

Appendix A
Cost Effectiveness Test Results

Program Name	2014-2015			Participant
	UCT	TRC	RIM	
Appliance Recycling Program	0.95	1.15	0.61	
Energy Efficiency Education Program for Schools	1.06	1.22	0.73	
Low Income Neighborhood	1.16	1.50	0.77	
Low Income Services	0.60	0.79	0.48	
My Home Energy Report	1.83	1.83	1.02	
Residential Energy Assessments	3.53	3.55	1.71	
Residential Smart \$aver®	2.87	2.98	1.15	6.10
Power Manager	3.31	3.86	3.31	
My Home Energy Report - Modifications	2.67	2.67	1.28	
Residential Smart \$aver® - Modifications	2.48	2.46	1.08	4.14
Power Manager® - Modifications	6.38	13.79	6.38	
Power Manager® for Apartments	5.59	9.80	5.59	
Smart \$aver® Custom	7.56	3.46	1.49	3.98
Smart \$aver® Prescriptive - Energy Star Food Service Products	7.96	3.70	1.42	5.51
Smart \$aver® Prescriptive - HVAC	3.67	1.01	1.39	1.38
Smart \$aver® Prescriptive - Lighting	5.02	1.35	1.49	1.72
Smart \$aver® Prescriptive - Motors/Pumps/VFD	6.56	2.35	1.50	3.36
Smart \$aver® Prescriptive - Process Equipment	6.64	4.75	1.80	6.19
Smart \$aver® Prescriptive - IT	0.00	0.00	0.00	
Small Business Energy Saver	3.79	2.42	1.49	2.69
Power Share®	3.98	12.61	3.98	
Pay for Performance	7.09	2.34	1.49	2.38
Power Manager® for Business	3.46	5.89	2.51	

Kentucky DSM Rider

Comparison of Revenue Requirement to Rider Recovery

Residential Programs	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Projected Program Costs 7/2014 to 6/2015 (A)	Projected Lost Revenues 7/2014 to 6/2015 (A)	Projected Shared Savings 7/2014 to 6/2015 (A)	Program Expenditures 7/2014 to 6/2015 (B)	Program Expenditures (C) Gas	Program Expenditures (C) Electric	Lost Revenues 7/2014 to 6/2015 (B)	Shared Savings 7/2014 to 6/2015 (B)	2014 Reconciliation Gas (D)	2014 Reconciliation Electric (E)	Rider Collection (F) Gas	Rider Collection (F) Electric	(Over)/Under Collection Gas (G)	(Over)/Under Collection Electric (H)
Appliance Recycling Program	\$ 193,428	\$ 104,715	\$ 83,130	\$ 141,855	\$ -	\$ 141,855	\$ 68,389	\$ (774)						
Energy Efficiency Education Program for Schools	\$ 229,075	\$ 18,779	\$ (12,239)	\$ 432,452	\$ 103,405	\$ 329,047	\$ 34,865	\$ 2,944						
Low Income Neighborhood	\$ 356,583	\$ 44,247	\$ 7,374	\$ 388,255	\$ -	\$ 388,255	\$ 53,205	\$ 5,819						
Low Income Services	\$ 888,258	\$ 39,067	\$ (31,172)	\$ 758,219	\$ 319,189	\$ 439,030	\$ 42,434	\$ (14,985)						
My Home Energy Report	\$ 574,538	\$ 488,204	\$ 45,284	\$ 721,822	\$ -	\$ 721,822	\$ 565,821	\$ 59,822						
Residential Energy Assessments	\$ 189,993	\$ 28,311	\$ 12,192	\$ 236,719	\$ 83,281	\$ 153,438	\$ 48,741	\$ 59,151						
Residential Smart Saver®	\$ 1,288,736	\$ 1,575,059	\$ 158,816	\$ 1,908,998	\$ 1,075	\$ 1,908,793	\$ 2,165,542	\$ 341,287						
Power Manager	\$ 586,090	\$ -	\$ 130,089	\$ 547,188	\$ -	\$ 547,188	\$ -	\$ 122,563						
Personal Energy Report (I)	\$ -	\$ 2,950	\$ -	\$ -	\$ -	\$ -	\$ 37,820	\$ -						
Home Energy Assistance Pilot Program (J)	\$ 252,236	\$ -	\$ -	\$ 149,004	\$ 62,848	\$ 86,356	\$ -	\$ -			\$ 108,710	\$ 147,094	\$ 3,787,850	\$ 4,880,872
Revenues collected except for HEA														
Total	\$ 4,536,910	\$ 2,281,961	\$ 394,476	\$ 5,285,381	\$ 569,596	\$ 4,715,764	\$ 3,014,618	\$ 575,328	\$ 5,729,820	\$ 1,789,497	\$ 3,694,560	\$ 5,027,966	\$ 2,404,658	\$ 5,047,241

- (A) Amounts identified in report filed in Case No. 2013-00395.
- (B) Actual program expenditures, lost revenues (for this period and from prior period DSM measure installations), and shared savings for the period July 1, 2014 through June 30, 2015.
- (C) Allocation of program expenditures to gas and electric in accordance with the Commission's Order in Case No. 2014-00388.
- (D) Recovery allowed in accordance with the Commission's Order in Case No. 2012-00085.
- (E) Recovery allowed in accordance with the Commission's Order in Case No. 2012-00085.
- (F) Revenues collected through the DSM Rider between July 1, 2014 and June 30, 2015.
- (G) Column (5) + Column (9) - Column(11).
- (H) Column (6) + Column (7) + Column (8) + Column (10) - Column(12).
- (I) Personalized Energy Report is a legacy program which continues to collect lost revenues.
- (J) Revenues and expenses for the Home Energy Assistance Pilot Program.

Commercial Programs	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Projected Program Costs 7/2014 to 6/2015 (A)	Projected Lost Revenues 7/2014 to 6/2015 (A)	Projected Shared Savings 7/2014 to 6/2015 (A)	Program Expenditures 7/2014 to 6/2015 (B)	Lost Revenues 7/2014 to 6/2015 (B)	Shared Savings 7/2014 to 6/2015 (B)	2014 Reconciliation (C)	Rider Collection (D)	(Over)/Under Collection (E)
Smart Saver® Custom	\$ 393,883	\$ 129,375	\$ 101,449	\$ 520,786	\$ 114,090	\$ 338,056			
Smart Saver® Prescriptive - Energy Star Food Service Proc	\$ 18,483	\$ 7,815	\$ 12,013	\$ 55,384	\$ 18,914	\$ 36,548			
Smart Saver® Prescriptive - HVAC	\$ 164,436	\$ 47,807	\$ 80,058	\$ 193,103	\$ (42,282)	\$ 51,312			
Smart Saver® Prescriptive - Lighting	\$ 634,678	\$ 290,867	\$ 310,371	\$ 717,495	\$ 246,378	\$ 288,311			
Smart Saver® Prescriptive - Motors/Pumps/VFD	\$ 43,292	\$ 33,510	\$ 36,678	\$ 59,002	\$ 17,667	\$ 32,817			
Smart Saver® Prescriptive - Process Equipment	\$ 1,830	\$ 1,588	\$ 1,131	\$ 10,835	\$ 3,111	\$ 6,170			
Smart Saver® Prescriptive - IT	\$ 9,619	\$ 1,490	\$ 3,005	\$ 1,891	\$ -	\$ (189)			
Smart Business Energy Saver (G)	\$ 243,051	\$ 14,152	\$ 38,275	\$ 140,841	\$ 1,683	\$ 39,380			
Total	\$ 1,509,450	\$ 526,903	\$ 562,978	\$ 1,869,217	\$ 359,560	\$ 794,404	\$ (160,274)	\$ 989,939	\$ 1,722,988
Power Share®	\$ 1,022,924	\$ -	\$ 332,441	\$ 928,071	\$ -	\$ 274,739	\$ (864,129)	\$ 2,019,111	\$ (1,482,428)
Energy Management and Information Services (F)				\$ 459					

- (A) Amounts identified in report filed in Case No. 2013-00395.
- (B) Actual program expenditures, lost revenues (for this period and from prior period DSM measure installations), and shared savings for the period July 1, 2014 through June 30, 2015.
- (C) Recovery allowed in accordance with the Commission's Order in Case No. 2012-00085.
- (D) Revenues collected through the DSM Rider between July 1, 2014 and June 30, 2015.
- (E) Column (4) + Column (5) + Column (6) + Column (7) - Column (8)
- (F) Discontinued pilot program does not receive cost recovery.
- (G) Amounts identified in report filed in Case No. 2014-00280.

Kentucky DSM Rider

2016-2017 Projected Program Costs, Lost Revenues, and Shared Savings

Residential Program Summary (A),(C)

	Costs	Lost Revenues	Shared Savings	Total	Allocation of Costs (B)		Budget (Costs, Lost Revenues, & Shared Savings)		
					Electric	Gas	Electric Costs	Electric	Gas Costs
Appliance Recycling Program	\$ 103,625	\$ 53,818	\$ 1,678	\$ 159,121	100.0%	0.0%	\$ 103,625	\$ 159,121	\$ -
Energy Efficiency Education Program for Schools	\$ 289,680	\$ 75,058	\$ 121,340	\$ 486,078	77.4%	22.6%	\$ 224,147	\$ 420,546	\$ 65,532
Low Income Neighborhood	\$ 277,903	\$ 94,535	\$ (14,666)	\$ 357,773	100.0%	0.0%	\$ 277,903	\$ 357,773	\$ -
Low Income Services	\$ 897,034	\$ 62,303	\$ (19,490)	\$ 939,848	60.7%	39.3%	\$ 544,408	\$ 587,222	\$ 352,626
My Home Energy Report	\$ 754,887	\$ 306,416	\$ 99,095	\$ 1,160,398	100.0%	0.0%	\$ 754,887	\$ 1,160,398	\$ -
Residential Energy Assessments	\$ 261,860	\$ 60,228	\$ 27,065	\$ 349,153	70.6%	29.4%	\$ 184,887	\$ 272,180	\$ 76,974
Residential Smart Saver®	\$ 1,555,955	\$ 951,265	\$ 118,947	\$ 2,626,167	100.0%	0.0%	\$ 1,555,955	\$ 2,626,167	\$ -
Power Manager®	\$ 548,383	\$ -	\$ 150,928	\$ 699,311	100.0%	0.0%	\$ 548,383	\$ 699,311	\$ -
Power Manager® for Apartments	\$ 13,222	\$ -	\$ (1,138)	\$ 12,084	100.0%	0.0%	\$ 13,222	\$ 12,084	\$ -
Total Costs, Net Lost Revenues, Shared Savings	\$ 4,702,549	\$ 1,603,625	\$ 483,759	\$ 6,789,933			\$ 4,207,417	\$ 6,294,801	\$ 495,132
Home Energy Assistance Pilot Program	\$ 253,804							\$ 147,094	\$ 106,710

NonResidential Program Summary (A),(C)

	Costs	Lost Revenues	Shared Savings	Total	Allocation of Costs (B)		Budget (Costs, Lost Revenues, & Shared Savings)		
					Electric	Gas	Electric Costs	Electric	Gas
Smart Saver® Custom	\$ 441,312	\$ 195,829	\$ 197,106	\$ 834,247	100.0%	0.0%	\$ 441,312	\$ 834,247	NA
Smart Saver® Prescriptive - Energy Star Food Service Products	\$ 139,148	\$ 24,549	\$ 48,680	\$ 212,378	100.0%	0.0%	\$ 139,148	\$ 212,378	NA
Smart Saver® Prescriptive - HVAC	\$ 638,628	\$ 46,137	\$ 113,676	\$ 798,441	100.0%	0.0%	\$ 638,628	\$ 798,441	NA
Smart Saver® Prescriptive - Lighting	\$ 1,043,273	\$ 309,355	\$ 272,832	\$ 1,625,459	100.0%	0.0%	\$ 1,043,273	\$ 1,625,459	NA
Smart Saver® Prescriptive - Motors/Pumps/VFD	\$ 47,256	\$ 17,175	\$ 17,469	\$ 81,900	100.0%	0.0%	\$ 47,256	\$ 81,900	NA
Smart Saver® Prescriptive - Process Equipment	\$ 28,558	\$ 2,961	\$ 18,594	\$ 50,114	100.0%	0.0%	\$ 28,558	\$ 50,114	NA
Smart Saver® Prescriptive - IT	\$ 79,342	\$ 8,512	\$ 23,324	\$ 111,177	100.0%	0.0%	\$ 79,342	\$ 111,177	NA
Small Business Energy Saver	\$ 898,978	\$ 96,129	\$ 251,111	\$ 1,246,218	100.0%	0.0%	\$ 898,978	\$ 1,246,218	NA
PowerShare®	\$ 1,262,732	\$ -	\$ 351,711	\$ 1,614,443	100.0%	0.0%	\$ 1,262,732	\$ 1,614,443	NA
Pay for Performance	\$ 15,740	\$ 1,342	\$ (1,065)	\$ 16,016	100.0%	0.0%	\$ 15,740	\$ 16,016	NA
Power Manager® for Business	\$ 52,489	\$ 770	\$ (4,382)	\$ 48,877	100.0%	0.0%	\$ 52,489	\$ 48,877	NA
Total Costs, Net Lost Revenues, Shared Savings	\$ 4,647,456	\$ 702,760	\$ 1,289,056	\$ 6,639,272			\$ 4,647,456	\$ 6,639,272	NA
Total Program	\$ 9,350,005	\$ 2,306,385	\$ 1,772,815	\$ 13,429,205					

(A) Costs, Lost Revenues (for this period and from prior period DSM measure installations), and Shared Savings for Year 5 of portfolio.

(B) Allocation of program expenditures to gas and electric in accordance with the Commission's Order in Case No. 2014-00388.

(C) Yellow highlighted rows include modifications to programs as described in application.

Kentucky DSM Rider

Duke Energy Kentucky
Demand Side Management Cost Recovery Rider (DSMR)
Summary of Calculations for Programs

July 2016 to June 2017

	Program Costs (A)
<u>Electric Rider DSM</u>	
Residential Rate RS	\$ 6,294,801
Distribution Level Rates Part A DS, DP, DT, GS-FL, EH & SP	\$ 5,024,829
Transmission Level Rates & Distribution Level Rates Part B	\$ 1,614,443
<u>Gas Rider DSM</u>	
Residential Rate RS	\$ 495,132

(A) See Appendix B, page 2 of 5.

Kentucky DSM Rider

Duke Energy Kentucky
Demand Side Management Cost Recovery Rider (DSMR)
Summary of Billing Determinants

Year	2016
Projected Annual Electric Sales kWh	
Rate RS	1,522,442,000
Rates DS, DP, DT, GS-FL, EH, & SP	2,468,022,000
Rates DS, DP, DT, GS-FL, EH, SP, & TT	2,671,558,000
Projected Annual Gas Sales CCF	
Rate RS	64,884,690

Kentucky DSM Rider

Duke Energy Kentucky
Demand Side Management Cost Recovery Rider (DSMR)
Summary of Calculations

July 2015 to June 2016

Rate Schedule Riders	True-Up Amount (A)	Expected Program Costs (B)	Total DSM Revenue Requirements	Estimated Billing Determinants (C)	DSM Cost Recovery Rider (DSMR)
<u>Electric Rider DSM</u> Residential Rate RS	\$ 5,053,508	\$ 6,294,601	\$ 11,348,309	1,522,442,000 kWh	\$ 0.007454 \$/kWh
Distribution Level Rates Part A DS, DP, DT, GS-FL, EH & SP	\$ 1,725,127	\$ 5,024,829	\$ 6,749,956	2,468,022,000 kWh	\$ 0.002735 \$/kWh
Transmission Level Rates & Distribution Level Rates Part B TT	\$ (1,484,270)	\$ 1,614,443	\$ 130,173	2,671,558,000 kWh	\$ 0.000049 \$/kWh
Distribution Level Rates Total DS, DP, DT, GS-FL, EH & SP					\$ 0.002764 \$/kWh
<u>Gas Rider DSM</u> Residential Rate RS	\$ 2,407,842	\$ 495,132	\$ 2,902,974	64,884,690 CCF	\$ 0.044741 \$/CCF
Total Rider Recovery			\$ 21,131,412		
Customer Charge for HEA Program <u>Electric No. 4</u> Residential Rate RS			Annual Revenues \$ 147,094	Number of Customers 122,578	Monthly Customer Charge \$ 0.10
<u>Gas No. 5</u> Residential Rate RS			\$ 106,710	88,925	\$ 0.10
Total Customer Charge Revenues			\$ 253,804		
Total Recovery			\$ 21,385,215		

(A) (Over)/Under of Appendix B page 1 multiplied by the average three-month commercial paper rate for 2014 to include interest on over or under-recovery in accordance with the Commission's order in Case No. 95-312. Value is:
(B) Appendix B, page 2.
(C) Appendix B, page 4.

1,001242

Allocation Factors based on July 2014 -
June 2015

Summary of Load Impacts July 2014 Through June 2015*				
Residential Programs	kWh	% of Total Res Sales	ccf	% of Total Res Sales
Appliance Recycling Program	316,032	0.0214%	-	0.0000%
Energy Efficiency Education Program for Schools	577,006	0.0390%	8,409	0.0123%
Low Income Neighborhood	557,078	0.0377%	-	0.0000%
Low Income Services	351,265	0.0238%	11,844	0.0173%
My Home Energy Report	10,869,228	0.7354%	-	0.0000%
Residential Energy Assessments	447,175	0.0303%	11,256	0.0164%
Residential Smart \$aver®	8,639,278	0.5845%	226	0.0003%
Power Manager	-	0.0000%	-	0.0000%
Total Residential	21,757,061	1.4721%	31,735	0.0463%

Elec % of Total Sales	% of Gas Sales	% of Total Sales
100%		0%
76%		24%
100%		0%
58%		42%
100%		0%
65%		35%
100%		0%
100%		0%

Total Residential (Rate RS) Sales For July 2014 Through June 2015 1,477,944,577 100% 68,542,402 100%

*Load Impacts Net of Free Riders at Meter

Summary of Load Impacts July 2016 Through June 2017 - Amended*

Allocation Factors Projected - Amended

	<u>kWh</u>	<u>% of Total Res Sales</u>	<u>ccf</u>	<u>% of Total Res Sales</u>	<u>Elec % of Total Sales</u>	<u>% of Gas</u>	<u>% of Total Sales</u>	<u>% of Gas</u>
Residential Programs								
Appliance Recycling Program	225,480	0.0148%	-	0.0000%	100%		0%	
Energy Efficiency Education Program for Schools	457,458	0.0300%	5,700	0.0088%	77%		23%	
Low Income Neighborhood	221,382	0.0145%	-	0.0000%	100%		0%	
Low Income Services	346,183	0.0227%	9,556	0.0147%	61%		39%	
My Home Energy Report	12,325,924	0.8096%	-	0.0000%	100%		0%	
Residential Energy Assessments	656,195	0.0431%	11,643	0.0179%	71%		29%	
Residential Smart \$aver®	3,971,622	0.2609%	-	0.0000%	100%		0%	
Power Manager®	-	0.0000%	-	0.0000%	100%		0%	
Power Manager® for Apartments	-	0.0000%	-	0.0000%	100%		0%	
Total Residential	18,204,243	1.1957%	26,900	0.0415%				
Total Residential (Rate RS) Sales Projected	1,522,442,000	100%	64,884,690	100%				

*Load Impacts Net of Free Riders at Meter

No. 62
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KY.P.S.C. Gas No. 2
~~Eighteenth~~ Nineteenth Revised Sheet

Cancel and Supersedes
~~Seventeenth~~ Eighteenth Revised

Page 1 of 1

RIDER DSMR

DEMAND SIDE MANAGEMENT RATE

The Demand Side Management Rate (DSMR) shall be determined in accordance with the provisions of Rider DSM, Demand Side Management Cost Recovery Rider, Sheet No. 61 of this Tariff.

The DSMR to be applied to residential customer bills is \$0.044741 per hundred cubic feet.

(RN)

A Home Energy Assistance Program (HEA) charge of \$0.10 will be applied monthly to residential customer bills through December 2017.

The DSMR to be applied to non-residential service customer bills is \$0.00 per hundred cubic feet.

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Issued by James P. Henning, President /s/ James P. Henning

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KY.P.S.C. Gas No. 2
Nineteenth Revised Sheet No. 62
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Eighteenth Revised Sheet No. 62
Page 1 of 1

RIDER DSMR
DEMAND SIDE MANAGEMENT RATE

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The DSMR to be applied to residential customer bills is \$0.044741 per hundred cubic feet.

(N)

A Home Energy Assistance Program (HEA) charge of \$0.10 will be applied monthly to residential customer bills through December 2017.

The DSMR to be applied to non-residential service customer bills is \$0.00 per hundred cubic feet.

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Sheet No. 78
Erlanger, KY 41018

KY.P.S.C. Electric No. 2
~~Eighteenth~~ Nineteenth Revised Sheet

Cancel and Supersedes
~~Seventeenth~~ Eighteenth Revised

Page 1 of 1

RIDER DSMR
DEMAND SIDE MANAGEMENT RATE

The Demand Side Management Rate (DSMR) shall be determined in accordance with the provisions of Rider DSM, Demand Side Management Cost Recovery Rider, Sheet No. 75 of this Tariff.

The DSMR to be applied to residential customer bills is \$~~0.007428~~ 0.007454 per kilowatt-hour. (I)

A Home Energy Assistance Program (HEA) charge of \$0.10 will be applied monthly to residential customer bills through December 2017.

The DSMR to be applied to non-residential distribution service customer bills is \$~~0.002758~~ 0.002784 per kilowatt-hour. (I)

The DSMR to be applied for transmission service customer bills is \$0.000049 per kilowatt-hour. (RN)

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KY.P.S.C. Electric No. 2
Nineteenth Revised Sheet No. 78
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Eighteenth Revised Sheet No. 78
Page 1 of 1

RIDER DSMR
DEMAND SIDE MANAGEMENT RATE

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The DSMR to be applied to residential customer bills is \$0.007454 per kilowatt-hour. (I)

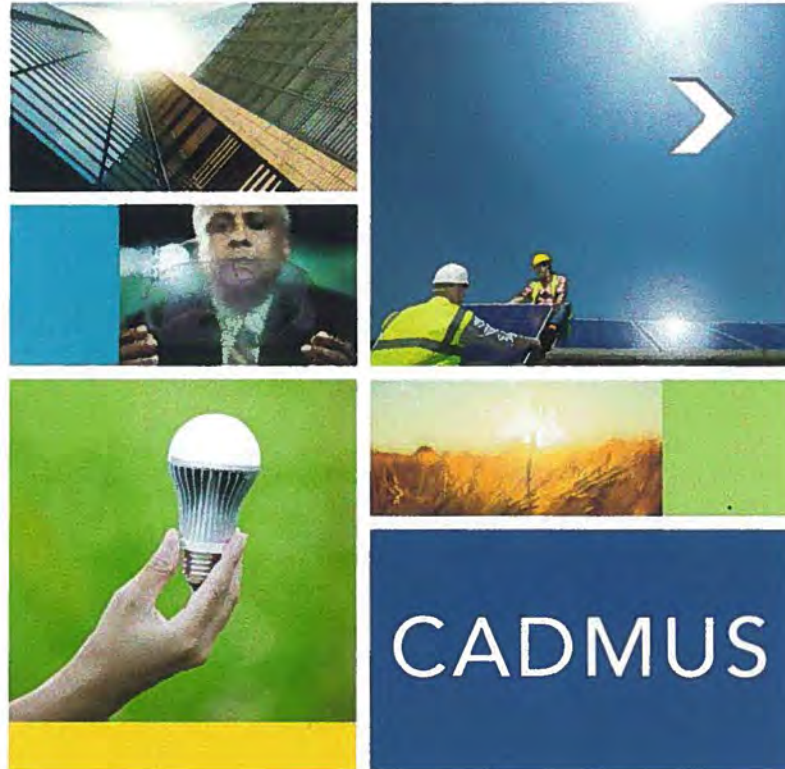
A Home Energy Assistance Program (HEA) charge of \$0.10 will be applied monthly to residential customer bills through December 2017.

The DSMR to be applied to non-residential distribution service customer bills is \$0.002784 per kilowatt-hour. (I)

The DSMR to be applied for transmission service customer bills is \$0.000049 per kilowatt-hour. (N)

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Impact and Process Evaluation of the 2015 PowerShare Program[®] Duke Energy Kentucky

March 21, 2016

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139 East 4th Street
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CADMUS

Prepared by:

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Executive Summary

PowerShare is a demand response program designed to reduce nonresidential customers' energy use (kW demand) during periods of high energy prices or when high energy usage would cause energy supplies throughout the transmission and distribution system be at or near critical levels. In both of these situations, the PowerShare program allows Duke Energy Ohio (DEO) and Duke Energy Kentucky (DEK) to purchase capacity from commercial and industrial (C&I) customers that reduce their energy demand, thus increasing the available energy supply.

DEO and DEK notify customers that a demand response event is needed via a multi-approach communications system. Customers then reduce their electricity usage to a level consistent with their program participation agreements. PowerShare emergency capacity reduction commitments are registered with PJM Interconnection seasonally. PJM dispatches emergency events to relieve capacity constraints.

Program Year 2015 Highlights

An overview of the PY2015 PowerShare parameters and results includes the following:

- The evaluation program year covers January 1, 2015 through December 31, 2015.
- PowerShare is now offered in two options: an emergency option and a voluntary option; the economic option has been discontinued.
- Starting in PY2015, PJM has received approval from the Federal Energy Regulatory Commission to change their default notification time from 2 hours to 30 minutes, although PJM has granted exceptions for reasons of safety and to avoid damage.
- Because of mild weather, PJM has not called any emergency events since instituting the 30-minute notification window.
- Duke Energy reported that they have proactively explored automated demand response options to help customers meet the shortened notification period, but customers have not yet shown much interest.
- Participants continue to have high satisfaction with all aspects of the PowerShare program.
- A few respondents still refer to features of previous years' PowerShare economic programs, such as the buy-through provision, requesting day-ahead notifications, and questioning whether their curtailment was truly needed. This is not surprising given the number of changes to the program in previous years, but represents another opportunity for Duke Energy to discuss PowerShare's evolving features with their customers.
- The lack of emergency events has prevented Duke Energy from seeing the full effects of the 30-minute notification window and its effect on customers.
- Duke Energy continues proactive preparation, testing, and planning in anticipation of PJM emergency events.

Conclusions and Recommendations

In the absence of an emergency event, and in light of participants' high satisfaction with the PowerShare program, the evaluation team sees no need to change program operations, and thus has no major process recommendations for the PowerShare program. The evaluation team has one minor recommendation.

Conclusion #1: Respondents show some confusion about PY2015 PowerShare program features, and might not understand the requirements for the emergency-only offering.

Recommendation #1: Duke Energy product and account managers should consider developing additional ways to reinforce customers' knowledge of current and upcoming PowerShare program features. If Duke Energy is not already doing so, staff members could develop additional marketing materials that can be distributed to customers, which clearly identify the program year, the current program options, and the programs' requirements. Alternatively, Duke Energy could schedule "talking



points” for account managers to remind participants of upcoming program changes and test events. The evaluation team understands that account managers engage in regular communication about program changes, but believes that participants will have greater satisfaction with PowerShare if they do not have to rely on their memories when additional changes are made to PowerShare in the foreseeable future.

Process Evaluation

Introduction

PowerShare is a demand response program designed to reduce nonresidential customers' energy use (kW demand) during periods of high energy prices or when high energy usage would cause energy supplies throughout the transmission and distribution system be at or near critical levels. In both of these situations, the PowerShare program allows Duke Energy Ohio (DEO) and Duke Energy Kentucky (DEK) to purchase capacity from commercial and industrial (C&I) customers that reduce their energy demand, thus increasing the available energy supply.

PowerShare is the brand name given to the Peak Load Management Program (Rider PLM, Peak Load Management Program P.U.C.O. Electric No. 19, Sheet No. 87.3). A revised version of the Rider PLM was accepted in PUCO Case No. 12-1682-EL-AIR. All information in this report refers to the Rider PLM. The PLM program is voluntary and offers customers the opportunity to reduce their electric costs by managing their electric usage during the company's peak load periods. Customers and the company will enter into a service agreement under the PLM Rider, specifying the terms and conditions under which the customer agrees to reduce usage.

Duke Energy notifies customers that a demand response event is needed via a multi-approach communications system. Customers then reduce their electricity usage to a level consistent with their program participation agreements. PowerShare emergency capacity reduction commitments are registered with PJM Interconnection seasonally. PJM dispatches emergency events to relieve capacity constraints.

Process Evaluation Objectives

The process evaluation of the PY2015 PowerShare program has several purposes. First, this process evaluation is intended to help identify areas where the program may be improved, drawing upon the insights of Duke Energy staff members from multiple divisions and of a sample of participating customers. Second, this report will document program operations for future reference, including ways in which the program has addressed and overcome past program challenges. Because no emergency events were called in PY2015, this report will document some of the activities that Duke Energy staff members have undertaken to prepare for current challenges and future events calls.

Methodology

Overview of the Evaluation Approach

The process evaluation for the PowerShare program was conducted by Cadmus and Yinsight (hereafter the evaluation team). The results presented in this report include management interviews and participant surveys.



Management Interviews

The evaluation team conducted hour-long management interviews with a Duke Energy product and services manager for PowerShare in the Midwest and an account manager serving Duke Energy customers.

The evaluation team developed the interview protocol for the PowerShare program management interview that was implemented in January of 2016. The full interview guide is in Appendix A.

Participant Survey

The evaluation team developed a customer survey for PowerShare Program participants, and administered questionnaires via short telephone interviews with the contact person identified to receive PowerShare alerts on behalf of the company. The evaluation team conducted the surveys between November 30 and December 16, 2015. The survey is in Appendix B.

Data collection methods, sample sizes, and sampling methodology

The evaluation team attempted a census of the 53 contactable companies that participated in PowerShare in PY2015. ¹ The team completed 18 total phone interviews. ²

These 18 companies comprise six manufacturers and seven schools, with the rest being sole representatives of nonmanufacturing sectors. Seven of these respondents also managed more than one site that participates in PowerShare. On average, these companies have participated in PowerShare for over four years, individually ranging from one to 10 years.

Survey Response Rates and Precision

Table 1 summarizes the response rates and achieved precision levels for the participant survey.

Table 1. Process Evaluation Data Collection and Analysis

Evaluation Component	Population	Attempted Contacts	Achieved Completes	Response Rate	Precision at 90% Confidence
Program Management Staff	N/A	2	2	2	N/A
Participant Surveys	60	53	18	34%	±16.2%

¹ The evaluation team attempted to contact representatives from 53 businesses, which was the total number of unique contacts after removing records with duplicate or missing contact information.

² For the purposes of the process evaluation, these findings include data from five DEK participants and 13 DEO participants because the program is implemented using the same process in both states. There were no statistically significant differences in participants' responses between the two states.

Process Evaluation Findings

Program Objectives

In PY2015, Duke Energy's PowerShare program was offered as an emergency-only program in the PJM energy market. The PowerShare DEO and DEK demand response program provides a capacity premium for commercial and industrial participants that are willing to decrease their loads during an emergency event. PowerShare allows Duke Energy customers to earn a premium for helping to increase the reliability of the electricity transmission and distribution system and to mitigate the risk of blackouts.

Background

For 2015, PJM revised its requirements, and curtailment service providers were required to be able to perform load shedding with 30 minutes of advance notice, down from two hours of advance notice in previous years. As a result of PJM requirements for demand response programs, Duke Energy applied for and received regulatory approval to change the PowerShare program from a year-round curtailment period to a summer-only curtailment period. In PY2015, PJM did not call any emergency events in DEO or DEK territory, and participants were only asked to perform load shedding during the annual test event.

Operations

PowerShare program options

For the PY2015 summer-only program year, Duke Energy offered two program options: CallOption Emergency, with a curtailment period of June through September, and QuoteOption, with a year-round voluntary curtailment period. Both options had a contract term of one year. Duke Energy is moving toward offering year-round options for PowerShare: For the upcoming PY2016 summer season, Duke Energy has begun offering an extended summer option, with a curtailment period of June through October 2016 and May 2017. Duke Energy also reintroduced PowerShare with a year-round curtailment period. The premium credit levels for these longer curtailment periods are higher to provide appropriate incentive for customers to supply capacity beyond the summer months. The Midwest product manager reported that most 2016 PowerShare participants are signed up only for summer events in DEO and DEK territory. At the time of the interviews in January 2016, the PowerShare product manager reported that one customer is on the extended summer offering and all others are still on the four-month offering.

Program requirements

Participants must have at least 100 kW of curtailable load and are required to commit to reducing load during PJM emergency events. These events could last up to six hours, and would be called between noon and 8 p.m. on weekdays from June through September (excluding Independence Day and Labor Day). There could be up to 10 emergency event calls in any year. Participant must also participate in an annual emergency curtailment test.



Incentives

Duke Energy pays an annual capacity premium depending on the curtailment capacity to which a customer commits. This capacity premium is paid once a month during the curtailment period and is a line item labeled "PowerShare credit" on the customer's monthly bill. If customers respond to an event call by curtailing, they are paid an additional event incentive credited to their monthly bill after settlement. For PY2015, DEO paid customers \$42/kW/year incentive to participate, while DEK paid an incentive of \$30/kW/year. For each event in which customers participate, they were also given 85% of real-time LMP credit based on their achieved curtailment. The incentive can fluctuate from year to year because it is determined by the prices of energy on the PJM market. The product manager reported that PowerShare incentives are designed to be competitive with other curtailment service providers. Despite fluctuations in incentives, PowerShare has historically enjoyed a high contract renewal rate, suggesting that customers are not very sensitive to these changes.

Penalties

Customers that do not curtail their loads are assessed a penalty and lose the monthly premium credit. These companies might also be removed from the program. There are no "buy-through" provisions for emergency events, in which participants can pay higher energy prices to avoid penalties for not curtailing to the level in their contracts.

Targeted Load Commitment

Customers can choose to reduce energy to a firm load-level or by a fixed amount against their *pro forma* baseline. A firm level-reduction commitment is a commitment to reduce down to a specific kW usage (e.g., customers commit to reduce energy usage to a firm level of 600 kW or below). A fixed level-reduction commitment is a commitment to reduce to a certain kW relative to the customer's load shape (e.g., customers commit to reducing energy usage by a fixed 400 kW against their *pro forma*). The *pro forma* baseline load shape is calculated based upon past energy usage.

Marketing

PowerShare is marketed mainly by Duke Energy account managers to their large commercial and industrial customers. Marketing collateral is available on the Duke Energy website. All but one respondent in the participant survey reported that they first became aware of PowerShare from a Duke Energy representative. The one exception learned about the program from the Duke Energy website and brochure.

Website and Brochure. Duke Energy has a website with a downloadable brochure about the PowerShare program. Interested customers are directed to contact their account representative or email Duke Energy's customer account services at the provided email address.

Marketing to Large Business Customers. Duke Energy account managers take the lead role in PowerShare marketing efforts. In the Midwest states, marketing for PowerShare starts with training of account managers in October and enrollment by mid-January.

The account managers help the customers determine whether or not PowerShare is appropriate for their company. Account managers help customers decide how they can participate without disrupting their business operations. If needed, the account managers discuss with the customers the specifics of what they will do at their facility to reduce the requisite load. An account manager reported that she regularly communicates with customers about the suitability of the program for their company's particular business. The account manager explained that this communication occurs year round because, "Things change from one year to the next, people change, they have different opinions and comfort levels with PowerShare, and finances change." The account manager also reported that prospective participants are interested in hearing about other customers that have had success with the PowerShare program.

In the participant surveys, respondents were asked to rate "how useful that source was in providing the information you needed to decide whether or not to participate," using a scale of 1 to 10, where 1 means "Almost nothing I needed" and 10 meaning "Everything I needed." The 16 respondents to this question gave a very high average rating of 9.6. Three respondents also reported that they asked other business colleagues about their PowerShare participation experiences before making their own decision. One respondent added, "They were pretty positive about the program."

Customer Motivation

Fourteen respondents reported that their primary reason for participating in PowerShare was financial; one other respondent reported that their primary reason was to "help the local community." When asked if there was a secondary reason, six said they wanted to help the community and help reduce their loads. Two others gave secondary reasons that were financial in nature, and one said it allowed the company to test its generation system control.

The Duke Energy account manager reported that many customers have corporate sustainability objectives that can influence their decision to participate in PowerShare to meet those objectives.

Enrollment and Renewal

DEO and DEK offered a bonus if customers signed their PY2015 PowerShare contracts by January 19.³ By obtaining contracts early, Duke Energy can bid capacity resources into the PJM capacity market. Of the 18 respondents, 10 reported that their company signed early. The evaluation team asked the others why they didn't sign early. Of the four respondents, one said his company wasn't ready to make the decision and another respondent's company "had issues on target reduction quantities and the way [Duke Energy] was doing [calculations]." A third respondent said that they were initially told there was not going to be a PowerShare program. The last respondent was considering another curtailment service provider's offer. The product manager reported that in 2015, fewer than five participants have declined to renew their contracts; a couple of them have selected competing curtailment service providers.

³ DEO paid a bonus of \$4/kW, and DEK paid \$2/kW.



Event Calls

Emergency events are determined entirely by PJM. After the emergency call, participating companies have 30 minutes to curtail loads. To achieve curtailment within this aggressive timeline, Duke Energy's system operator must relay the event notification to companies participating in PowerShare within five minutes or less, and those customers then have 25 minutes to complete load curtailment to their targeted loads.

Duke Energy sends the notification by entering information into an automated notification system. This system contacts customers through a series of escalation rules that dictate which method of communication to use. Notifications are sent via phone, text, email, and fax to everyone on a contact list provided by the company. Notifications cease as soon as the customer responds. The product manager reported that the short timeline means it is likely that he will hear about an emergency event at the same time as PowerShare participants. However, the product manager reported that although the system operators have the task of notifying customers, the product managers have a communication role after the initial notification. The product manager reported that he follows up with customers and provides more details about each event, including estimates of the event duration. The product managers are usually assigned to notify customers that an event has ended. During the event season, the product managers and the account managers are vigilant about the possibility of event calls, and they strive to provide customers with as much advance notification as possible.

The evaluation team asked whether respondents would like to be notified by another method in addition to the current methods of communicating events. Most respondents did not have other preferences. Only three mentioned other methods: Two would prefer to be notified by Duke Energy representatives, and one suggested that a web service-based notification system might be faster. All respondents believed that the earlier the event notice was, the better. Only one respondent had some feedback on Duke Energy's event communication efforts, which was a preference for notification of any trend toward an event. Two respondents added that it was difficult for them to curtail their loads, and they wanted Duke Energy to be doubly sure that their participation was necessary. One of these respondents stated, "Determining a definite need would help. Do you *really* need us to drop?"

Respondents reported that they engage in a variety of tactics to curtail their loads during an event. Four of the respondents reported that they only need to turn on their generators; six conduct a full shutdown of their operations, five report they shut down or reduce their HVAC or chiller in addition to their lighting and plug load, three report they shut down or reduce their lighting and plug load only, and one reported they shut down or reduce their HVAC and chiller load only. Some respondents volunteered some of the challenges they faced in reducing load: One participant's company needed to ramp down its equipment over the course of an hour. Several respondents explained that equipment needs to be shut down manually, and an assistant might be responsible for shutting down equipment. Another respondent needed time to run materials through a process before a shutdown. Because the annual curtailment test is scheduled at the beginning of the calendar year, all respondents reported that they were successful in reducing their loads.

When asked whether respondents could curtail more load than their contracts mandated, 14 respondents considered their targeted level of load reduction to be “about right.” Three said they might be able to curtail more load, but they wanted to be conservative to avoid risking penalties for not reaching their targets.

Settlement

Settlement for each month’s events are paid to the customer as a credit on their bill within one or two billing cycles, depending on the billing dates. There are separate line items for the capacity premium and the event credit. The Duke Energy product manager reported that a customer can review their usage the day after an event through Energy Profiler Online (EPO), a web-based application provided by a third party. In addition to displaying meter information, EPO is used to track PowerShare agreements. The product manager reported that customers do not have much interest in being able to see their real-time load. The evaluation team asked respondents about their awareness of EPO; 11 were aware of the product, although three had never used it. Only six respondents considered themselves able to rate EPO’s ease of use. On a scale of 1 to 10, where 1 meant “very difficult” and 10 meant “very easy,” respondents gave an average rating of 8.0. Only one respondent gave a rating below 8, and suggested that Duke Energy could improve EPO by making it more user friendly, with a larger and easier to read screen.

Participation Barriers

The Duke Energy account manager reported that one of the largest participation barriers for manufacturers is the need to shut down their plant during an event call. As more and more businesses move to a “just in time” model, the impact of interrupting plant processes could mean that the manufacturers are unable to meet their customers’ needs. The Duke Energy product manager noted that most of the PowerShare participants in the PJM territory were urban and suburban customers and participation is robust.

Survey respondents did not show a strong trend toward any particular concern about participating in PowerShare. The most-frequently cited concern, from five respondents, was whether or not their company would be able to curtail the amount of load in their contract. The second most-frequent concern came from three schools concerned about being able to remain open when the buildings could not be cooled. Only two respondents cited concerns about the impact on business operations and production time. Another two respondents cited concerns about being able to reduce their loads within the 30-minute window required by PJM. Other individuals cited concerns over the frequency of alerts, the cost-to-benefit ratio of participating, and their need to verify the legitimacy of the offering because “it sounded too good to be true initially,” considering the attractiveness of the premium credit.

The evaluation team asked respondents with concerns whether any experiences during the past event season allayed their concerns. Although there were no emergency event calls, five respondents said they became more efficient and experienced in their shutdown procedures. One respondent gained additional staff members to help with the shutdown, and another received a waiver from PJM to curtail



within 60 minutes instead of 30. When asked whether Duke Energy could do anything to decrease their concerns with participating in PowerShare, two respondents requested more advance notice and one mentioned increasing the incentive.

Participant Satisfaction Ratings

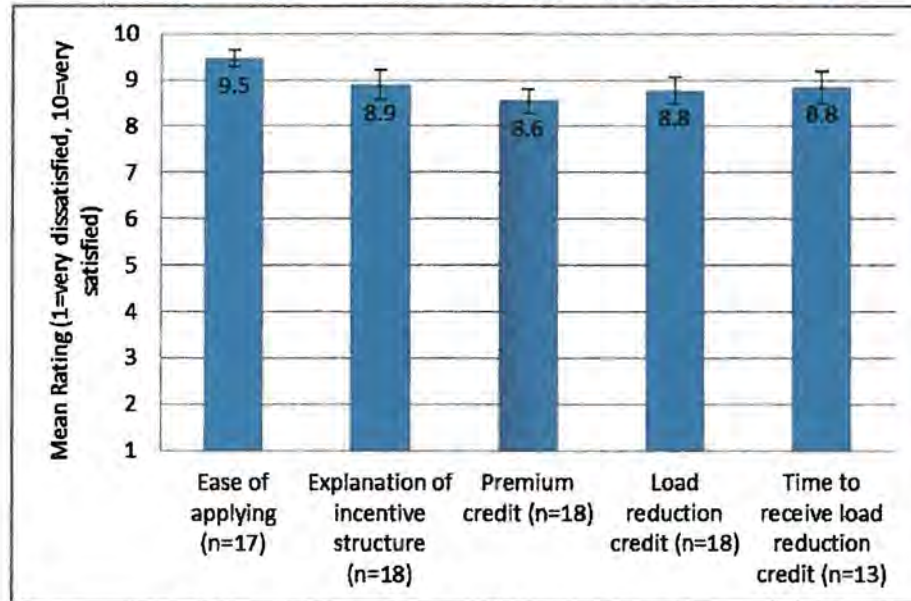
In general, respondents were highly satisfied with the PowerShare program. When asked about aspects of PowerShare that were working particularly well, six respondents stated that the program was working well in general. Five other respondents said that PowerShare communications were working exceptionally well, two cited the financial incentives, and two others were glad to help Duke Energy meet resource constraints. One respondent cited the timing of the test event as a program strength, another cited the EPO product, and another Duke Energy's representatives. When asked whether PowerShare could be improved in any areas, seven respondents could not identify any improvements. One respondent believed short events might not be worth curtailing, another said the 30-minute notification window was difficult to work with, and another said the test event should be scheduled when there was a larger load to reduce (rather than during "off-peak" days and hours). One respondent suggested that Duke Energy could allow aggregation of retailers with different owners, and another recommended that Duke Energy send periodic reminders of the annual test event.

Figure 1 shows that participant survey respondents have high satisfaction with PowerShare incentives and program enrollment operations. Respondents were highly satisfied with the enrollment process, rating it a 9.5 on a 10-point scale, where 1 indicates very dissatisfied and 10 indicates very satisfied. There were no ratings lower than 8 for the PowerShare enrollment process.

Respondents believed that they received a clear explanation of the incentive structure, rating it an 8.9. One respondent explained that for PY2016, Duke Energy sent documentation that only stated the program would be the same as last year. However, this respondent did not remember the program details and suggested that Duke Energy could resend documentation on how the incentive was calculated.

Respondents were highly satisfied with the premium credit amount (mean rating of 8.6), the load reduction credit amount (mean rating of 8.8), and the time it took to receive the load reduction credit (mean rating of 8.8). One participant said it took almost two weeks to receive their test event results and suggested that Duke Energy could shorten this delay in the future.

Figure 1. Satisfaction with PowerShare Enrollment and Incentives



*Note: Error bars depict standard error of the mean.

Figure 2 shows respondents' moderately high satisfaction with PowerShare event calls. Respondents gave a mean satisfaction rating of 7.9 for the amount of advance notice they received. Although there were no event calls in PY2015, respondents' comments indicate that they based their rating on their experience from previous years: three respondents wanted day-ahead notifications, one complained about a 4:00 a.m. winter event and suggested better forecasting, and another suggested that Duke Energy could provide periodic notifications for the mandatory test event.

Respondents gave a mean rating of 7.8 for the time they had to reduce their load, but again their responses reflected their experience from previous years: One respondent expressed frustration with receiving an event notification (for a winter event), only to learn that the event was cancelled after his company began shutdown procedures, and with another (winter) event that was cancelled after only one hour. Another suggested day-ahead notice, and a third wanted the response window increased from 30 minutes.

Respondents gave a mean rating of 7.8 for Duke Energy's method of confirming load reduction. Of the respondents who offered suggestions for improvement, four wanted to receive their test event results more quickly, and one complained that the test event occurred after his company had decreased its load, and he wanted Duke Energy to use the highest historical load as the baseline.



Figure 2. Satisfaction with PowerShare Event Calls

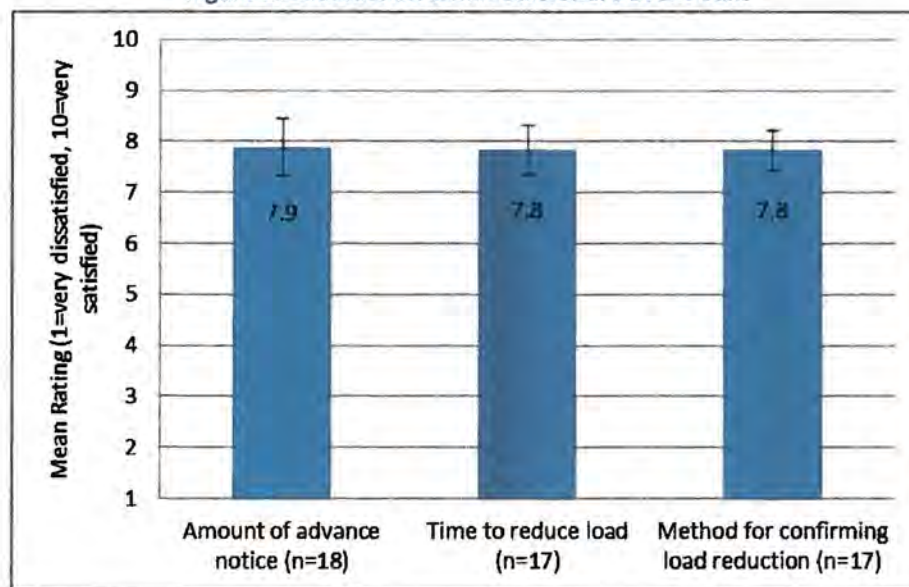
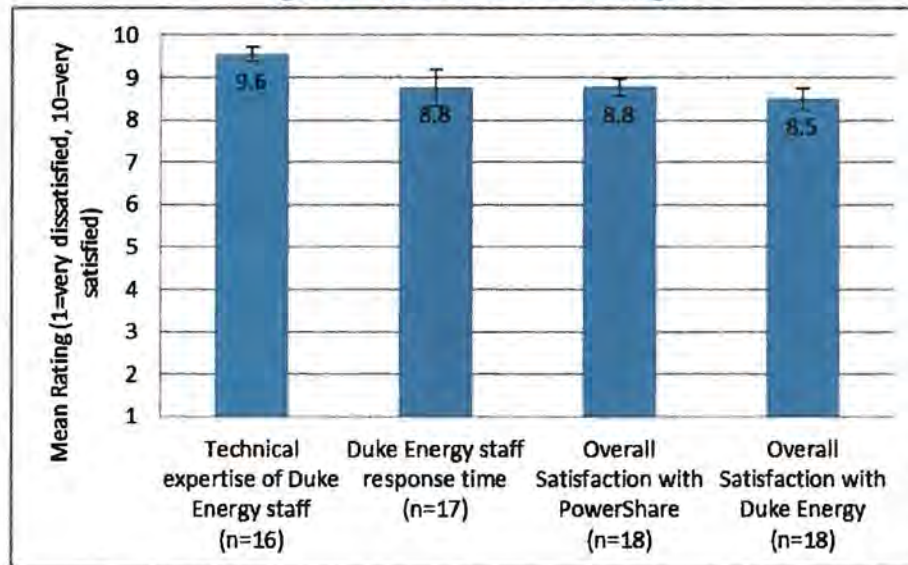


Figure 3 shows that respondents were very pleased with the technical expertise of Duke Energy staff, with a mean rating of 9.6, and they had no suggestions for improvement. Respondents gave moderately high satisfaction ratings for the time it took for Duke Energy staff to respond to issues or questions, with a mean rating of 8.8. One respondent said it was difficult to communicate with someone from Duke Energy during an emergency event, another wanted test event results within three to four days, and a third was currently waiting for someone from Duke Energy to return a call. There were no suggestions for improvement.

Overall, respondents have high satisfaction with the PowerShare program (mean rating of 8.8) and with Duke Energy (mean rating of 8.5). Only one respondent suggested an improvement for PowerShare, reiterating his suggestion of allowing small retailers to aggregate their accounts. Of the three comments from respondents who rated their overall satisfaction with Duke Energy an 8 or less, one repeated his earlier comment about a need to improve communication, and two others mentioned issues that were not related to Duke Energy's demand-side management programs.

Figure 3. Overall Satisfaction Ratings



Future Program Challenges

PJM 30-Minute Notification Window

At the time of this evaluation, PowerShare’s new procedures to curtail loads within PJM’s new 30-minute notification window had not been implemented yet. Although PJM has granted exceptions to this window, the product manager was concerned that many current PowerShare participants would not be able to curtail their loads within 30 minutes. He said, “We were concerned that schools and commercial customers might need real help to respond within 30 minutes because they are not eligible for a waiver from PJM.” The product manager reported that, in anticipation of these difficulties, he had explored ways to offer automated demand response offerings to PowerShare participants. Duke Energy recently concluded a two-year pilot of an automated demand response offering with a few large customers⁴ and was ready to apply lessons from the pilot with a larger pool of customers. To date, participants have not expressed much interest in automated demand response offerings, perhaps because PJM has not called any emergency events since instituting the 30-minute notification window. The product manager plans to continue to explore automated demand response offerings in anticipation of a changing energy market in which resources are managed through shorter, more frequent events, instead of longer and rare events.

Respondents have some awareness of and concerns about the 30-minute window. As one respondent explained about advance notice, “The earlier the better—the first year there was more time to respond. Last year I hesitated [to renew] because of the reduced 30-minute notification time. I have only 30

⁴ Those customers have since chosen another curtailment service provider.



minutes to shut down [multiple] sites.” The product manager and the account manager independently expressed surprise that PJM’s change to a 30-minute notification window did not seem to deter participants from renewing their PowerShare contracts. One factor that makes the change more palatable may be the availability of exceptions to the 30-minute window. The product manager explained that manufacturers can apply for an exemption to curtail their loads within 60 or 120 minutes if there is risk that reducing loads within 30 minutes would cause damage to their equipment, raw materials, or finished products, or if it would take more than 30 minutes to safely evacuate a plant during shutdown. Likewise, customers with generators can receive an exemption if the transfer of loads to backup generators must be done manually and would take more than 30 minutes. The account manager reported that a customer must write a letter requesting an exemption, and Duke Energy sends the request to PJM. To date, PJM has generally granted all exemption requests.

Both the product manager and the account manager acknowledged that only a true emergency event call will allow them to find out how difficult it is to curtail loads with the 30-minute advance notification. To prepare for future events, the product manager reported that in spring 2016, Duke Energy will conduct another annual refresher of emergency event call procedures. This will allow Duke Energy to confirm the amount of time it takes for the system to notify customers of the start and end of an event.

The Duke Energy account manager said that despite the challenges posed by recent changes in the program, her longstanding relationship with customers means that they are willing to communicate their concerns to her. This allows her to explain the reasons and need for the program changes to her customers’ satisfaction. The account manager believed that the high renewal rate from program participants speaks to the program’s continued value to Duke Energy’s customers despite the recent changes.

Appendix A: Management Interview Protocol

Interviewer: _____ Date of Interview: _____ Interview method: _____

Name: _____

Title: _____

Position description and general responsibilities:

We are conducting this interview to obtain your opinions about and experiences with the PowerShare Program for the state of KY as it was implemented between the dates of January 1, 2015 and December 31, 2015. We'll talk about the Program and its objectives, your thoughts on improving the program and its participation rates. Today's interview will take about an hour to complete. May we begin?

Program Overview

1. In your own words, please briefly describe the PowerShare Kentucky Program's goals.
2. Please describe your role and scope of responsibility in detail. What is it that you are responsible for as it relates to this program? When did you take on this role?
3. Would you please tell me the history of the PowerShare program in Kentucky?
4. In your own words please describe how the PowerShare Program works and go over its design, marketing and operational approaches. Walk us through the participatory steps starting with a customer who knows nothing about the program.
5. Please describe for me the roles and responsibilities of vendors that are supporting Duke Energy's PowerShare program in the state of Kentucky?
6. Are there any changes you would like to see in the vendors' roles or responsibilities that would improve the PowerShare program's operations?
7. How does PowerShare fit into Duke Energy's demand response portfolio?
8. What other demand response programs does Duke offer to either residential or nonresidential customers?
9. How does Duke Energy prioritize use of the capacity provided by each of these demand response programs?

Objectives

10. Were there any quantitative targets in terms of participant enrollments? If yes, what were they?
11. Were there any quantitative targets in terms of demand response capacity? If yes, what were they?
12. Were there separate quantitative targets for each of the four participation options?
13. How do you set these objectives?
14. Please explain SB 221 and its influence on PowerShare program objectives.
15. How well has Duke Energy been meeting the capacity goals set by SB 221?
16. Did you meet those objectives? Exceed them?
17. Since the program objectives were devised, have there been any changes in external influences (such as market conditions or new regulations) or internal influences that have affected the PowerShare program's operations?
18. Should the current objectives be revised in any way because of these changes that developed since the program objectives were devised?
19. What is Duke Energy's need for having an economic demand response program in KY?
20. Please tell me about the Auto Demand Response program in KY?
21. Can you please provide me with a list of the companies that are participating in the pilot?
22. What information do you need that would help you with program design in the future?

Incentives

23. What were the incentives for the PowerShare program in 2015? Do you expect that these will change in the future?
24. How do customers receive the monthly premium credit?
25. How do customers receive the load reduction credit for the events in which they participated?
26. Are these two credits reported separately on their invoice?
27. Do you think the incentives offered through the PowerShare Program are adequate enough to entice the C&I community to enroll in the program? Why or why not?
28. Do you think the customers understand the incentive levels and how they are calculated? Have there been any issues relating to the customers understanding the incentive approach or confusion over what they are paid? What can be done to minimize this confusion?

29. Do you think customers have additional ability to shed load that could be tapped if the incentives were increased?

Marketing

30. What kinds of marketing, outreach and customer contact approaches do you use to make your customers aware of the program? Are there any changes to the program marketing that you think would increase participation?

31. Do you think the materials and information presented to the C&I community about the PowerShare Program provides a complete enough picture for them to understand the participatory benefits of the program? How might they be improved?

32. Are there specific customer types (business types) or market segments that you think Duke Energy should focus more effort on enrolling? What are they? How should PowerShare approach them with this program?

33. What market information, research or market assessments are you using to determine the best target markets or market segments on which to focus?

34. What are the key barriers to more efficient program operation?

35. What are the key barriers to achieving greater load reduction?

36. Are there any steps of the enrollment process that is more difficult for the customer? How does PowerShare plan to address these issues.

37. How many customers have unenrolled from the program in 2015, for each of the options? How many MW does this represent?

38. What are most common reasons for unenrolling?

39. Describe the use of any internal or outside program advisors, technical groups or organizations that have in the past or are currently helping you think through the program's approach or methods. How often do you use these resources? What do you use them for?

40. Do you think there should be changes made to the structure of the participation options?

Event calls

41. How many and what types of events were called in 2015?

42. What are the steps customers must go through to participate in the voluntary and economic events?

43. How do you track, manage, and monitor or evaluate customer response to the event calls? How do you know if they reached their load shifting objectives?

44. For customers who do not shed as much load as anticipated, how do you find out why customers did not shed enough load?
45. Can you describe for me your understanding of how customers react to a call? How quickly do they learn of a call, what determines what they can do, how quickly can they react?
46. Given that PowerShare customers have different capabilities to react to an event depending upon their work volumes, production schedules, etc., how does PowerShare capture needed savings within the different customer conditions and capabilities in the market?
47. What is the quality control, tracking and accounting process for determining how well control and control strategies work at the customer level and at the program level?
48. Are there any market segments or customer types that the program is now serving that consistently are not able to provide the load shed within the timelines and notification systems used today? What would you suggest should be done about this customer segment?
49. Overall, what about the PowerShare Program works well and why?
50. What doesn't work well and why? Do you think this discourages participation?
51. In what ways can the PowerShare Program's operations be improved?
52. Are there any other issues or topics you think we should know about and discuss for this evaluation?

Thank you for your time!

Appendix B: Participant Survey Protocol

Survey ID _____
Surveyor Name _____

State
 Kentucky

Participant Info

Name: _____
Company: _____
Title: _____

Hello, my name is _____. I am calling on behalf of Duke Energy to conduct a customer satisfaction interview about the Power Share Program. May I speak with _____ please?

We need your help. Duke Energy has given us your name as someone who might be able to share some of your experiences with the Power Share Program. We are not selling anything. We would like to conduct a short interview that will take about 15 minutes and all your answers will be kept confidential. This information will enable Duke to make improvements to the program and the application process.

Message for voicemail

Hello, my name is _____ from Cadmus Works. I am calling on behalf of Duke Energy to conduct a customer satisfaction interview about the Power Share Program. Duke Energy has given us your name as someone who might be able to share some of your experiences with the Power Share Program. We are an independent evaluation firm and we are not selling anything. We would like to conduct a short interview that will take about 15 minutes. All your answers will be kept confidential. This information will enable Duke to make improvements to the program and the application process.

If you can help, please call me at _____. If there is someone at your company who would be more appropriate for us to speak to, we would appreciate if you could let us know that as well.

OPTIONAL - only If the customer wishes confirmation from Duke.

If you would like to verify this request, please contact your account manager. Or, you can contact Rose Stoeckle, Manager of Measurement and Verification Ops, at Duke Energy. She can be reached at (513) 287-2264 or rose.stoeckle@duke-energy.com.

IN-1. Would you be able to help us?

- Yes
 No

(If no)

IN-2. Can you please give me the name of someone else who might be the more appropriate person to tell us about your company's participation in Power Share?

ESTABLISHING QUESTIONS

ES-1. Would you please tell me what your company does and what your role is in your company? _____

ES-2a. Do you manage more than one site that participates in Power Share for your company?

- Yes
- No
- DK

If yes,

ES-2b. How many sites? _____

Most of the questions you will be answering today are about Power Share in general, but if you manage sites that participate in Power Share differently from one another, please answer for your company's facility that is listed as ...

[Please fill in facility name from info sheet].

ES-5. How long has your company been participating in the Power Share Program?

INFORMATION-GATHERING PHASE

INFO-1. How did you first become aware of the Power Share Program?

- Duke Energy sent me a brochure
- A Duke Energy representative told me about it
- Duke Energy website
- I saw an ad in: _____
- Other: _____ ()
- Don't know

INFO-2. Please tell me how useful that source was in providing the information you needed to decide whether or not to participate. Please rate the usefulness of that source on a scale of 1 to 10, with 1 meaning "Almost nothing I needed", and 10 meaning "Everything I needed".

- 1 2 3 4 5 6 7 8 9 10 NA DK/NS

(If INFO-2 was less than 10, ask questions INFO-3a, 3b and 3c)

INFO-3a Where else did you go to get information? _____

INFO-3b. What additional information were you seeking? _____

INFO-3c. Were you able to get the information you needed about the program's participation requirements and benefits?

- Yes
- No
- DK/NS

OHIO: AUTO DR PILOT

CODR-1. Are you, or were you, a participant in the Automated Demand Response pilot, which is also known as Auto DR?

- Yes
- No
- DK/NS

(If yes, ask CODR-2, CODR-3 and CODR-4)

CODR-2. What do you like most about Auto DR?

CODR-3. What do you like the least about Auto DR?

CODR-4. Please rate your overall satisfaction with the Auto DR pilot, on a scale of 1 to 10, where 1 means that you are very dissatisfied and 10 means that you are very satisfied.

- 1 2 3 4 5 6 7 8 9 10 NA
- DK/NS

If rating is less than 8:

CODR-5. What can be improved about the Auto DR program?

DECISION MAKING

DM-1. What was the primary reason that you decided to participate in the Power Share Program?

DM-2. Was there a secondary reason that your company decided to enroll?

DM-3a. Duke Energy offered an early enrollment period with a bonus if your company renewed their contract in January. Did your company renew under this early enrollment period?

- Yes
- No
- DK/NS

If "No"

DM-3b. What were some of the reasons why your company did not renew under the early enrollment period?

If "No"

DM-3c. Is there anything Duke Energy can do to help your company make a decision early?

EVENT PARTICIPATION

EV-4a. In addition to phone calls, texts, fax and emails, is there another way in which you would like to be notified of events?

EV-4b. For some events Duke Energy is able to send out a notice a day ahead of the event, to warn of the possibility that an event may occur. Can you please rate how useful it is for you to receive the "day ahead" notices, on a scale of 1 to 10, where 1 means "Not at all useful" and 10 means "Useful".

1 2 3 4 5 6 7 8 9 10 NA

EV-4c. Do you have any other feedback for Duke Energy on their event communication efforts?

EV-5d What did you need to do at your facility to reduce load?

EV-6a Was your company successful in reducing load?

- Yes
- No
- DK/NS

If No,

EV 6b. Were there any negative consequences of not reducing enough load?

EV-8. Please rate how easy is it for you to use the Energy Profiler Online, or EPO, on a scale of 1 to 10, where 1 means very difficult and 10 means very easy.

1 2 3 4 5 6 7 8 9 10 NA
DK/NS

(If rating was less than 8)

EV-9. What can be done to make using EPO easier for you?

EV-10 Would you say the targeted level of load reduction you currently have with Duke Energy is

- Much less than you can provide
- Less than you can provide
- About right for your company
- More than you want to provide
- Much more than you want to provide
- DK/NS

EV-11. For winter events that were called recently, were there any differences in your company's ability to respond compared to summer events?

IMPROVEMENTS

IMPR-1. While your company was deciding whether or not to enroll, what was the biggest concern about participating in Power Share?

IMPR-2a. During the past season, did anything happen to decrease your concern?

- Yes
- No

If YES

IMPR-2b. What happened?

If NO

IMPR-2c. What can Duke Energy do that would decrease your concern?

IMPR-4. Is there anything about Power Share you would say was working exceptionally well? It's fine if there isn't.

IMPR-5. What doesn't work well and why?

SATISFACTION

We would like to ask you a few questions about your satisfaction with various aspects of the program. For these questions, we would like you to rate your satisfaction using a 1 to 10 scale where a 1 means that you are very dissatisfied with that aspect and a 10 means that you are very satisfied.

SAT-1. How would you rate your satisfaction with: The ease of applying for the program?
1 2 3 4 5 6 7 8 9 10 NA
DK/NS

If rating was less than 8

SAT-1a. How can this be improved?

SAT-2. How would you rate your satisfaction with: The amount of the monthly premium credit provided by the program?
1 2 3 4 5 6 7 8 9 10 NA
DK/NS

If rating was less than 8

SAT-2a. How can this be improved?

SAT-3. How would you rate your satisfaction with: The amount of the load reduction credit for the events in which you participated?
1 2 3 4 5 6 7 8 9 10 NA
DK/NS

If rating was less than 8

SAT-3a. How can this be improved?

SAT-4. How would you rate your satisfaction with: The time it took for you to receive your load reduction credit?
1 2 3 4 5 6 7 8 9 10 NA
DK/NS

If rating was less than 8

SAT-4a. How can this be improved?

SAT-5. How would you rate your satisfaction with: How clear the explanation of the Power Share incentive structure was?
1 2 3 4 5 6 7 8 9 10 NA
DK/NS

If rating was less than 8

SAT-5a. How can this be improved?

SAT-6. How would you rate your satisfaction with: The amount of advance notice you had about the events

1 2 3 4 5 6 7 8 9 10 NA
DK/NS

If rating was less than 8

SAT-6a. How can this be improved?

SAT-7. How would you rate your satisfaction with: The time window in which you were required to reduce your load once you had received notification about the start of the event?

1 2 3 4 5 6 7 8 9 10 NA
DK/NS

If rating was less than 8

SAT-7a. How can this be improved?

SAT-8. How would you rate your satisfaction with: Duke Energy's method for confirming how much load you reduced?

1 2 3 4 5 6 7 8 9 10 NA
DK/NS

If rating was less than 8

SAT-8a. How can this be improved?

SAT-9. How would you rate your satisfaction with: The technical expertise of Duke Energy staff

1 2 3 4 5 6 7 8 9 10 NA
DK/NS

If rating was less than 8

SAT-9a. How can this be improved?

SAT-10. How would you rate your satisfaction with: The time it took for Duke Energy staff to respond to any questions or address any issues.

1 2 3 4 5 6 7 8 9 10 NA
DK/NS

If rating was less than 8

SAT-10a. How can this be improved?

Sat-11. Considering all aspects of the program, how would you rate your overall satisfaction with the Power Share Program?

1 2 3 4 5 6 7 8 9 10 NA
DK/NS

If rating was less than 8

SAT-11a. How can this be improved?

SAT-12 Does your company intend to stay in the Power Share program in the coming year?

Yes
 No
 DK

SAT-13. How would you rate your overall satisfaction with Duke Energy?

1 2 3 4 5 6 7 8 9 10 NA
DK/NS

If rating was less than 8

SAT-12a. How can this be improved?

SAT-13. Are there any other thoughts or comments you would like to share with Duke Energy management about the Power Share Program that we have not discussed already?

Thank you for taking this time to share your thoughts! We appreciate it very much.