

BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

In the Matter of the Application of)
Westar Energy, Inc. and Kansas Gas and)
Electric Company for Approval of) Docket No. 15-WSEE-181-TAR
Energy Efficiency Programs)

**** REDACTED ****

EXHIBITS AND APPENDIX A

PREPARED BY:

STACEY HARDEN

ON BEHALF OF

CITIZENS' UTILITY RATEPAYER BOARD

MARCH 18, 2015

Exhibit SMH-1
Exhibit SMH-2

Appendix A
Referenced Data Request

PROGRAM	2015	2016	2017	2018	2019	
Existing Programs						
EEDR	\$ 3,840,000	\$ 3,840,000	\$ 3,840,000	\$ 3,840,000	\$ 3,840,000	(1)
WattSaver	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	(2)
Energy Efficiency Education	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000	(3)
Building Operator Certificate	\$ 145,107	\$ 145,107	\$ 145,107	\$ 145,107	\$ 145,107	(4)
Total Budget for Existing Programs	\$ 5,545,107	\$ 5,545,107	\$ 5,545,107	\$ 5,545,107	\$ 5,545,107	
Proposed Programs						
Small Business Lighting	\$ 1,848,275	\$ 2,021,250	\$ 2,362,500	\$ -	\$ -	(5)
Home Energy Audit	\$ 177,200	\$ 177,200	\$ 177,200	\$ -	\$ -	(6)
Targeted Energy Efficiency	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	(7)
Total Budget for Proposed Programs	\$ 5,025,475	\$ 5,198,450	\$ 5,539,700	\$ 3,000,000	\$ 3,000,000	
Lost Margins						
Small Business Lighting	\$ 465,386	\$ 575,410	\$ 690,397	\$ -	\$ -	(8)
Targeted Energy Efficiency	\$ 98,781	\$ 98,781	\$ 98,781	\$ 98,781	\$ 98,781	(9)
Total Lost Margin Recovery	\$ 564,167	\$ 674,191	\$ 789,178	\$ 98,781	\$ 98,781	
Total Proposed EER Recovery	\$ 11,134,749	\$ 11,417,748	\$ 11,873,985	\$ 8,643,888	\$ 8,643,888	

Source:

(1), (2), and (3): Docket 15-WSEE-021-TAR, Westar Energy and Kansas Gas and Electric Company Efficiency Program 5 Year Forecast

(4): Westar Response to CURB Data Request 6

(5): Exhibit HJ-1

(6): Exhibit HJ-2

(7): Direct Testimony of Scott Unekis at page 11

(8) and (9): Westar Response to CURB Data Request 72

EXHIBIT SMH-2

			% change from previous year
11-WSEE-032-TAR (EER)	\$	5,830,491.17	0.00%
12-WSEE-063-TAR (EER)	\$	10,571,746.00	81.32%
13-WSEE-033-TAR (EER)	\$	11,647,519.00	10.18%
14-WSEE-030-TAR (EER)	\$	10,420,179.00	-10.54%
15-WSEE-021-TAR (EER)	\$	5,543,384.00	-46.80%
Proposed 2016 EER*	\$	5,798,725.00	4.61%
Proposed 2017 EER*	\$	11,375,085.00	96.17%
Proposed 2018 EER*	\$	11,662,497.00	2.53%
Proposed 2019 EER*	\$	12,102,484.00	3.77%
Proposed 2020 EER*	\$	8,897,506.00	-26.48%

* Westar's response to CURB Data Request 72

Referenced Data Requests

CURB-5 (Attachment not provided)

CURB-9

CURB-18 (Partial)

CURB-21

CURB-28

CURB-29

CURB-30

CURB-59

CURB-61

CURB-70 CONFIDENTIAL**

CURB-78 CONFIDENTIAL**

CURB-79

CURB-82

CURB-83

CURB-89

CURB-105

CURB-106

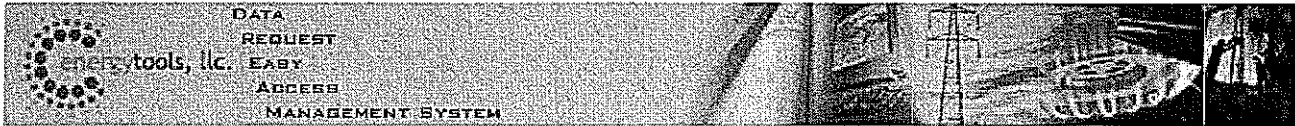
CURB-110 (Partial)

CURB-113

KCC-9

KCC-21

**** Confidential Responses Redacted**



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Wednesday, March 18, 2015
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Docket: [15-WSEE-181-TAR] Energy Efficiency Program
Requestor: [CURB] [David Springe]
Data Request: CURB-05 :: Program specific databases
Date: 0000-00-00

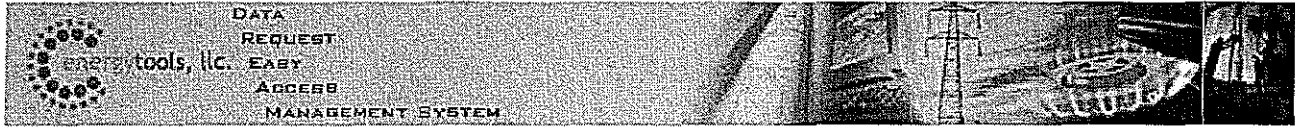
Question 1 (Prepared by n/a)

Please provide electronic copies of all program specific databases (WattSaver, Energy Efficiency Demand Response Rider, Simple Savings) maintained by the Company or contracted third-party on behalf of the Company, including a table of contents explaining contents. Please provide response to this data request in fully compatible Excel files.

Response:

The WattSaver database, provided by Honeywell, is on a CD entitled "Westar Energy EfficiencyWorks WattSaver Pgm. Database". For the Energy Efficiency Demand Response Rider, we have no database; we only have one customer on that program. For the Simple Savings database, attached please find a spreadsheet titled "CURB 5 - Simple Savings database".

Attachment File Name	Attachment Note
CURB 5 - Simple Savings database.xlsx	



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Wednesday, March 18, 2015
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Docket: [15-WSEE-181-TAR] Energy Efficiency Program
Requestor: [CURB] [David Springe]
Data Request: CURB-09 :: Natural Gas Peaking Facility
Date: 0000-00-00

Question 1 (Prepared by n/a.)

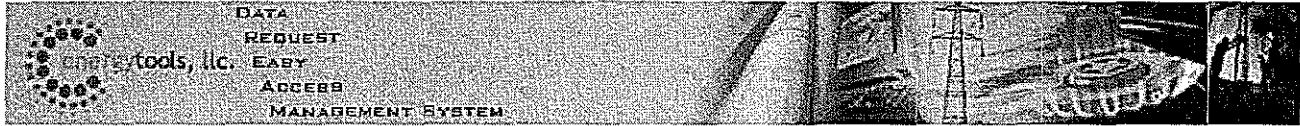
If Westar ceases offering energy efficiency programs – including terminating (or “sunsetting”) its existing programs and programs proposed in the Application – when will Westar need to add a new natural gas peaking facility to meet demand growth?

Response:

Energy efficiency efforts have a positive impact by giving Westar another tool to shave its peak. It is not having a big enough impact to be a solely determining factor in when new generation will be required. It is more likely that customer growth, the retirement of aged plants or environmental rules that limit generation on some units will be the drivers that would trigger Westar to build any new generation, including a natural gas peaking plant.

No Digital Attachments Found.

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Wednesday, March 18, 2015
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Docket: [15-WSEE-181-TAR] Energy Efficiency Program
Requestor: [CURB] [David Springe]
Data Request: CURB-18 :: Jensen's testimony
Date: 0000-00-00

Question 1 (Prepared by n/a)

For each of the fourteen WattSaver curtailment events summarized on page 48 of Mr. Jensen's testimony, please detail the following: • Why was the cycling event called? • What was avoided in each cycling event? • During the cycling events, was Westar able to sell power in the market? • If so, how much was Westar able to sell? • What was the market price at the time of each sale?

Response:

Attached please find a spreadsheet titled "CURB 18 - WattSaver Cycling Events" which addresses the first two bullet points. In regards to what was avoided in each cycling event, there are two avoided cost components that were measured in the WattSaver Program: (1) avoided capacity costs; and (2) avoided energy costs. Avoided capacity costs are the costs associated with building new generation capacity to meet system peak loads. Avoided energy costs are the costs (mostly fuel) avoided as a result of WattSaver cycling events that reduce the need for peak power. Calculations for both avoided costs are shown in the tab titled Avoided Costs. M&V results for different time periods (2010, 2011 & 2012/2013) are shown attached in Appendices 18-2, 18-3 & 18-4. Annualized capacity cost is estimated at \$57 per kW and is shown attached in Appendix 18-5. In regards to the last three bullet points, during the cycling events, Westar only sold power to fulfill long term agreements and sales resulting from the SPP Energy Imbalance Market. Other than the activity with the SPP Energy Imbalance Market, Westar was a net purchase of energy during these events. The SPP Energy Imbalance Market is not a bilateral market and individual market participants do not control the energy purchases and sales transactions. On 8-2-11, Westar made one real time sale to Western Farmers for the first hour. It was for 25 MWh and was sold at \$66.00, the market was \$50.60.

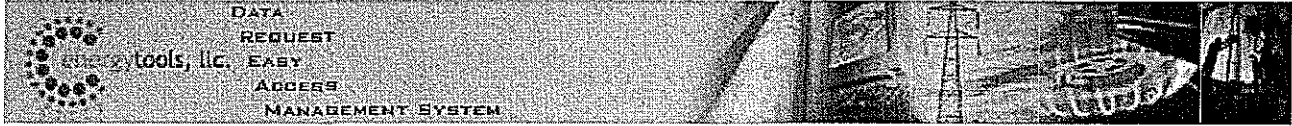
Attachment File Name	Attachment Note
CURB 18 - Appendix 18-2 WattSaver Program M&V 2010.pptx	
CURB 18 - Appendix 18-3 WattSaver Program M&V 2012.pptx	
CURB 18 - Appendix 18-4 WattSaver Program M&V 2013.pptx	
CURB 18 - Appendix 18-5 Emporia Energy Center.xlsx	
CURB 18 - WattSaver Cycling Events.xlsx	

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CURB-18							
WATTSAYER CYCLING EVENTS							
Cycling Season (June 1 through September 30)							
Program-to-Date (since WattSaver Kick-off 10/09)							
Cycling Event Date	Scheduled Time	Hours	Reason(s) for Cycling Event	# of Customers Cycled	Avoided Capacity Costs (kW) (1)	Avoided Energy Costs (kWh) (2)	Notes
2010							
6/17/2010	1400-1930	5.50	LaCygne-1 and LEC-5 off-line; Evans-CT3 forced outage	8,339	\$438,723	\$13,576	
7/14/2010	1600-1800	2.00	YTD Peak Load	9,497	\$499,647	\$5,622	
7/19/2010	1500-1800	3.00	JEC-1 and Gill-4 off-line	9,497	\$499,647	\$8,433	
7/22/2010	1500-1800	3.00	JEC-1 and LaCygne-2 forced outages	9,497	\$499,647	\$8,433	
7/23/2010	1400-1800	4.00	JEC-1 and LaCygne-2 forced outages	9,497	\$499,647	\$11,244	
		17.5					
2011							
6/6/2011	1400-1800	4	Wolf Creek and La-Cygne-1 forced outages; JEC-2 coal mill derate	21,790	\$1,188,623	\$25,799	
6/7/2011	1500-1800	3	Wolf Creek and La-Cygne-1 forced outages	21,790	\$1,188,623	\$19,350	
6/30/2011	1500-1730	2.5	Wolf Creek Feedpump issues, JEC-3 forced outage	21,790	\$1,188,623	\$16,125	
8/2/2011	1400-1800	4	Evans-2 and Gill-2 forced outages, TEC-8 derated, AbelineCT trip, Oxy unit trip, purchases made from municipal plants	23,684	\$1,291,939	\$28,042	
9/1/2011	1500-1800	3	J3 and T8 off with tube leaks, forecasted just short of an EEA. Called on all available generation. SPP-RC notified	25,077	\$1,367,925	\$22,268	
9/2/2011	1400-1800	4	J3 and LAC2 off with tube leaks (forecasted to be just short of an EEA). Called on all available generation. SPP-RC* notified	25,077	\$1,367,925	\$29,691	*SPP-RC = Reliability Coordinator
		20.5					
2012							
7/19/2012	1430-1800	3.5	Near peak load (105F forecasted), Evans 2, Emporia 5, and JEC plant de-rate due to transmission issues.	40,082	\$2,010,513	\$41,525	Operational and NERC Compliance Risk
7/26/2012	1400-1915	4	NERC EEA1 declared*. Evans 2 Forced Outage - LP Turbine Blades repair; JEC 2 Forced Outage - Boiler Tube Leak, LAC-2 Forced Outage - FWH Repairs. LAC 1 derated for SCR pressure and Cam Plan (emissions)	40,082	\$2,010,513	\$47,457	Operational and NERC Compliance Risk; *Energy Emergency Alert Level 1
		7.5					
2013							
8/28/2013	1530-1730	2	JEC-1 & JEC-2 are derated today by 900MW+ total. LaCygne-1 has a boiler tube leak (they are monitoring but not planning to come off-line)	56,630	\$2,840,561	\$33,525	Decreased operational risk, event also served as annual test of program since this was the only event)
		2.0					
		47.5					

(1) avoided capacity cost calculations were based on kW savings of 0.923 per customer for 2010 (Appendix 18-2), 0.957 kW for 2011 (Appendix 18-3), & 0.88 kW for 2012 & 2013 (Appendix 18-4) & annualized capacity cost estimated at \$57 per kW (Appendix 18-5).

(2) avoided energy (fuel) cost of 7.4 cents per kWh is based on estimated fuel cost savings for Westar's least efficient peaking plants; each participant uses 4 kW of peak power on average



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Docket: [15-WSEE-181-TAR] Energy Efficiency Program
Requestor: [CURB] [David Springe]
Data Request: CURB-21 :: WattSaver costs
Date: 0000-00-00

Question 1 (Prepared by n/a)

Please provide a general ledger of actual WattSaver costs incurred from July 1, 2014 to the present day.

Response:

Attached please find a spreadsheet titled "CURB 21 - WattSaver Costs 0714 to 1214".

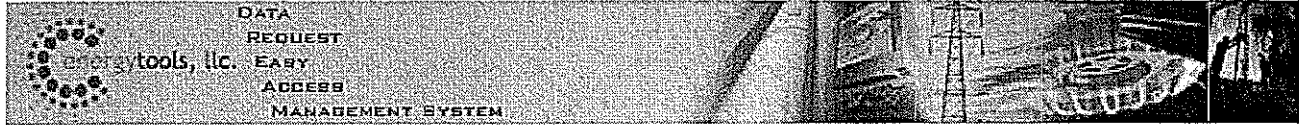
Attachment File Name	Attachment Note
CURB 21 WattSaver Costs 0714 to 1214.xlsx	

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CURB-21

Business Un	Operating U	Account	Department	Work Area	Class	Field	Project	Job Task Description	Month Num	Vendor Name	Amount
10000	10000	1823650	06310	06310	C100	519504	519504	AFTER HOURS SERVICE CALL 5229708313	201407	HONEYWELLI-001	\$534.96
10000	10000	1823650	06310	06310	C100	519504	519504	CALL CENTER FEE 5229708313	201407	HONEYWELLI-001	\$13,311.93
10000	10000	1823650	06310	06310	C100	519504	519504	HRLY SERVICE RATE 5229708313	201407	HONEYWELLI-001	\$5,969.47
10000	10000	1823650	06310	06310	C100	519504	519504	NORTH TOTAL 5229708313	201407	HONEYWELLI-001	\$10,596.76
10000	10000	1823650	06310	06310	C100	519504	519504	SERVICE MANAGEMENT FEE 5229708313	201407	HONEYWELLI-001	\$29,411.77
10000	10000	1823650	06310	06310	C200	519504	519504	COOPER HOSTING 5229708313	201407	HONEYWELLI-001	\$9,706.47
10000	10000	1823650	06310	06310	C200	519504	519504	MANAGEMENT FEE 5229708313	201407	HONEYWELLI-001	\$16,410.92
10000	10000	1823650	06310	06310	C200	519504	519504	VCR SURVEY CREDIT 5229708313	201407	HONEYWELLI-001	(\$1,328.59)
10100	10000	1823650	06310	06310	C100	519504	519504	SOUTH TOTAL 5229708313	201407	HONEYWELLI-001	\$12,962.49
10000	10000	1823650	06310	06310	C100	519504	519504	After Hours Service Call Month 5230006260	201409	HONEYWELLI-001	\$251.00
10000	10000	1823650	06310	06310	C100	519504	519504	After Hrs Service Call Mthly F 5230291603	201409	HONEYWELLI-001	\$1,069.09
10000	10000	1823650	06310	06310	C100	519504	519504	Call Center Monthly Fee 5230006260	201409	HONEYWELLI-001	\$11,223.28
10000	10000	1823650	06310	06310	C100	519504	519504	Call Center Monthly Fees 5230291603	201409	HONEYWELLI-001	\$9,007.19
10000	10000	1823650	06310	06310	C100	519504	519504	Hrly Service Rate Monthly Fee 5230006260	201409	HONEYWELLI-001	\$6,130.50
10000	10000	1823650	06310	06310	C100	519504	519504	Hrly Service Rate Monthly Fees 5230291603	201409	HONEYWELLI-001	\$4,643.20
10000	10000	1823650	06310	06310	C100	519504	519504	North Property 5230291603	201409	HONEYWELLI-001	\$19,779.26
10000	10000	1823650	06310	06310	C100	519504	519504	North Property-Wattsaver Recon 52300062	201409	HONEYWELLI-001	\$14,223.00
10000	10000	1823650	06310	06310	C100	519504	519504	Service Management Monthly Fee 5230006260	201409	HONEYWELLI-001	\$27,600.00
10000	10000	1823650	06310	06310	C100	519504	519504	Service Mgmt Monthly Fees 5230291603	201409	HONEYWELLI-001	\$29,389.36
10000	10000	1823650	06310	06310	C200	519504	519504	Cooper Hosting/Paging Monthly 5230006260	201409	HONEYWELLI-001	\$8,952.35
10000	10000	1823650	06310	06310	C200	519504	519504	Cooper Hosting/Paging Mthly Fe 5230291603	201409	HONEYWELLI-001	\$12,209.79
10000	10000	1823650	06310	06310	C200	519504	519504	Management Monthly Fee 5230006260	201409	HONEYWELLI-001	\$15,400.00
10000	10000	1823650	06310	06310	C200	519504	519504	Management Monthly Fees 5230291603	201409	HONEYWELLI-001	\$16,398.41
10100	10000	1823650	06310	06310	C100	519504	519504	South Property 5230291603	201409	HONEYWELLI-001	\$16,167.34
10100	10000	1823650	06310	06310	C100	519504	519504	South Property-Wattsaver Recon 52300062	201409	HONEYWELLI-001	\$16,658.00
10000	10000	1823650	06310	06310	C100	519504	519504	C100 North 5230607753	201410	HONEYWELLI-001	\$55,107.98
10000	10000	1823650	06310	06310	C200	519504	519504	C200 North 5230607753	201410	HONEYWELLI-001	\$26,402.05
10100	10000	1823650	06310	06310	C100	519504	519504	C100 South 5230607753	201410	HONEYWELLI-001	\$14,437.69
10100	10000	1823650	06310	06310	C200	519504	519504	Completing weekly WattSaver 14197A	201410	VOTERCONSU-001	\$1,038.96
10000	10000	1823650	06310	06310	C100	519504	519504	C100 North 5231113544	201411	HONEYWELLI-001	\$53,743.41
10000	10000	1823650	06310	06310	C200	519504	519504	C200 North 5231113544	201411	HONEYWELLI-001	\$25,260.47
10100	10000	1823650	06310	06310	C100	519504	519504	C100 South 5231113544	201411	HONEYWELLI-001	\$10,400.66
10000	10000	1823650	06310	06310	C100	519504	519504	C100 North 5231372905	201412	HONEYWELLI-001	\$51,122.74
10000	10000	1823650	06310	06310	C200	519504	519504	C200 North 5231372905	201412	HONEYWELLI-001	\$25,632.29
10100	10000	1823650	06310	06310	C100	519504	519504	C100 South 5231372905	201412	HONEYWELLI-001	\$6,043.14
											\$575,867.34

CURB-21



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Docket: [15-WSEE-181-TAR] Energy Efficiency Program
Requestor: [CURB] [David Springe]
Data Request: CURB-28 :: Cost of direct measure for SBL programs
Date: 0000-00-00

Question 1 (Prepared by n/a)

Please provide a list including the cost of each direct measure for the SBL program listed on page 12 of Mr. Jensen's testimony.

Response:

Attached please find a spreadsheet titled "CURB DR1 - Q28 - SBL Direct Measure Costs"

Attachment File Name	Attachment Note
CURB DR1 - Q28 - SBL Direct Measure Costs.xlsx	

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CURB-28

Baseline (existing) Measure Description	High Efficiency (Replacement) Measure Description	Select "Free" if Measure is Offered to Participant at No Cost	Proposed Cost/Incentive to Participant per Unit
60W Incandescent A lamp	DI CFL (14W)	Free	\$ 10.00
75W Incandescent A lamp	DI CFL (19W)	Free	\$ 10.00
100W Incandescent A lamp	DI CFL (23W)	Free	\$ 10.00
No Control	DI Cooler Miser	Free	\$ 175.00
25W Incandescent Candle or Globe	DI Decorative LED - 25W Equiv	Free	\$ 20.00
40W Incandescent Candle or Globe	DI Decorative LED - 40W Equiv	Free	\$ 25.00
60W Incandescent Candle or Globe	DI Decorative LED - 60W Equiv	Free	\$ 45.00
>150W PAR Incandescent	DI Directional LED - >150W Equiv	Free	\$ 50.00
40W R16/R20 Incandescent	DI Directional LED - 40W Equiv	Free	\$ 25.00
45W R20/BR30/PAR38 Incandescent	DI Directional LED - 45W Equiv	Free	\$ 25.00
50W R20 Incandescent	DI Directional LED - 50W Equiv	Free	\$ 25.00
60W BR30, R30, PAR38 Incandescent	DI Directional LED - 60W Equiv	Free	\$ 45.00
65W BR30 Incandescent	DI Directional LED - 65W Equiv	Free	\$ 45.00
75W Incandescent/Halogen PAR30/38	DI Directional LED - 75W Equiv	Free	\$ 45.00
90W Incandescent/Halogen PAR 38	DI Directional LED - 90W Equiv	Free	\$ 45.00
Standard Aerator	DI low-flow Bathroom Aerators	Free	\$ 5.00
Standard Aerator	DI low-flow Kitchen Aerators	Free	\$ 7.00
100W Incandescent A lamp	DI Omni - Directional LED - 100W Equiv	Free	\$ 30.00
40W Incandescent A lamp	DI Omni - Directional LED - 40W Equiv	Free	\$ 15.00
60W Incandescent A lamp	DI Omni - Directional LED - 60W Equiv	Free	\$ 20.00
75W Incandescent A lamp	DI Omni - Directional LED - 75W Equiv	Free	\$ 25.00
Standard Sprayer	DI Pre Rinse Sprayers	Free	\$ 75.00
No Control	DI Vending Miser	Free	\$ 200.00



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Docket: [15-WSEE-181-TAR] Energy Efficiency Program
Requestor: [CURB] [David Springe]
Data Request: CURB-29 :: Exhibit HJ-1
Date: 0000-00-00

Question 1 (Prepared by n/a)

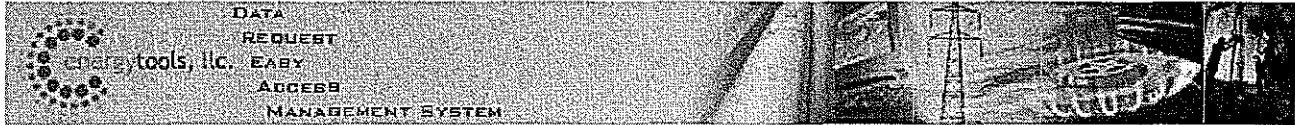
The program management costs included in Exhibit HJ-1, includes \$41,229 for "financing". Please explain what financing is and how this number was calculated.

Response:

Financing is a benefit to business owners to assist them with purchasing measures to meet energy savings targets. Financing allows for Franklin Energy to provide the funding for the total project costs and the business owner reimburses on a monthly basis until the financed amount is paid in full. The costs of \$41,229 over the three year period is an allocation of time from the Franklin program team to facilitate the financing option and is incremental over the \$40 per application fee. It consists of 276 hours of a Program Manager and 347 hours of a Project Coordinator over a 3 year period at professional billing rates plus any incremental travel.

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Docket: [15-WSEE-181-TAR] Energy Efficiency Program
Requestor: [CURB] [David Springe]
Data Request: CURB-30 :: Franklin Energy Group 0% financing
Date: 0000-00-00

Question 1 (Prepared by n/a)

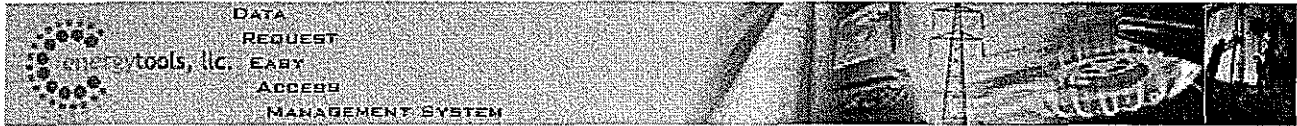
Please explain how Franklin Energy Group offers zero percent financing to customers in the SBL program.

Response:

Franklin anticipates 100-200 financed projects per year and has designed the program with the zero percent offer to the customer in order to enhance the participation rate, especially for the larger projects (minimum amount financed of \$1,000). The \$40 per application fee is to cover the interest per loan and does not fluctuate based on size of loan. As a result, the maximum interest rate on the smallest loan amount of \$1,000 loan for 6 months, would be 8% annual

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Docket: [15-WSEE-181-TAR] Energy Efficiency Program
Requestor: [CURB] [David Springe]
Data Request: CURB-59 :: Lost margins
Date: 0000-00-00

Question 1 (Prepared by n/a)

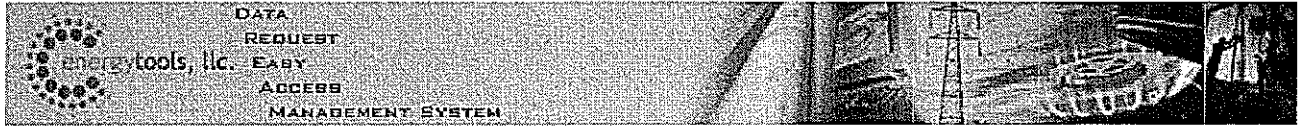
Provide an estimate of the margins that will be lost if the Commission approves the SBL and Targeted EE Program?

Response:

Using a non-fuel energy rate of \$0.0899/kWh for customers participating in the SBL program, and \$0.0845/kWh for customers participating in the TEEP program, estimated lost margins are: $\$0.0899 \times 21,396,530 \times 0.90 = \$1,731,193$ for the SBL program over three years; $\$0.0845 \times 5,845,030 \times 1.00 = \$493,905$ for the TEEP program over five years

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Wednesday, March 18, 2015
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Docket: [15-WSEE-181-TAR] Energy Efficiency Program
Requestor: [CURB] [David Springe]
Data Request: CURB-61 :: EM&V plan for SBL, HEA and Targeted EE programs
Date: 0000-00-00

Question 1 (Prepared by n/a)

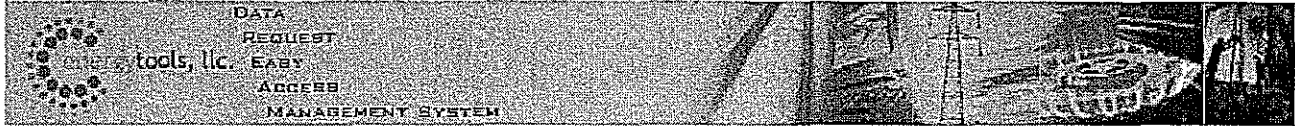
What is Westar's EM&V plan for the SBL, HEA and Targeted EE programs?

Response:

Westar acknowledges the importance of an effective EM&V process and plans to develop a detailed EM&V plan after the filing has been approved and the programs are operational. Westar will consider our internal resources and then, if necessary, interview potential evaluators and solicit bids from qualifying EM&V vendors in order to initiate EM&V analysis beginning in Year 2 of the applicable programs.

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Docket: [15-WSEE-181-TAR] Energy Efficiency Program
Requestor: [CURB] [David Springe]
Data Request: CURB-70 CONFIDENTIAL :: Capital Built-Out plan and budget
Date: 0000-00-00

CURB-70 REDACTED

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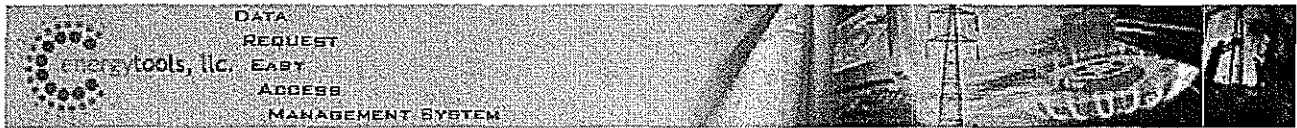
Monday, February 02, 2015

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Docket: [15-WSEE-181-TAR] Energy Efficiency Program
Requestor: [CURB] [David Springe]
Data Request: CURB-78 :: Grocers & Food Markets
Date: 0000-00-00

CURB-78 REDACTED

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Docket: [15-WSEE-181-TAR] Energy Efficiency Program
Requestor: [CURB] [David Springe]
Data Request: CURB-79 :: Avoided Capacity Costs
Date: 0000-00-00

Question 1 (Prepared by Scott Unekis)

Please specify how Westar determined and calculated its avoided capacity costs of \$82.00 per kW. Is avoided transmission, clean coal technology, or CO2 regulation included in the avoided capacity cost of \$82.00? Or does \$82.00 per kW reflect only the cost of avoided generation?

Response:

The avoided capacity costs of \$82 per kW was taken from Westar's WattSaver application (09-WSEE-939-TAR). The \$82 per kW in avoided capacity cost included \$57 per kW in avoided generation and \$25 per kW in avoided environmental costs.

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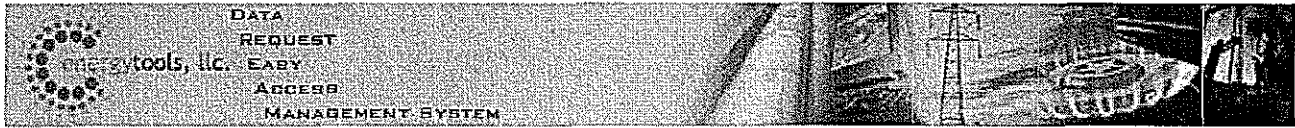
Docket: [15-WSEE-181-TAR] Energy Efficiency Program
Requestor: [CURB] [David Springe]
Data Request: CURB-82 :: Breakdown of SBL Incentive Costs
Date: 0000-00-00

Question 1 (Prepared by Katie Panek)
Please provide a breakdown of the customer incentive costs in the SBL program. Specifically, identify the customer incentive costs for the Level 1 (free energy assessment and \$500 free direct measures), compared to the customer incentive costs included in the 60% contribution for prescriptive measures.

Response:
A list of measures is provided in Attachment A of Franklin's response to Westar's RFP (See CURB DR 41 - on pages 70-78). For each measure, there is an estimated measure cost per unit (what the program would negotiate with participating trade allies) and a column for proposed incentive cost per unit (the amount that the program would pay). For the free direct install measures, lines 1-23, these two amounts are the same. For the trade ally installed measures, the incentive amount varies but Franklin has targeted about 60% overall.

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Docket: [15-WSEE-181-TAR] Energy Efficiency Program
Requestor: [CURB] [David Springe]
Data Request: CURB-83 :: Follow-up to CURB-28 (cost/incentive per unit)
Date: 0000-00-00

Question 1 (Prepared by Katie Panek)

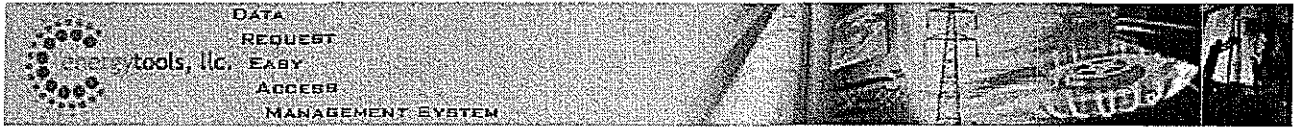
Please refer to the attachment provided with Westar's response to CURB DR 28. Is the "proposed cost/incentive to participant per Unit" the same cost that Franklin Energy group will charge to Westar per measure installed? If so, how did Franklin Energy Group or Westar determine the appropriate costs per measure? For example, how was it determined that the appropriate cost for a 14W, 19W or 23W CFL light bulb, is \$10.00 per bulb?

Response:

The cost of direct install measures includes the measure cost, shipping, use tax, breakage, and inventory management plus the cost to install the product - technician time, travel, and electronic tracking of installations. In most direct install programs, the CFL total installed cost is around the \$6 to \$7 per unit range. In final design, Franklin will review the cost of the CFL and all the LED models as well (since there has been reduction of prices since Franklin's proposal was submitted) and make a downward adjustment on these items.

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Wednesday, March 18, 2015
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Docket: [15-WSEE-181-TAR] Energy Efficiency Program
Requestor: [CURB] [David Springe]
Data Request: CURB-89 :: KHRC's Weatherization Program
Date: 0000-00-00

Question 1 (Prepared by Scott Unekis)

Please provide the following data regarding KHRC's weatherization program: a) How many homes in Kansas were weatherized in 2013 & 2014? b) How many homes weatherized were in Westar's service territory in 2013 & 2014? c) What was the amount KHRC spent on weatherization services in 2013 & 2014? d) What is the source of weatherization funds? e) What is KHRC's budget for weatherization services in 2015? f) In 2013 and 2014, how many customers met the qualifications for the K-WAP program, but were then disqualified because the repairs needed to protect or aid in the installation of the proposed measures would be rendered ineffective due to the condition of the house? How many of these homes were in Westar's service territory?

Response:

Please find attached the file titled "DR89.pdf" prepared by the KHRC

Attachment File Name	Attachment Note
DR_89.pdf	

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Please provide the following data regarding KHRC's weatherization program:

a) How many homes in Kansas were weatherized in 2013 & 2014?

*Program Year 2012: 1117 completions

*Program Year 2013: 1186 completions

*Program Year 2014: Estimated Production: 1,000 homes

b) How many homes weatherized were in Westar's service territory in 2013 & 2014?

**Program Year 2012: 732 completions

**Program Year 2013: 808 completions

Program Year 2014: Data not available yet

c) What was the amount KHRC spent on weatherization services in 2013 & 2014?

*Program Year 2012: 6,657,441.14

*Program Year 2013: \$6,653,562.80

*Program Year 2014 Budget: \$7,234,776.22

d) What is the source of weatherization funds?

Funding comes from two primary sources: 1) The Department of Energy's (DOE) Weatherization Assistance Program, 2) Health and Human Services (HHS) funds the Low Income Home Energy Assistance Program (LIHEAP) which is administered by the Kansas Department of Children and Families (DCF). The Kansas Weatherization Program has an agreement to receive 15% of DCF's LIEAP budget to administer weatherization services.

In 2014, a onetime allocation of 1.2 million was received from a Kansas utility to be spent over a two year period.

e) What is KHRC's budget for weatherization services in 2015?

The planned *PY budget for 2015 is: \$7,037,493.2

f) In 2013 and 2014, how many customers met the qualifications for the K-WAP program, but were then disqualified because the repairs needed to protect or aid in the installation of the proposed measures would be rendered ineffective due to the condition of the house? How many of these homes were in Westar's service territory?

This data is collected at the local level and not readily available at the state level for year to year analysis at this time. However, data was collected during the 11 month time from of November 2012 through September of 2013 that does support our general perception that between 20-30% of homes that are income eligible for Weatherization have housing conditions that prevent weatherization services under current federal guidelines and budgets.

During this 11 month time frame (Nov 12-Sept 13), 165 homes were deferred for "Building Conditions" and 77 homes were deferred for "Health and Safety" issues that could not be fully remedied under current guidelines or funding. The sum of these two property related deferrals was 242. An additional 183 homes were deferred for "Client Issues" which could include: rental properties where landlords were unable to contribute funds toward HVAC system replacements, homes where there was an excessive amount of stuff which prevent workers from accessing the home, abusive clients, where clients declined the audit approved measures, etc.

Extrapolating this 11 month time frame to 12 months results in 264 property related deferrals per year. Based on an average completion of 1150 homes per year during the 2012 and 2013 Program Years, the percentage of homes deferred for property related issues is approximately 23%.

Deferrals were not tracked to the county level so calculating the exact number of deferrals in Westar's service territory was not possible. However, if 67% of the total completions in 2012 and 2013 were completed in Westar's service territory, as figured from the values in a) and b) above, the deferral rate of approximately 23% would be likely apply.

*Program Years are 12 month periods but are not aligned with the calendar year.

** Completions are tracked to the county level. For the purpose of this data request, the 39 counties included were: Allen, Atchison, Bourbon, Brown, Butler, Chase, Coffey, Cowley, Crawford, Dickinson, Doniphan, Douglas, Elk, Geary, Greenwood, Harvey, Jackson, Jefferson, Johnson, Labette, Leavenworth, Lyon, Marion, Marshall, McPherson, Montgomery, Morris, Nemaha, Osage, Ottawa, Pottawatomie, Reno, Riley, Saline, Sedgwick, Shawnee, Wabaunsee, Wilson, and Woodson.



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Wednesday, March 18, 2015
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Docket: [15-WSEE-181-TAR] Energy Efficiency Program
Requestor: [CURB] [David Springe]
Data Request: CURB-105 :: Verification & True-Up
Date: 0000-00-00

Question 1 (Prepared by Scott Unekis)

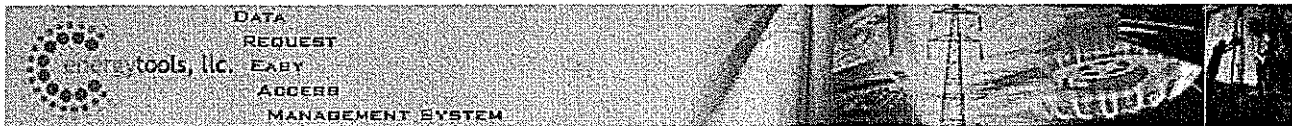
Does Westar's EM&V proposal include a verification of actual kWh savings and a true-up to reconcile estimated lost-margins to actual lost-margins? Who will perform this EM&V?

Response:

Westar acknowledges the importance of an effective EM&V process and plans to develop a detailed EM&V plan after the filing has been approved and the programs are operational. Westar will consider our internal resources and then, if necessary, interview potential evaluators and solicit bids from qualifying EM&V vendors in order to initiate EM&V analysis beginning in Year 2 of the applicable programs according to the Order dated April 13, 2009 in Docket 08-GIMX-442-GIV.

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Docket: [15-WSEE-181-TAR] Energy Efficiency Program
Requestor: [CURB] [David Springe]
Data Request: CURB-106 :: CURB-95 Follow-Up
Date: 0000-00-00

Question 1 (Prepared by Scott Unekis)

Please clarify Westar's response to CURB 95 by answering the specific questions below: (a) Does the statement "total forecast kWh savings will be multiplied by the appropriate non-fuel energy rate ... to calculate the forecast lost revenue to be included in the annual rider for recovery" indicate that Westar will include forecasted lost revenue in its annual EER application? (b) Is the forecasted lost revenue calculated using an estimated number of measures installed (i.e. participation) multiplied by the deemed savings per measure which is then multiplied by the non-fuel rate? (c) "At the end of each program year, the total actual number of installed units multiplied by the deemed savings values provide actual kWh saved in comparison to the forecast savings. The difference between forecast kWh savings and actual kWh savings will be multiplied by the non-fuel energy rate to determine the amount of over- or under-collected lost revenue to be reflected in the rider." Does this statement correctly indicate that at the end of the year, the forecasted lost revenue (as calculated in question (b) above) will be compared to deemed savings from actual participation in order to determine any over-or under-recovery or lost revenues? (d) At any point in time during the duration of the SBL and Targeted EE programs is Westar going to conduct a verification of actual lost revenues? Or is Westar's proposal to use deemed kWh savings per measure to calculate any over- or under- recovery of forecasted lost revenues?

Response:

a) As proposed, yes. b) As proposed, yes. c) As proposed, yes. d) Westar's proposal is to use agreed upon deemed kWh savings to calculate the lost revenues and true-up until an EM&V is completed.

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Wednesday, March 18, 2015
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Docket: [15-WSEE-181-TAR] Energy Efficiency Program
Requestor: [CURB] [David Springe]
Data Request: CURB-110 :: CURB-3 & CURB-6 Updates
Date: 0000-00-00

Question 1 (Prepared by Katie Panek)

Please update Westar's responses to CURB DRs 3 and 6 to include any corrections, additions, or changes that have been identified during discovery.

Response:

The most up-to-date benefit-cost results have been provided in CURB-93 (SBL program); CURB-66 (HEA program); and CURB-3 (TEEP). Please see the attached spreadsheet, "CURB 6 - Proposed Programs Budget_rev3" for an updated SBL program budget from Westar's CURB-69 response for our proposed portfolio of energy efficiency programs. In addition, please see attached results from the benefit-cost tests for the SBL program, "CURB 110 - Westar SBL Bencost_2-27-15_DEER Inputs_rev" if they are re-run using the DEER database as stated in Docket No. 08-GIMX-44-GIV. The overall conclusion is that using the DEER measure lives and impacts reduces the TRC for the SBL program from 1.14 to 0.89 because of the reduced impacts per measure. The Order states that "the Commission also recognizes DEER data may not be the most accurate for Kansas and utilities may find other reliable sources which provide better data." There are several reasons why Westar feels that the DEER database is not appropriate for Westar at this time. First, there are several technical issues: 1. The DEER database is not very transparent, i.e., we can't really determine the assumptions used in their baseline and impact calculations. Franklin provided an example of how DEER calculates the baseline for a CFL replacement of an EISA-compliant halogen bulb: a. If the EISA compliant bulb is 72 Watts (equivalent to the old 100 Watt incandescent bulb), it would be replaced with a 23 Watt CFL. In this case, the baseline that most would accept is 72 Watts, and the difference between the high efficiency measure and the baseline would be 49 Watts. b. However, DEER calculates the baseline by multiplying the wattage of the CFL times 3.57, and then subtracting the CFL wattage: $(23 \times 3.57) - 23 = 59.1$ Watts. The difference between the baseline and the CFL now becomes $59.1 - 23 = 36.1$, which is about 26% less than 49 Watts. This was not obvious from the DEER database, and Franklin had to back into this. Thus, the savings are much lower in comparison to the baseline Franklin used in the original program design. Unfortunately, there is nothing that explains why DEER calculates the baseline in this way, and how they arrived at a factor of 3.57. A similar approach is used for LED replacements. c. CFL and LED replacements are a significant portion of overall SBL program savings, so this has a large impact. 2. The California market for linear fluorescent lighting has basically been transformed to the new T-8 baseline, and DEER doesn't include any measures involving T-12 linear fluorescent replacements. Although the EISA legislation stopped production of T-12 lamps and ballasts last year, there are still very substantial stocks available from distributors, and in many places, T-12 lighting components will be available for several years. For this reason, we think it's important to have measures that still have a T-12 baseline in a direct installation program. In our DEER analysis, we will retain the T-12 baseline for many of the measures since there are no parallels in DEER. 3. DEER does not provide hours of use. Instead, we think they embed this in the selection of building type (again, it's not transparent). This has a very significant impact on energy savings, but it's not obvious what they are using, and whether or not the embedded hours of use are appropriate for similar customers and building types in Kansas. Another non-technical issue that we feel is relevant is related to the differences between the California and Kansas markets. The DEER database's use of different technical baseline assumptions reflects the current status of the California market. Many of these assumptions are not explicit, but they are based on about 30 years of program operations and substantial market transformation in California. Kansas does not have the same long-term market transformations. We feel that it is more appropriate to use more transparent sources from the nearby states in Franklin's original program design. These would include Illinois and Colorado. Finally, the order issued by the KCC states a preference for the DEER database but, it also leaves room for alternatives when justified. For the reasons explained above, we think that it makes more sense to use the current program assumptions, subject to EM&V, rather than base a decision on the DEER database values.

Attachment File Name	Attachment Note
CURB 110 - Westar SBL Bencost 2-27-15 DEER Inputs_rev.xlsx	
CURB 6 - Proposed Programs Budget_rev3.xlsx	

Westar SBL Program Analysis with DEER Inputs

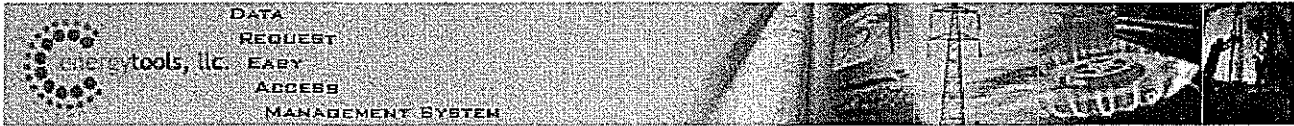
Test Summary	B/C Ratio	NPV	Payback
PCT	5.99	\$10,423,662	10.54
RIM	0.29	-\$11,010,417	12.82
TRC	0.89	-\$586,755	9.70
UCT	0.82	-\$1,029,666	10.54

CURB-6

Proposed Programs

5-year budget totals for proposed programs (EM&V included)

PROGRAM	Year 1	Year 2	Year 3	Year 4	Year 5
Small Business Lighting	\$1,848,275	\$2,021,250	\$2,362,500	0	0
WattSaver	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000
Targeted Energy Efficiency Program	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000
Home Energy Analysis	\$177,200	\$177,200	\$177,200	0	0
TOTAL BUDGET	\$6,525,475	\$6,698,450	\$7,039,700	\$4,500,000	\$4,500,000



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Wednesday, March 18, 2015
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Docket: [15-WSEE-181-TAR] Energy Efficiency Program
Requestor: [CURB] [David Springe]
Data Request: CURB-113 :: Jensen's direct testimony re: sunset
Date: 0000-00-00

Question 1 (Prepared by Katie Panek)

Please elaborate on Westar's proposal to "sunset" the WattSaver program by answering the specific questions below relating to Mr. Jensen's direct testimony: (a) Is Westar transitioning WattSaver to "sunset" mode because the product or service is no longer sufficiently profitable? (b) Is Westar transitioning WattSaver to "sunset" mode because Westar has decided to change its focus? (c) Is the current WattSaver system obsolete due to advancements in thermostats and networking technologies? (d) Mr. Jensen testifies that "the Wattsaver program has achieved the desired demand response capacity for this particular program for Westar". What is the desired demand response capacity that has been achieved by WattSaver? (e) If Westar "sunsets" WattSaver, will the demand response capacity achieved by the success of the program be eliminated? (f) Mr. Jensen testifies that despite "sunsetting" WattSaver, the "program is expected to continue to provide a significant demand response capability for several years." Quantify the significant demand response capability that will be available to Westar despite "sunsetting" the WattSaver program. (g) Mr. Jensen testifies that during the summer of 2012, 2013, and 2014, the WattSaver program was utilized 3 times for a total of 9.5 hours. Please explain why a program that is "tremendously successful" wasn't utilized more to help shift load when demand on Westar's electrical system was at its highest?

Response:

a. No, Westar is transitioning WattSaver to "sunset" mode because of the continued advancements in thermostat and networking technologies have accelerated the progression of WattSaver through the product life-cycle. Also, the WattSaver program has achieved the desired demand response capacity for this particular program for Westar, reaching a level of market saturation at which the cost of increasing participation exceeds the benefit. b. No, Westar is transitioning WattSaver to "sunset" mode because of the continued advancements in thermostat and networking technologies have accelerated the progression of WattSaver through the product life-cycle. Also, the WattSaver program has achieved the desired demand response capacity for this particular program for Westar, reaching a level of market saturation at which the cost of increasing participation exceeds the benefit. c. No, the current WattSaver system is not obsolete. It does incorporate dated and one-way paging technology in order to execute the demand response function, that is why Westar will continue to review advancements in technology and look for opportunities to couple leading technology, robust customer tools and less expensive solutions for future programs that we will bring to the Commission as appropriate. d. The WattSaver program established over 52 MW of peak load capacity while focusing on providing a valuable product and service to residential and small commercial customers. e. No, the WattSaver program is expected to continue to provide a significant demand response capability for several years. Please see the attached spreadsheet, "CURB 113 - WattSaver Projections." f. Please see the attached spreadsheet, "CURB 113 - WattSaver Projections." g. The WattSaver program wasn't utilized because Westar had sufficient capacity during peak load times and didn't require backup assistance.

Attachment File Name	Attachment Note
CURB 113 - Wattsaver Projections.xlsx	

WattSaver Customer Count Forecast: 12/31/2014

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
WattSaver Participants- Beginning of Year	58,365	58,949	53,820	49,138	44,863	38,133	32,413	27,551	23,419	19,906
Participant Attrition	(1,167)	(1,179)	(1,076)	(983)	(2,243)	(1,907)	(1,621)	(1,378)	(1,171)	(995)
New Installations	1,751	-	-	-	-	-	-	-	-	-
End of Useful Life	-	(3,950)	(3,606)	(3,292)	(4,486)	(3,813)	(3,241)	(2,755)	(2,342)	(1,991)
WattSaver Participants- End of Year	58,949	53,820	49,138	44,863	38,133	32,413	27,551	23,419	19,906	16,920

Assumptions

Forecasted Attrition Rates

2015-18 2.00%

2019-24 5.00%

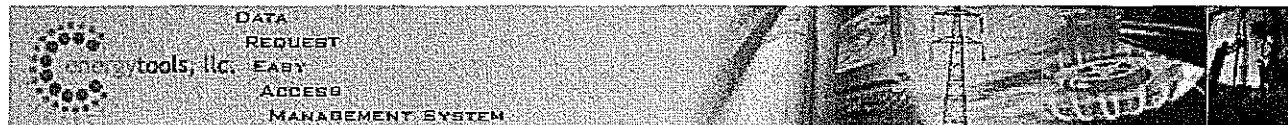
Installation Rate

2015 3.00%

End of Useful Life (EUL)

2015-18 6.70%

2019-24 10%



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Docket: [15-WSEE-181-TAR] Energy Efficiency Program
Requestor: [KCC] [Jon Wilson]
Data Request: KCC-9 :: Targeted EE Budget
Date: 0000-00-00

Question 1 (Prepared by Scott Unekis)

The annual budget of \$3,000,000 includes an administration fee of no more than 10% and a marketing expense of less than 1%. Assuming the remainder of the expense will be incurred by KHRC, please provide a detailed list of services KHRC will provide, including the respective units and dollar amounts that sum to approximately \$2,667,500.

Response:

Each housing unit that the KHRC weatherizes is unique and the scope of work performed is tailored to that unique home. Due to the uniqueness of each project, it is difficult to outline the 'average' home then scale up to determine average anticipated costs by measure accurately. However, the KHRC was able to construct an estimate of expenditures per house based on the previous two program years' data. Please find attached the file titled "KCC DR 9.xlsx" which uses the historical costs per house to forecast how the proposed \$3 million from Westar could reasonably be accounted for. Also, with the more conservative estimate of costs per house, along with a conservative estimate of the administrative costs, the number of houses projected to receive Targeted EE measures is 395 per year.

Attachment File Name	Attachment Note
KCC DR 9.xlsx	

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Weatherization Measures Installed for Completed Homes
 Combined Grants: LP12, LP13, DOE12, DOE13 (program years 2012 and 2013)
 Sample Size: 2303 Homes
 Report prepared on 2-26-2015

Below is the breakout of the proposed annual budget

Total Budget	\$3,000,000.00
Marketing (0.75%)	\$22,500.00
Grantee Admin (5%)	\$150,000.00
Subgrantee Admin (5%)	\$150,000.00
Liability Insurance	\$12,400.00
Financial Audits	\$9,900.00
Program Operations*	\$2,655,200.00

*Program Operations consists of the following:

*Program Support: Estimated \$650,000 Est. Program Support Per Home: \$1,645.57

Program Support Includes: Initial Inspection costs with customized audit, crew or contractor management and oversight, final inspection, quality control, project travel costs, application processing, etc.

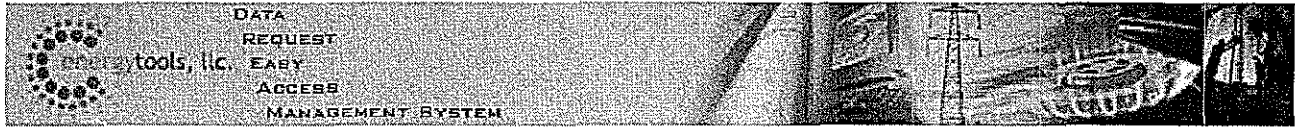
*Measures: Estimated \$1,513,200

	Historic % of Homes Receiving Measure	Historic Average Cost per Install	Historic Average Cost per Home	Projected % of Home Receiving Measure	Measure Projected Cost per Install	Projected Average cost per Home
Airsealing	96.79%	\$665.47	\$644.09	98.00%	\$675.00	\$661.50
Attic Insulation	73.25%	\$1,626.61	\$1,191.52	74.00%	\$1,625.00	\$1,202.50
Incidental Repairs/Ductwork	48.72%	\$167.61	\$81.66	50.00%	\$400.00	\$200.00
CFL Bulbs	47.16%	\$62.31	\$29.38	48.00%	\$65.00	\$31.20
Sidewall Insulation	34.13%	\$823.79	\$281.15	35.00%	\$825.00	\$288.75
Attic Ventilation	33.30%	\$105.31	\$35.07	34.00%	\$105.00	\$35.70
Furnace Clean and Tune	33.04%	\$211.13	\$69.77	34.00%	\$215.00	\$73.10
Efficiency Furnace Replacement	27.79%	\$2,310.07	\$641.97	28.00%	\$2,400.00	\$672.00
Rim Joist Insulation	27.31%	\$148.46	\$40.55	28.00%	\$150.00	\$42.00
General Heat Waste	25.05%	\$126.10	\$31.59	25.00%	\$125.00	\$31.25
Foundation Insulation	18.58%	\$573.23	\$106.53	19.00%	\$575.00	\$109.25
Floor Insulation	16.93%	\$1,215.24	\$205.79	17.00%	\$1,215.00	\$206.55
Misc Measures	13.55%	\$179.06	\$24.26	15.00%	\$180.00	\$27.00
Kneewall Insulation	11.25%	\$184.03	\$20.70	12.00%	\$185.00	\$22.20
Air Conditioner	5.73%	\$1,216.11	\$69.71	15.00%	\$1,225.00	\$183.75
Window Repair or Replacement	4.86%	\$501.76	\$24.40	5.00%	\$500.00	\$25.00
Refrigerator	4.73%	\$605.28	\$28.65	5.00%	\$615.00	\$30.75
Attic Slope Insulation	0.74%	\$382.73	\$2.82	1.00%	\$385.00	\$3.85
Ceiling Fans or Insect Screen	0.39%	\$63.45	\$0.25	0.00%	\$65.00	\$0.00
Efficiency Water Heater Replacement	0.30%	\$992.00	\$3.02	0.50%	\$1,000.00	\$5.00
		Historic Total:	\$3,532.87			
					Est. Measure Cost Per Home:	\$3,851.35

	Historic % of Homes Receiving Measure	Historic Average Cost per Install	Historic Average Cost per Home	Projected % of Home Receiving Measure	Measure Projected Cost per Install	Projected Average cost per Home
General Health and Safety Costs	83.72%	\$280.42	\$234.76	85.00%	\$500.00	\$425.00
Lead Safe Work Practices	24.84%	\$162.73	\$40.42	25.00%	\$250.00	\$62.50
H&S Furnace Replacement	15.02%	\$2,284.12	\$343.17	17.00%	\$2,400.00	\$408.00
H&S Water Heater	0.91%	\$965.23	\$8.80	8.00%	\$1,000.00	\$80.00
Mechanical Ventilation	NA	NA	NA	30.00%	\$850.00	\$255.00
					Est. H&S Cost Per Home:	\$1,230.50

Program Operations* \$2,655,200.00 Total Est. Cost Per Home: \$6,727.42

Yearly Estimated Homes: 395



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Wednesday, March 18, 2015
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Docket: [15-WSEE-181-TAR] Energy Efficiency Program
Requestor: [KCC] [Lana Ellis]
Data Request: KCC-21 :: WattSaver Benefit Cost
Date: 0000-00-00

Question 1 (Prepared by Katie Panek)

Please provide the most recent benefit cost analysis that has been performed for the WattSaver program.

Response:

Please see attached "KCC 21 - WattSaver cost effectiveness tests_01-22-09" that was provided at the time of the original WattSaver program filing.

Attachment File Name	Attachment Note
KCC 21 - WattSaver cost effectiveness tests_01-22-09.xlsx	

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WattSaver

Air Conditioning Cycling Program

Economic Tests

Customer Retail Rates		
Residential (\$ per kWh)	0.0833	Per Rate Department 01/08/09
Commercial (\$ per kWh)	0.0647	Per Rate Department 01/08/09
Industrial (\$ per kWh)	0.0495	Per Rate Department 01/08/09
Escalation (Inflation) Rate	3.00%	
WACC	8.49%	As of 01/01/09 Using the most conservative rate mentioned in the KCC Staff Report regarding Collaborative in 442 docket
SRTP (Social Discount Rate)	7.00%	
Churn Rate	2.0%	Estimated number of new program participants that must be recruited to replace participants who withdraw from the program
Failure Rate (Technical Attrition)	0%	Failure rate is 2/10 of 1%, but we are using zero because thermostats are under a 2-year warranty and majority of failures occur shortly after initial installation or at the first season change. Very few fail in the second year and even less in subsequent years.
Peak Energy Cost (\$ per kWh)	\$0.12	Estimated cost to purchase gas in the market during summer peak
Peak Capacity Cost (\$ per kW per yr)	\$82.00	Estimate based on \$57/kW (Emporia Energy Center) plus \$25/kW to cover additional cost for clean coal technology or for other CO2 regulation (\$25/kW is the most conservative estimate mentioned in the KCC Staff Report regarding Collaborative 442 docket)
Peak Event kWh Savings per participant	24	Estimate based on 1kWh/thermostat X 6 events (based on 2008 actual) X 4 hours/event (maximum of 90 hours of interruption)
Peak Avg Demand Savings (kW)	1.00	Based on .89 kWh savings (per 32-thermostat pilot) plus .07 for line losses (verifiable through FERC Form 1)
Residential kWh Use per Year	11,000	
Annual kWh Savings Per Participant	165	Based on pilot results
Free Ridership	0	Zero claimed because this thermostat is not available on the open market
Environmental Adder	10.00%	Iowa applies adders of 10 percent to avoided capacity and energy costs for electric utilities
Internal Program Administration Costs	0	Left in the spreadsheet in case we need to include at a later date
Vendor Costs		
Incentive Costs	347	Includes thermostat and installation
Year 1 - one-time costs	122,700	Includes marketing collateral and load management software 102000, 20700, 180000, 57600
On-going annual costs	237,600	Includes management fees and load management software hosting fees

WattSaver

Air Conditioning Cycling Program

Economic Tests

TEST SUMMARY	B/C Ratio	NPV	Payback (yrs)
Participant	18.86	\$32,817,252	0.00
RIM	1.10	\$3,963,887	10.15
TRC	5.85	\$35,133,598	1.48
Societal	6.65	\$44,586,036	1.32
PAC	1.39	\$9,178,356	9.12

WattSaver Air Conditioning Cycling Program

PARTICIPANT TEST							Total Annual Benefits				Total Annual Costs			Net Cash Flow	B/C Ratio
Year	Enrolled Participants Single Family	Churn Participants Single Family	Enrolled Participants Multi-Family	Churn Participants Multi-Family	Net Participants	Churn Participants	Customer Bill Savings (1)	Incentives (2)	Tax Credit (3)	Discounted Benefits	Customer Expense (4)	Increased Utility Bills (5)	Discounted Costs		
2009	3,000	60	2,000	40	5,000	100	\$68,723	\$1,769,700		\$1,838,423	\$127,500		\$127,500	\$1,710,923	18.86
2010	8,500	230	4,000	120	17,500	350	\$240,529	\$4,458,950		\$4,331,716	\$321,250		\$296,110	\$4,378,229	
2011	8,500	400	4,000	200	30,000	600	\$412,335	\$4,545,700		\$4,212,405	\$327,500		\$276,248	\$4,630,535	NPV@8.49%
2012	11,000	620	4,000	280	45,000	900	\$618,503	\$6,028,903		\$5,205,747	\$397,500		\$311,292	\$6,249,905	\$32,817,252
2013	11,000	840	4,000	360	60,000	1,200	\$824,670	\$6,142,656		\$5,029,297	\$405,000		\$292,345	\$6,562,326	
2014	11,000	1,060	4,000	440	75,000	1,500	\$1,030,838	\$6,256,408		\$4,848,584	\$412,500		\$274,458	\$6,874,746	Payback Period
2015	11,000	1,280	4,000	520	90,000	1,800	\$1,237,005	\$6,960,847		\$5,027,613	\$420,000		\$257,579	\$7,777,852	0.00
2016	0	1,280	0	520	90,000	1,800	\$1,237,005	\$745,805		\$1,120,865	\$45,000		\$25,438	\$1,937,810	Years
2017	0	1,280	0	520	90,000	1,800	\$1,237,005	\$745,805		\$1,039,150	\$45,000		\$23,447	\$1,937,810	
2018	0	1,280	0	520	90,000	1,800	\$1,237,005	\$814,961		\$985,514	\$45,000		\$21,613	\$2,006,966	
2019	0	1,280	0	520	90,000	1,800	\$1,237,005	\$814,961		\$908,392	\$45,000		\$19,921	\$2,006,966	
2020	0	1,280	0	520	90,000	1,800	\$1,237,005	\$814,961		\$837,305	\$45,000		\$18,362	\$2,006,966	
2021	0	1,280	0	520	90,000	1,800	\$1,237,005	\$890,530		\$800,203	\$45,000		\$16,925	\$2,082,535	
2022	0	1,280	0	520	90,000	1,800	\$1,237,005	\$890,530		\$737,582	\$45,000		\$15,601	\$2,082,535	
2023	0	1,280	0	520	90,000	1,800	\$1,237,005	\$890,530		\$679,862	\$45,000		\$14,380	\$2,082,535	

FOOTNOTES	*Net participants X .0833 (new rate) X 165 kWh (annual energy savings including peak)	*Incentive includes \$347 per participant for thermostat and installation	*Reflects an estimated opportunity cost of \$25 per customer to account for the value of their "wait/install" time.

**WattSaver
Air Conditioning Cycling Program**

RATEPAYER IMPACT MEASURE (RIM) TEST							Total Annual Benefits				Total Annual Costs							Net Cash Flow	B/C Ratio
Year	Enrolled Participants Single Family	Churn Participants Single Family	Enrolled Participants Multi-Family	Churn Participants Multi-Family	Net Participants	Churn Participants	Avoided Peak Energy Costs (1)	Avoided Peak Capacity Costs (2)	Total Avoided Costs (3)	Discounted Benefits	Internal Program Admin (4)	Program Evaluation (5)	Turnkey Provider (6)	Incentives (7)	Churn Cost (8)	Net Revenue Loss (9)	Discounted Costs		
2009	3,000	60	2,000	40	5,000	100	\$14,400	\$410,000	\$424,400	\$424,400	\$200,000	\$0	\$360,900	\$1,769,700	\$0	\$52,223	\$2,382,223	\$1,957,823	1.10
2010	8,500	230	4,000	120	17,500	350	\$50,400	\$1,435,000	\$1,485,400	\$1,369,158	\$200,000	\$183,333	\$237,600	\$4,458,950	\$0	\$182,779	\$4,850,827	\$3,777,262	NPV@8.49% \$3,963,887
2011	8,500	400	4,000	200	30,000	600	\$86,400	\$2,480,000	\$2,566,400	\$2,163,452	\$200,000	\$183,333	\$237,600	\$4,545,700	\$0	\$313,335	\$4,655,846	\$2,933,568	
2012	11,000	620	4,000	280	45,000	900	\$129,600	\$3,690,000	\$3,819,600	\$2,991,223	\$200,000	\$183,333	\$259,632	\$6,028,903	\$0	\$470,003	\$5,592,975	\$3,322,270	Payback Period: 10.15 Years
2013	11,000	840	4,000	360	60,000	1,200	\$172,800	\$4,920,000	\$5,092,800	\$3,876,189	\$200,000	\$183,333	\$259,632	\$6,142,856	\$0	\$628,670	\$5,380,491	\$2,319,491	
2014	11,000	1,060	4,000	440	75,000	1,500	\$216,000	\$6,150,000	\$6,366,000	\$4,235,631	\$200,000	\$183,333	\$259,632	\$6,258,408	\$0	\$783,338	\$5,111,707	\$1,316,711	
2015	11,000	1,280	4,000	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$4,685,000	\$200,000	\$183,333	\$283,707	\$6,960,847	\$0	\$940,005	\$5,254,553	\$928,692	
2016	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$4,318,371	\$200,000	\$183,333	\$283,707	\$745,805	\$0	\$940,005	\$1,330,045	\$5,286,350	
2017	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$3,980,432	\$200,000	\$183,333	\$283,707	\$745,805	\$0	\$940,005	\$1,225,981	\$5,286,350	
2018	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$3,868,939	\$200,000	\$183,333	\$310,014	\$814,961	\$0	\$940,005	\$1,175,871	\$5,190,886	
2019	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$3,381,822	\$200,000	\$183,333	\$310,014	\$814,961	\$0	\$940,005	\$1,083,852	\$5,190,886	
2020	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$3,117,174	\$200,000	\$183,333	\$310,014	\$814,961	\$0	\$940,005	\$969,034	\$5,190,886	
2021	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$2,873,236	\$200,000	\$183,333	\$338,761	\$890,530	\$0	\$940,005	\$960,088	\$5,086,571	
2022	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$2,648,388	\$200,000	\$183,333	\$338,761	\$890,530	\$0	\$940,005	\$884,956	\$5,086,571	
2023	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$2,441,136	\$200,000	\$183,333	\$338,761	\$890,530	\$0	\$940,005	\$815,703	\$5,086,571	

FOOTNOTES

*Net participants x \$0.12 per kWh (estimated cost to purchase gas on the market) x 24 kWh savings per participant per peak season

*Net participants x \$93 per kW per yr x 1.0 kW per participant

*Includes estimated variable program costs for professional services, employee expenses, etc. Internal labor and overheads already incorporated into base rates are not included.

*Internal EM&V for Year 1, vendor for subsequent years - estimates based on 5% of current vendor contract

*Year 1 includes one-time vendor fees for marketing and software set-up plus the on-line energy management system; Years 4+ include an escalation rate of 2.5%

*Incentive Includes \$347 per participant for thermostat and installation

*Vendor business model includes removal costs for churn customers (thermostat and installation costs included in incentives)

*Represents Customer Bill Savings less \$0.02 per kWh fuel costs (i.e., lost sales as a result of the program)

**WattSaver
Air Conditioning Cycling Program**

TOTAL RESOURCE COST (TRC) TEST							Total Annual Benefits				Total Annual Costs						B/C Ratio
Year	Enrolled Participants Single Family	Churn Participants Single Family	Enrolled Participants Multi-Family	Churn Participants Multi-Family	Net Participants	Churn Participants	Avoided Peak Energy Costs (1)	Avoided Peak Capacity Costs (2)	Total Avoided Costs (3)	Discounted Benefits	Internal Program Admin (4)	Program Evaluation (5)	Turnkey Provider (6)	Customer Expense (7)	Churn Cost (8)	Discounted Costs	
2009	3,000	60	2,000	40	5,000	100	\$14,400	\$410,000	\$424,400	\$424,400	\$200,000	\$0	\$360,300	\$127,500	\$0	\$687,800	5.85
2010	8,500	230	4,000	120	17,500	350	\$50,400	\$1,435,000	\$1,485,400	\$1,369,158	\$200,000	\$183,333	\$237,600	\$321,250	\$0	\$868,452	
2011	8,500	400	4,000	200	30,000	600	\$86,400	\$2,460,000	\$2,546,400	\$2,163,452	\$200,000	\$183,333	\$237,600	\$327,500	\$0	\$805,800	NPV@8.49%
2012	11,000	620	4,000	280	45,000	900	\$129,600	\$3,690,000	\$3,819,600	\$2,991,223	\$200,000	\$183,333	\$259,632	\$397,500	\$0	\$814,814	\$35,133,598
2013	11,000	840	4,000	360	60,000	1,200	\$172,800	\$4,920,000	\$5,092,800	\$3,676,189	\$200,000	\$183,333	\$259,632	\$405,000	\$0	\$756,464	
2014	11,000	1,060	4,000	440	75,000	1,500	\$216,000	\$6,150,000	\$6,366,000	\$4,235,631	\$200,000	\$183,333	\$259,632	\$412,500	\$0	\$702,256	Payback Period
2015	11,000	1,280	4,000	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$4,685,000	\$200,000	\$183,333	\$283,707	\$420,000	\$0	\$666,665	1.48
2016	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$4,318,371	\$200,000	\$183,333	\$283,707	\$45,000	\$0	\$402,510	Years
2017	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$3,980,432	\$200,000	\$183,333	\$283,707	\$45,000	\$0	\$371,011	
2018	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$3,668,939	\$200,000	\$183,333	\$310,014	\$45,000	\$0	\$354,612	
2019	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$3,381,822	\$200,000	\$183,333	\$310,014	\$45,000	\$0	\$326,861	
2020	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$3,117,174	\$200,000	\$183,333	\$310,014	\$45,000	\$0	\$301,283	
2021	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$2,873,236	\$200,000	\$183,333	\$338,761	\$45,000	\$0	\$288,517	
2022	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$2,648,388	\$200,000	\$183,333	\$338,761	\$45,000	\$0	\$265,939	
2023	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$2,441,136	\$200,000	\$183,333	\$338,761	\$45,000	\$0	\$245,128	

FOOTNOTES	*Net participants x \$0.12 per kWh (estimated cost to purchase gas on the market) x 24 kWh savings per participant per peak season	*Net participants x \$93 per kW per yr x 1.0 kW per participant	*Includes estimated variable program costs for professional services, employee expenses, etc. Internal labor and overheads already incorporated into base rates are not included.	*Internal EM&V for Year 1, vendor for subsequent years estimates based on 5% of current vendor contract	*Year 1 includes one-time vendor fees for marketing and software set-up plus the on-line energy management system; Years 4+ include an escalation rate of 2.5%	*Reflects an estimated opportunity cost of \$25 per customer to account for the value of their "wait/install" time.	*Vendor business model includes removal costs for churn customers (thermostat and installation costs included in Incentives)
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**WattSaver
Air Conditioning Cycling Program**

SOCIAL TEST							Total Annual Benefits					Total Annual Costs					Net Cash Flow	B/C Ratio	
Year	Enrolled Participants Single Family	Churn Participants Single Family	Enrolled Participants Multi-Family	Churn Participants Multi-Family	Net Participants	Churn Participants	Avoided Peak Energy Costs (1)	Avoided Peak Capacity Costs (2)	Total Avoided Costs (3)	Externalities (4)	Discounted Benefits	Internal Program Admin (5)	Program Evaluation (6)	Turnkey Provider (7)	Customer Expense (8)	Churn Cost (9)			Discounted Costs
2009	3,000	60	2,000	40	5,000	100	\$14,400	\$410,000	\$424,400	\$42,440	\$466,840	\$200,000	\$0	\$360,300	\$127,500	\$0	\$687,800	-\$220,960	6.65
2010	8,500	230	4,000	120	17,500	350	\$50,400	\$1,435,000	\$1,485,400	\$148,540	\$1,527,047	\$200,000	\$183,333	\$237,600	\$321,250	\$0	\$880,545	\$691,757	NPV@7.0% \$44,586,036
2011	8,500	400	4,000	200	30,000	600	\$86,400	\$2,450,000	\$2,536,400	\$254,640	\$2,446,597	\$200,000	\$183,333	\$237,600	\$327,500	\$0	\$828,398	\$1,852,607	
2012	11,000	620	4,000	280	45,000	900	\$129,600	\$3,990,000	\$3,819,600	\$381,960	\$3,429,725	\$200,000	\$183,333	\$259,632	\$397,500	\$0	\$649,330	\$3,161,095	Payback Period 1.32 Years
2013	11,000	840	4,000	360	60,000	1,200	\$172,800	\$4,920,000	\$5,092,800	\$509,280	\$4,273,800	\$200,000	\$183,333	\$259,632	\$405,000	\$0	\$799,488	\$4,554,115	
2014	11,000	1,060	4,000	440	75,000	1,500	\$216,000	\$5,150,000	\$6,366,000	\$636,600	\$4,992,757	\$200,000	\$183,333	\$259,632	\$412,500	\$0	\$752,532	\$5,947,135	
2015	11,000	1,280	4,000	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$763,920	\$5,599,354	\$200,000	\$183,333	\$283,707	\$420,000	\$0	\$724,341	\$7,316,080	
2016	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$763,920	\$5,233,041	\$200,000	\$183,333	\$283,707	\$45,000	\$0	\$443,423	\$7,691,080	
2017	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$763,920	\$4,890,692	\$200,000	\$183,333	\$283,707	\$45,000	\$0	\$414,414	\$7,691,080	
2018	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$763,920	\$4,570,741	\$200,000	\$183,333	\$310,014	\$45,000	\$0	\$401,612	\$7,664,773	
2019	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$763,920	\$4,271,720	\$200,000	\$183,333	\$310,014	\$45,000	\$0	\$375,338	\$7,664,773	
2020	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$763,920	\$3,992,262	\$200,000	\$183,333	\$310,014	\$45,000	\$0	\$350,784	\$7,664,773	
2021	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$763,920	\$3,731,086	\$200,000	\$183,333	\$338,761	\$45,000	\$0	\$340,599	\$7,636,026	
2022	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$763,920	\$3,486,996	\$200,000	\$183,333	\$338,761	\$45,000	\$0	\$318,317	\$7,636,026	
2023	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$763,920	\$3,486,996	\$200,000	\$183,333	\$338,761	\$45,000	\$0	\$318,317	\$7,636,026	

FOOTNOTES

*Net participants x \$0.12 per kWh (estimated cost to purchase gas on the market) x 24 kWh savings per participant per peak season

*Net participants x \$93 per kW per yr x 1.0 kW per participant

*Environmental externalities estimated as 10% of Total Avoided Costs

*Includes estimated variable program costs for professional services, employee expenses, etc. Internal labor and overheads already incorporated into base rates are not included.

*Internal EM&V for Year 1, vendor for subsequent years estimates based on 5% of current vendor contract

*Year 1 includes one-time vendor fees for marketing and software set-up plus the on-line energy management system; Years 4+ include an escalation rate of 2.5%

*Reflects an estimated opportunity cost of \$25 per customer to account for the value of their "waitlist" time.

*Vendor business model includes removal costs for churn customers (thermostat and installation costs included in incentives)

WattSaver

Air Conditioning Cycling Program

Economic Tests

WattSaver Air Conditioning Cycling Program

PROGRAM ADMINISTRATOR COST TEST							Total Annual Benefits				Total Annual Costs						Net Cash Flow	B/C Ratio
Year	Enrolled Participants Single Family	Churn Participants Single Family	Enrolled Participants Multi-Family	Churn Participants Multi-Family	Net Participants	Churn Participants	Avoided Peak Energy Costs (1)	Avoided Peak Capacity Costs (2)	Total Avoided Costs (3)	Discounted Benefits	Internal Program Admin (4)	Program Evaluation (5)	Turnkey Provider (6)	Incentive (7)	Churn Costs (8)	Discounted Costs		
2009	3,000	60	2,000	40	5,000	100	\$14,400	\$410,000	\$424,400	\$424,400	\$200,000	\$0	\$360,300	\$1,769,700	\$0	\$2,330,000	-\$1,905,600	1.39
2010	8,500	230	4,000	120	17,500	350	\$50,400	\$1,435,000	\$1,485,400	\$1,369,158	\$200,000	\$183,333	\$237,600	\$4,458,950	\$0	\$4,682,352	-\$3,594,483	NPV@8.49% \$9,178,356
2011	8,500	400	4,000	200	30,000	600	\$88,400	\$2,460,000	\$2,548,400	\$2,163,452	\$200,000	\$183,333	\$237,600	\$4,545,700	\$0	\$4,389,633	-\$2,620,233	
2012	11,000	620	4,000	280	45,000	900	\$129,600	\$3,690,000	\$3,819,600	\$2,991,223	\$200,000	\$183,333	\$259,632	\$6,028,903	\$0	\$5,224,904	-\$2,852,268	
2013	11,000	840	4,000	360	60,000	1,200	\$172,800	\$4,920,000	\$5,092,800	\$3,676,189	\$200,000	\$183,333	\$259,632	\$6,142,656	\$0	\$4,898,135	-\$1,692,821	Payback Period 9.12 Years
2014	11,000	1,060	4,000	440	75,000	1,500	\$216,000	\$6,150,000	\$6,366,000	\$4,235,631	\$200,000	\$183,333	\$259,632	\$6,256,408	\$0	\$4,590,512	-\$533,374	
2015	11,000	1,280	4,000	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$4,685,050	\$200,000	\$183,333	\$283,707	\$6,960,847	\$0	\$4,678,063	\$11,313	
2016	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$4,318,371	\$200,000	\$183,333	\$283,707	\$745,805	\$0	\$798,669	\$6,226,355	
2017	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$3,980,432	\$200,000	\$183,333	\$283,707	\$745,805	\$0	\$738,168	\$6,226,355	
2018	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$3,698,939	\$200,000	\$183,333	\$310,014	\$814,961	\$0	\$724,407	\$6,130,891	
2019	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$3,381,822	\$200,000	\$183,333	\$310,014	\$814,961	\$0	\$687,718	\$6,130,891	
2020	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$3,117,174	\$200,000	\$183,333	\$310,014	\$814,961	\$0	\$615,465	\$6,130,891	
2021	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$2,873,236	\$200,000	\$183,333	\$338,761	\$890,530	\$0	\$608,536	\$6,026,576	
2022	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$2,648,368	\$200,000	\$183,333	\$338,761	\$890,530	\$0	\$558,071	\$6,026,576	
2023	0	1,280	0	520	90,000	1,800	\$259,200	\$7,380,000	\$7,639,200	\$8,287,768	\$200,000	\$183,333	\$338,761	\$890,530	\$0	\$1,749,536	\$6,026,576	

FOOTNOTES	*Net participants x \$0.12 per kWh (estimated cost to purchase gas on the market) x 24 kWh savings per participant per peak season	*Net participants x \$93 per kW per yr x 1.0 kW per participant	*Includes estimated variable program costs for professional services, employee expenses, etc. Internal labor and overheads already incorporated into base rates are not included.	*Internal EM&V for Year 1, vendor for subsequent years - estimates based on 5% of current vendor contract	*Year 1 includes one-time vendor fees for marketing and software set-up plus the on-line energy management system; Years 4+ include an escalation rate of 2.5%	*Incentive includes \$347 per participant for thermostat and installation	*Vendor business model includes removal costs for churn customers (thermostat and installation costs included in Incentives)
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WattSaver

Air Conditioning Cycling Program

Economic Tests

5-YEAR BUDGET	Total	% of Total
Thermostats and installation (60K plus chum)	\$22,945,908	88.14%
Other vendor costs	\$1,354,764	5.20%
EM&V	\$733,333	2.82%
Internal program administration costs	\$1,000,000	3.84%
TOTAL	\$26,034,005	100.00%

CERTIFICATE OF SERVICE

15-WSEE-181-TAR

I, the undersigned, hereby certify that a true and correct copy of the above and foregoing document was served by electronic service on this 18th day of March, 2015, to the following:

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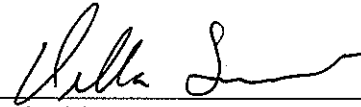
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