	Energy Efficient Lighting	5	- 5	- 5	(797,365)	\$ 536,645	š	(260 721)
5	Monu-Family	5	- 5	- \$	28,255	\$ 65,009	\$	93 264
6	My Home Energy Report	ş	(27,168) \$	(62,018) 5	92,297	\$ 182,264	\$	185,375
7	Neighborhood Energy Saver	5	(995,662) 2	- 5		5 -	\$	(995,862)
8	Residential New Construction	č	30 004 6	- Ş	19,587	5 15,265	S	34,852
9	Save Energy and Water Kit	s		01,770 3	69,519	5 54,943	s	246,137
10	Lost Residential Revenues	Ś	(974, 996) \$	14 493 \$	(525 503)	÷ 024.702	<u>~</u>	-
11	Found Residential Revenues	ŝ	5	- 5	(123,307)	ə 324,193 s	2	1560,617)
12	Net Lost Residential Revenues	\$	(974,396) \$	14,493 \$	(525,507)	\$ 924.793	\$	(560 617)
							•	
			2015	2016(a)	2017(a)	2018		Total
13	Energy Efficiency for Business		-	-	214 022	374 002		500 444
14	Energy Efficient Lighting		-		(742 587)	126 026		588,114 (816 561)
15	Small Business Energy Saver		-	•	154,863	315 792		470 655
18	Energywise for Business			<u> </u>	(69)			(69)
17	Net Lost Non-Residential Revenues		0	0	[373,771]	815 910	-	442 120
18	Found Non-Residential Revenues	5	- \$	- 5		5 -	s	
19	Net Lost Non-Residential Revenues	\$	- \$	- 5	(373,771)	\$ 815,910	\$	442,139
20	DSDR		2015	2016(a)	2017(a)	2018		Total
20	Dabr		-	-	-	-	\$	•
Line	Peridential	Vinta	e 2016 Variance	Lost Revenue kWh \$				
6410	Residential		2015	2016(a)	2017(a)	2018		Total
1	Appliance Recycling Program							
2	Energy Education Program for Schools	÷		2014	(191,440)	\$ 2,515	5	(188,925)
Э	Energy Efficient Lighting	ŝ		7,224 8	38,520	27,693	5	73,437
3	Home Energy improvement Program	ŝ	- 5	(41) \$	(130,300)	a 432,565	ş	296,205
4	My Home Energy Report	ŝ	- 5	(1.357.515) \$	247,004	₽ /3,023 \$ 134,494	2	322,967
5	Neighborhood Energy Saver	ŝ	- š	- 5	21.028	a 134,404	3 t	(1,223,032)
6	Multi-Family	S	- 5	(28,648) \$	122 503	5 21 513		21,020
7	Residential Energy Assessments	s	- \$	- 5	161,398	45 550	š	206 049
8	Residential New Construction	\$	- \$	3,469 \$	234,020	5 136 975	š	374 464
	Save Energy and Water Kit	<u>s</u>	- \$	30 075 \$	365 510	201,709	ŝ	597 294
10	LOST Residential Revenues							for arr
		\$	- \$	(1,345,437) \$	852,563	1.078.628	Ś	343.733
t1	Found Residential Revenues	\$ 5	- \$	(1,345,437) \$	862,563	1,078,628	\$ \$	393,735
t1 12	Found Residential Revenues Net Lost Residential Revenues	\$ 5 5	- \$ - \$	(1,345,437) \$ - \$ (1,345,437) \$	862,563	1,078,628	\$ \$ \$	595,755
t1 12	Found Residential Revenues Net Lost Residential Revenues	\$ 5 5	- \$ - 5 - \$	(1,345,437) \$ \$ (1,345,437) \$	852,563 862,563	1,078,628	\$ \$ \$	595,755
t1 12	Found Residential Revenues Net Lost Residential Revenues Non-Residential	\$ 5 5	- \$ - 5 - \$ 2015	(1,345,437) \$ (1,345,437) \$ (1,345,437) \$	862,563 ( 862,563 ( 862,563 ( 2017(a)	2018	\$ \$ \$	595,755 595,755
t1 12 11	Found Residential Revenues Net Lost Residential Revenues Non-Residential Business Energy Reports	\$ <u>5</u> 5	- \$ - \$ - \$	(1,345,437) \$ - \$ (1,345,437) \$ 2016(0)	852,563 ( 852,563 ( 862,563 ( 2017(a)	2018	\$ \$ \$	595,755 595,755
t1 12 11 12	Found Residential Revenues Net Lost Residential Revenues Non-Residential Business Energy Reports Energy Efficiency for Business	\$ <u>5</u> 5	- \$ - \$ - \$	(1,345,437) \$ - \$ (1,345,437) \$ 2016(0) 191,245 (55)	2017(a)	2018	\$ <u>\$</u> \$	595,755 595,755 Total
11 12 11 12 11 12 13	Found Residential Revenues Net Lost Residential Revenues Non-Residential Business Energy Reports Energy Efficiency for Business Energy Efficiency for Business	\$ <u>5</u> \$	- \$ - \$ 2015	(1,345,437) \$ 	2017(a) 1,206,407 (773 485)	\$ 1,078,628 5 1,078,528 2018 632,371 632,371	\$ <u>\$</u> \$	595,755 595,755 Total 191,245 1,838,722
11 12 11 12 13 14	Found Residential Revenues Net Lost Residential Revenues Non-Residential Business Energy Reports Energy Efficiency for Business Energy Efficient Lighting Small Business Energy Saver	\$\$	- \$ - \$ - \$	(1,345,437) 5 (1,345,437) 5 (1,345,437) 5 2016(o) 191,245 (55) (5,56)	2017(a) 1,206,407 (773,486) 663,656	2018 2018	\$ \$ \$	595,755 595,755 Total 191,245 1,838,722 (676,988) 1 510 025
11 12 11 12 13 14 15	Found Residential Revenues Net Lost Residential Revenues Non-Residential Business Energy Reports Energy Efficiency for Business Energy Efficient Lighting Small Business Energy Saver EnergyWeth Business	\$ <u>5</u> 5	- \$ - \$ - \$	(1,345,437) \$ 	2017(a) 1,206,407 (773,486) 663,658 (7 380)	2018 632,371 97,498 452,932 4029	\$ \$ \$	595,755 595,755 Total 191,245 1,838,722 (675,968) 1,110,235 (4 472)
11 12 11 12 13 14 15 16	Found Residential Revenues Net Lost Residential Non-Residential Business Energy Reports Energy Efficiency for Business Energy Efficiency for Business Energy Saver EnergyWise for Business Net Lost Non-Residential Revenues	\$ <u>5</u> 	- \$ - \$ - \$	(1,345,437) 5 (1,345,437) 5 (1,345	2017(a) 1,206,407 (773,486) 663,658 (7,380) 1,98,200	2018 632,371 97,488 452,932 4,023 1196,824	\$ \$ \$	595,755 595,755 191,245 1,838,722 (676,968) 1,110,235 (14,672)
11 12 11 12 13 14 15 16 17	Found Residential Revenues Net Lost Residential Revenues Non-Residential Business Energy Reports Energy Efficiency for Business Energy Efficiency for Business Net Lost Non-Residential Revenues Net Lost Non-Residential Revenues	\$	- \$ - \$ - \$ 2015	(1,345,437) 5 	2017(a) 1,206,407 (773,486) 1,089,209 0,089,209 0	2018 2018 2018 452,932 4,023 1,186,824 452,932 4,023 1,186,824 (113,552)	\$ \$ \$	595,755 595,755 191,245 1,838,722 (676,968) 1,110,236 (14,672) 2,449,341 (410,662)
11 12 11 12 13 14 15 16 17 18	Found Residential Revenues Net Lost Residential Revenues Non-Residential Business Energy Reports Energy Efficient Liphong Small Business Energy Saver Energy Efficient Liphong Small Business Fuergy Saver EnergyWise for Business Net Lost Non-Residential Revenues Net Lost Non-Residential Revenues Net Lost Non-Residential Revenues	\$ <u>\$</u> \$	- \$ - \$ 2015 - - - - - - - - - - - - - - - - - - -	(1,345,437) \$ 	2017(a) 1,206,407 (773,486) 663,668 (7,380) 1,089,209 0 1,089,209	2018 2018 2018 	\$ \$ \$	595,755 595,755 Total 191,245 1,838,722 (676,968) 1,110,235 (14,672) 2,449,341 (13,552) 2,335,789
11 12 13 14 15 16 17 18	Found Residential Revenues Net Lost Residential Revenues Non-Residential Business Energy Reports Energy Efficiency for Business Energy Efficient Lighting Small Business For Business Net Lost Non-Residential Revenues Net Lost Non-Residential Revenues Net Lost Non-Residential Revenues OSDR	\$ \$ 	- \$ - \$ - \$ 2015 - - - - - - - - - - - - - - - - - - -	(1,345,437) \$ 	2017(a) 1,206,407 (773,486) 663,658 (7,380) 1,089,209 0 0 1,089,209 0 1,089,209 0 0 1,089,209 0 0 1,089,209 0 0 0 0 0 0 0 0 0 0 0 0 0	2018 2018 2018 	\$	595,755 595,755 191,245 1,838,722 (676,968) 1,110,235 (676,968) 1,110,235 (676,968) 1,110,235 (676,968) 1,110,235 (676,968) 1,110,235 (676,968) 1,110,235 (676,968) 1,110,235 (775,755) 2,445,341 (118,552) 2,445,341 (118,552) 2,345,755
t1 12 11 12 13 14 15 16 17 18	Found Residential Revenues Net Lost Residential Revenues Non-Residential Business Energy Reports Energy Efficiency for Business Energy Efficiency for Business Energy Saver Energy Saver Energy Saver Energy Saver Net Lost Non-Residential Revenues Net Lost Non-Residential Revenues Net Lost Non-Residential Revenues DSDR	\$\$	- \$ - \$ 2015  - - - - - - - - - - - - - - - - -	(1,345,437) \$ (1,345,437) \$ (1,345,437) \$ 2016(a) 191,245 (56) (11,515) 173,308 0 173,308 \$ 2016(a)	2017(a) 1,206,407 (773,486) 663,668 (7,380) 1,089,209 1,089,209 2017(a)	2018 2018 	\$ \$ \$	Total           191,245           1,838,722           (676,968)           1,110,236           (14,672)           2,449,341           (113,552)           2,335,789           Total

	R8-68]Filing Requirements
	Bring Your/Own Thermostat (("BYOT") //EnergyWise Home (Summer)
Filing Requi	rements
(c)(2)(i)(a)	Measure'/ Program Name
	Bring Your Own Thermostat ("BYOT") Measure / EnergyWise Home (Summer)
(c)(2)(i)(b)	Consideration to be Offered
	BYOT Measure Related Program Modifications:
	Residential customers of Duke Energy Progress, LLC ("DEP" or "Company"), by enrolling in the EnergyWise Home program, agree to allow the Company to temporarily remotely control their eligible thermostats via the internet as a means of direct load control at any time the Company has capacity problems, including generation, transmission or distribution capacity problems or reactive power problems.
	<ul> <li>Residential customers who meet specific criteria (see (c)(2)(I)(c) below) will receive an invitation via a third-party vendor on behalf of the Company to enroll in the BYOT measure.</li> </ul>
	<ul> <li>Enrollees are compensated for their voluntary participation in the program and retain the ability to override (opt-out of) individual events or exit the program.</li> </ul>
(c)(2)(i)(c)	Anticipated Total Cost of the Measure / Program
]	See Attachment B, Line 12.
(c)(2)(i)(d)	Source and Amount of Funding Proposed to be Used
	All program costs will be funded from the Company's general funds, consisting of all sources of capital.
	<ul> <li>These costs will be subject to cost recovery through a DSW/EE annual cost recovery rider consistent with Commission Bule R8-69(b)</li> </ul>
	<ul> <li>See Attachment B, line 12 for the estimated level of required funding.</li> </ul>
(c)(2)(i)(e)	Proposed Classes of Persons to Whom This Will be Offered
	The BYOT measure is available to residential customers served by the Company in single- family homes, condos or townhomes who already possess, have installed and have registered/ activated one or more of the supported smart thermostat devices. Customer must own or occupy the residence or occupy and provide owner's consent.
(c)(2)(ii)(a)	Describe the Measure / Program's Objective
	BYOT Measure Related Program Modifications:
,	BYOT provides the Company with an additional Demand Response ("DR") measure for its EnergyWise Home (Summer) program. Rather than utilizing traditional paging or cellular load control switches which must be installed at the customer's residence, BYOT manages load by remotely accessing the customers' eligible thermostats and by making automated adjustments to reduce kW demand in near-real time.

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(c)(2)(ii)(b)	Describe the Measure / Program Duration
	Duration – see Attachment A, line 1.
(c)(2)(ii)(c)	Describe the Measure / Program Sector and Eligibility Requirements
	BYOT Measure Related Program Modifications:
	DEP residential customers as described in (c)(2)(i)(e) above with active accounts and eligible thermostats will be invited to participate in the Program. Customers that are already enrolled in EnergyWise® will not be actively recruited at this time.
(c)(2)(ii)(d)	Examples of Communication Materials and Related Cost
	BYOT Related Program Modifications:
	The Company will engage a BYOT vendor (third-party aggregator) to provide, implement and support a BYOT measure which includes marketing and recruitment services provided by the vendor (subject to the Company's branding and messaging policies). Charges for these services are typically included in specified program fees, paid to the vendor by the utility.
	Methods of recruitment may include, but are not limited to:
7	Direct customer engagement via the thermostat manufacturer's online web portal
	<ul> <li>Invitation to enroll by direct email, interactive PDF or link to enrollment portal</li> </ul>
4	Invitation to enroll by text or other mobile application
	• Company public website (at a later time in the program)
(c)(2)(ii)(e)	Estimated Number of Participants
	Estimated DEP Participation – see Attachment A, lines 3 - 12.
(c)(2)(ii)(f)	Impact that each measure or program is expected to have on the electric public utility or electric membership corporation, its customer body as a whole, and its participating North Carolina customers
	Estimated DEP Impact – see Attachment A, lines 13 - 49.
(c)(2)(ii)(g)	Any other information the electric public utility or electric membership corporation believes is relevant to the application, including information on competition known by the electric public utility or the electric membership corporation
	Not applicable.
(c)(2)(iii)(a)	Proposed Marketing Plan Including Market Barriers and how the Electric Public Utility Plans to Address Them
] ,	BYOT Measure Related Program Modifications:

BYOT vendors typically establish direct relationships with selected thermostat manufacturers, who in turn notify the vendor when a customer within a specified territory (usually identified by zip code) has activated his/her thermostat via the manufacturer's online activation portal.

 Upon validation by the utility, the customer is then extended an invitation by the vendor (on behalf of the utility) to enroll in the BYOT measure and participate in DR "events" as initiated by the utility. Invitations are extended via the methods listed in section (c)(2)(ii)(d) above.

Bring Yo	ur Own Thermostat
Market Barrier	Actions to Address
Lack of awareness/understanding on the part of the customer regarding DR programs in general, how they work and what the benefits are (for the customer, the utility and the community).	Ensure that messaging includes clear, easy to understand information regarding the program and DR as a whole. Provide clear channels to customer support via phone, email or direct online chat.
Fear on the part of the customer that the utility may be eavesdropping on them, controlling their thermostat against their will, damaging the thermostat device, causing discomfort to the customer or some other unwanted intrusive action.	These concerns should be anticipated when third parties such as utilities request remote access to appliances within customers' homes. All messaging and customer support must proactively provide assurance and education about each issue, including the customers' right to opt-out or exit the program at any time, and after the first year of participation without penalty.
Disruptive or competing programs/incentives on the part of the thermostat manufacturer(s) that may lessen or adversely affect the utility's DR capabilities/efforts.	Partnering with BYOT vendors allows the utility to leverage the vendors' relationships with the thermostat manufacturers and to cooperatively design DR programs that are to everyone's benefit. The utility is also in the position to cross- market additional energy efficiency measures or programs to the customers which thermostats manufacturers cannot provide.
Total Market Potential and Estimate the Program	ed Market Growth throughout the Duration of
BYOT Measure Related Program Modific Market potential represents the number of defined in the program tariff. There are a the criteria for this program as of 2017.	cations: of eligible customers based on eligibility requirements pproximately 74,000 residential customers that meet
Estimated Market Growth (Participation)	– see Attachment A, lines 3 - 12.
Estimated Summer and Winter Pea Aggregate by Year	k Demand Reduction by Unit Metric and in the
Estimated Summer and Winter Peak Der lines 23 – 24, and Attachment E, lines 1	mand Reduction – see Attachment A, lines 13 - 17 and - 10.
	Bring Yo Market Barrier Lack of awareness/understanding on the part of the customer regarding DR programs in general, how they work and what the benefits are (for the customer, the utility and the community). Fear on the part of the customer that the utility may be eavesdropping on them, controlling their thermostat against their will, damaging the thermostat device, causing discomfort to the customer or some other unwanted intrusive action. Disruptive or competing programs/incentives on the part of the thermostat manufacturer(s) that may lessen or adversely affect the utility's DR capabilities/efforts. Total Market Potential and Estimate the Program BYOT Measure Related Program Modified Market potential represents the number defined in the program tariff. There are a the criteria for this program as of 2017. Estimated Market Growth (Participation) Estimated Summer and Winter Peak Der lines 23 – 24, and Attachment E, lines 1

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ſ	ˈ(c)(2)(iii)(d)	Estimated Energy Reduction per Appropriate Unit Metric and in the Aggregate by Year
	·	Estimated Energy Reduction – see Attachment A, lines 18 - 22 and lines 25 - 29.
ſ	(c)(2)(iii)(e)	Estimated Lost Energy Sales per Appropriate Unit metric and in the Aggregate by Year
		Not applicable.

(c)(2)(iii)(f)	Estimated Load Shape Impacts
	See sections (c)(2)(iii)(c) and (c)(2)(iii)(d).
(c)(2)(iv)(a)	Estimated Total and Per Unit Cost and Benefit of the Measure / Program and the Planned Accounting Treatment for Those Costs and Benefits
	Costs associated with this program will be subject to deferral and amortization. DEP is also eligible to recover a return on any outstanding deferred balance [R8-69(b)(6)].
	Total estimated cost by category – see Attachment B, lines 6 - 9. Total estimated benefit – see Attachment B line 11.
	Total estimated per unit cost by category – see Attachment D, lines 1 - 25.
) ; ;	Data shown on Attachment B represents present value of cost and benefits over the life of the program.
(c)(2)(iv)(b)	Type, Amount, and Reason for Any Participation Incentives and Other Consideration and to Whom They Will be Offered, Including Schedules Listing Participation Incentives and Other Consideration to be Offered
	BYOT Measure Related Program Modifications:
	Participants in the BYOT measure will receive a one-time enrollment incentive of \$75 at the time of enrollment.
	<ul> <li>Participants who continue to remain in the program will also receive an annual incentive of \$25, paid at the end of each completed year of participation.</li> </ul>
(c)(2)(iv)(c)	Service Limitations or Conditions Planned to be Imposed on Customers Who do not Participate in the Measure / Program
	BYOT Measure Related Program Modifications:
 	There are no service limitations or conditions to be imposed on customers who do not participate in the measure/program.
	Program participants who voluntarily opt-out of a maximum of 2 (two) DR events within a

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·	peaking season may be asked to leave the program and, as such, receive no further compensation from that point onward.
	<ul> <li>Additionally, participants whose thermostat remains chronically offline or unavailable for any reason will be notified by the Company of the situation and provided with an opportunity to remedy. Failure to remedy the situation allows the Company to ask the customer to leave the program, as above.</li> </ul>
	<ul> <li>If the Company is unable to communicate with the Customer's thermostat(s) during a load control event, it will be counted as a control event override.</li> </ul>
(c)(2)(v)	Cost-Effectiveness Evaluation (including the results of all cost-effectiveness tests and should include, at a minimum, an analysis of the Total Resource Cost Test, the Participant Test, the Utility Cost Test, and the Ratepayer Impact Measure Test) Description of the Methodology Used to Produce the Impact Estimates, as well as, if Appropriate, Methodologies Considered and Rejected in the Interim Leading to the Final Model Specification
	See Attachment B, line 13.
(c) <u>(</u> 2)(vi)	Commission Guidelines Regarding Incentive Programs (provide the information necessary to comply with the Commission's Revised Guidelines for Resolution of Issues Regarding Incentive Programs, issued by Commission Order on March 27, 1996, in Docket No. M-100, Sub 124, set out as an Appendix to Chapter 8 of these rules)
]	The EnergyWise Home program and the BYOT measure do not provide any inducement or incentive affecting participant's decision to install or adopt natural gas or electric service.
(c)(2)(vii)	Integrated Resource Plan (explain in detail how the measure is consistent with the electric public utility's or electric membership corporation's integrated resource plan filings pursuant to Rule R8-60)
	Energy and capacity reductions from this program will be included for planning purposes in future integrated resource plans.
(c)(2)(viii)	Other (any other information the electric public utility or electric membership corporation believes relevant to the application, including information on competition known by the electric public utility or the electric membership corporation)
	Not applicable.
Additional F	iling Requirements
(c)( <u>3)(i)(a)</u>	Costs and Benefits- Any Costs Incurred or Expected to be Incurred in Adopting and Implementing a Measure / Program to be Considered for Recovery Through the Annual Rider Under G.S. 62-133.9
	See Attachment C, lines 11 - 35.
(c)(3)(i)(b)	Estimated total costs to be avoided by the measure by appropriate capacity, energy and measure unit metric and in the aggregate by year

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 i	See Attachment A, lines 40 - 49.
(c)(3)(i)(c)	Estimated participation incentives by appropriate capacity, energy, and measure unit metric and in the aggregate by year
	Incentive per cumulative kW – see Attachment E, lines 21 - 25. Incentive per cumulative kWh – see Attachment F, lines 16 - 20. Incentive per participant – see Attachment D, lines 11 - 15.
(c)(3)(i)(d)	How the electric public utility proposes to allocate the costs and benefits of the measure among the customer classes and jurisdictions it serves
	The program costs for DSM/DR programs targeted at North Carolina and South Carolina residential customers are allocated to North Carolina retail jurisdiction based on the ratio of North Carolina one-hour coincident peak. Rate Class Allocation (allocated jurisdictional costs will be further allocated to all rates classes, based upon one-hour coincident peak) then recovered only from North Carolina residential customers.
(c)(3)(i)(e)	The capitalization period to allow the utility to recover all costs or those portions of the costs associated with a new program or measure to the extent that those costs are intended to produce future benefits as provided in G.S. 62-133.9(d)(1)
]	No costs from this program will be capitalized.
(c)(3)(i)( <u>f</u> )	The electric public utility shall also include the estimated and known costs of measurement and verification activities pursuant to the Measurement and Verification Reporting Plan described in paragraph (ii)
	The Company's estimated evaluation, measurement and verification ("EM&V") costs for this program is estimated to be 5% of total portfolio costs.
(c)(3)(ii)(a)	Measurement and Verification Reporting Plan for New Demand-Side Management and Energy Efficiency Measures: Describe the industry-accepted methods to be used to evaluate, measure, verify, and validate the energy and peak demand savings estimated in (2)(iii)c and d above
	The Company will use an independent, third-party evaluator specializing in the EM&V of demand reduction program impacts to provide the appropriate EM&V support. The independent, third-party consultant will customize an EM&V plan with specific activities to carry out the evaluation approach described below.
:	Objectives
]	Impact evaluation activities verify demand reduction impacts attributable to the program. Process evaluation activities assess the effectiveness of program processes and their impact on the broader program market. Specific objectives for the evaluation of the program include the following:

- Estimate the average (kW) and aggregate (MW) load reductions that are achieved during load control events and the overall average event.
- Forecast load impacts under different event conditions (i.e., time of day, temperature) to create a time/temperature matrix for use by the program.
- Evaluate effectiveness of program design and processes.

# Impact Evaluation

The goal of the impact evaluation is to assess the average (kW) and aggregate (MW) load reductions attributable to the program. The independent, third-party EM&V consultant will determine the detailed analysis methodologies, sample design and data collection activities. The target level for precision is 90/10.

For the impact evaluation, the consultant will utilize data loggers that will be installed on air conditioning units to estimate end use load impacts during load control events. Load impact estimation will be accomplished using regression models in order to obtain accurate and precise estimates.

# **Process Evaluation**

The goal of the process evaluation is to assess program design and implementation processes to improve effectiveness or operational efficiencies. Through the process evaluation, the evaluation contractor will document significant components of the program including program accomplishments, administrative processes and participant experiences during load events, customer satisfaction, program successes and opportunities for improvement to program design and delivery. Ultimately, the process evaluation will provide guidance regarding opportunities for more effective program implementation.

# **Process Evaluation Activities**

The evaluation team will complete in-depth interviews with participant households and program staff and implementers to understand program processes.

Market Actor	Research Issues (Illustrative)	Approximate Sample Size	
Program Implementers and Associated Staff Interviews	<ul> <li>Understand program processes, particularly event notification procedures, how incentives are paid and how the program is communicated to customers</li> <li>Develop a program logic model that depicts program processes</li> <li>Identify areas where processes could be improved</li> </ul>	TBD*	
Participant	<ul> <li>Determine participant satisfaction,</li> </ul>		
Households	particularly post-event	TBD*	
Surveys	Determine participation satisfaction,		

# Process Evaluation Interviews/Surveys

# Bring Your Own Thermostat / EnergyWise Home (Summer)

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	particularly during non-events
	*Sample size will be determined based on the number of program participants.
(c)(3) <u>(ii)(b)</u>	Measurement and Verification Reporting Plan for New Demand-Side Management and Energy Efficiency Measures: Provide a schedule for reporting the savings to the Commission
	The schedule for the EM&V actions will begin after the program has a sufficient amount of participation from which to draw a statistically significant sample. The evaluation plan may be modified based on the actual participation in the Program, as needed to provide a cost effectiveness evaluation, and as agreed to by the independent third-party.
(c)(3)(ii)(c)	Measurement and Verification Reporting Plan for New Demand-Side Management and Energy Efficiency Measures: describe the methodologies used to produce the impact estimates, as well as, if appropriate, the methodologies it considered and rejected in the interim leading to final model specification
	Please refer to section R8-68 (c)(3)(ii)a which provides information regarding the methodologies used to produce impact estimates associated with this program.
(c)(3)(ii)(d)	Measurement and Verification Reporting Plan for New Demand-Side Management and Energy Efficiency Measures: Identify any third party and include all of the costs of that third party, if the electric public utility plans to utilize an independent third party for purposes of measurement and verification
	An independent, third-party consultant will be engaged to provide EM&V services.
(c)(3)(iii)	Cost Recovery Mechanism- Describe the Proposed Method of Cost Recovery From its Customers
	The Company seeks to recover program costs and a utility incentive pursuant to the approved cost recovery mechanism in Commission Docket No. E-2, Sub 931.
( ) ( ) ( )	

The tariff proposed by the Company for this program is included as Attachment G.

(c)(3)(v) Utility Incentives- Indicate Whether it Will Seek to Recover Any Utility Incentives, Including, if Appropriate, Net Lost Revenues, in Addition to its Costs

The Company seeks a utility incentive pursuant to the approved cost recovery mechanism approved by the North Carolina Utilities Commission in Docket No. E-2, Sub 931 on January 20, 2015.

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# Attachment A

# Participation

Bring Your Own Thermostat / EnergyWise® Home				
1	Measure Life (Average)	1		
2	Free Rider % (Average)	0%		
3	Incremental Participants Year 1	21,944		
4	Incremental Participants Year 2	51,544		
5	Incremental Participants Year 3	79,062		
6	Incremental Participants Year 4	105,351		
7	Incremental Participants Year 5	133,428		
8	Cumulative Participation Year 1	21,944		
9	Cumulative Participation Year 2	51,544		
10	Cumulative Participation Year 3	79,062		
11	Cumulative Participation Year 4	105,351		
12	Cumulative Participation Year 5	133,428		
13	Cumulative Summer Coincident kW w/ losses (net free) Year 1	35,963		
14	Cumulative Summer Coincident kW w/ losses (net free) Year 2	78,576		
15	Cumulative Summer Coincident kW w/ losses (net free) Year 3	117,658		
16	Cumulative Summer Coincident kW w/ losses (net free) Year 4	154,242		
17	Cumulative Summer Coincident kW w/ losses (net free) Year 5	191,358		
18	Cumulative kWh w/ losses (net free) Year 1	0		
19	Cumulative kWh w/ losses (net free) Year 2	0		
20	Cumulative kWh w/ losses (net free) Year 3	0		
21	Cumulative kWh w/ losses (net free) Year 4	0		
22	Cumulative kWh w/ losses (net free) Year 5	0		
23	Per Participant Weighted Average Coincident Saved Winter kW w/ losses	0.05		
24	Per Participant Weighted Average Coincident Saved Summer kW w/ losses	1.64		
25	Per Participant Average Annual kWh w/ losses (net free) Year 1	0		
26	Per Participant Average Annual kWh w/ losses (net free) Year 2	0		
27	Per Participant Average Annual kWh w/ losses (net free) Year 3	0		
28	Per Participant Average Annual kWh w/ losses (net free) Year 4	0		
29	Per Participant Average Annual kWh w/ losses (net free) Year 5	0		
30	Cumulative Lost Revenue (net free) Year 1	\$0		
31	Cumulative Lost Revenue (net free) Year 2	\$0 `		
32	Cumulative Lost Revenue (net free) Year 3	\$0		
33	Cumulative Lost Revenue (net free) Year 4	\$0		
34	Cumulative Lost Revenue (net free) Year 5	\$0		
	Average Lost Revenue per Participant (net free) Year 1	\$0		
36	Average Lost Revenue per Participant (net free) Year 2	\$0		
37	Average Lost Revenue per Participant (net free) Year 3	\$0		
38	Average Lost Revenue per Participant (net free) Year 4	\$0		
39	Average Lost Revenue per Participant (net free) Year 5	\$0		
40	Total Avoided Costs/MW saved Year 1	\$109,196		
41	Total Avoided Costs/MW saved Year 2	\$111,652		
42	Iotal Avoided Costs/MW saved Year 3	\$114,311		
43	Iotal Avoided Costs/MW saved Year 4	\$117,152		
44	Total Avoided Costs/MW saved Year 5	\$120,084		
45	Iotal Avoided Costs/MWh saved Year 1	N/A		
46	Total Avoided Costs/MWh saved Year 2	N/A		
47	The Avoided Costs/MWh saved Year 3	N/A		
48	Total Avoided Costs/MWh saved Year 4			
49	Total Avoided Costs/MWh saved Year 5	N/A		

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# Attachment B Cost-Effectiveness Evaluation

Bring Your Own Thermostat / EnergyWise® Home					
		UCT	TRC	RIM	Participant
1	Avoided T&D Electric	\$66,828,683	\$66,828,683	\$66,828,683	\$0
2	Cost-Based Avoided Elec Production	\$0	\$0	\$0	\$0
3	Cost-Based Avoided Elec Capacity	\$86,687,111	\$86,687,111	\$86,687,111	\$0
4	Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$0
5	Net Lost Revenue Net Fuel	\$0	\$0	\$0	\$0
6	EM&V Costs	\$2,812,872	\$2,812,872	\$2,812,872	\$0
7	Implementation Costs	\$30,747,601	\$30,747,601	\$30,747,601	\$0
8	Incentives	\$21,803,002	\$0	\$21,803,002	\$21,803,002
9	Other Utility Costs	\$6,478,144	\$6,478,144	\$6,478,144	\$0
10	Participant Costs	\$0	\$0	\$0	\$0
11	Total Benefits	\$153,515,794	\$153,515,794	\$153,515,794	\$21,803,002
12	Total Costs	\$61,841,619	\$40,038,617	\$61,841,619	\$0
13	Benefit/Cost Ratios	2.48	3.83	2.48	-
	Data represents present val	ue of costs and b	enefits over the	e life of the prog	Iram.

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# Attachment C

Program Costs by Year

Bring Your Own Thermostat / EnergyWise® Home			
1	Incremental Participants Year 1	21,944	
2	Incremental Participants Year 2	51,544	
3	Incremental Participants Year 3	79,062	
4	Incremental Participants Year 4	105,351	
5	Incremental Participants Year 5	133,428	
6	Total Participant Costs Year 1	\$0	
7	Total Participant Costs Year 2	\$0	
8	Total Participant Costs Year 3	\$0	
9	Total Participant Costs Year 4	\$0	
10	Total Participant Costs Year 5	\$0	
11	EM&V Costs Year 1	\$288,751	
12	EM&V Costs Year 2	\$290,381	
13	EM&V Costs Year 3	\$329,540	
14	EM&V Costs Year 4	\$390,996	
15	EM&V Costs Year 5	\$422,300	
16	Implementation Costs Year 1	\$5,820,093	
17	Implementation Costs Year 2	\$5,637,636	
18	Implementation Costs Year 3	\$5,361,095	
19	Implementation Costs Year 4	\$5,235,508	
20	Implementation Costs Year 5	\$5,185,952	
21	Total Incentives Year 1	\$1,167,712	
22	Total Incentives Year 2	\$1,736,556	
23	Total Incentives Year 3	\$2,558,717	
24	Total Incentives Year 4	\$3,122,237	
25	Total Incentives Year 5	\$3,884,601	
26	Other Utility Costs Year 1	\$384,451	
27	Other Utility Costs Year 2	\$508,400	
28	Other Utility Costs Year 3	\$646,050	
29	Other Utility Costs Year 4	\$710,556	
30	Other Utility Costs Year 5	\$820,327	
31	Total Utility Costs Year 1	\$7,661,007	
32	Total Utility Costs Year 2	\$8,172,973	
33	Total Utility Costs Year 3	\$8,895,402	
34	Total Utility Costs Year 4	\$9,459,297	
35	Total Utility Costs Year 5	\$10,313,180	

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# Attachment D

Program Costs per Participant

Bring Your Own Thermostat / EnergyWise® Home				
1	Average Per Participant EM&V Costs Year 1	\$13		
2	Average Per Participant EM&V Costs Year 2	\$6		
3	Average Per Participant EM&V Costs Year 3	\$4		
4	Average Per Participant EM&V Costs Year 4	\$4		
5	Average Per Participant EM&V Costs Year 5	\$3		
6	Average Per Participant Implementation Costs Year 1	\$265		
7	Average Per Participant Implementation Costs Year 2	\$109		
8	Average Per Participant Implementation Costs Year 3	\$68		
9	Average Per Participant Implementation Costs Year 4	\$50		
<u>1</u> 0	Average Per Participant Implementation Costs Year 5	\$39		
11	Average Per Participant Incentives Year 1	\$53		
12	Average Per Participant Incentives Year 2	\$34		
13	Average Per Participant Incentives Year 3	\$32		
14	Average Per Participant Incentives Year 4	\$30		
15	Average Per Participant Incentives Year 5	\$29		
16	Average Per Participant Other Utility Costs Year 1	\$18		
17	Average Per Participant Other Utility Costs Year 2	\$10		
18	Average Per Participant Other Utility Costs Year 3	\$8		
19	Average Per Participant Other Utility Costs Year 4	\$7		
20	Average Per Participant Other Utility Costs Year 5	\$6		
21	Average Per Participant Total Utility Costs Year 1	\$349		
22	Average Per Participant Total Utility Costs Year 2	\$159		
23	Average Per Participant Total Utility Costs Year 3	\$113		
24	Average Per Participant Total Utility Costs Year 4	\$90		
25	Average Per Participant Total Utility Costs Year 5	\$77		

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# Attachment E

Program Costs per kW

Bring Your Own Thermostat / EnergyWise® Home				
1	Cumulative Winter Coincident kW w/ losses (net free) Year 1	1,189		
2	Cumulative Winter Coincident kW w/ losses (net free) Year 2	2,469		
3	Cumulative Winter Coincident kW w/ losses (net free) Year 3	3.661		
4	Cumulative Winter Coincident kW w/ losses (net free) Year 4	4,793		
5	Cumulative Winter Coincident kW w/ losses (net free) Year 5	5,861		
6	Cumulative Summer Coincident kW w/ losses (net free) Year 1	35,963		
7	Cumulative Summer Coincident kW w/ losses (net free) Year 2	78,576		
8	Cumulative Summer Coincident kW w/ losses (net free) Year 3	117,658		
9	Cumulative Summer Coincident kW w/ losses (net free) Year 4	154,242		
10	Cumulative Summer Coincident kW w/ losses (net free) Year 5	191,358		
11	EM&V Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 1	\$8		
. 12	EM&V Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 2	\$4		
- 13	EM&V Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 3	\$3		
14	EM&V Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 4	\$3		
15	EM&V Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 5	\$2		
16	Implementation Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 1	\$162		
17	Implementation Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 2	\$72		
18	Implementation Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 3	\$46		
19	Implementation Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 4	\$34		
20	Implementation Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 5	\$27		
21	Incentives / Cumulative Summer Coincident kW w/ losses (net free) Year 1	\$32		
22	Incentives / Cumulative Summer Coincident kW w/ losses (net free) Year 2	\$22		
23	Incentives / Cumulative Summer Coincident kW w/ losses (net free) Year 3	\$22		
24	Incentives / Cumulative Summer Coincident kW w/ losses (net free) Year 4	\$20		
25	Incentives / Cumulative Summer Coincident kW w/ losses (net free) Year 5	\$20		
26	Other Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 1	\$11		
27	Other Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 2	\$6		
28	Other Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 3	\$5		
29	Other Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 4	\$5		
30	Other Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 5	\$4		
31	Total Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 1	\$213		
32	Total Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 2	\$104		
33	Total Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 3	\$76		
34	Total Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 4	\$61		
35	Total Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 5	\$54		

# Attachment F

Program Costs per kWh

Bring Your Own Thermostat / EnergyWise® Home				
1	Cumulative kWh w/ losses (net free) Year 1	0		
2	Cumulative kWh w/ losses (net free) Year 2	0		
3	Cumulative kWh w/ losses (net free) Year 3	0		
4	Cumulative kWh w/ losses (net free) Year 4	0		
5	Cumulative kWh w/ losses (net free) Year 5	0		
6	EM&V Costs / Cumulative kWh w/ losses (net free) Year 1	N/A		
7	EM&V Costs / Cumulative kWh w/ losses (net free) Year 2	N/A		
8	EM&V Costs / Cumulative kWh w/ losses (net free) Year 3	N/A		
9	EM&V Costs / Cumulative kWh w/ losses (net free) Year 4	N/A		
10	EM&V Costs / Cumulative kWh w/ losses (net free) Year 5	N/A		
11	Implementation Costs / Cumulative kWh w/ losses (net free) Year 1	N/A		
12	Implementation Costs / Cumulative kWh w/ losses (net free) Year 2	N/A		
13	Implementation Costs / Cumulative kWh w/ losses (net free) Year 3	N/A		
14	Implementation Costs / Cumulative kWh w/ losses (net free) Year 4	N/A		
15	Implementation Costs / Cumulative kWh w/ losses (net free) Year 5	N/A		
16	Incentives / Cumulative kWh w/ losses (net free) Year 1	N/A		
17	Incentives / Cumulative kWh w/ losses (net free) Year 2	N/A		
18	Incentives / Cumulative kWh w/ losses (net free) Year 3	N/A		
19	Incentives / Cumulative kWh w/ losses (net free) Year 4	N/A		
20	Incentives / Cumulative kWh w/ losses (net free) Year 5	N/A		
21	Other Utility Costs / Cumulative kWh w/ losses (net free) Year 1	N/A		
22	Other Utility Costs / Cumulative kWh w/ losses (net free) Year 2	N/A		
23	Other Utility Costs / Cumulative kWh w/ losses (net free) Year 3	N/A		
24	Other Utility Costs / Cumulative kWh w/ losses (net free) Year 4	N/A		
25	Other Utility Costs / Cumulative kWh w/ losses (net free) Year 5	<u>N/A</u>		
26	Total Utility Costs / Cumulative kWh w/ losses (net free) Year 1	N/ <u>A</u>		
27	Total Utility Costs / Cumulative kWh w/ losses (net free) Year 2	N/A		
28	Total Utility Costs / Cumulative kWh w/ losses (net free) Year 3	N/A		
29	Total Utility Costs / Cumulative kWh w/ losses (net free) Year 4	N/A		
30	Total Utility Costs / Cumulative kWh w/ losses (net free) Year 5	N/A		

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Duke Energy Progress, LLC (North Carolina Only)

### RESIDENTIAL SERVICE - LOAD CONTROL RIDER LC-SUM-5

### AVAILABILITY

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This Rider is available in conjunction with all residential service schedules. Participating Customers may choose to employ (1) Company-provided Load Control Device(s) or (2) eligible Customer-owned thermostat(s) to interrupt service to each installed, approved electric central air conditioning unit and/or electric heat pump and to monitor their operation under the provisions of this Rider.

Customers choosing to employ Company-provided Load Control Device(s) contracts for Company or its representative to install and operate the necessary control equipment in a location provided by Customer and suitable to Company in or about the residential dwelling unit. This option is only available where Company has the necessary communications equipment installed and where load control signal can be satisfactorily received at Company's specified location on Customer's residence.

Customers choosing to employ their own eligible thermostat(s), listed on the Company's website, must have the thermostat(s) configured in a manner which allows the Company to remotely communicate and control Customer's equipment.

Company shall be allowed to monitor Customer's load or any part thereof and the operation of controlled appliances, at no charge, to Customer under the provisions of this Rider. To participate in the program, Customer must either own and occupy the residence or occupy and provide Company with owner-consent.

### PARTICIPATION INCENTIVES

Customer shall receive an Initial Incentive Payment following the successful installation and testing of the Load Control Device(s). Following each twelve months of continuous participation on the program Customer shall receive an additional Annual Incentive. Customer leaving the program may return anytime to the program, but shall not receive the Initial Incentive Payment and must complete a twelve-month continuous participation on the program to receive an additional Annual Incentive.

### REFERRAL INCENTIVE

A participating Customer shall receive a \$25 Incentive for each new program participant that provides a referral code and successfully enrolls in either Rider LC-WIN or Rider LC-SUM, or both. Successful enrollment shall include installation of the necessary control equipment in or about the new Customer's residential dwelling unit, to interrupt service to each installed, approved electric central air conditioning unit and/or electric heat pump. The maximum referral Incentive available to any participating Customer shall not exceed \$100 (or four referrals) per calendar year. The participating Customer will be provided the referral Incentive within 30 days of successful installation at the new Customer's premise. Company will verify and track referrals by unique referral codes provided to participating Customers. New Customers will be required to provide a referral code at the time of enrollment.

### PAYMENT OF INCENTIVES

The Company's payment of Incentives may be offered in a variety of ways, including, but not limited to, bill credits, checks, and prepaid credit cards as follows:

- Initial Incentive for Company-provided Load Control Device(s) \$25 per residence
- Initial Incentive for Customer-provided eligible Thermostat(s) \$75 per residence

- Annual Incentive for Company-provided Load Control Device(s) \$25 per residence
- Annual Incentive for Customer-provided eligible Thermostat(s) \$25 per residence

# APPROVED CENTRAL AIR CONDITIONING UNIT

An approved electric central air conditioning and/or electric heat pump unit is a central electric air conditioning unit used to cool the residence through a ducted system. All central air conditioning and/or electric heat pump units installed at the residence must participate in load control in order to receive the Annual Incentive.

# **INTERRUPTION**

Company shall be allowed, at its discretion, to interrupt service to each air conditioner for up to four hours during each day of the summer control season months of May through September. Company reserves the right for longer interruption in the event continuity of service is threatened. Air conditioner interruptions shall be limited to a total of 60 hours during any one summer season. The Company reserves the right to test the load control equipment at any time, and such test periods shall be counted towards the maximum hourly interruption limit. Customer shall have the option to override an air conditioner based control event; however, if Customer exceeds two (2) control event overrides in a single control season of May through September, Customer may be subject to removal from the program and shall forfeit the next subsequent Annual Incentive for that controlled device. A control event override is defined as Customer requesting exemption from part or whole of the interruption time period. If Company is unable to communicate with Customer's thermostat(s) during a load control event, it will be counted as a control event override.

### EQUIPMENT INSPECTION AND SERVICING

Company or its agents shall have the right of ingress and egress to Customer's premises at all reasonable hours for the purpose of inspecting Company's wiring and apparatus; changing, exchanging, or repairing its property, as necessary; or removing its property after termination of service. Company and Customer shall schedule a convenient time for such purposes whenever it is necessary to service Company's equipment installed inside the residence. If any tampering with Company-owned equipment occurs, Company may adjust the billing and take other action in accordance with the Rules and Regulations of the North Carolina Utilities Commission and the laws of the State of North Carolina as applicable to meter tampering.

### CONTRACT PERIOD

The Contract Period shall not be less than one year. Customer or Company may terminate participation under the Rider by providing 30 days prior notice to the other party. If within the first year, the Customer wishes to discontinue participation in this Program, the Customers using Company provided Load Control Device(s) will pay a \$25 service charge and Customers who have received initial thermostat based incentive will pay a \$75 service charge. Upon termination, the load control device(s), at Customer's residence will be remotely disabled to prevent further load control.

### SALES TAX

To the above charges will be added any applicable North Carolina Sales Tax.

# COMPANY RETENTION OF PROGRAM BENEFITS

#### RIDER LC-SUM-3B

Incentives and other considerations offered under the terms of this Program are understood to be an essential element in the recipient's decision to participate in the Program. Upon payment of these considerations, Company will be entitled to any and all environmental, energy efficiency, and demand reduction benefits and attributes, including all reporting and compliance rights, associated with participation in the Program.

Supersedes LC-SUM-3B Effective for service rendered on and after NCUC Docket No. E-2, Sub 927

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RIDER LC-SUM-3B

# FILED

JUN 2 0 2018

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# BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

### DOCKET NO. E-2, SUB 1174

CIERSONCE
N.C. Utilities Commission
APPLICATION OF
DUKE ENERGY PROGRESS,
LLC FOR APPROVAL OF
DEMAND-SIDE
MANAGEMENT AND
ENERGY EFFICIENCY COST
<b>RECOVERY RIDER</b>

Duke Energy Progress, LLC ("DEP" or the "Company"), pursuant to N.C. Gen. Stat. § 62-133.9 and Rule R8-69 of the Rules and Regulations of the North Carolina Utilities Commission (the "Commission"), hereby applies to the Commission for approval of its demand-side management ("DSM") and energy efficiency ("EE") cost recovery rider for 2019. In support of this Application, DEP respectfully shows the Commission the following:

1. The Applicant's general offices are located at 410 South Wilmington Street, Raleigh, North Carolina 27601, and its mailing address is Post Office Box 1551, Raleigh, North Carolina 27602-1551.

2. The attorneys for the Company, to whom all communications and pleadings should be addressed, are:

Kendrick Fentress Associate General Counsel Duke Energy Corporation P.O. Box 1551/NCR11 20 Raleigh, North Carolina 27602 Telephone: (919) 546-6733 Kendrick.Fentress@duke-energy.com

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Molly McIntosh Jagannathan Troutman Sanders LLP 301 South College Street, Suite 3400 Charlotte, North Carolina 28202

# Telephone: (704) 998-4074 Molly.Jagannathan@troutman.com

3. N.C. Gen. Stat. § 62-133.9(d) authorizes the Commission to approve an annual rider to the rates of electric public utilities to recover all reasonable and prudent costs incurred for the adoption and implementation of new DSM and EE programs. Recoverable costs include, but are not limited to, all capital costs, including cost of capital and depreciation expense, administrative costs, implementation costs, incentive payments to program participants, and operating costs. Such rider shall consist of the utility's forecasted costs during the rate period and an Experience Modification Factor ("EMF") to collect the difference between the utility's actual reasonable and prudent costs incurred during the test period and actual revenues realized during the test period. The Commission is also authorized to approve incentives to utilities for adopting and implementing new DSM and EE programs, including rewards based on the sharing of savings achieved by the programs.

4. Rule R8-69(b) provides that the Commission will each year conduct a proceeding for each electric public utility to establish an annual DSM/EE rider to recover DSM- and EE-related costs.

5. According to Rule R8-69(e), the electric public utility is to file its application for recovery of DSM and EE costs at the same time it files the information required by Rule R8-55, and the Commission is to conduct an annual DSM/EE rider hearing as soon as practicable after the hearing required by Rule R8-55.

6. Pursuant to the provisions of N.C. Gen. Stat. § 62-133.9 and Commission Rule R8-69, the Company requests the establishment of a rider to recover its reasonable and prudent DSM and EE costs, including program costs, net lost revenues, incentives, and an EMF. All costs, including net lost revenues and Portfolio Performance Incentive, are calculated pursuant to the *Order Approving Revised Cost Recovery and Incentive Mechanism and Granting Waivers* issued by the Commission in Docket No. E-2, Sub 931 on January 20, 2015. The calculations of these costs, and the associated rider and EMF rates, are described in the Direct Testimony and Exhibits of Carolyn T. Miller. The rider and EMF are intended to allow DEP to recover \$186,955,504 of DSM and EE expenses, net lost revenues, and incentives. This amount includes the estimated under-collection of \$10,783,557 associated with test period activities during the period beginning January 1, 2017 and ending December 31, 2017, and an estimated \$176,171,947 for expenses, net lost revenues, and incentives to be incurred during the rate period from January 1, 2019 through December 31, 2019.

7. Pursuant to the provisions of N.C. Gen. Stat. § 62-133.9 and Commission Rule R8-69, the Company requests Commission approval of the annual billing adjustments as follows (all shown on a cents per kilowatt-hour ("kWh") basis with and without NC regulatory fee):

Rate Class	DSM Rate (¢/kWh)	EE Rate (¢/kWh)	DSM EMF (¢/kWh)	EE EMF Rate (¢/kWh)	DSM/EE Annual Rider (¢/kWh)
Residential	0,120	0.530	0.009	(0.006)	0.653
General Service EE		0.684		0.122	0,806
General Service DSM	0,062		(0.018)		0.044
Lighting		0.099		0.001	0.100

Excluding regulatory fee:

Including regulatory fee:

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			, .	EE	DSM/EE
Rate Class	DSM Rate	EE Rate	DSM EMF	EMF	Annual
indic Cluss	(¢/kWh)	(¢/kWh)	(¢/kWh)	Rate	Rider
				(¢/kWh)	(¢/kWh)
Residential	0.120	0.531	0.009	(0.006)	0.654
General Service EE		0.685		0.122	0.807
General Service DSM	0.062		(0.018)		0.044
Lighting		0.099		0.001	0.100

The DSM/EE rider will be in effect for the twelve-month period January 1, 2019 through December 31, 2019.

8. Pursuant to Commission Rule R8-69(b)(6), DEP requests approval to defer prudently incurred costs to FERC account 182.3, "Other Regulatory Assets," until recovered. In addition, pursuant to Commission Rule R8-69(b)(6), DEP requests approval to defer the costs it incurs in adopting and implementing new DSM and EE measures up to six months prior to DEP filing for Commission approval of such measures in accordance with Commission Rule R8-68.

9. The Company has included herewith, as required by Commission Rule R8-69, the direct testimony and exhibits of witnesses Carolyn T. Miller and Robert P. Evans in support of its filing and the requested change in rates.

WHEREFORE, the Company respectfully prays:

That, consistent with this Application, the Commission approve the changes to its rates as set forth in paragraph 7 above.

Respectfully submitted this 20th day of June 2018.

By: <u>Mally M. Jaganrathan</u> Kendrick Fentress

Associate General Counsel Duke Energy Corporation P.O. Box 1551/NCRH 20 Raleigh, North Carolina 27602 Telephone: (919) 546-6733 Kendrick.Fentress@duke-energy.com

Molly McIntosh Jagannathan Troutman Sanders LLP 301 South College Street, Suite 3400 Charlotte, North Carolina 28202 Telephone: (704) 998-4074 Molly.Jagannathan@troutman.com

ATTORNEYS FOR DUKE ENERGY PROGRESS, LLC

Carolyn T. Miller, being first duly sworn, deposes and says:

That she is MANAGER, RATES AND REGULATORY STRATEGY of DUKE ENERGY PROGRESS, LLC, applicant in the above-titled action; that she has read the foregoing Application and knows the contents thereof; that the same is true except as to the matters stated therein on information and belief; and as to those matters, she believes it to be true.

Sworn to and subscribed before me this the 20th day of June, 2018.

Notary J

My Commission Expires: 7-30-


Exhibit CN-1



# **CHRISTOPHER NEME, PRINCIPAL**

## EDUCATION

M.P.P., University of Michigan, 1986 B.A., Political Science, University of Michigan, 1985

## EXPERIENCE

2010-present: Principal (and Co-Founder), Energy Futures Group, Hinesburg, VT 1999-2010: Director of Planning & Evaluation, Vermont Energy Investment Corp., Burlington, VT 1993-1999: Senior Analyst, Vermont Energy Investment Corp., Burlington, VT 1992-1993: Energy Consultant, Lawrence Berkeley National Laboratory, Gaborone, Botswana 1986-1991: Senior Policy Analyst, Center for Clean Air Policy, Washington, DC

## **PROFESSIONAL SUMMARY**

Chris specializes in analysis of markets for energy efficiency, renewable energy and strategic electrification measures and the design and evaluation of programs and policies to promote them. During his 25+ years in the clean energy industry, Mr. Neme has worked for energy regulators, utilities, government agencies and advocacy organizations in nearly 30 states, 5 Canadian provinces and several European countries. He has defended expert witness testimony before regulatory commissions in ten different jurisdictions; he has also testified before several state legislatures.

## SELECTED PROJECTS

- Green Mountain Power (Vermont). Support development and implementation of GMP's plan for reducing customers' direct consumption of fossil fuels. Also developed 10-year forecast different levels of promotion of residential heat pumps and electric vehicles. (2016 to present)
- Ontario Energy Board: Serve on gas DSM Evaluation Committee, advisory committee on gas efficiency potential study and advisory committee on carbon price forecast. (2015-present)
- Alberta Energy Efficiency Alliance. Drafting white paper on key ways in which consideration of "efficiency as a resource" could be institutionalized. Paper followed presentations to government agencies and others on behalf of the Pembina Institute. (2017 to present)
- Green Energy Coalition (Ontario). Represent coalition of environmental groups in regulatory proceedings, utility negotiations and stakeholder meetings on DSM policies (including integrated resource planning on pipeline expansions) and utility proposed DSM Plans. (1993 to present)
- New Jersey Board of Public Utilities. Serve on management team responsible for statewide delivery of New Jersey Clean Energy Programs. Lead strategic planning; support regulatory filings, cost-effectiveness analysis & evaluation work. (2015 to present)
- Natural Resources Defense Council (Illinois, Michigan and Ohio). Critically review multiyear DSM plans and IRPs of Illinois, Michigan and Ohio utilities. Draft and defend regulatory testimony. Represent NRDC in stakeholder-utility processes governing development of efficiency policy manuals, annual TRM updates, annual NTG updates, etc. (2010 to present)
- Toronto Atmospheric Fund. Helped draft an assessment of efficiency potential from retrofitting of cold climate heat pumps into electrically heated multi-family buildings (2017).



## **CHRISTOPHER NEME, PRINCIPAL**

- *E4TheFuture.* One of five authors of a new 2017 National Standard Practice Manual for costeffectiveness analysis of energy efficiency and other distributed resources. (2016-present)
- **Regulatory Assistance Project U.S.** Provide guidance on efficiency policy and programs. Lead author on strategic reports on achieving 30% electricity savings in 10 years, using efficiency to defer T&D system investments, & bidding efficiency into capacity markets. (2010 to present)
- **Regulatory Assistance Project Europe.** Provide support on efficiency policies in the UK, Germany, and other countries. Reviewed EU policies on Energy Savings Obligations, EM&V protocols, and related issues. Drafted policy brief on efficiency feed-in-tariffs. (2009 to present)
- Northeast Energy Efficiency Partnerships. Helped manage Regional EM&V forum project estimating savings for emerging technologies, including field study of cold climate heat pumps. Led assessment of best practices on use of efficiency to defer T&D investment. (2009 to 2015)
- Ontario Power Authority. Managed jurisdictional scans on leveraging building efficiency labeling requirements and non-energy benefits. Led staff workshop on efficiency as an alternative to T&D investment. (2012-2015)
- Vermont Public Interest Research Group. Conducted comparative analysis of the economic and environmental impacts of fuel-switching from oil/propane heating to either natural gas or efficient, cold climate electric heat pumps. Filed regulatory testimony on findings. (2014-2015)
- National Association of Regulatory Utility Commissioners (NARUC). Assessed alternatives to first year savings goals to better promote longer-lived savings. (2013)
- California Investor-Owned Utility. Senior advisor on EFG project to compare the cost of saved energy across ~10 leading U.S. utility portfolios. The research sought to determine if there are discernable differences in the cost of saved energy related to utility spending in specific non-incentive categories, including administration, marketing, and EM&V. (2013)
- New York State Energy Research and Development Authority (NYSERDA). Led residential & renewables portions of several statewide efficiency potential studies. (2001 to 2010)
- DC Department of the Environment (Washington DC). Part of VEIC team administering the DC Sustainable Energy Utility (SEU). Helped characterize the DC efficiency market and supported the design of efficiency programs that the SEU will be implementing. (2011 to 2012)
- Ohio Public Utilities Commission. Senior Advisor to a project to develop a web-based Technical Reference Manual (TRM). The TRM includes deemed savings assumptions, deemed calculated savings algorithms and custom savings protocols. It was designed to serve as the basis for all electric and gas efficiency program savings claims in the state. (2009 to 2010)
- Vermont Electric Power Company. Led residential portion of efficiency potential study to assess alternatives to new transmission line. Testified before Public Service Board. (2001-2003)
- *Efficiency Vermont.* Served on Sr. Management team. Supported initial project start-up. Oversaw residential planning, input to regulators on evaluation, input to regional EM&V forum, development of M&V plan and other aspects of bidding efficiency into New England's Forward Capacity Market (FCM), and development and updating of nation's first TRM. (2000 to 2010)



# EVALUATION OF DUKE ENERGY'S HELPING HOME FUND October 15, 2017





id in docket

Docket No. E-2, Sub 1174

Maness Exhibit I Page 1 of 41

## COST RECOVERY AND INCENTIVE MECHANISM FOR DEMAND-SIDE MANAGEMENT AND ENERGY EFFICIENCY PROGRAMS

(Docket No. E-2, Sub 931, as Modified by the Commission, to be Effective January 1, 2016, and as revised by the Commission in Docket No. E-2, Sub 1145)

## (NOTE: EXCLUDES ATTACHMENTS)

The purpose of this Mechanism is (1) to allow Duke Energy Progress, Inc. (DEP or Company), to recover all reasonable and prudent costs incurred for adopting and implementing demand-side management (DSM) and energy efficiency (EE) Measures defined as new under G.S. 62-133.9, Commission Rules R8-68 and R8-69, the Commission's orders, and the additional principles set forth below; (2) to establish the terms, conditions, and methodology to be used for the recovery of Net Lost Revenues (NLR) and a Portfolio Performance Incentive (PPI) to reward DEP for adopting and implementing DSM and EE Measures and Programs, based on the sharing of dollar savings achieved by those Measures and Programs, if the Commission deems such recovery and reward appropriate; (3) to provide for an additional incentive to further encourage kilowatt-hour (kWh) savings achievements; and (4) to establish certain terms, requirements, and guidelines that will govern and/or guide (a) requests by DEP for Commission approval of DSM and EE Programs, (b) Program management and modifications, (c) Evaluation, Measurement, and Verification (EM&V) of Programs, (d) procedural matters and the general structure of the DSM/EE and DSM/EE EMF riders, (e) regulatory reporting requirements, and (f) DEP's Stakeholder Collaborative. The definitions set out in G.S. 62-133.8 and G.S. 62-133.9 and Commission Rules R8-68 and R8-

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Maness Exhibit II Schedule 1

#### Duke Energy Progress, LLC Docket No. E-7, Sub 1174 CALCULATION OF PUBLIC STAFF RECOMMENDED BILLING FACTORS REFLECTING THE REMOVAL OF THE RESIDENTIAL SMART \$AVER EE PROGRAM AND THE PUBLIC STAFF AVOIDED CAPACITY COST ZEROS ADJUSTMENT

		Reflecting Rei	recc nova lic S	nart \$aver EE					
		rgin, and rub		Adjustment	apat	ily 003120103			
Line		Rate		Regulatory			Billing Rates	Public Staff	
No.	Item	(cents/kWh)	_ 1/ _	Fee	_2/_	Billing Rate 3	Per Company 4/	Adjustment	5/
		(a)		(b)		(C)	(d)	(e)	
1	Residential Rate:								
2	EMF Rate - DSM	0.009		-		0.009	0,009	-	
3	EMF Rate - EE	(0.006)		-		(0.006)	(0.006)	-	
4	Projected Rate - DSM	0.119	7/	-		0.119	0.120	(0.001)	
5	Projected Rate - EE	0.515	6/	0.001	_	0.516	0.521	(0.005)	
6	Total Residential Rate	0.637	-		-	0.638	0.644	(0.006)	
7	General Service EE Rate:								
8	EE EMF Rate	0.122		-		0.122	0.122	-	
9	EE Projected Rate	0.695	6/	0.001	_	0.696	0.698	(0.002)	
10	Total General Service EE Rate	0.817			=	0.818	0.820	(0.002)	
11	General Service DSM Rate:								
12	DSM EMF Rate	(0.018)		-		(0.018)	(0.018)	-	
13	DSM Projected Rate	0.061	71	-		0.061	0.063	(0.002)	
14	Total General Service DSM Rate	0.043	-		=	0.043	0.045	(0.002)	
15	Lighting EE Rate:								
16	Lighting EE EMF Rate	0.001		-		0.001	0.001	-	
17	Lighting EE Projected Rate	0.099	6/	-		0,099	0.099	-	
18	Total Lighting EE Rate	0.100	_		-	0.100	0.100		

1/ Supplemental Miller Exhibit 1 (Revised), unless otherwise noted.

2/ Reflects regulatory fee rate of 0.140%.

3/ Column (a) + Column (b).

4/ Supplemental Miller Exhibit 1 (Revised).

5/ Column (c) - Column (d).

6/ Maness Exhibit II, Schedule 3-1, Column (j).

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7/ Maness Exhibit II, Schedule 3-2, Column (i).

#### Maness Exhibit II Schedule 1(a)

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#### Duke Energy Progress, LLC Docket No. E-7, Sub 1174 CALCULATION OF PUBLIC STAFF RECOMMENDED BILLING FACTORS REFLECTING ONLY THE ADJUSTMENT TO REMOVE THE RESIDENTIAL SMART \$AVER EE PROGRAM

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		Public Staff F Reflecting Onl	Reco y Ad Sma	mmended Rai ljustment to Re art \$aver EE P						
Line	item	Rate (cents/kWh)	1/_	Regulatory Fee	_ 2/	Billing Rate	3/	Billing Rates Per Company	41_	Public Staff Adjustment
		(a)		(b)		(c)		(d)		(e)
1	Residential Rate:									
2	EMF Rate - DSM	0.009		-		0.009		0.009		-
3	EMF Rate - EE	(0.006)		-		(0.006)		(0.006)		-
4	Projected Rate - DSM	0.120		-		0.120		0.120		-
5	Projected Rate - EE	0.517	6/	0.001	-	<u>0.518</u>		0.521	_	(0.003)
6	Total Residential Rate	0.640	=		=	0.641		0.644	E	(0.003)
7	General Service EE Rate:									
8	EE EMF Rate	0.122		-		0.122		0.122		-
9	EE Projected Rate	0.697	6/	0.001	_	0.698		0.698	_	_
10	Total General Service EE Rate	0.819	-		-	0.820		0.820	=	
11	General Service DSM Rate:									
12	DSM EMF Rate	(0.018)		-		(0.018)		(0.018)		-
13	DSM Projected Rate	0.063		-	_	0.063		0.063	_	
14	Total General Service DSM Rate	0.045	2		-	0.045		0.045	=	-
15	Lighting EE Rate:									
16	Lighting EE EMF Rate	0.001		-		0.001		0.001		-
17	Lighting EE Projected Rate	0.099	6/	-		0.099		0.099	-	
18	Total Lighting EE Rate	0.100				0.100		0.100	_	-

1/ Supplemental Miller Exhibit 1 (Revised), unless otherwise noted.

2/ Reflects regulatory fee rate of 0.140%.

3/ Column (a) + Column (b).

4/ Supplemental Miller Exhibit 1 (Revised).

5/ Column (c) - Column (d).

6/ Maness Exhibit II, Schedule 2, Column (j).

#### Duke Energy Progress, LLC Docket No. E-7, Sub 1174 CALCULATION OF PUBLIC STAFF RECOMMENDED VINTAGE 2019 REVENUE REQUIREMENT - REMOVAL OF RESIDENTIAL SMART \$AVER EE PROGRAM ONLY

					EE Revenue Requirements												
Line No.	NC Rate Class(a)	Adjusted NC Rate <u>Class kWh Sales</u> 1 (b)	Rate Class Energy Allocation / <u>Factor</u> 1 (c)	/	Residential Programs (d)		IG Programs (e)	1/	DSDR (f)	, _1/	Non-DSDR Allocated A&G and Carrying <u>Costs</u> (g)		DSDR Allocated A&G and Carrying Costs (h)	1/_	Total of Allocated Costs (i)	5/ <u>Total EE Rate</u> (j)	6/
1	Residential	15,740,238,953	60.65%	\$	58,996,084	2/\$	-	\$	14,597,379	\$	6,751,733	4/	\$ 977,130		\$ 81,322,326	0.517	
2	General Service	9,852,771,378	37.96%		-		53,311,105		9,137,386		5,598,552	4/	611,645		68 <b>,6</b> 58,687	0.697	
3	Lighting	361,265,217	1.39%		-				335,035			_ 4/ _	22,427	-	357,461	0.099	
4	NC Retail	25,954,275,548	100.00%	\$	58,996,084	\$	53,311,105	_\$	24,069,799	\$	12,350,284	_ 3/ _	\$ 1,611,202	=	\$ 150,338,474		

1/ Supplemental Miller Exhibit 2, Page 1 (Revised).

2/ Reflects the removal of \$424,305 in rate period 2019 revenue requirements associated with the Residential Smart \$aver EE Program.

3/ Reflects a reduction of \$88,189 in carrying costs due to removal of Vintage 2019 Residential Smart \$aver EE Program costs from deferred program cost base.

4/ N.C. retail costs totaled in this column are allocated to customer classes on the basis of non-DSDR revenue requirements (excluding PPI and net lost revenues).

5/ Sum of Colums (d) - (h).

6/ Column (i) divided by Column (b).

#### Duke Energy Progress, LLC Docket No. E-7, Sub 1174 CALCULATION OF PUBLIC STAFF RECOMMENDED VINTAGE 2019 EE REVENUE REQUIREMENT - REMOVAL OF RESIDENTIAL SMART \$AVER EE PROGRAM AND AVOIDED CAPACITY COST ZEROS ADJUSTMENT

					EE Revenue Requirements											
Line	NC Rate Class	Adjusted NC Rate	Rate Class Energy Allocation Eactor 1	,	Residential Programs	c	G Programs		DSDR	4 1/	Non-DSDR Nocated A&G and Carrying		DSDR Allocated A&G and	Total of	6/ Total EE Pate	7/
	(a)	(b)	(c)	•	(d)		(e)		(f)	. ''	(g)		(h)	(i)	- 01 <u>- 1012/ CE 1121</u> ()	.,
1	Residential	15,740,238,953	60.65%	\$	58,787,351	2/\$	-	\$	14,597,379	\$	6,751,733	5/	\$ 977,130	\$ 81,113,592	0.515	
2	General Service	9,852,771,378	37.96%		-		53,178,060	3/	9,137,386		5,598,552	5/	611,645	68,525,642	0.695	
3	Lighting	361,265,217	1.39%						335,035			_ 5/	22,427	357,461	0.099	
4	NC Retail	25,954,275,548	100.00%	<u> </u>	58,787,351		53,178,060	\$	24,069,799	<u>\$</u>	12,350,284	4/	\$ 1,611,202	\$ 149,996,696	<b>-</b>	

1/ Supplemental Miller Exhibit 2, Page 1 (Revised).

2/ Reflects the removal from rate period 2019 revenue requirements of \$208,733 in amortized Vintage 2019 PPI associated with Public Staff "zeros" adjustment and \$424,305 associated with the Residential Smart Saver EE Program.

3/ Reflects the removal from rate period 2019 revenue requirements of \$133,045 in amortized Vintage 2019 PPI associated with Public Staff "zeros" adjustment.

4/ Reflects a reduction of \$88,189 in carrying costs due to removal of Vintage 2019 Residential Smart Saver EE Program costs from deferred program cost base.

5/ N.C. retail costs totaled in this column are allocated to customer classes on the basis of non-DSDR revenue requirements (excluding PPI and net lost revenues).

6/ Sum of Colums (d) - (h).

7/ Column (i) divided by Column (b).

#### Duke Energy Progress, LLC Docket No. E-7, Sub 1174 CALCULATION OF PUBLIC STAFF RECOMMENDED VINTAGE 2019 EE REVENUE REQUIREMENT - REMOVAL OF RESIDENTIAL SMART \$AVER EE PROGRAM AND AVOIDED CAPACITY COST ZEROS ADJUSTMENT

		DSM Revenue Requirements									equirements				
Line No.	NC Rate Class (a)	Adjusted NC Rate Class kWh Sales 1/ (b)	Rate Class Demand Allocation <u>Factor</u> 1 (c)	1/_1	EnergyWise Program Costs (d)	-	<u>CIG DR Program</u> (e)		Allocated A&G Costs (f)	_ 1/_	Allocated Carrying Costs (g)	_ 1/ _	Total of Allocated Costs (h)	4/ <u>Total EE Rate</u> (i)	_ 5/
1	Residential	15,740,238,953	67.12%	\$	15,793,668	2/	\$ -		\$ 538,120		\$ 2,475,417		\$ 18,807,205	0.119	
2	General Service	9,737,467,991	32.88%		-		4,721,174	3/	222,164		1, <b>021</b> ,980		5,965,318	0.061	
3	Lighting	360,425,890	0.00%	_	-	_	<u> </u>		-		-		<u> </u>	-	
4	NC Retail	25,838,132,834	100.00%	4	5 15,793,668	=	<u>\$ 4,721,174</u>		\$ 760,284		\$3,497,397		\$ 24,772,524		

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1/ Supplemental Miller Exhibit 2, Page 2 (Revised).

2/ Reflects the removal from rate period 2019 revenue requirements of \$26,019 in amortized Vintage 2019 PPI associated with Public Staff "zeros" adjustment.

3/ Reflects the removal from rate period 2019 revenue requirements of \$120,753 in amortized Vintage 2019 PPI associated with Public Staff "zeros" adjustment.

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4/ Sum of Colums (d) - (g).

5/ Column (h) divided by Column (b).

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Public Staff Williamson Exhibit #1

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Duke Energy Progress, LLC	
Timeline of Cost-Effectiveness for the Residential Smart \$aver EE Program (formerly kit	nown as HEIP)
Docket Number E-2, Sub 1174	

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Filing Year	2012	2013	2014	2015	2016	2017	2018
Vintage Year	V2013	V2014	V2015	V2016	V2017	V2018	V2019
Rider filing projections for the Vintage year (projection)	-	1.20	0.90	0.80	0.49	0.67	0.57
Modification TRC values (projection)	-	-	-	0.91	· -	1.23	-
Actual performance for the Vintage year	0.90	0.80	0.89	0.64	0.48	-	-

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Evene Exhibit 7 to Dub 4446

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#### Public Staff Williamson Exhibit #2

Cuses Exhibit 7 is Sub 4474

Duke Energy Progress, LLC Comparison of "As-Filed" Cost-Effectiveness Scores to Previous DSM/EE Riders Docket Number E-2, Sub 1174

> Changes from Sub 1145 to Sub 1174

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	Evalise		1 200 110	<i></i>	Evalia E		130011				. 545 111	-	
Program	UCT	TRC	RIM	PCT	UCT	TRC	RIM	PCT	UCT	TRC	RIM	PCT	TRC % Change
Residential Programs						··· · ·				-			
Appliance Recycling Program	1.15	1.67	0.39		1.0 <u>7</u>	1.43	0.50	-	-	-	<u> </u>	-	-
Energy Education Program for Schools	0.97	1.33	0.53	-	1.15	1.62	0.54	-	1.62	2.24	0.76	-	38.4%
Energy Efficient Lighting	2.63	3,54	0.50	8.08	2.36	4.09	0.74	8.77	1.79	2.58	0.57	6.36	-36.8%
Home Energy Improvement	0.83	0.49	0.51	0.86	0,91	0.67	0.57	1.30	0.91	0.57	0.48	1.36	-14.7%
Multi-Family	2.15	3,08	0.66	<u> </u>	3.39	6.19	0,81	-	3.00	5.58	0.64	<u> </u>	-9.7%
Neighborhood Energy Saver	0.50	1.87	0.35	-	0.57	1.60	0.37	-	0.46	1.55	0.31	-	-2.8%
Residential Energy Assessments	1.80	2.03	0.75	· ·	2.23	2.53	0.77	-	1.54	1.71	0.60		-32.7%
Residential New Construction	1.11	1.20	0,71	1.95	2.27	1.26	0.97	1.88	1,96	1.03	0.86	1.85	-17.8%
Save Energy and Water Kit	6.76	13.11	0.71	6.76	7.77	19,61	0.84		<u>12.43</u>	27.29	0.95	-	39.2%
Residential Home Advantage	-	-	-		-	<u> </u>	-	-	-		<u> </u>		
My Home Energy Report	1.08	1.08	0.57	6.76	1.42	1.42	0.08		0.96	0.96	0.48	•	-32.7%
EnergyWise Home	10.10	55.80	10.10	6.76	10.06	94,65	10.06	-	9.28	58.30	9.28	-	-38.4%
Residential Total	2.28	2.73	0.83	5.53	3.07	3.16	0.66	10,66	2.79	2.70	1.03	5.28	-14.5%
Non-Residential Programs													1
Business Energy Reports	1,03	1.03	0.64		-	<u> </u>	-	-	-	-	<u> </u>	· · ·	-
Smart\$aver EE Products and Assessment (formally EE for Business)	3,15	1.57	1.22	1.72	-	-	-	-		-	-	-	-
Energy Efficient Lighting	19.03	5.85	0.94	8.38	6.13	10.61	1.92	8.77	4.63	7.98	1.21	12.09	-24.8%
Smart Saver Performance (Custom) <sup>1</sup>	-	-	-	-	3.94	0.98	1.22	1.33	2.45	1.07	0.77	1 99	8.8%
Smart Saver Performance (Prescriptive)	-	-	l -	-	2.64	1.19	1.02	1.79	2	1.01	•411		-10.2%
Smart Saver Performance Incentive	-	-		•	0.54	0.40	0.42	1.58	3.75	0.92	0.95	1.64	126,7%
Small Business Energy Saver	2.36	5.45	1,06	9.01	3.13	2.00	1.13	2.83	2.57	1.60	0.87	2.87	-19.9%
EnergyWise @ for Business	1.29	1.82	1.00	1.72	1.80	2.32	1.25	-	0.72	1.07	0.62		-53.8%
Commercial Industrial Governmental Demand Response	2.62	42.22	2.62	2.81_	2.67	4.33	2.67	-	2.06	33.28	2.06		668.7%
Non-Residential Total	2.86	3.10	1.35	3.20	2.87	1.77	1.25	2.36	2.41	1.56	1.01	2.37	-12.0%
Overall Portfolio total	2.50	2.88	1.00	4.42	2.99	2.45	0.79	5.94	2.63	2.12	1.03	3,67	-13.5%

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<sup>1</sup> Similar to what DEC has done, DEP is combining the Performance Custom and Performance Prescriptive programs due to their similarities in participants and renaming them Non-Residential Smart Saver (formerly known as EE for Business)

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### Public Staff Williamson Exhibit #3

Duke Energy Progress, LLC Comparison of Program/Portfolio Cost Effectiveness - Program Year 2019 Docket Number E-2, Sub 1174

	Original - As Filed							
		Evans E	xhibit 7					
Program	UCT	TRC	RIM	PCT				
Residential Programs				<u> </u>				
Appliance Recycling Program								
Energy Education Program for Schools	1.62	2.24	0.76					
EnergyWise Home	9.28	58.30	9.28					
Home Energy Improvement	0.91	0.57	0.48	1.36				
Neighborhood Energy Saver	0.46	1.55	0.31					
Multi-Family Energy Efficiency Program	3.00	5.58	0.64					
My Home Energy Report	0.96	0.96	0.48					
<ul> <li>Residential Energy Assessments</li> </ul>	1.54	1.71	0.60	_				
Residential New Construction	1.96	1.03	0.86	1.85				
Energy Efficient Lighting	1.79	2.58	0.57	6.36				
Save Energy and Water Kit	12.43	27.29	0.95					
Residential Total	2.79	2.70	1.03	5.28				
Non-Residential Programs				-				
Energy Efficiency for Business	2.45	1.07	0.94	1.51				
Performance Incentive	3.75	0.92	0.95	1.64				
- CIG DRA	2.06	33.28	2.06					
EnergyWise for Business	0.72	1.07	0.62					
Energy Efficient Lighting	4.63	7.98	1.21	12.09				
Small Business Energy Saver	2.57	1.60	0.87	2.87				
Non-Residential Total	-2.41	1.56	1.01	2.37				
Overall Portfolio Total	2.63	2.12	1.03	3.67				

Public Staff position on applying zeros to avoided capacity

Evans Exhibit 7											
UCT	TRC	RIM	PCT								
			-								
1.31	1.77	0.63	•								
8.93	56.11	8.93									
0.81	0.52	0.44	1.36								
0.41	1.21	0.28									
2.69	4.79	0.60									
0.75	0.75	0.39	•								
1.39	1.53	0.56									
1.75	0.95	0.80	1.85								
1.63	2.29	0.54	6.36								
10.71	22.05	0.86									
2.50	2.42	0.96	5.28								
			4 • =								
2.18	0.99	0.87	1.51								
3.37	0.86	0.90	1.64								
1.84	29.83	1.84									
0.42	0.61	0.37									
4.16	6.89	1.13	12.09								
2.24	1.43	0.79	. 2.87								
2.12	1.40	0.92	2.37								
2.34	1.91	0.94	3.67								