

Big Rivers Electric Corporation
Tariff Additions
for
Demand-Side Management and Energy Efficiency Programs

**DSM 10 – Residential Weatherization Program –
Primary Heating Source Non-Electric**

Background –

On March , 2012, pursuant to Commission's letter to Big Rivers dated November , 2011, Big Rivers filed tariff sheets for the following Demand-Side Management and Energy Efficiency Programs –

DSM-01	High Efficiency Lighting Replacement Program
DSM-02	ENERGY STAR® Clothes Washer Replacement Incentive Program
DSM-03	ENERGY STAR® Refrigerator Replacement Incentive Program
DSM-04	Residential High Efficiency Heating, Ventilation and Air Conditioning ("HVAC") Program
DSM-05	Residential Weatherization Program
DSM-06	Touchstone Energy® New Home Program
DSM-07	Residential and Commercial HVAC & Refrigeration Tune-Up Program
DSM-08	Commercial / Industrial High Efficiency Lighting Replacement Incentive Program
DSM-09	Commercial / Industrial General Energy Efficiency Program

DSM-05 – Residential Weatherization Program is currently designed for all-electric homes. Big Rivers' Members expressed an interest in designing a comparable program for those homes which have non-electric heating. Working with its Members and GDS Associates, Big Rivers evaluated the potential design of such a program. The results of those efforts are DSM-10 – Residential Weatherization Program – Primary Heating Source Non-Electric.

Analytical Support for DSM-10 –

In support of DSM-10, Big Rivers attaches a two-page printout which provided the results of GDS Associates' analysis. This document provides the Total Resource Cost ("TRC"), or TRC Ratio, and Utility Cost Test ("UCT"), or UCT Ratio for a home with the primary heating source being gas, whether natural gas or propane. Page 1 of 2 focuses on homes where attic insulation 'R' values range from R0 to R38; page 2 of 2 focuses on homes where attic insulation 'R' values range from R9 to R38. In the heating and cooling columns (labeled 'Heat' and 'Cool', respectively) these ratios are higher on page 1 of 2, versus page 2 of 2.

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TRC Ratio and UCT Ratio Supporting Documentation

Based on Attic Insulation Increasing from R0 to R38

Big Rivers Weatherization Package (2010 Analysis - Updated for Gas Heat/Water Heat Home ; Single Family)

Base Home Consumption (estimates from 2010 Analysis)

Heat (MMBTU)	85.1
Cooling (Summer kWh)	6875
WH (MMBTU)	18.4
Light&Appliances (kWh)	6405
Total MMBTU	103.5
Total kWh	13,280

Weatherization Measure Energy Savings (as a %)

	Heat	Cool	WH	Other	% Savings Source
Attic Insulation (R0 to R38)	37.22%	30.82%	0.00%	0.00%	*REM/Rate 6661 4052 2609 39.17%
Duct Sealing	12.52%	12.49%	0.00%	0.00%	*REM/Rate
CFL Bulb Replacement (x10)	0.00%	0.00%	0.00%	4.79%	*14W CFL replacing 42W halogen to reflect EISA standards. 3 hours/day ; total of 10 bulbs

Weatherization Measure Demand Savings (Unit)

	Sum. kW	Sum. CF	Win. kW	Win. CF	Savings Source
Attic Insulation (R0 to R38)	1.8	73.0%	0.1	0%	*REM/Rate
Duct Sealing	0.5	73.0%	0	0%	*REM/Rate
CFL Bulb Replacement (x10)	0.28	11.0%	0.28	26%	*14W CFL replacing 42W halogen to reflect EISA standards ; total of 10 bulbs
Wx Package (Combined)	2.58	66.3%	0.38	19.2%	

Weatherization Measure Savings (in units)

	Attic	Duct Sealing	CFL	Wx Pkg
Heat (MMBTU)	31.7	10.7	0.0	42.3
Cooling (Summer kWh)	2119	859	0	2978
WH (MMBTU)	0	0	0.0	0.0
Light&Appliances (kWh)	0	0	307	307
Total MMBTU	31.7	10.7	0.0	42.3
Total kWh	2,119	859	307	3,284
Summer kW (Peak)	1.31	0.37	0.03	1.71
Winter kW (Peak)	0.00	0.00	0.07	0.07

Weatherization Measure Costs (in units)

	\$1,418.60	\$500.00	\$18.50	\$1,937.10	*2010 Big Rivers Analysis
Incremental Cost					
Rebate Amount	\$455	\$175	\$49	\$678	*2010 Big Rivers Analysis

Useful Life

Years	20	18	10	18.5	*2010 Big Rivers Analysis

Benefits/Costs

Electric Benefits	\$2,294	\$771	\$169	\$3,234
Gas Benefits	\$5,805	\$1,801	\$0	\$7,307
Other Benefits	\$0	\$0	\$25	\$36
Utility Rebates	\$455	\$175	\$49	\$678
Net Participant Costs	\$963.95	\$325.00	-\$30.00	\$1,258.95
Total Measure Costs	\$1,418.60	\$500.00	\$18.50	\$1,937.10
TRC Ratio	5.71	5.14	10.49	5.46
UCT Ratio	5.05	4.40	3.49	4.77

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TRC Ratio and UCT Ratio Supporting Documentation Based on Attic Insulation Increasing from R9 to R38

Big Rivers Weatherization Package (2010 Analysis - Updated for Gas Heat/Water Heat Home; Single Family)

Base Home Consumption (estimates from 2010 Analysis)

Heat (MMBTU)	60.3
Cooling (Summer kWh)	5179
WH (MMBTU)	18.4
Light&Appliances (kWh)	6405
Total MMBTU	78.7
Total kWh	11,584

Weatherization Measure Energy Savings (as a %)

	Heat	Cool	WH	Other	% Savings Source
Attic Insulation (R9 to R38)	11.43%	8.17%	0.00%	0.00%	*REM/Rate 5018 4052 966 19.25%
Duct Sealing	12.47%	12.10%	0.00%	0.00%	*REM/Rate
CFL Bulb Replacement (x10)	0.00%	0.00%	0.00%	4.79%	*14W CFL replacing 42W halogen to reflect EISA standards. 3 hours/day ; total of 10 bulbs
Wx Package (Combined)	22.46%	19.25%	0.00%	4.79%	

Weatherization Measure Demand Savings (Unit)

	Sum. kW	Sum. CF	Win. kW	Win. CF	Savings Source
Attic Insulation (R9 to R38)	0.4	73.0%	0	0%	*REM/Rate
Duct Sealing	0.4	73.0%	0	0%	*REM/Rate
CFL Bulb Replacement (x10)	0.28	11.0%	0.28	26%	*14W CFL replacing 42W halogen to reflect EISA standards ; total of 10 bulbs
Wx Package (Combined)	1.08	56.9%	0.28	26.0%	

Weatherization Measure Savings (in units)

	Attic	Duct Sealing	CFL	Wx Pkg
Heat (MMBTU)	6.9	7.5	0.0	14.4
Cooling (Summer kWh)	423	627	0	1050
WH (MMBTU)	0	0	0.0	0.0
Light&Appliances (kWh)	0	0	307	307
Total MMBTU	6.9	7.5	0.0	14.4
Total kWh	423	627	307	1,357
Summer kW (Peak)	0.29	0.29	0.03	0.61
Winter kW (Peak)	0.00	0.00	0.07	0.07

Weatherization Measure Costs (in units)

Incremental Cost	\$1,159.10	\$500.00	\$18.50	\$1,677.60	*2010 Big Rivers Analysis
Rebate Amount	\$390	\$175	\$49	\$613	*2010 Big Rivers Analysis

Useful Life

Years	20	18	10	16.8	*2010 Big Rivers Analysis
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Benefits/Costs

Electric Benefits	\$475	\$576	\$169	\$1,224
Gas Benefits	\$1,264	\$1,272	\$0	\$2,311
Other Benefits	\$0	\$0	\$25	\$35
Utility Rebates	\$390	\$175	\$49	\$613
Net Participant Costs	\$769.33	\$325.00	-\$30.00	\$1,064.33
Total Measure Costs	\$1,159.10	\$500.00	\$18.50	\$1,677.60
TRC Ratio	1.50	3.69	10.49	2.13
UCT Ratio	1.22	3.29	3.49	2.00