ATTORNEYS AT LAW

Ronald M. Sullivan Jesse T. Mountjoy Frank Stainback James M. Miller Michael A. Fiorella Allen W. Holbrook R. Michael Sullivan Bryan R. Reynolds Tyson A. Kamuf Mark W. Starnes C. Ellsworth Mountjoy Mary L. Moorhouse

January 27, 2012

RECEIVED

Federal Express

JAN 30 2012

PUBLIC SERVICE COMMISSION

Jeff DeRouen Executive Director Public Service Commission 211 Sower Boulevard, P.O. Box 615 Frankfort, Kentucky 40602-0615

> Re: In the Matter of: Notice and Application of Big Rivers Electric Corporation for a General Adjustment in Rates, PSC Case No. 2011-00036

Dear Mr. DeRouen:

Enclosed on behalf of Big Rivers Electric Corporation ("Big Rivers") is the compliance filing of Big Rivers pursuant to ordering paragraphs 4, 5, 6 and 9 of the Commission's order in this matter dated November 17, 2011. More specifically, enclosed are an original and ten copies of Big Rivers' 2011 Demand Side Management Report (ordering paragraph 9) and its Rate Refund Report (ordering paragraph 6).

I certify that a copy of this filing has been served on each of the persons identified on the attached service list. Please contact me if you have any questions.

Sincerely yours,

James m. midlen

James M. Miller

JMM/ej Enclosures

cc:

Mark A. Bailey Albert Yockey Douglas Beresford, Esq. Service List

Telephone (270) 926-4000 Telecopier (270) 683-6694

> 100 St. Ann Building PO Box 727 Owensboro, Kentucky 42302-0727

#### **BIG RIVERS ELECTRIC CORPORATION**

#### APPLICATION OF BIG RIVERS ELECTRIC CORPORATION FOR A GENERAL ADJUSTMENT IN RATES CASE NO. 2011-00036

#### Response to Commission Order dated November 17, 2011 Ordering Paragraph 6

January 27, 2012

1 Ordering Paragraph 6) Within 75 days of the date of this Order, Big

2 Rivers shall submit a written report to the Commission in which it

3 describes its efforts to refund all monies collected in excess of the rates

4 that are set forth in Appendix A to this Order.

5

6 **Response)** Based on the rates per Appendix A of the Order, Big Rivers calculated and refunded all monies it collected in excess of such rates, including 7 8 interest thereon as specified per Item 5, page 42 of this Order. The amount 9 refunded to each customer equals the amount paid by each customer during the refund period in excess of the rates approved by the Public Service Commission. 10 11 The refund, with interest, was calculated and made on November 30, 2011, as follows: 12 13 14 Determined the demand and energy rate differentials, the difference a. 15 between the rates originally proposed by Big Rivers vs. the rates set forth in Appendix A of the Order. See Exhibit 1, attached. 16 Calculated the over-collection, excluding interest, by multiplying such 17 b. rate differentials (Exhibit 1 above) by the actual demand and energy 18 billing units for the two months September 2011 and October 2011. See 19 20 Exhibit 2, attached. 21 Calculated interest thereon at 20 basis points, which is the average of c. the Three-Month Commercial Paper Rate as reported in the Federal 22 Reserve Bulletin and the Federal Reserve Statistical Release on the date 23

24 of this Order, in accordance with Item 5 of the Order, page 42. Interest

Case No. 2011-00036 Response to Order Paragraph No. 6 Respondent: Mark A. Hite Page 1 of 2

#### **BIG RIVERS ELECTRIC CORPORATION**

#### APPLICATION OF BIG RIVERS ELECTRIC CORPORATION FOR A GENERAL ADJUSTMENT IN RATES CASE NO. 2011-00036

#### Response to Commission Order dated November 17, 2011 Ordering Paragraph 6

#### January 27, 2012

1		was calculated from and including the date monies were actually
2		received by Big Rivers from its members through and including the date
3		immediately prior to the date on which such amounts were refunded by
4		Big Rivers to its members. See Exhibit 3, attached.
5	d.	On November 30, 2011, Big Rivers refunded all excess amounts it
6		collected for service rendered from and including September 1, 2011,
7		through and including October 31, 2011, with interest, as required by
8		Item 4, page 52, of the Order. The total amount refunded by Big Rivers,
9		via wire transfer, was \$2,178,912.45, as detailed per Exhibit 3, attached.
10		
1		
12	Respond	lent) Mark A. Hite
13		

Case No. 2011-00036 Response to Order Paragraph No. 6 Respondent: Mark A. Hite Page 2 of 2

### Big Rivers Electric Corporation PSC Order Case No. 2011-00036 Demand and Energy Rate Differential September 1, 2011 through October 31, 2011 Exhibit 1

	Demand - \$/kW	Energy - \$/kWh
<u>Rural</u>		
Originally Proposed	10.1890	0.029736
PSC Order	9.5000	0.029736
Excess	0.6890	0.000000
Large Industrials		
Originally Proposed	10.8975	0.095007
PSC Order	10.5000	$0.025097 \\ 0.024505$
Excess	0.3975	0.024505
	0.0970	0.000592
<u>Smelters</u>		
Originally Proposed		0.040580
PSC Order		0.039432
Excess		0.001148

Case No. 2011-00036 Exhibit 1 - Response to Ordering Paragraph No. 6 Respondent: Mark A. Hite Page 1 of 1

#### Big Rivers Electric Corporation PSC Order Case No. 2011-00036 Refund (Excluding Interest) - Detail Exhibit 2

RURAL kW and kWh Rate Differential INDUSTRIAL kW and kWh Rate Differntial		0.6890 0.3975		0.000000			0.6890 0.3975		0.000000		
		0.0070		0.000332			0.3312		0.000592		
JP RURALS	Sept kW 143,990	Rate Variance \$99,209.11	Sept kWh	Rate Variance	Sept Refund Amt	Oct kW	Rate Variance	Oct kWh	Rate Vanance	Oct Refund Amt	Total Sept and Oct Refund
KENERGY RURALS	263,842	\$ 99,209.11 181,787.14	47,352,610 85,300,725	s -	\$ 99,209,11	83,710		44,634,080	\$-	\$ 57,676,19	\$ 156,885.30
MEADE CO. RURALS	98,163	67,634.31	31,249,180	-	181,787.14 67,634,31	154,907	106,730.92	82,047,580	-	106,730.92	288,518.06
TOTAL RURALS		\$ 348,630,56	163,902,515	*	\$ 348,630,56	65,431 304,048	45,081.96	31,661,500	· · · · ·	45,081.96	112,716.27
	000,000	\$ 040,000.00	100,002,010	φ -	a 340,030.30	304,040	\$ 209,489.07	158,343,160	\$-	\$ 209,489.07	\$ 558,119.63
KI-ACCURIDE	5,352	2,127.42	2,264,920	1,340.84	3,468.26	5,141	2,043.55	2,206,760	1,306,41	3,349,96	6,818.22
KI-ALCOA	212	84.28	77,260	45.73	130.01	257	102.16	81,870	48.47	150,63	280.64
KI-ALERIS	27.821	11,058.85	14,885,670	8,812.32	19,871.17	27,065	10,758,34	15,341,840	9,082.37	19,840,71	39.711.88
KI-ALLIED	7,495	2,979.26	2,907,930	1.721.50	4,700.76	7,273	2,891.02	3,004,330	1,778.56	4,669.58	9,370.34
KI-ARMSTRONG - BIG RUN	1,232	489.72	518,340	306.86	796.58	1,184	470,64	480,830	284.65	4,009.08	1,551.87
KI-ARMSTRONG - DOCK	4,467	1,775.63	1,821,420	1,078.28	2,853.91	5,286	2,101,19	2,327,700	1,378.00	3,479.19	6,333.10
KI-ARMSTRONG - EQUALITY	3,358	1,334.81	1,445,230	855.58	2,190.39	3,301	1,312.15	1,391,200	823.59	2,135.74	4,326.13
KI-ARMSTRONG - LEWIS CREEK	1,000	397.50	274.060	162.24	559.74	1,000	397.50	314,990	186.47	2,135.74 583.97	4,328.13
KI-ARMSTRONG - MIDWAY	3,466	1.377.74	1,709,000	1,011.72	2,389.46	3,582	1,423.85	1,944,050	1,150.87	2.574.72	4,964,18
KI-DOMTAR PAPER CO.	25,000	9,937.50	17,023,007	10,077.62	20,015,12	25,000	9,937,50	16,532,099	9,787.00	19,724.50	39,739.62
KI-DOTIKI #3	804	319.59	547,630	324.20	643.79	828	329.13	561,520	332.42	661.55	1,305.34
KI-HOPKINS CO, COAL	365	145.09	173,850	102.92	248.01	397	157,81	240,050	142.10	299.91	547.92
KI-KB ALLOYS, INC.	2,001	795.40	534,510	316.43	1,111.83	2.001	795.40	625,710	370.42	1,165.82	2,277.65
KI-KIMBERLY-CLARK	36,374	14,458,67	25,152,190	14,890.09	29,348.76	36,590	14,544,53	25,665,530		29,738.53	
KI-KMMC, LLC	100	39.75	29,890	17.70	57.45	129	14,544,55	25,665,530	15,194.00 23.35	29,736.53	59,087.29 132.08
KI-PATRIOT COAL. LP	5,295	2,104.77	2,102,370	1,244.60	3,349.37	5,340	2,122.65				
KI-ROLL COATER	3,712	1,475.52	1,951,430	1,155.25	2,630.77	3,674		2,164,640	1,281.47	3,404.12	6,753.49
KI-SOUTHWIRE CO.	6,872	2,731.62	4,107,040	2,431,36			1,460.42	1,505,150	891.05	2,351.47	4,982.24
KI-TYSON FOODS	10,880	4,324.80	5,781,717	3,422,77	5,162.98	6,940	2,758.65	4,275,560	2,531.13	5,289.78	10,452.76
KI-VALLEY GRAIN	2,961	1,177.00	1.079.440	639.03	7,747.57	10,271	4,082.72	5,593,340	3,311.25	7,393.97	15,141.54
TOTAL KENERGY INDUSTRIALS		\$ 59,134.92	84,386,904		1,816.03	2,912	1,157.52	1,141,830	675.97	1,833.49	3,649.52
	140,707	φ 05,154.52	04,000,904	49,907.04	\$ 109,091.96	148,171	\$ 58,898.01	85,438,439	\$ 50,579.55	\$ 109,477.56	\$ 218,569.52
POWER FACTOR PENALTY KI-ALCOA	94	37.37				100					
KI-ARMSTRONG MIDWAY	77	30.61				103 0	40.94 0				
KI-PATRIOT	353	140.32				297	118.06				
KI-VALLEY GRAIN	329	130.78				324	128.79				
	853	\$ 339.08			339.08	724	\$ 287.79			287.79	
TOTAL WITHOUT POWER FACTOR PENALTY	147,914	\$ 58,795.84			\$ 108,752.88	147,447	\$ 58,610,22			\$ 109,189.77	
SHELL	1,901	755.65	409,140	242.21	997.86	1,912	760.02	373,320	221.00	981.02	1,978.88
TOTAL INDUSTRIALS	150,668	59,890.57	84,796,044	50,199.25	\$ 110,089.82	150,083	59,658.03	85,811,759	50,800.55	110,458.58	220,548.40
TOTAL RURALS AND INDUSTRIALS	656,663	\$ 408,521.13	248,698,559	\$ 50,199.25	\$ 458,720,38	454,131	\$ 269,147.10	244,154,919	\$ 50,800.55	\$ 319,947,65	\$ 778,668.03
	Smelter Rate								• •••,••••.••	• • • • • • • • • • • • • • • • • • • •	\$ 170,000,00
ALCAN	Differential	0.001148	259,660,800	298,090,59	000 000 50	Smelter Rate	an an that the				
CENTURY	Exhibit 1	0.001148	340,099,200	390,433,89	298,090.59	Differential	0.001148	268,316,160	308,026.95	308,026.95	606,117.54
TOTAL SMELTERS		0.001140_	599,760,000	688,524.48	390,433.89	Exhibit 1	0.001148_	351,435,840	403,448.35	403,448.35	793,882.24
			339,700,000	000,024.48	688,524.48			619,752,000	711,475.30	711,475.30	1,399,999.78
TOTAL REFUND	656,663	\$ 408,521.13	848 458 559	\$ 738,723.73	\$ 1.147.244.86	AEA 494	¢ 000 447 40	002 000 010		• • • • • • • • • •	A
	(853)	(339.08)	340,400,000	¥ 100,120,13	✓ 1,147,244.00	454,131	the second s	003,906,919	\$ 762,275.85	\$ 1,031,422.95	\$ 2,178,667.81
		Sub Rev Amt	•			(724) 453,407	(287,79) Sub Boy Amt				
	555,010					453,407	Sub Rev Amt	-			

\*NOTE: Power Factor Penalty kW are not reflected in Substation Revenue Report, but were affected by the rate change. The kWs highlighted in yellow represent the kWs reflected on the Substation Revenue Report.

Case No. 2011-00036

Exhibit 2 - Response to Ordering Paragraph No. 6

Respondent: Mark A. Hite

Page 1 of 1

#### Big Rivers Electric Corporation PSC Case No. 2011-00036 Interest Claculation Exhibit 3

	:	Sept Refund		Sept Billed			Interest	In	terest		Oct Billed		Interest	in	terest	Sept	and Oct Refund	Sept and Oct	Sept	and Oct Refund
		Amt		Amt Rec'd	Prorated	Days	Rate	Ar	mount	Oct Refund Am	Amt Rec'd	Days	Rate		nount		Amt	Interest Amt		and Int
JP RURALS	\$	99,209,11		10/25/2011		36	0,0020	\$	19,57	\$ 57,676,19	11/28/2011	2	0,0020		0,63	s	156,885.30	\$ 20.20	s	156,905.50
KENERGY		181,787.14		10/25/2011		36			35.86	106,730.92	11/28/2011	2			1.17		288,518.06	37.03		288,555.09
MEADE CO, RURALS		67,634.31		10/25/2011		36			13.34	45,081.96	11/23/2011	7			1.73		112,716.27	15.07		112,731.34
TOTAL RURALS	\$	348,630,56						\$	68.77	\$ 209,489.07				s	3,53	\$	558,119.63	\$ 72.30	\$	558,191.93
KI-ACCURIDE		3,468.26		10/25/2011		36	37,000		0,68	3,349,96	11/28/2011	2			0.04		6.818.22	0.72		6,818.94
KI-ALCOA		130.01		10/25/2011		36	07.000		0.03	150.63	11/28/2011	2			0.00		280.64	0.03		280.67
KI-ALERIS		19.871.17	284.381.86	9/19/2011	9,934,96	72			3.92	19,840.71	11/28/2011	2			0.22	ł.	39,711.88	4.14		39,716.02
			284,417,39	10/13/2011	9,936,21	48			2.61	10,0 1011	1112012011	-			0.1.1		0.00	2.61		2.61
KI-ALLIED		4,700,76	98,738,66	10/31/2011	3,475,04	30			0.57	4,669,58	11/28/2011	2			0.05		9.370.34	0.62		9,370,96
			34,827,20	11/18/2011	1,225,72	12			0.08	.,		-			0.00		0.00	0.08		0.08
KI-ARMSTRONG - BIG RUN		796,58	- ,	10/25/2011	.,	36			0,16	755.29	11/30/2011	0			0,00		1,551.87	0,16		1,552.03
KI-ARMSTRONG - DOCK		2,853.91		10/25/2011		36			0.56	3,479,19	11/30/2011	0			0.00		6,333.10	0,56		6,333.66
KI-ARMSTRONG - EQUALITY		2,190,39		10/25/2011		36			0.43	2,135.74	11/30/2011	Ő			0.00		4,326.13	0.43		4.326.56
KI-ARMSTRONG - LEWIS CREEK		559,74		10/25/2011		36			0.11	583.97	11/30/2011	0			0.00		1,143,71	0.11		1,143.82
KI-ARMSTRONG - MIDWAY		2,389,46		10/25/2011		36			0.47	2,574.72	11/30/2011	0			0,00		4,964.18	0,47		4,964.65
KI-DOMTAR PAPER CO.		20,015,12		10/25/2011		36			3,95	19,724,50	11/28/2011	2			0.22		39,739.62	4.17		39,743,79
KI-DOTIKI #3		643.79		10/25/2011		36			0.13	661.55	11/30/2011	0			0.00		1,305.34	0,13		1,305.47
KI-HOPKINS CO. COAL		248.01		10/25/2011		36			0.05	299.91	11/30/2011	0			0.00		547.92	0.05		547.97
KI-KB ALLOYS, INC.		1,111,83		10/25/2011		36			0.22	1,165.82	11/28/2011	2			0.01		2,277,65	0.23		2,277,88
KI-KIMBERLY-CLARK		29,348,76		10/25/2011		36			5,79	29,738,53	11/18/2011	12			1,96		59,087,29	7.75		59,095,04
KI-KMMC, LLC		57.45		10/31/2011		30			0.01	74,63	11/28/2011	2			0,00		132.08	0.01		132.09
KI-PATRIOT COAL, LP		3,349.37		10/25/2011		36			0.66	3,404.12	11/28/2011	2			0.04		6,753.49	0.70		6,754.19
KI-ROLL COATER		2,630,77		10/25/2011		36			0.52	2,351,47	11/28/2011	2			0.03		4,982.24	0.55		4,982.79
KI-SOUTHWIRE CO.		5,162.98		10/25/2011		36			1.02	5,289.78	11/18/2011	12			0.35		10,452.76	1.37		10,454,13
KI-TYSON FOODS		7,747,57		10/25/2011		36			1.53	7,393,97	11/28/2011	2			0.08		15,141.54	1.61		15,143.15
KI-VALLEY GRAIN		1,816,03		10/25/2011		36			0.36	1,833,49	11/28/2011	2			0.02		3.649.52	0.38		3,649,90
TOTAL KENERGY INDUSTRIALS	\$	109,091.96						\$		\$ 109,477.56				\$	The second s	\$	218,569.52		\$	218,596,40
JPI-SHELL OIL		997.86		10/25/2011		36			0.20	981.02	11/28/2011	2			0.01	1	1,978.88	0.21		1,979.09
TOTAL INDUSTRIALS		440.000.00														1407				
TO TAL INDUSTRIALS		110,089.82							24.06	110,458,58					3.03		220,548.40	27.09		220,575.49
TOTAL RURALS AND INDUSTRIALS	S	458,720,38						\$	92.83	\$ 319,947,65					6.56		778,668.03	\$ 99,39		778,767.42
	•							*	42.00	\$ 513,341.00					0.00	•	110,000.03	\$ 33'23	ş	118,161.42
ALCAN CENTURY		298,090.59		10/24/2011		37			60.43	308,026.95	11/28/2011	2			3.38		606.117.54	63.81		606,181.35
	-	390,433.89		10/25/2011		36			77.02	403,448.35	11/28/2011	2			4.42	į	793,882.24	81.44		793,963.68
TOTAL SMELTERS	\$	688,524,48						\$	137,45	\$ 711,475.30				\$	7.80	\$	1,399,999.78	\$ 145.25	\$	1,400,145.03
Total Palund		4 4 47 94 4 9-																	ALL MARKED	
Total Refund	\$	1,147,244.86						\$	230,28	\$ 1,031,422.95				\$	14.36	\$2	<u>,178,667.81</u>	\$ 244.64	5.5	2,178,912.45
															-	į				

Wired refund on 11/30/2011

	Receivables	Interest	Total
JP	158,864.18	\$ 20.41	\$ 158,884.59
KE	1,907,087.36	209,16	1,907,296.52
MC	112,7.16.27	15.07	112,731.34
	2,178,667.81	\$ 244.64	\$ 2,178,912.45

Case No. 2011-00036 Exhibit 3 - Response to Ordering Paragraph No. 6 Respondent: Mark A. Hite Page 1 of 1

#### **BIG RIVERS ELECTRIC CORPORATION**

#### APPLICATION OF BIG RIVERS ELECTRIC CORPORATION FOR A GENERAL ADJUSTMENT IN RATES CASE NO. 2011-00036

#### Response to Commission Order dated November 17, 2011 Ordering Paragraph 9

January 27, 2012

1	Ordering Paragraph 9) Big Rivers shall file reports on its DSM and
2	energy-efficiency programs with the Commission as described in this
3	Order at six-month intervals, with the first report to be filed no later than
4	January 31, 2012.
5	
6	<b>Response)</b> The report for January 2012 is attached hereto.
7	
8	
9	Respondent) Russell L. Pogue
10	
1	

Case No. 2011-00036 Response to Order Paragraph No. 9 Respondent: Russell L. Pogue Page 1 of 1



Your Touchstone Energy® Cooperative

# Big Rivers Electric Corporation Demand Side Management (DSM) Report January 27, 2012

Provided to the Kentucky Public Service Commission Pursuant to Ordering Paragraph No. 9 of The Commission's Order dated November 17, 2011 in Case No. 2011-00036

## **Table of Contents**

DSM Program Summary	1
2010 Budget	4
Appendix A: DSM Pilot Program Plans	<b>5</b>
Pilot Program Impact Summary	6
Residential Energy Star (ES) Appliances Pilot	
Refrigerator	7
Clothes Washer	9
Energy Efficient Outdoor Lighting Pilot	10
ES New Home Pilot	11
Residential Weatherization Pilot	<b>13</b>
HVAC & Refrigeration Tune-Up Pilot	15
Commercial / Industrial Efficient Lighting Pilot	17
Appendix B: DSM Program Plans	18
Plan Impact Summary	19
Residential Lighting Program (CFL Distribution)	<b>20</b>
Residential Energy Star (ES) Appliances	
Refrigerator	<b>21</b>
Clothes Washer	<b>22</b>
ES Heating, Ventilation and Air Conditioning	
(HVAC) Program	<b>23</b>
Residential Weatherization Program	<b>25</b>
Touchstone Energy New Home Program	<b>27</b>
HVAC Tune-Up Program	<b>28</b>
Commercial / Industrial Efficient Lighting Program	29
Commercial / Industrial General Efficiency Program	31

#### Demand Side Management (DSM) Report Big Rivers Electric Corp

#### Program Summary

Big Rivers Electric Corporation has taken a proactive approach to advance the goal of Strategy 1 of the 2008 Governor's Intelligent Energy Choices plan "to improve the efficiency of Kentucky's homes, buildings, industries and transportation fleet by establishing a goal of offsetting at least 18 percent of Kentucky's projected 2025 energy demand."

The purpose of this DSM report is to provide descriptions and data about DSM programs currently being offered or in development and the DSM pilot programs used to design and implement the DSM programs. The pilot program plans listed below provided insight into administrative requirements, retail member response to incentive levels, trade ally availability, and promotion media. Where appropriate, a short survey was part of some pilots to gather information about program or media impact. Program plans and results are provided in Appendix A of this report.

DSM Pilot Programs

- 1. Energy Star Refrigerator Replacement Pilot
- 2. Energy Star Clothes Washer Replacement Pilot
- 3. Energy Efficient Outdoor Lighting Pilot
- 4. Energy Star New Home Pilot
- 5. Weatherization Pilot (residential and manufactured home weatherization)
- 6. HVAC and Refrigeration Tune-up Pilot
- 7. Commercial/Industrial Energy Efficient Lighting Pilot
- 8. Poultry Facility Pilot

#### Pilot Program Results

Pilot Programs	Result	Incentive	Promotion
Energy Star Refrigerator Replacement Pilot	29 units	\$2,900.00	\$0.00
Energy Star Clothes Washer Replacement Pilot	71 units	7,100.00	597.00
Energy Efficient Outdoor Lighting Pilot	N/A	2,241.19	0.00
Energy Star New Home Construction Pilot	49 homes	49,000.00	1,411.91
HVAC and Refrigeration Tune-up Pilot	418 units	12,325.00	564.42
Weatherization Pilot	5 homes	22,701.49	0.00
Commercial Efficiency Lighting Pilot	9.49 Kw	3,318.00	689.30
Poultry Facility Pilot	25 houses	15,000.00	0.00
Total		\$114,585.68	\$3,262.63

The quantitative impact on summer and winter demand and annual kWh and water savings for the pilot programs and the pilot program plans can be found in Appendix A of this report. The following are qualitative results from the pilot programs.

The Energy Star Refrigerator Replacement Pilot combined two measures to increase the benefit to the retail member by influencing them to purchase an Energy Star rated refrigerator and recycle their existing refrigerator. Survey results show more than 85% of the participants recycled an operable refrigerator. This pilot demonstrated the incentive was adequate to motivate retail members to replace and recycle older model refrigerators. The incentive will be continued in 2012.

The Energy Star Clothes Washer Replacement Pilot saves energy, water and time for the participant. The clothes washer consumes less hot water and significantly reduces drying time. More than 95% of the recipients of the incentive use electricity to heat their water. This pilot demonstrated the incentive was adequate to motivate retail members to replace inefficient washing machines with the energy and water saving Energy Star models. The incentive will be continued in 2012.

The Energy Efficient Outdoor Lighting Pilot evaluation of the lamps in outdoor applications is ongoing. Each of the Member Cooperatives has installed induction and/or LED lamps to gauge durability, light quality and customer satisfaction. Each of the Member Cooperatives will determine the applicability of the technology for their use.

The Energy Star New Home Construction Pilot evaluated the incentive level necessary to influence home builder's and owner's willingness to invest in an energy efficient home. Recent changes in the Energy Star new home requirements were not found to be cost effective by the participating home builders, so the decision was made to move forward with the Touchstone Energy Home, which maintains the 2011 Energy Star standard, requiring a Home Energy Rating (HERS) of 85 or lower to qualify. The incentives in the program going forward were adjusted to more accurately reflect the benefit anticipated for the retail member and the cooperatives.

**The Weatherization Pilot** for existing homes was primarily a test of administrative process with Sherlock Homes of Bloomington Indiana. Sherlock Homes had demonstrated their ability to provide cost effective weatherization of both site-built and eleven homes were initially evaluated for inclusion in the pilot. Six homes were selected for weatherization and 5 were ultimately weatherized in a two day period. Sherlock Homes is uniquely qualified and certified to perform whole house weatherization and documentation. The weatherization program is currently still in the design phase and will likely be introduced in the second quarter of 2012. The Kentucky Home Performance ("KHP") program will be integrated into the program when the future of the KHP program is determined by the Kentucky Housing Corp.

The HVAC Tune-up Pilot evaluated retail member participation at the incentive level offered for this high impact program that improves the performance of central cooling and refrigeration units resulting in reduced summer peak demand and kWh reduction. The incentive was found to be effective and will continue into 2012.

The Commercial Efficiency Lighting Pilot explored effective incentive levels and provided opportunities to explore trade allies in the commercial lighting industry. These projects have significant lead time and the program participation was limited during the pilot project. Continual monitoring and adjustment of the incentive may be necessary as economic conditions change.

Customer interest in the program continues to build and the incentive level of \$350 per kW will be offered in the 2012 program.

The Poultry Facility Pilot is a subset of the commercial lighting pilot, which provided an opportunity to quantify the impact of LED technology on the poultry industry. The pilot involved monitoring the lighting load of two identical chicken barns through complete grow-out cycles to determine the change in electric load resulting in the lighting change. Based on the load profile data, the incentive was determined to be \$600 per poultry grow-out facility. A significant number of poultry growers have expressed interest in the LED technology and it is expected participation in the lighting project will be high as the technology proves itself.

Results of the pilot projects were used to design a portfolio of programs promoting a wide array of energy efficiency measures for residential and commercial retail members taking service under the Big Rivers Rural Delivery Service ("RDS") tariff. The following is a list of programs currently being offered, or in the case of residential weatherization, still in development. Program plans are contained in Appendix B of this report.

DSM Programs

- 1. Residential Lighting Program (CFL distribution)
- 2. Residential Energy Star (ES) Appliances
- 3. ES Heating, Ventilation and Air Conditioning (HVAC) Program
- 4. Residential Weatherization Program (development still underway)
- 5. Residential Touchstone Energy New Construction Program
- 6. HVAC Tune-Up Program
- 7. Commercial/Industrial Efficient Lighting Program
- 8. Commercial/Industrial Efficient Equipment Program

#### 2011 DSM Program Results

DSM Program	Total Meas.	Total Spend
Residential Lighting Program (CFL distribution)	19,743	\$30,947.75
Residential Energy Star (ES) Appliances		
Energy Star Clothes Washer	233	23,300.00
Energy Star Refrigerator	79	7,900.00
ES Heating, Ventilation and Air Conditioning (HVAC) Program	57	30,500.00
Residential Weatherization Program (Pilot evaluation still underway)	0	0.00
Residential Touchstone Energy New Construction Program	0	0.00
HVAC Tune-Up Program	0	0.00
Commercial/Industrial Efficient Lighting Program	48.6 kW	15,906.50
Commercial/Industrial Efficient Equipment Program	0	0.00
Promotional Expense		76,953.99
Total		\$185,508.24

The 2011 DSM programs were offered to the Member Cooperatives beginning in October 2011 with the exception of the weatherization program still under development. The Energy Star new home pilot incentive levels were continued through December 2011 to maintain consistency for home

builders. The HVAC Tune-up program is designed to be offered in the spring, so the program has yet to be publicly offered. Additional DSM programs will continue to be evaluated and introduced as they are proven to be cost effective and accepted by Big Rivers and it's members.

#### 2012 Budget

	Annual kWh Savings	Winter kW Savings	Summer kW Savings	Water Savings(gal.)	Measure Cost	Incentive	Tax Credits	TRC Ratio
Residential Lighting Program Residential Efficient	1,752,000.0	400	171		\$100,000	\$100,000		7.30
Appliances	523,200.0	33.2	46	2,600,000	\$155,200	\$80,000		1.96
HVAC Program	332,900.0	552.975	22.05		\$370,000	\$57,500	\$105,000	1.40
Weatherization Program	700,000.0	495	89	250,000	\$400,000	\$200,000		2.28
New Construction	367,800.0	124	73		\$500,000	\$100,000		1.13
Tune-Up	1,066,880.0	0	500.1		\$266,720	\$50,010		1.48
C&l Lighting	1,981,429.0	540	400		\$383,400	\$190,000		3.54
C&I Products	234,643.0	64	64		\$85,714	\$30,000		2.57
Totals	6,958,852.0	2,209.18	1,365.15	2,850,000.00	\$2,261,034	\$807,510		2.03

The 2012 budget for energy efficiency programs totals \$1,000,000. The program incentives listed in the above table total approximately \$800,000. The additional \$200,000 is budgeted for promotion of the programs through websites, radio, print media and standard communication tools such as Kentucky Living or Member Cooperative newsletters. Depending on the retail member response to the programs, the promotional funds may be rolled back into the incentive programs to increase the impact of the most popular programs.

Program budgets will remain flexible and react to retail member response to each program. Member Cooperatives will be able to adjust or shift budgets to successful programs. Program requirements specified in individual program plans are minimum standards; Member Cooperatives may establish more stringent requirements at their discretion.

Member Cooperatives will collect required documentation and submit an invoice, with a summary spreadsheet for each program, to Big Rivers for reimbursement monthly. The invoice will contain the following information for each incentive paid:

- 1. Date
- 2. Account Number
- 3. Name
- 4. Service Address
- 5. City
- 6. Zip Code
- 7. Incentive Description Details
- 8. Incentive Amount

Each program will have a separate summary spreadsheet. Multiple program summary spreadsheets may be combined on the same invoice. Promotional reimbursement requires a copy of the advertisement used in printed media. Radio advertising should be submitted with a script.

Appendix A: DSM Pilot Results

### Big Rivers Electric Corporation DSM Pilot Program Impact Summary

	Per Unit Annual kWh	Per Unit Winter kW	Per Unit Summer kW		Total Annual	Total Winter	Summer kW	Total Spend Oct Dec.
Residential Programs	Savings	Savings	Savings	Unit Quantity	kWh Savings	kW Savings	Savings	2011
Residential Efficient Appliances	224	0.007	0.026	71	15.004	0.5	1.0	¢7 100 00
		0.007		. –	15,904	0.5	1.8	\$7,100.00
Energy Star Refrigerator + Recycling	1,084	0.076	0.089	29	31,436	2,2	2.6	\$2,900.00
Weatherization Program	(	4050			0.0.00	10.0		\$40 CCT T 4
Stick-Built Home	6,980	4.950	0.890	4	27,920	19.8	3.6	\$19,667.74
Manufactured Home	4,680	2.200	0.300	1	4,680	2.2	0.3	\$3,033.75
New Construction								
Gas Heat	2,435	0.260	0.580	45	109,575	11.7	26.1	\$45,000.00
Air Source Heat Pump	4,922	2.700	0.580	0	0	0.0	0.0 [	\$0.00
Dual Fuel Heat Pump (w/ Gas)	8,370	9.766	0.580	0	0	0.0	0.0	\$0.00
Geothermal Heat Pump	8,580	7.150	0.799	4	34,318	28.6	3.2	\$4,000.00
Tune-Up								to Man Ser
HVAC Tune-Up	636	0.000	0.304	343	218,148	0.0	104.2	\$8,575.00
A MARKA AND AND A STREET AND A ST	Annual kWh	Winter kW	Summer kW		an a disease sound for	il less the decision of	Total	Total Spend
	Savings Per	Savings Per	Savings Per		Total Annual	Total Winter	Summer kW	Oct Dec.
Commercial/Industrial Programs	s	\$	\$	Total kW Reduced	kWh Savings	kW Savings	Savings	2011
C&I Lighting								
Lighting Projects (Includes Poultry House Pilot)	12	0.0029	0.0027	52.4	214,007	52.4	48.9	\$18,318.00
	Annual kWh	Winter kW	Summer kW	and a surger of the set of the			Total	Total Spend
	Savings Per	Savings Per	Savings Per		Total Annual	Total Winter	Summer kW	Oct Dec.
(4) 10 10 10 10 10 10 10 10 10 10 10 10 10	Unit	Unit	Unit	Unit Qty.	kWh Savings	kW Savings	Savings	2011
Tune-Up				ALTER AND A CONTRACTOR OF		Construction of the second		
HVAC Tune-Up	5,268	0.000	1.200	126	663,768	0.0	151.2	\$3,750.00
* Assumed 6 tons/unit	,							
an a		in the sea of the	Tota	DSM Program Savings:	1,319,756	117.4	341.9	\$112,344.49

#### Energy STAR Refrigerator Replacement Pilot

#### Purpose

The net present benefit of replacing an existing refrigerator with a new energy star refrigerator is \$56 and the benefit of hauling away an operable second refrigerator is about \$220. The combined benefit results in an average peak demand reduction of .1 kW per unit and an annual energy savings of 950 kWh.

The purpose of the pilot is to test communication of the incentive to the members and the effectiveness of the incentive amount. The member will be required to provide proof of both purchase and haul-away and recycling of the old unit. The member will also be required to fill out a survey to determine the condition of the old refrigerator and where the member heard of the program.

The pilot will begin on October 1, 2010 and conclude on December 31, 2010. It will be promoted through the member newsletter, direct mail to local appliance dealers and the member Web site.

#### Objective

- 1. Test methods of communicating program to members using available media.
- 2. Test the level of response to the cash incentive offered.
- 3. Through a questionnaire, determine the condition of the old refrigerator.

#### Budget

The total project cost will not exceed \$18,000 and not to exceed \$3,000 direct marketing expenditures.

#### Planning

- 1. The Member Cooperative will present one \$50 gift card to the first 150 participants who provide the refrigerator's proof of purchase (detailed invoice from the dealer), the UPC code from the carton, and the Energy Guide showing Energy Star certification. Removal of the old refrigerator by the dealer shall be noted on the invoice. Dorm-size refrigerators do not qualify for incentive.
- 2. The dealer shall receive \$50 for removing and recycling the old refrigerator.

Each of the incentive payments will require a signed receipt from a licensed HVAC contractor and the retail member will be required to fill out a survey including the following questions.

- 1. Where did you hear about this program?
- 2. Was the old refrigerator operable?

#### Deliverables

This project will gauge effective methods of communicating the program to members and the condition of the old unit. This information will be used to design a program for full implementation.

3

#### Energy STAR Clothes Washer Replacement Pilot

#### Purpose

The net present benefit of replacing an existing clothes washer with a new energy star clothes washer is \$405 including electricity and water savings. The estimated combined benefit results in an annual energy savings of 224 kWh and water savings of 6500 gallons.

The purpose of the pilot is to test promotional mediums for the incentive to members and the effectiveness of the incentive amount (\$100). The member will be required to provide proof of purchase and installation at the service address. The member will also be required to fill out a survey to determine the energy source for the dryer and where the member heard about the program.

The pilot will begin on March 1, 2011 and conclude on May 15, 2011. It will be promoted through the Member Cooperative Web site, newsletter and selected media.

#### Objective

- 1. Test methods of communicating program to members using different promotional media.
- 2. Test the level of response to the cash incentive offered.
- 3. Through a questionnaire, determine the energy source for the dryer and where the customer heard about the program.

#### Budget

The total project cost will not exceed \$15,000 including not exceeding \$3,000 direct marketing expenditures.

#### Planning

The incentive for this pilot will be \$100 to the member using either a prepaid debit card or gift card.

Each of the incentive payments will require proof of purchase and installation from a legitimate retail appliance outlet and the member will fill out a survey including the following questions.

- 1. Where did you hear about this program?
- 2. What is the source of energy for your dryer (electric or gas)?

#### Deliverables

This project will determine effective methods of reaching members and derive statistics on the source of energy for the dryer. This information will be used to design a program for full implementation.

#### Energy Efficient Outdoor Lighting Pilot

#### Purpose

The elimination of the Mercury Vapor (MV) lamp for use in the outdoor lighting has serious implications for the member cooperatives, which have relied on the long life of the MV lamps to provide outdoor lighting. The members migrated to the Metal Halide (MH) as a replacement lamp, but these lamps have substantially shorter lives and may have significantly higher operating and maintenance cost in comparison to the lifetime costs of the MV.

The purpose of this pilot is to test the light quality and quantity, energy consumption and product durability of both Light Emitting Diode (LED) and Induction lamps as potential replacements of the MV lamp. Both LED and Induction lamps have an estimated life of 90,000 to 100,000 hours. This may allow significantly fewer service calls to the each service over the life of the lamps compared to the MH lamp.

The cost of both LED and Induction lamps is expected to be significantly higher than the MH lamp.

#### Objective

- 1. Test the light quality and quantity of each lamp and evaluate customer satisfaction.
- 2. Provide energy efficiency benefit analysis.
- 3. Determine the overall cost/benefit ratio for the lifetime of each lamp.
- 4. Determine potential vendors for both LED and Induction lamps.

#### Budget

The product analysis will be limited to \$5,000 for all three member cooperatives for limited testing and cost benefit analysis.

#### Planning

The first installation occurred in October 2010 to provide an opportunity for engineers and customer service departments to determine the satisfaction with each light source. Each of the members will be provided lamps for the two year evaluation.

#### Deliverables

- 1. LED and Induction light quality and customer satisfaction report.
- 2. Lifetime cost benefit analysis for each lamp
- 3. Viewing opportunities for member cooperatives.

#### Energy Star New Home Pilot

#### Purpose

The Energy Star new-home construction standard is an objective, reliable and verifiable energy efficiency program that ensures the member will see substantial savings from his or her new home.

#### Objective

This program will educate and promote the Energy STAR home construction standard and determine if a \$1,000 incentive will be effective in convincing builders and homeowners to build Energy Star certified homes.

#### Budget

The budget for this pilot project is \$50,000.

#### Planning

The building or homeowner will be required to provide a copy of the Energy Star certificate for the residence at the service address.

#### **Energy Star Certification**

The New Home Energy Star certified contractor will complete a whole-house analysis ensuring quality work and energy efficiency criteria are met. This rater works closely with the builder to determine the needed energy-saving equipment, construction techniques and administration of required on-site diagnostic testing/inspections are documented in order to assure the home is eligible to earn the Energy STAR certification. The home must meet the guidelines, making it 15-30% more efficient than standard homes.

#### Step 1: Builder chooses to partner with ENERGY STAR.

Through the partnership-agreement process, the builder selects a Home Energy Rater to work with to qualify his or her homes.

#### Step 2: Builder and rater select appropriate energy-efficient home features.

The builder submits the architectural plans to the Home Energy rater for review and analysis.

#### Step 3: Builder constructs home and rater verifies features and performance.

With the energy-efficient features selected, the builder then proceeds with construction of the home. Throughout the construction process, the rater performs a series of inspections and diagnostics to verify that proper installation of the selected energy-efficient features and overall energy performance of the home.

#### Step 4: Rater qualifies the home and issues an Energy STAR Label.

Once the rater completes the final inspection and determines that all requirements have been met, the rater will provide the builder with an ENERGY STAR label, which is placed on the home's circuit breaker box.

#### Step 5: Home owner qualifies for an incentive.

The first 20 homeowners that construct and present an original Energy Star Home certificate to the Member Cooperative will receive an incentive of \$1,000. The pilot began on October 1, 2010 and conclude on December 31<sup>st</sup>, 2011.

# To earn the Energy STAR certification, a home must meet one of the following specifications:

- Achieve a HERS Index of 85 or below by using the Performance HERS Rating (See definition below.)
- Install prescriptive measures outlined in a Prescriptive-Builder Option Path (**BOP**). This option allows the builder to follow a prescribed checklist to achieve the required efficiency.

#### **\*\*HERS Rating definition:**

A home-energy rating (HERS) is an analysis of a home's projected energy efficiency in comparison to a 'reference home' based on the 2006 International Energy Conservation Code. A home-energy rating involves both an analysis of a home's construction plans, as well as onsite inspections and testing by a certified Home Energy Rater.

The lower a home's HERS Index, the more energy efficient it is. A home built to code scores an HERS Index of 100, while a net zero energy home scores an HERS Index of 0. Each 1-point decrease in the HERS Index corresponds to a 1% reduction in energy consumption compared to the HERS Reference Home. Thus, a home with an HERS Index of 85 is 15% more energy efficient than the reference home and a home with an HERS Index of 80 is 20% more energy efficient.

#### Residential Weatherization Pilot

#### Purpose

The purpose of this program is to provide procedures and financial support to residential retail members who implement weatherization measures. This program is available to any retail residential member of the Member Cooperative. Priority will be given to all electric homes to maximize the benefit to the Member Cooperative.

The modeled benefit associated with this program for an average site-built home is a reduction in summer demand of .89 kW, a winter demand reduction of 4.95 kW and an annual kWh savings of 6,980. In addition the measures will reduce water consumption by nearly 2,500 gallons.

The modeled benefit associated with this program for an average manufactured home is a reduction in summer demand of .30 kW, a winter demand reduction of 2.2 kW and an annual kWh savings of 4,680. In addition the measures will reduce water consumption by nearly 3,000 gallons.

Sherlock Homes is a weatherization contractor headquartered in Bloomington Indiana has been performing weatherization projects for Hoosier Energy for the last two years with tremendous success. To date Sherlock Homes has weatherized nearly 2,000 site-built and manufactured homes.

Kentucky Home Performance is a weatherization subsidy through the Kentucky Housing Corporation. The program offers a low-interest loan up to \$20,000 for ten years or 20% grant for weatherization measures. This program combines the capability of Sherlock Homes and funding from the KY Home Performance to provide comprehensive weatherization for owners of manufactured homes of the Member Cooperatives.

#### Objectives

- Determine the process and administration involved in working with Sherlock Homes and KY Home Performance to achieve cost effective weatherization of retail residential members.
- Determine the impact of the weatherization process on peak demand and energy consumption.
- Allow Member Cooperatives to evaluate the process and procedures to determine their role.

#### Budget

The budget for this pilot program is \$40,000

#### Planning

The pilot project will determine the process and the ability of vendors to affect a substantial

reduction in infiltration, while adding R-value and thermal mass to the structure. The impact will be estimated using models to determine the savings of retail members.

The cost of the home modifications will be paid for by Big Rivers, however the homeowner should be aware that participation in this program will be intrusive since evaluation, testing and modifications may include up to 5 visits to the home; all of which will require entry to the living space.

These homes should have the following characteristics:

- Owned by the resident.
- Over a crawlspace that is dry, accessible and free of clutter.
- Forced air HVAC with duct work in the crawlspace.
- Accessible open attic with no cathedral or unconventional construction.
- The roof will be leak free and serviceable.

Upon the selection of an appropriate residence for the study, the following will occur.

- 1. Sherlock Homes will contact the retail member from the names provided and schedule the initial assessment visit.
- 2. Sherlock Homes will manage the weatherization process with the following steps:
  - The initial assessment is provided at a cost of \$125 to the retail member and may be reimbursed by KY Home Performance. The Member Cooperative may choose to provide reimbursement to the homeowner through the program.
  - During the initial assessment, a Building Performance Institute (BPI) certified representative of Sherlock Homes visits the home to determine cost effective energy efficiency measures and if the residence has any health or safety problems that would cause deferral. (A residence placed on the deferral list continues to be eligible for the program when the health or safety issues are addressed)
  - A work plan is developed for each house listing the measures that are cost effective. The scope of work is presented to the home owner, the Member Cooperative and the KY Home Performance Program for approval.
  - Upon approval from all parties involved in paying for the project, the work is scheduled.
  - Sherlock Homes documents the completed work on-line with the KY Home Performance Program, which makes the home owner eligible for a 20% reimbursement.
  - Sherlock Homes provides on-line documentation to the Member Cooperative, making the project eligible for the Big Rivers weatherization program.
  - Big Rivers will pay Sherlock Homes directly for completed weatherization.

#### HVAC & Refrigeration Tune-Up Pilot

#### Purpose

The net present benefit of the average service call for maintenance of an air conditioner, heat pump, commercial refrigeration unit is estimated to be \$200. This benefit results from an average peak demand reduction of .3 kW per unit and an annual energy savings of 640 kWh for residential units and an average of 1.2 kW peak demand per unit and an annual energy savings of 5,268 kWh for commercial units.

The purpose of this pilot is to test the effectiveness of cash incentive payments to motivate members to instigate annual maintenance for their air conditioning equipment. The pilot will also measure the average length of time since the previous maintenance call for each unit.

#### Objective

- 1. Test methods of communicating program to members.
- 2. Test the level of response to the cash incentive offered.
- 3. Determine if participating member schedule maintenance on a regular basis.

#### Budget

The total project cost will not exceed \$18,000 including \$3,000 direct marketing expenditures.

#### Planning

Between May 1 and June 30, Kenergy Corp. will offer incentives to homeowners and businesses that have their heating and cooling systems professionally cleaned and serviced. Well-maintained heating, cooling and refrigeration units operate more efficiently and use less energy.

Homeowners will receive a \$25 gift card for each unit that is cleaned and serviced, up to a maximum of \$100 per member. The residential program will continue until 280 residential units have been serviced or June 30, whichever comes first.

Commercial members will receive a \$50 gift card for each unit that is cleaned and serviced, up to a maximum of \$250 per member. Businesses that maintain large refrigeration units qualify for this rebate as well.

The commercial program will continue until 160 units have been serviced or June 30, whichever comes first.

To qualify, service invoices must be dated between May 1 and June 30. In addition, invoices for service must be submitted to Kenergy no later than July 29.

#### The following are incentive rates for each customer class:

#### **Residential HVAC**

• \$25 Wal-Mart gift card per unit, per year

#### **Commercial HVAC and Refrigeration**

• \$50 cash per unit, per year

Each of the incentive payments will require a signed receipt from a licensed HVAC contractor to be provided to Kenergy and the recipient will fill out a survey including the following questions.

- 1. Where did you hear about this program?
- 2. If the member services the unit on a regular basis?

#### Deliverables

This project will determine effective methods of reaching members and if the participating member schedules maintenance on a regular basis. This information will be used to design a program for full implementation.

#### Commercial/Industrial Energy Efficient Lighting Pilot

#### Purpose

The purpose of the pilot is to test methods of promoting energy efficiency to retail commercial members. An incentive of \$350 per kW will be offered to commercial and industrial for equipment upgrades that result in a reduction of demand likely to be on peak. A process of verification will be established during this pilot.

The pilot will begin on January 1, 2011 and conclude when the objectives are met. It will be promoted through the Member Cooperative staff directly to commercial customers.

#### Objective

- 1. Test methods of communicating program to commercial retail members
- 2. Test the level of response to the cash incentive offered.

#### Budget

The total project cost will not exceed \$15,000.

#### Planning

The pilot project will run from January 1, 2011 and conclude when the objectives are met

Each of the incentive payments will require the upgrade/changes be verified by cooperative personnel or third party. A worksheet will be provided to determine the change in demand. For this pilot, the retail member will also be required to provide the project costs for planning purposes.

#### Deliverables

This project will determine effective methods of reaching members and the appropriate level of incentive required. This information will be used to design a program for full implementation.

# Appendix B: DSM Program Plans

### Big Rivers Electric Corporation DSM Program Plan Impact Summary

Residential Programs	Per Unit Annual kWh Savings	Per Unit Winter kW Savings	Per Unit Summer kW Savings	Unit Quantity	Total Annual kWh Savings	Total Winter kW Savings	Total Summer kW Savings	Total Spend Oct Dec. 2011
Residential Lighting Program								
CFL bulbs	31	0.007	0.003	19743	605,320	141.0	61.9	\$30,947.75
Residential Efficient Appliances								
Clothes Washer Rebate	224	0.007	0.026	233	52,192	1.6	6.1	\$23,300.00
Energy Star Refrigerator + Recycling	1,084	0.076	0.089	79	85,636	6.0	7.0	\$7,900.00
HVAC Program								<u> </u>
Dual Fuel	3,448	7.066	0.146	31	106,888	219.1	4.5	\$15,500.00
Air Source Heat Pump	692	0.000	0.146	25	17,300	0.0	3.7	\$5,000.00
Goethermal	3,658	4.453	0.365	11	40,238	49.0	4.0	\$10,000.00
Weatherization Program						1710		\$10,000.00
Stick-Built Home	6,980	4.950	0.890	0	0	0.0	0.0	\$0.00
Manufactured Home	4,680	2.200	0.300	0	0	0.0	0.0	\$0.00
New Construction						0.0		<u> </u>
Gas Heat	2,435	0.260	0.580	0	0	0.0	0.0	\$0.00
Air Source Heat Pump	4,922	2.700	0.580	0	0	0.0	0.0	\$0.00
Dual Fuel Heat Pump (w/ Gas)	8,370	9.766	0.580	0	0	0.0	0.0	\$0.00
Geothermal Heat Pump	8,580	7.150	0.799	0	0	0.0	0.0	\$0.00
Tune-Up						0.0_	0.0	<u> </u>
HVAC Tune-Up	636	0.000	0.304	0	0	0.0	0.0	\$0.00

Commercial/Industrial Programs C&I Lighting	Annual kWh Savings Per \$			Total kW Reduced	Total Annual kWh Savings	Total Winter kW Savings	Total Summer kW Savings	Total Spend Oct Dec. 2011
Lighting Projects	12	0.0031	0.0029	48.6	198,677	48.6	45.4	\$15,906.50
C&I Products								,,
Misc. Efficient Projects	0	0	0	0.0	0	0.0	0.0	\$0.00
	Annual kWh Savings Per Unit	Winter kW Savings Per Unit	Summer kW Savings Per Unit	Unit Qty.	Total Annual kWh Savings	Total Winter kW Savings	Total Summer kW Savings	Total Spend Oct Dec. 2011
Tune-Up								
HVAC Tune-Up* * Assumed 6 tons/unit	5,268	0.000	1.200	0	0	0.0	0.0	\$0.00
	a service and the service of the ser		Total DSM Pr	ogram Savings:	1,106,251	465.2	132.6	\$108,554.25

#### Program: Residential High Efficiency Lighting Replacement Program

#### Overview

This program promotes an increased use of ENERGY STAR® rated Compact Fluorescent Light ("CFL") lamps among the retail members of Big Rivers' member cooperatives by providing reimbursement to member cooperatives for CFL lamps distributed to their retail members.

#### **Target Participants**

Target participants of this program for Big Rivers include its three member cooperatives. The target end users are the retail members of the member cooperatives taking service under the Big Rivers Rural Delivery Service ("RDS") tariff.

#### **Member Incentives**

Big Rivers will reimburse the member cooperatives for the purchase of CFL lamps that the member cooperative buys and distributes to its retail members for use in the member cooperative's service area. Member cooperatives must submit invoices to Big Rivers and must include proper documentation of the purchase from the CFL supplier and of the distribution to retail members. Big Rivers will also reimburse a Member's reasonable costs of promoting this program, if the promotional program and its costs are pre-approved by Big Rivers.

#### **Annual Budget**

The 2012 budget for this program is \$100,000. Budget levels for future years may vary based upon the experience gained after program implementation.

#### Evaluation, Measurement and Verification ("EM&V")

#### Program: ENERGY STAR® Clothes Washer Replacement Incentive Program

#### Overview

This program promotes an increased use of ENERGY STAR® rated clothes washing machines.

#### **Target Participants**

Target participants of this program for Big Rivers include its three member cooperatives. The target end users are the retail members of the member cooperatives taking service under the Big Rivers Rural Delivery Service ("RDS") tariff.

#### **Member Incentives**

Big Rivers will provide an incentive payment of \$100 for each ENERGY STAR® rated clothes washer that is purchased and installed in the member cooperative's system. Member cooperatives must submit invoices to Big Rivers and must include proper documentation of the purchase and installation from a legitimate retail appliance supplier. Big Rivers will also reimburse a Member's reasonable costs of promoting this program, if the promotional program and its costs are pre-approved by Big Rivers.

#### **Annual Budget**

The 2012 budget for this program is \$40,000. Budget levels for future years may vary based upon the experience gained after program implementation.

#### Evaluation, Measurement and Verification ("EM&V")

#### Program: ENERGY STAR® Refrigerator Replacement Incentive Program

#### Overview

This program promotes an increased use of ENERGY STAR® rated refrigerators and the removal from operation of existing older, low-efficiency refrigerators.

#### **Target Participants**

Target participants of this program for Big Rivers include its three member cooperatives. The target end users are the retail members of the member cooperatives taking service under the Big Rivers Rural Delivery Service ("RDS") tariff.

#### **Member Incentives**

Big Rivers will provide an incentive payment of \$100 for each ENERGY STAR® rated refrigerator that is purchased and installed in the member cooperative's system. Member cooperatives must submit invoices to Big Rivers and must include proper documentation of the purchase and installation of the new appliance, and the removal of the old appliance from legitimate retail appliance suppliers. Big Rivers will also reimburse a Member's reasonable costs of promoting this program, if the promotional program and its costs are pre-approved by Big Rivers.

#### **Annual Budget**

The 2012 budget for this program is \$40,000. Budget levels for future years may vary based upon the experience gained after program implementation.

#### Evaluation, Measurement and Verification ("EM&V")

#### Program: Residential High Efficiency Heating, Ventilation and Air Conditioning ("HVAC") Program

#### Overview

This program promotes an increased use of high efficiency HVAC systems among the retail members of the member cooperatives by providing reimbursement to member cooperative members for upgrading their HVAC systems beyond contractor grade minimums to one of three ENERGY STAR® rated HVAC systems.

#### **Target Participants**

Target participants of this program for Big Rivers include its three member cooperatives. The target end users are the retail members of the member cooperatives taking service under the Big Rivers Rural Delivery Service ("RDS") tariff.

#### **Member Incentives**

Big Rivers will reimburse the member cooperatives for the HVAC efficiency upgrades by a retail member on the member cooperative's system. Member cooperatives must submit invoices to Big Rivers and must include proper documentation. Big Rivers will also reimburse a Member's reasonable costs of promoting this program, if the promotional program and its costs are pre-approved by Big Rivers.

The following is the program administrative process:

- 1. The retail consumer will provide a receipt of installation and purchase of equipment from a licensed contractor dated within the eligibility timeframe of the program selected by the member cooperative.
- 2. The member cooperative will be responsible for verification of installation.
- 3. The initial incentives shall be the following per replacement unit installed:

0	Geothermal	\$750
e	Dual Fuel	\$500
0	Air Source	\$200

#### **Annual Budget**

The 2012 budget for this program is \$50,000. Budget levels for future years may vary based upon the experience gained after program implementation.

#### Evaluation, Measurement and Verification ("EM&V")

#### Program: Residential Weatherization Program

#### Overview

This program promotes the implementation of weatherization measures among the retail members of the member cooperatives by providing reimbursement to member cooperatives for undertaking weatherization improvements at their homes.

#### **Target Participants**

Target participants of this program for Big Rivers include its three member cooperatives. The target end users are the retail members of the member cooperatives. This program is available to any retail residential member of the member cooperative taking service under the Big Rivers Rural Delivery Service ("RDS") tariff, with an all-electric home to maximize the benefit of the program.

#### **Member Incentives**

Sherlock Homes is a weatherization contractor headquartered in Bloomington Indiana, which has been performing weatherization projects for Hoosier Energy for the last two years with tremendous success. To date Sherlock Homes has weatherized nearly 2,000 site-built and manufactured homes.

Kentucky Home Performance is a weatherization subsidy through the Kentucky Housing Corporation. The program offers a low-interest loan up to \$20,000 for ten years or a 20% grant for weatherization measures. This program combines the capability of Sherlock Homes and funding from the Kentucky Home Performance to provide comprehensive weatherization for retail member-owners of site-built and manufactured homes. The initial assessment is provided at a cost of \$125 to the retail member, which may be eligible for reimbursement by Kentucky Home Performance.

Big Rivers will provide 50% of the cost of the weatherization in 2012, up to a maximum of the program annual budget. Kentucky Home Performance currently provides 20% of the cost, and the retail member will be responsible for the remainder of the cost. Big Rivers will also reimburse a Member's reasonable costs of promoting this program, if the promotional program and its costs are pre-approved by Big Rivers.

#### Annual Budget

The 2012 budget for this program is \$200,000. Budget levels for future years may vary based upon the experience gained after program implementation.

#### Evaluation, Measurement and Verification ("EM&V")

#### Program: Touchstone Energy® New Home Program

#### **Overview**

This program provides incentives to home owners and builders to use energy efficient building standards as outlined in the Touchstone Energy® certification program, which requires a Home Energy Rating System ("HERS") rating of 85 or lower.

#### **Target Participants**

Target participants of this program for Big Rivers include its three member cooperatives. The target end users are the retail members of the member cooperatives taking service under the Big Rivers Rural Delivery Service ("RDS") tariff.

#### **Member Incentives**

The incentive is based on the HVAC system installed in the retail member's Touchstone Energy® Certified Home. The following incentives apply:

1.	Geothermal Heat Pump (ground coupled heat pump)	\$2,000
2.	Air Source Heat Pump	\$1,000
3.	Dual Fuel Heat Pump (ASHP w/ Gas back-up)	\$1,200
4.	Gas Heat	\$750

The member cooperative will provide a copy of the original certification document and the analysis form used to determine the HERS score and a copy of the receipt from a licensed HVAC contractor specifying the HVAC system installed in the home of the retail member. Big Rivers will also reimburse a Member's reasonable costs of promoting this program, if the promotional program and its costs are pre-approved by Big Rivers.

#### **Annual Budget**

The 2012 budget for this program is \$100,000. Budget levels for future years may vary based upon the experience gained after program implementation.

#### Evaluation, Measurement and Verification ("EM&V")

#### Program: Residential and Commercial HVAC & Refrigeration Tune-Up Program

#### Overview

This program promotes the initiation of annual maintenance on heating and air conditioning equipment among the retail members of the member cooperatives by providing reimbursement to member cooperative retail members that have their heating and cooling systems professionally cleaned and serviced.

#### **Target Participants**

Target participants of this program for Big Rivers include its three member cooperatives. The target end users are the residential and commercial retail members of the member cooperatives taking service under the Big Rivers Rural Delivery Service ("RDS") tariff.

#### **Member Incentives**

Big Rivers will offer incentives to member cooperatives for retail member homeowners and commercial businesses that have their heating and cooling systems professionally cleaned and serviced.

Member cooperatives will receive a \$25 incentive for each residential unit and \$50 for each commercial unit that is cleaned and serviced.

For retail members with multiple units, each incentive paid will require an individual receipt from a licensed HVAC contractor.

Member cooperatives must submit invoices to Big Rivers and must include proper documentation. Big Rivers will also reimburse a Member's reasonable costs of promoting this program, if the promotional program and its costs are pre-approved by Big Rivers.

#### **Annual Budget**

The 2012 budget for this program is \$50,000. Budget levels for future years may vary based upon the experience gained after program implementation.

#### Evaluation, Measurement and Verification ("EM&V")

#### Program: Commercial / Industrial High Efficiency Lighting Replacement Incentive Program

#### Overview

This program provides an incentive to commercial and industrial retail member consumers for whom service is taken under Big Rivers' RDS tariff to upgrade poorly designed and low efficiency lighting systems.

#### **Target Participants**

Target participants of this program for Big Rivers include its three member cooperatives. The target end users are the commercial and industrial retail members of the member cooperatives taking service under the Big Rivers Rural Delivery Service ("RDS") tariff.

#### **Member Incentives**

The following are the project steps:

- 1. The lighting contractor, supplier, electrical contractor or electrician will provide to the retail member the documented changes made to the facility lighting system. The retail member will also be required to provide an invoice for materials and installation services associated with the project.
- 2. The member cooperative will verify the installation of the new lighting system and collect a copy of the specification of the lighting system conversion impact, signed by the retail member, with the following information:
  - Lamp and ballast (or fixture) specifications prior to conversion including total wattage
  - New fixture specifications including total wattage
  - Estimated hours of operation
  - Estimated kWh saved per year
  - Total kW demand reduction
- 3. The member cooperative shall submit an invoice to Big Rivers with copies of individual lighting project specification documents with the following information:
  - Member Name
  - Account Number
  - Service Address
  - kW Reduction Total
  - Annual Hours of Operation Incentive Amount
- 4. The initial incentive shall be set at \$350 per kW reduction with a maximum incentive of \$10,000 per project unless approved by Big Rivers on an individual basis. This amount

will be evaluated continuously and adjusted depending on reaction by retail members qualifying under this program.

Each of the incentive payments will require the fixture/lamp change be verified by the member cooperative personnel or third party. A worksheet is provided to determine the change in demand of the lighting system The retail member will also be required to provide the project costs for planning purposes. Big Rivers will also reimburse a Member's reasonable costs of promoting this program, if the promotional program and its costs are pre-approved by Big Rivers.

#### **Annual Budget**

The 2012 budget for this program is \$190,000. Budget levels for future years may vary based upon the experience gained after program implementation.

#### Evaluation, Measurement and Verification ("EM&V")

#### Program: Commercial / Industrial General Energy Efficiency Program

#### Overview

This program provides an incentive to retail commercial and industrial retail member-consumers served under the Big Rivers RDS tariff to upgrade all aspects of cost effective energy efficiency achievable in individual facilities.

#### **Target Participants**

Target participants of this program for Big Rivers include its three member cooperatives. The target end users are the commercial and industrial retail members of the member cooperatives taking service under the Big Rivers Rural Delivery Service ("RDS") tariff.

#### **Member Incentives**

The requirements of the program are:

- 1. The retail member, contractor, supplier, electrical contractor or electrician will provide to the retail member the documented changes made to the facility equipment resulting in the demand reduction. The retail member will also be required to provide an invoice for materials and installation services associated with the project.
- 2. The member cooperative will verify the installation of the new equipment and collect a copy of the specification of the equipment conversion impact, signed by the retail member, with the following information:
  - Equipment specifications of existing equipment, including total wattage
  - Replacement equipment specifications, including total wattage
  - Estimated hours of operation
  - Estimated kWh saved per year
  - Total kW demand reduction
- 3. The member cooperative shall submit an invoice to Big Rivers with copies of individual project specification documents and a printed summary excel spreadsheet with the following information:
  - Member Name
  - Account Number
  - Service Address
  - kW Reduction Total
  - Annual Hours of Operation Incentive Amount
- 4. The initial incentive shall be set at \$350 per kW reduction with a maximum incentive of \$10,000 per project unless approved by Big Rivers on an individual basis. This amount will

be assessed continuously and adjusted depending on reaction by retail commercial members qualifying under this program.

Each of the incentive payments will require that equipment changes be verified by cooperative personnel or third party. A worksheet is provided to determine the change in demand resulting in equipment upgrades. The retail member will also be required to provide the project costs for planning purposes. Big Rivers will also reimburse a Member's reasonable costs of promoting this program, if the promotional program and its costs are pre-approved by Big Rivers.

#### **Annual Budget**

The 2012 budget for this program is \$30,000. Budget levels for future years may vary based upon the experience gained after program implementation.

#### Evaluation, Measurement and Verification ("EM&V")