

Appendix A: Tables

SOUTH DAKOTA ENERGY EFFICIENCY PLAN - 2010
Otter Tail Power Company
Status Report

APPENDIX A, TABLE 1
 Pages 1 & 2

	ENERGY SAVINGS			DEMAND SAVINGS		
	PROPOSED ENERGY SAVINGS (KWH)	ACTUAL ENERGY SAVINGS (KWH)	% OF GOAL	PROPOSED DEMAND SAVINGS (KW)	ACTUAL DEMAND SAVINGS (KW)	% OF GOAL
DIRECT IMPACT PROJECTS						
RESIDENTIAL						
Residential Demand Control	3,587	0	0%	46.85	0.00	0%
Air Source Heat Pumps -Residential	168,130	184,943	110%	28.94	31.83	110%
Geothermal Heat Pumps -Residential	120,400	120,400	100%	86.00	86.00	100%
Air Conditioning Control *	1,464	537	37%	31.22	11.45	37%
Total -Residential	293,581	305,880	104%	193.01	129.28	67%
COMMERCIAL						
Custom Efficiency Projects	967,500	999,255	103%	121.59	191.64	158%
Motors	37,733	38,896	103%	6.00	4.79	80%
Lighting	280,094	479,819	171%	69.03	64.44	93%
Air Source Heat Pumps -Commercial	184,943	184,943	100%	24.84	24.84	100%
Geothermal Heat Pumps -Commercial	350,719	462,949	132%	234.73	309.84	132%
Total -Commercial	1,820,989	2,165,862	119%	456.18	595.56	131%
Total -Direct Impact	2,114,570	2,471,742	117%	649.19	724.84	112%
INDIRECT IMPACT PROJECTS						
Advertising & Education						
Total - Indirect Impact						
Total - Without Development Costs	2,114,570	2,471,742	117%	649.19	724.84	112%
DEVELOPMENT						
EEP DEVELOPMENT - 2010						
Total Development						
TOTAL - ALL PROGRAMS (INC. DEVL)	2,114,570	2,471,742	117%	649.19	724.84	112%
Carrying Costs						
Proposed Incentive (currently not part of EEP Tracker)						
Total Recoverable with Carrying Costs & Incentive						
Recoverd through rates -- 12/31/10						
Balance - EEP Tracker -- 12/31/10						

SOUTH DAKOTA ENERGY EFFICIENCY PLAN - 2010
OTTER TAIL POWER COMPANY
Net Benefits

APPENDIX A, TABLE 2

Pages 1 & 2

	2010 Approved Savings, Costs and Benefits				2010 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								
Residential Demand Control	3,587	\$5,000	\$71,200	\$66,200	0	\$777	\$0	(\$777)
Air Source Heat Pumps - Residential *	168,130	\$14,000	\$113,028	\$99,028	184,943	\$11,140	\$124,331	\$113,192
Geothermal Heat Pumps - Residential	120,400	\$19,000	\$272,230	\$253,230	120,400	\$8,222	\$272,230	\$264,008
Air Conditioning Control *	1,464	\$6,000	\$58,524	\$52,524	537	\$4,493	\$21,459	\$16,965
Total - Residential	293,581	\$44,000	\$514,983	\$470,983	305,880	\$24,632	\$418,020	\$393,388
COMMERCIAL								
Custom Efficiency Project	967,500	\$74,000	\$654,082	\$580,082	999,255	\$81,439	\$874,451	\$793,012
Motors	37,733	\$10,000	\$30,529	\$20,529	38,896	\$15,046	\$26,104	\$11,059
Lighting	280,094	\$30,000	\$229,583	\$199,583	479,819	\$34,915	\$281,937	\$247,022
Air Source Heat Pumps - Commercial *	184,943	\$25,000	\$127,961	\$102,961	184,943	\$15,020	\$127,961	\$112,941
Geothermal Heat Pumps - Commercial	350,719	\$45,000	\$751,081	\$706,081	462,949	\$39,476	\$991,427	\$951,951
Total - Commercial	1,820,989	\$184,000	\$1,793,236	\$1,609,236	2,165,862	\$185,896	\$2,301,881	\$2,115,985
Total - Direct Impact	2,114,570	\$228,000	\$2,308,219	\$2,080,219	2,471,742	\$210,527	\$2,719,900	\$2,509,373
INDIRECT IMPACT PROJECTS								
Advertising & Education	0	\$10,000	\$0	(\$10,000)	0	\$5,992	\$0.00	(\$5,992)
Development (all years)	0	\$25,000	\$0	(\$25,000)	0	\$27,297	\$0.00	(\$27,297)
Total - Indirect Impact	0	\$35,000	\$0	(\$35,000)	0	\$33,289	\$0.00	(\$33,289)
TOTAL - ALL PROGRAMS	2,114,570	\$263,000	\$2,308,219	\$2,045,219	2,471,742	\$243,816	\$2,719,900	\$2,476,084

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

Benefit/Cost Results
2010 SD EEP

APPENDIX A, TABLE 2

Pages 1 & 2

	AS FILED	ACTUAL 2010
Data discounted to 2010	Utility Test	Utility Test
NPV Method: Midyear		
Discount Rates:	8%	8%
Benefit/Cost Ratio	8.78	11.16
Total Costs	\$263,000	\$243,816
Total Benefits	\$2,308,219	\$2,719,900
Net Benefits	\$2,045,219	\$2,476,084
Total Benefits:		
Utility Elec. Production Cost Decr	\$772,403	\$878,850
Utility Generation Cap. Credit	\$1,174,724	\$1,432,356
Utility Transmission & Distribution Credit	\$361,092	\$408,694
Total Benefits	\$2,308,219	\$2,719,900
Total Costs:		
Utility Rebates Paid	\$115,737	\$148,159
Utility Fixed Admin Cost Increase	\$147,263	\$95,657
Total Costs	\$263,000	\$243,816

SOUTH DAKOTA ENERGY EFFICIENCY PLAN - 2010
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										
Residential Demand Control	8.40	1.60	10.86	11.10	14.24	inf.	inf.	inf.	inf.	inf.
Air Source Heat Pumps - Residential *	4.92	0.87	4.23	4.40	8.07	4.88	0.90	4.66	4.84	11.16
Geothermal Heat Pumps - Residential	1.45	2.35	4.01	4.06	14.33	1.43	2.59	4.51	4.57	33.11
Air Conditioning Control *	inf.	8.13	12.38	12.39	9.75	inf.	4.35	6.06	6.07	4.78
Total - Residential						2.39	1.68	4.58	4.68	16.97
COMMERCIAL										
Custom Efficiency Projects	1.74	1.01	2.07	2.14	8.84	2.23	1.22	3.17	3.27	10.74
Motors	6.21	0.92	3.58	3.69	3.05	5.43	0.62	2.16	2.25	1.73
Lighting	2.43	1.25	3.03	3.11	7.65	3.50	0.95	3.38	3.50	8.07
Air Source Heat Pumps - Commercial *	2.93	0.90	2.68	2.77	5.12	2.88	0.97	3.10	3.21	8.52
Geothermal Heat Pumps - Commercial	1.49	2.47	4.35	4.41	16.69	1.52	2.59	4.79	4.85	25.11
Total - Commercial						2.19	1.46	3.72	3.81	12.38
Total - Direct Impact						2.22	1.49	3.83	3.92	12.92
INDIRECT IMPACT PROJECTS										
Advertising & Education										
Total - Indirect Impact										
TOTAL - ALL PROGRAMS	1.95	1.40	3.06	3.13	8.78	2.22	1.47	3.71	3.79	11.16

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

SOUTH DAKOTA ENERGY EFFICIENCY PLAN - 2010
OTTER TAIL POWER COMPANY
Alternative Incentive Calculations, Examples 1 and 2

APPENDIX A, TABLE 4

Calculated Values Based on Pre-Year Inputs

Original Budget	\$263,000	
Energy Savings Goal at Original Budget	2,114,570	
	0.367407%	((Budget x 30 percent) / Projected Net benefits @ 150% of goal) / 7
Multiplier for each 10% of energy savings goal (3)		
Estimated Net Benefits at Proposed Filing	\$2,045,219	

Calculation of Estimated Incentive

Derived Numbers Give the Percent of Net Benefits Awarded at Different Percentages of Energy Savings Goal

Percent of KWH Savings Goal	kWh Savings	Percent of Base	Estimated Benefits Achieved	Estimated Incentive
90 % of savings goal	1,903,113	0.36741%	\$1,840,697	\$6,763
100 % of savings goal	2,114,570	0.73481%	\$2,045,219	\$15,029
110 % of savings goal	2,326,027	1.10222%	\$2,249,740	\$24,797
120 % of savings goal	2,537,484	1.46963%	\$2,454,262	\$36,069
130 % of savings goal	2,748,941	1.83704%	\$2,658,784	\$48,843
140 % of savings goal	2,960,398	2.20444%	\$2,863,306	\$63,120
150 % of savings goal	3,171,855	2.57185%	\$3,067,828	\$78,900

Incentive cap = 30% of budget
 \$263,000
 30%
 \$78,900

EXAMPLE 1		EXAMPLE 2	
Determine incentive - post year		Determine incentive - post year	
Inputs from previous sheet actual results			
2010 Actual Energy Savings Achieved	2,471,742	2010 Actual Expenditures	\$243,816
2010 Actual Expenditures	\$243,816	Percent of Spend	30%
2010 Actual Net Benefits	\$2,476,084		
Actual percentage applied to net benefits	1.36%		
Percent of actual net benefits	\$33,561		
	EXAMPLE 1		EXAMPLE 2
Calculated Incentive	\$33,561		\$73,145

SOUTH DAKOTA ENERGY EFFICIENCY PLAN - 2010
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 Budget Financial Incentive #1	2011 Budget Financial Incentive #2
1	Estimated EEP Tracker Account Balance - end of prior year	\$27,487	(\$43,107)	(\$31,900)	(\$31,900)
2	Accounting Adjustments	\$0	(\$45)	\$0	\$0
3					
4	True up from Previous Year (sum of lines 1 and 2)	\$27,487	(\$43,152)	(\$31,900)	(\$31,900)
5	EEP Program expenditures	\$252,677	\$243,816	\$263,000	\$263,000
6	Previous Year EEP Financial Incentives	\$0	\$47,130	\$33,561	\$73,145
7	Projected EEP Carrying Charge	(\$726)	(\$6,503)	(\$5,744)	(\$5,744)
8	EEP Cost Recovery through EE Adjustment Factor	(\$322,545)	(\$273,190)	(\$283,703)	(\$283,703)
9	Recoverable Tracker Balance (Line 4 Plus Lines 5 thru 8)	(\$43,107)	(\$31,900)	(\$24,786)	\$14,798
10	SD Sales (KWH budget)			450,322,000	450,322,000
11	Conservation Surcharge (1)	\$0.00063	\$0.00063	\$0.00063	\$0.00063
12	Estimated EEP Tracker Account Balances				
13	Beginning Balance	\$27,487	(\$43,152)	(\$31,900)	(\$31,900)
14	EEP Program Expenditures	\$252,677	\$243,816	\$263,000	\$263,000
15	EEP Financial Incentives	\$0	\$47,130	\$33,561	\$73,145
16	Carrying Charges on Tracker Balance	(\$726)	(\$6,503)	(\$5,744)	(\$5,744)
18	EEP Cost Recovery From Surcharge	(\$322,545)	(\$273,190)	(\$283,703)	(\$283,703)
19	Ending Tracker Balance	(\$43,107)	(\$31,900)	(\$24,786)	\$14,798

(1) Effective for 12-month period July 1 through June 30

2010 RECAP	Incentive #1	Incentive #2
PRIOR YEAR ENDING TRACKER BALANCE	(\$43,107.18)	(\$43,107.18)
ACCOUNTING ADJUSTMENTS	(\$45.00)	(\$45.00)
EEP PROGRAM EXPENDITURES 2010	\$243,816.11	\$243,816.11
PREVIOUS YEAR FINANCIAL INCENTIVE	\$47,130.00	\$47,130.00
CARRYING COSTS	(\$6,503.44)	(\$6,503.44)
RECOVERED THROUGH ENERGY EFFICIENCY ADJUSTMENT FACTOR	(\$273,190.25)	(\$273,190.25)
EEP TRACKER BALANCE 12/31/10	(\$31,899.76)	(\$31,899.76)
#1 FINANCIAL INCENTIVE AWARDED (PROPOSED BASED ON ENERGY SAVINGS, SPENDING, & NET BENEFITS)	\$33,561.00	
#2 FINANCIAL INCENTIVE AWARDED (PROPOSED BASED ON % OF SPENDING)		\$73,145.00
TOTAL AMOUNT REQUESTED TO BE RECOVERED (Expenditures + Carrying Costs + Financial Incentive)	\$284,442.67	\$284,442.67
EEP TRACKER BALANCE WITH FINANCIAL INCENTIVE INCLUDED	\$1,661.24	\$41,245.24