

Appendix A: Tables

SOUTH DAKOTA ENERGY EFFICIENCY PLAN - 2012
Otter Tail Power Company
Status Report

APPENDIX A, TABLE 1

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	COSTS			PARTICIPATION		
	PROPOSED BUDGET	ACTUAL EXPENSES	% OF MODIFIED BUDGET	PROPOSED PART.	ACTUAL	% of GOAL
DIRECT IMPACT PROJECTS						
RESIDENTIAL						
Air Conditioning Control *	\$10,000	\$7,695	77%	30	18	60%
Air Source Heat Pumps -Residential	\$14,000	\$25,393	181%	20	28	140%
Geothermal Heat Pumps -Residential	\$21,000	\$14,867	71%	10	9	90%
Residential Demand Control (RDC) - INACTIVE	\$0	\$287	NA	0	0	0%
Total -Residential	\$45,000	\$48,242	107%	60	55	92%
COMMERCIAL						
Air Source Heat Pumps -Commercial	\$25,000	\$6,615	26%	22	7	32%
Custom Efficiency Projects	\$73,000	\$80,627	110%	5	12	240%
Geothermal Heat Pumps -Commercial	\$50,000	\$83,940	168%	22	23	105%
Lighting	\$37,000	\$43,189	117%	15	22	147%
Motors	\$17,000	\$12,930	76%	16	4	25%
Total -Commercial	\$202,000	\$227,301	113%	80	68	85%
Total -Direct Impact	\$247,000	\$275,543	112%	140	123	88%
INDIRECT IMPACT PROJECTS						
Advertising & Education	\$8,000	\$8,380	105%	900	1559	173%
Total - Indirect Impact	\$8,000	\$8,380	105%	900	1559	173%
Total - Without Development Costs	\$255,000	\$283,923	111%	1040	1682	162%
DEVELOPMENT						
EEP DEVELOPMENT - 2012	\$25,000	\$25,988	104%	0		
Total Development	\$25,000	\$25,988	104%	0		
TOTAL - ALL PROGRAMS (INC. DEVL)	\$280,000	\$309,911	111%	1040	1,682	162%
Prior Year Tracker Ending Balance		\$45,767				
Carrying Costs		\$6,412				
Accounting Adjustments		\$0				
Prior Year Approved Incentive		\$78,900				
Total Recoverable with Carrying Costs & Incentive		\$440,990				
Recoverd through rates -- 12/31/12		(\$306,796)				
Balance - EEP Tracker -- 12/31/12		\$134,194				

* Air conditioning programs include summer load reductions, which are not coincident to the system winter-peak

	ENERGY SAVINGS			DEMAND SAVINGS		
	PROPOSED ENERGY SAVINGS (KWH)	ACTUAL ENERGY SAVINGS (KWH)	% OF GOAL	PROPOSED COINC. PEAK DEMAND SAVINGS (KW)	ACTUAL COINC. PEAK DEMAND SAVINGS (KW)	% OF GOAL
DIRECT IMPACT PROJECTS						
RESIDENTIAL						
Air Conditioning Control *	1,464	878	60%	31.22	18.73	60%
Air Source Heat Pumps -Residential	168,130	268,897	160%	17.11	46.29	271%
Geothermal Heat Pumps -Residential	120,398	120,262	100%	86.00	92.34	107%
Residential Demand Control (RDC) - INACTIVE	0	0	0%	0.00	0.00	0%
Total -Residential	289,992	390,037	134%	134.33	157.36	117%
COMMERCIAL						
Air Source Heat Pumps -Commercial	314,403	72,296	23%	37.30	9.71	26%
Custom Efficiency Projects	806,250	2,259,798	280%	161.25	197.86	123%
Geothermal Heat Pumps -Commercial	308,633	925,905	300%	206.56	666.16	323%
Lighting	522,671	251,219	48%	126.47	33.74	27%
Motors	32,311	10,849	34%	5.36	1.34	25%
Total -Commercial	1,984,268	3,520,067	177%	536.94	908.81	169%
Total -Direct Impact	2,274,260	3,910,104	172%	671.27	1066.17	159%
INDIRECT IMPACT PROJECTS						
Advertising & Education						
Total - Indirect Impact						
Total - Without Development Costs	2,274,260	3,910,104	172%	671.27	1066.17	159%
DEVELOPMENT						
EEP DEVELOPMENT - 2012						
Total Development						
TOTAL - ALL PROGRAMS (INC. DEVL)	2,274,260	3,910,104	172%	671.27	1066.17	159%
Prior Year Tracker Ending Balance						
Carrying Costs						
Accounting Adjustments						
Prior Year Approved Incentive						
Total Recoverable with Carrying Costs & Incentive						
Recoverd through rates -- 12/31/12						
Balance - EEP Tracker -- 12/31/12						

* Air conditioning programs include summer load reductions, which are not coincident to tl

SOUTH DAKOTA ENERGY EFFICIENCY PLAN - 2012
OTTER TAIL POWER COMPANY
Net Benefits

	2012 Approved Savings, Costs and Benefits				2012 Actual Savings, Costs and Benefits			
	ENERGY SAVINGS (KWH)	BUDGETED COSTS	TOTAL BENEFITS	UTILITY NET BENEFITS	ENERGY SAVINGS (KWH)	ACTUAL COSTS	TOTAL BENEFITS	UTILITY NET BENEFITS
DIRECT IMPACT PROJECTS								
RESIDENTIAL								
Air Conditioning Control *	1,464	\$10,000	\$62,044	\$52,044	878	\$7,695	\$37,226	\$29,531
Air Source Heat Pumps - Residential	168,130	\$14,000	\$119,389	\$105,389	268,897	\$25,393	\$261,564	\$236,171
Geothermal Heat Pumps - Residential	120,398	\$21,000	\$234,479	\$213,479	120,262	\$14,867	\$205,336	\$190,469
RDC - INACTIVE	0	\$0	\$0	\$0	0	\$287	\$0	(\$287)
Total - Residential	289,992	\$45,000	\$415,911	\$370,911	390,037	\$48,242	\$504,126	\$455,884
COMMERCIAL								
Air Source Heat Pumps - Commercial	314,403	\$25,000	\$232,480	\$207,480	72,296	\$6,615	\$73,310	\$66,694
Custom Efficiency Project	806,250	\$73,000	\$941,314	\$868,314	2,259,798	\$80,627	\$1,803,670	\$1,723,043
Geothermal Heat Pumps - Commercial	308,633	\$50,000	\$588,406	\$538,406	925,905	\$83,940	\$1,522,511	\$1,438,571
Lighting	522,671	\$37,000	\$485,339	\$448,339	251,219	\$43,189	\$219,015	\$175,826
Motors	32,311	\$17,000	\$35,290	\$18,290	10,849	\$12,930	\$10,729	(\$2,201)
Total - Commercial	1,984,268	\$202,000	\$2,282,829	\$2,080,829	3,520,067	\$227,301	\$3,629,234	\$3,401,933
Total - Direct Impact	2,274,260	\$247,000	\$2,698,740	\$2,451,740	3,910,104	\$275,543	\$4,133,360	\$3,857,818
INDIRECT IMPACT PROJECTS								
Advertising & Education	0	\$8,000	\$0	(\$8,000)	0	\$8,380	\$0	(\$8,380)
Development (all years)	0	\$25,000	\$0	(\$25,000)	0	\$25,988	\$0	(\$25,988)
Total - Indirect Impact	0	\$33,000	\$0	(\$33,000)	0	\$34,368	\$0	(\$34,368)
TOTAL - ALL PROGRAMS	2,274,260	\$280,000	\$2,698,740	\$2,418,740	3,910,104	\$309,911	\$4,133,360	\$3,823,449

* Air conditioning programs include summer load reductions, which are not coincident to the system winter-peak

Benefit/Cost Results
2012 SD EEP

	AS FILED	ACTUAL 2012
Data discounted to 2012	Utility Test	Utility Test
NPV Method: Midyear		
Discount Rates:	8%	8%
Benefit/Cost Ratio	9.64	13.34
Total Costs	\$280,000	\$309,911
Total Benefits	\$2,698,740	\$4,133,360
Net Benefits	\$2,418,740	\$3,823,449
Total Benefits:		
Utility Elec. Production Cost Decr	\$1,458,324	\$2,417,951
Utility Generation Cap. Credit	\$554,974	\$569,005
Utility Transmission & Distrib. Credit	\$685,441	\$1,146,404
Total Benefits	\$2,698,740	\$4,133,360
Total Costs:		
Utility Rebates Paid	\$142,470	\$183,004
Utility Fixed Admin Cost Increase	\$137,530	\$126,907
Total Costs	\$280,000	\$309,911

SOUTH DAKOTA ENERGY EFFICIENCY PLAN - 2012
OTTER TAIL POWER COMPANY
Benefit Cost Ratios

APPENDIX A, TABLE 3

	APPROVED BENEFIT / COST TEST RESULTS					ACTUAL BENEFIT / COST TEST RESULTS				
	PART. TEST	RATEPAYER IMPACT TEST	TOTAL RESOURCE TEST	SOCIETAL TEST	UTILITY TEST	PART. TEST	RATEPAYER IMPACT TEST	TOTAL RESOURCE TEST	SOCIETAL TEST	UTILITY TEST
DIRECT IMPACT PROJECTS										
RESIDENTIAL										
Air Conditioning Control *	inf.	5.56	7.83	7.84	6.20	inf.	4.44	6.11	6.11	4.84
Air Source Heat Pumps - Residential	4.18	0.94	3.98	4.13	8.53	5.42	1.29	6.40	6.57	10.30
Geothermal Heat Pumps - Residential	1.11	2.02	2.71	2.75	11.17	1.60	1.90	3.59	3.65	13.81
RDC - INACTIVE	NA	NA	NA	NA	NA	inf.	inf.	inf.	inf.	inf.
Total - Residential	1.83	1.59	3.17	3.23	7.85	2.94	1.58	4.80	4.91	10.45
COMMERCIAL										
Air Source Heat Pumps - Commercial	4.69	1.06	4.96	5.12	9.30	3.38	1.44	4.92	5.04	11.08
Custom Efficiency Projects	2.03	1.70	4.00	4.08	12.89	6.98	1.39	10.86	11.15	22.37
Geothermal Heat Pumps - Commercial	1.07	2.13	2.77	2.81	11.77	4.48	2.05	10.60	10.79	18.11
Lighting	2.40	1.51	3.88	3.97	13.12	1.01	1.25	1.43	1.46	5.07
Motors	1.50	1.00	1.61	1.65	2.08	7.78	0.56	1.19	1.22	0.83
Total - Commercial	1.93	1.63	3.55	3.62	11.30	4.28	1.58	7.47	7.63	15.97
INDIRECT IMPACT PROJECTS										
Advertising & Education	inf.	inf.	inf.	inf.	inf.	inf.	inf.	inf.	inf.	inf.
Development	inf.	inf.	inf.	inf.	inf.	inf.	inf.	inf.	inf.	inf.
Total - Indirect Impact										
TOTAL - ALL PROGRAMS	1.91	1.60	3.39	3.46	9.64	4.07	1.56	6.69	6.84	13.34

* Air conditioning programs include summer load reductions, which are not coincident to the system winter-peak

SOUTH DAKOTA ENERGY EFFICIENCY PLAN - 2012
OTTER TAIL POWER COMPANY
Incentive Calculation

Calculated Incentive Based on Pre-Year Inputs

1 Original EEP Expense Budget	\$280,000
2 Original EEP Expense Budget multiplied by 30%	\$84,000

Calculated Incentive Based on Post-Year Inputs

3 Actual EEP Expenses	\$309,911
4 Actual EEP Expenses multiplied by 30%	\$92,973

5 Financial Incentive: lesser of lines 2 and 4.	\$84,000
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SOUTH DAKOTA ENERGY EFFICIENCY PLAN - 2012
OTTER TAIL POWER COMPANY
EEP Tracker Account / Cost Recovery

APPENDIX A, TABLE 5

EEP AUTOMATIC RECOVERY MECHANISM

	FILING DATE				
	May 1				
	2008/09 ACTUAL	2010 ACTUAL	2011 ACTUAL	2012 ACTUAL	2013 Budget Financial Incentive
1 Estimated EEP Tracker Account Balance - end of prior year	\$27,487	(\$43,107)	(\$31,900)	\$45,767	\$134,194
2 Accounting Adjustments	\$0	(\$45)	\$45	\$0	\$0
3					
4 True up from Previous Year (sum of lines 1 and 2)	\$27,487	(\$43,152)	(\$31,855)	\$45,767	\$134,194
5 EEP Program expenditures	\$252,677	\$243,816	\$272,093	\$309,911	\$280,000
6 Previous Year EEP Financial Incentives	\$0	\$47,130	\$73,145	\$78,900	\$84,000
7 Projected EEP Carrying Charge	(\$726)	(\$6,503)	(\$4,286)	\$6,412	\$8,767
8 EEP Cost Recovery through EE Adjustment Factor	(\$322,545)	(\$273,190)	(\$263,330)	(\$306,796)	(\$372,819)
9 Recoverable Tracker Balance (Line 4 Plus Lines 5 thru 8)	(\$43,107)	(\$31,900)	\$45,767	\$134,194	\$134,143
10 SD Sales (KWH budget)			418,045,511	407,054,057	392,439,992
11 Conservation Surcharge (1)	\$0.00063	\$0.00063	\$0.00063	\$0.00088	\$0.00103
12 Estimated EEP Tracker Account Balances					
(1) Effective for 12-month period July 1 through June 30					

Otter Tail Power Company

APPENDIX A, TABLE 6

EEP TRACKER AND CALCULATION OF PROPOSED EEP

	January 2013	February* 2013	March 2013	April 2013	May 2013	June 2013	Total
1 Beginning of Period Balance	\$134,194	\$108,255	\$106,521	\$84,886	\$68,779	\$58,290	
2 Monthly Carrying Charge	0.71%	0.71%	0.71%	0.71%	0.71%	0.71%	
3 Monthly Carrying Charge	\$951	\$767	\$755	\$601	\$487	\$413	\$3,973
4 EEP Program Charges	\$12,312	\$35,465	\$8,448	\$11,401	\$13,281	\$29,408	\$110,315
5 EEP Incentive	\$0	\$0	\$0	\$0	\$0	\$0	\$0
7 Less: Energy Efficiency Adjustment (EEP Revenue)	-\$39,202	-\$37,965	-\$30,838	-\$28,109	-\$24,258	-\$23,576	-\$183,947
8 End of Period Balance	\$108,255	\$106,521	\$84,886	\$68,779	\$58,290	\$64,535	
9 CURRENT EEP FACTOR (\$/kWh)	\$0.00088						
10 Projected EEP expenditures 2012	\$280,000						
11 Projected sales (kWh)	44,570,860	43,157,522	35,042,984	31,942,205	27,565,673	26,790,624	

1. EEP TRACKER PROPOSED \$/kWh Method

	July 2013	August 2013	September 2013	October 2013	November 2013	December 2013	January 2014	February 2014	March 2014	April 2014	May 2014	June 2014	Total
1 Beginning of Period Balance	\$64,535	\$141,366	\$129,709	\$123,122	\$113,805	\$104,235	\$157,201	\$129,477	\$101,890	\$74,045	\$52,181	\$36,936	
2 Monthly Carrying Charge Rate	0.71%	0.71%	0.71%	0.71%	0.71%	0.71%	0.71%	0.71%	0.71%	0.71%	0.71%	0.71%	
3 Monthly Carrying Charge	\$457.12	\$1,001.34	\$918.77	\$872.11	\$806.11	\$738.33	\$1,113.50	\$917.13	\$721.72	\$524.48	\$369.61	\$261.63	\$8,702
4 EEP Program Charges	\$21,898	\$17,612	\$22,110	\$18,904	\$22,967	\$89,253	\$13,155	\$12,958	\$8,924	\$12,044	\$14,030	\$31,067	\$284,922
5 EEP Incentive	\$84,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$84,000
7 Less: Energy Efficiency Adjustment (EEP Revenue)	-\$29,524	-\$30,270	-\$29,616	-\$29,093	-\$33,343	-\$37,025	-\$41,993	-\$41,462	-\$37,490	-\$34,433	-\$29,644	-\$29,010	-\$402,903
8 End of Period Balance	\$141,366	\$129,709	\$123,122	\$113,805	\$104,235	\$157,201	\$129,477	\$101,890	\$74,045	\$52,181	\$36,936	\$39,255	
9 PROPOSED EEP FACTOR (\$ / kWh)	\$0.00103												
10 Projected EEP expenditures 2013	\$280,000												
11 Projected EEP expenditures 2014	\$295,800												
12 Projected sales (kWh)	28,664,218	29,388,500	28,753,515	28,245,741	32,371,409	35,946,742	40,769,476	40,254,740	36,398,535	33,429,814	28,781,008	28,164,693	

*Actual data was used through February 2013