

2014 SD DSM Plan Cost-Effectiveness Analysis

RESIDENTIAL SEGMENT TOTAL						ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						
	Participant	Utility	Rate	Total		
	Test	Test	Impact	Resource	Societal	
	(\$Total)	(\$Total)	(\$Total)	(\$Total)	(\$Total)	
Benefits						
Avoided Revenue Requirements						
Generation	N/A	\$651,918	\$651,918	\$651,918	\$651,918	
T & D	N/A	\$247,233	\$247,233	\$247,233	\$247,233	
Marginal Energy	N/A	\$322,617	\$322,617	\$322,617	\$322,617	
Environmental Externality	N/A	N/A	N/A	N/A	\$0	
Subtotal	N/A	\$1,221,767	\$1,221,767	\$1,221,767	\$1,221,767	
Participant Benefits						
Bill Reduction - Electric	\$1,286,266	N/A	N/A	N/A	N/A	
Rebates from Xcel Energy	\$47,181	N/A	N/A	\$47,181	\$47,181	
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	
Subtotal	\$1,333,447	N/A	N/A	\$47,181	\$47,181	
Total Benefits	\$1,333,447	\$1,221,767	\$1,221,767	\$1,268,948	\$1,268,948	
Costs						
Utility Project Costs						
Product Delivery	N/A	\$135,666	\$135,666	\$135,666	\$135,666	
Project Administration	N/A	\$65,793	\$65,793	\$65,793	\$65,793	
Advertising & Promotion	N/A	\$15,648	\$15,648	\$15,648	\$15,648	
Measurement & Verification	N/A	\$0	\$0	\$0	\$0	
Rebates	N/A	\$47,181	\$47,181	\$47,181	\$47,181	
Other	N/A	\$0	\$0	\$0	\$0	
Subtotal	N/A	\$264,289	\$264,289	\$264,289	\$264,289	
Utility Revenue Reduction						
Revenue Reduction - Electric	N/A	N/A	\$1,286,266	N/A	N/A	
Subtotal	N/A	N/A	\$1,286,266	N/A	N/A	
Participant Costs						
Incremental Capital Costs	\$223,182	N/A	N/A	\$223,182	\$223,182	
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0	
Subtotal	\$223,182	N/A	N/A	\$223,182	\$223,182	
Total Costs	\$223,182	\$264,289	\$1,550,555	\$487,471	\$487,471	
Net Benefit (Cost)	\$1,110,265	\$957,478	(\$328,788)	\$781,477	\$781,477	
Benefit/Cost Ratio	5.97	4.62	0.79	2.60	2.60	

Input Summary and Totals		
Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	11.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	24.82%
Gross Load Factor at Customer	E	3.30%
Transmission Loss Factor (Energy)	F	8.310%
Transmission Loss Factor (Demand)	G	9.770%
Societal Net Benefit (Cost)	H	\$251
Program Summary per Participant		
Gross kW Saved at Customer	I	0.04 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.01 kW
Gross Annual kWh Saved at Customer	(B x E x I)	11 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	12 kWh
Program Summary All Participants		
Total Participants	J	82,540
Total Budget	K	\$264,288
Gross kW Saved at Customer	(J x I)	3,109 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G) x J	855 kW
Gross Annual kWh Saved at Customer	(B x E x I) x J	898,443 kWh
Net Annual kWh Saved at Generator	((B x E x I) / (1 - F)) x J	979,871 kWh
Societal Net Benefits	(J x I x H)	\$781,477
Utility Program Cost per kWh Lifetime		\$0.0243
Utility Program Cost per kW at Gen		\$309

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

RESIDENTIAL SAVER'S SWITCH						ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	
Benefits						
Avoided Revenue Requirements						
Generation	N/A	\$524,522	\$524,522	\$524,522	\$524,522	
T & D	N/A	\$198,867	\$198,867	\$198,867	\$198,867	
Marginal Energy	N/A	\$3,393	\$3,393	\$3,393	\$3,393	
Environmental Externality	N/A	N/A	N/A	N/A	\$0	
Subtotal	N/A	\$726,783	\$726,783	\$726,783	\$726,783	
Participant Benefits						
Bill Reduction - Electric	\$563,170	N/A	N/A	N/A	N/A	
Rebates from Xcel Energy	\$0	N/A	N/A	\$0	\$0	
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	
Subtotal	\$563,170	N/A	N/A	\$0	\$0	
Total Benefits	\$563,170	\$726,783	\$726,783	\$726,783	\$726,783	
Costs						
Utility Project Costs						
Product Delivery	N/A	\$122,445	\$122,445	\$122,445	\$122,445	
Project Administration	N/A	\$56,627	\$56,627	\$56,627	\$56,627	
Advertising & Promotion	N/A	\$2,004	\$2,004	\$2,004	\$2,004	
Measurement & Verification	N/A	\$0	\$0	\$0	\$0	
Rebates	N/A	\$0	\$0	\$0	\$0	
Other	N/A	\$0	\$0	\$0	\$0	
Subtotal	N/A	\$181,076	\$181,076	\$181,076	\$181,076	
Utility Revenue Reduction						
Revenue Reduction - Electric	N/A	N/A	\$563,170	N/A	N/A	
Subtotal	N/A	N/A	\$563,170	N/A	N/A	
Participant Costs						
Incremental Capital Costs	\$0	N/A	N/A	\$0	\$0	
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0	
Subtotal	\$0	N/A	N/A	\$0	\$0	
Total Costs	\$0	\$181,076	\$744,246	\$181,076	\$181,076	
Net Benefit (Cost)	\$563,170	\$545,707	(\$17,463)	\$545,707	\$545,707	
Benefit/Cost Ratio	INF	4.01	0.98	4.01	4.01	

Input Summary and Totals		
Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	15.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	28.07%
Gross Load Factor at Customer	E	0.04%
Transmission Loss Factor (Energy)	F	8.310%
Transmission Loss Factor (Demand)	G	9.770%
Societal Net Benefit (Cost)	H	\$242

Program Summary per Participant		
Gross kW Saved at Customer	I	3.27 kW
Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$	1.02 kW
Gross Annual kWh Saved at Customer	$(B \times E \times I)$	10 kWh
Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$	11 kWh

Program Summary All Participants		
Total Participants	J	689
Total Budget	K	\$181,076
Gross kW Saved at Customer	$(J \times I)$	2,254 kW
Net coincident kW Saved at Generator	$(I \times D) / (1 - G) \times J$	701 kW
Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$	7,228 kWh
Net Annual kWh Saved at Generator	$((B \times E \times I) / (1 - F)) \times J$	7,883 kWh
Societal Net Benefits	$(J \times I \times H)$	\$545,707

Utility Program Cost per kWh Lifetime	\$1.5313
Utility Program Cost per kW at Gen	\$258

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

2014 SD DSM Plan Cost-Effectiveness Analysis

RESIDENTIAL HOME LIGHTING						ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						
	Participant	Utility	Rate	Total		
	Test	Test	Impact	Resource	Societal	
	(\$Total)	(\$Total)	(\$Total)	(\$Total)	(\$Total)	
Benefits						
Avoided Revenue Requirements						
Generation	N/A	\$82,215	\$82,215	\$82,215	\$82,215	
T & D	N/A	\$31,236	\$31,236	\$31,236	\$31,236	
Marginal Energy	N/A	\$292,729	\$292,729	\$292,729	\$292,729	
Environmental Externality	N/A	N/A	N/A	N/A	\$0	
Subtotal	N/A	\$406,180	\$406,180	\$406,180	\$406,180	
Participant Benefits						
Bill Reduction - Electric	\$663,872	N/A	N/A	N/A	N/A	
Rebates from Xcel Energy	\$24,537	N/A	N/A	\$24,537	\$24,537	
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	
Subtotal	\$688,409	N/A	N/A	\$24,537	\$24,537	
Total Benefits	\$688,409	\$406,180	\$406,180	\$430,717	\$430,717	
Costs						
Utility Project Costs						
Product Delivery	N/A	\$7,998	\$7,998	\$7,998	\$7,998	
Project Administration	N/A	\$6,660	\$6,660	\$6,660	\$6,660	
Advertising & Promotion	N/A	\$5,949	\$5,949	\$5,949	\$5,949	
Measurement & Verification	N/A	\$0	\$0	\$0	\$0	
Rebates	N/A	\$24,537	\$24,537	\$24,537	\$24,537	
Other	N/A	\$0	\$0	\$0	\$0	
Subtotal	N/A	\$45,144	\$45,144	\$45,144	\$45,144	
Utility Revenue Reduction						
Revenue Reduction - Electric	N/A	N/A	\$663,872	N/A	N/A	
Subtotal	N/A	N/A	\$663,872	N/A	N/A	
Participant Costs						
Incremental Capital Costs	\$85,132	N/A	N/A	\$85,132	\$85,132	
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0	
Subtotal	\$85,132	N/A	N/A	\$85,132	\$85,132	
Total Costs	\$85,132	\$45,144	\$709,016	\$130,276	\$130,276	
Net Benefit (Cost)	\$603,277	\$361,036	(\$302,836)	\$300,441	\$300,441	
Benefit/Cost Ratio	8.09	9.00	0.57	3.31	3.31	

Input Summary and Totals		
Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	10.7 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	12.65%
Gross Load Factor at Customer	E	11.99%
Transmission Loss Factor (Energy)	F	8.310%
Transmission Loss Factor (Demand)	G	9.770%
Societal Net Benefit (Cost)	H	\$368
Program Summary per Participant		
Gross kW Saved at Customer	I	0.13 kW
Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$	0.02 kW
Gross Annual kWh Saved at Customer	$(B \times E \times I)$	135 kWh
Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$	147 kWh
Program Summary All Participants		
Total Participants	J	6,352
Total Budget	K	\$45,143
Gross kW Saved at Customer	$(J \times I)$	816 kW
Net coincident kW Saved at Generator	$(I \times D) / (1 - G) \times J$	114 kW
Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$	856,282 kWh
Net Annual kWh Saved at Generator	$((B \times E \times I) / (1 - F)) \times J$	933,888 kWh
Societal Net Benefits	$(J \times I \times H)$	\$300,441
Utility Program Cost per kWh Lifetime		\$0.0045
Utility Program Cost per kW at Gen		\$395

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

GROUND SOURCE HEAT PUMP **ACTUAL**

Net Present Cost Benefit Summary Analysis For All Participants					
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	\$45,180	\$45,180	\$45,180	\$45,180
T & D	N/A	\$17,130	\$17,130	\$17,130	\$17,130
Marginal Energy	N/A	\$26,494	\$26,494	\$26,494	\$26,494
Environmental Externality	N/A	N/A	N/A	N/A	\$0
Subtotal	N/A	\$88,804	\$88,804	\$88,804	\$88,804
Participant Benefits					
Bill Reduction - Electric	\$59,224	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$22,644	N/A	N/A	\$22,644	\$22,644
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0
Subtotal	\$81,868	N/A	N/A	\$22,644	\$22,644
Total Benefits	\$81,868	\$88,804	\$88,804	\$111,448	\$111,448
Costs					
Utility Project Costs					
Product Delivery	N/A	\$11	\$11	\$11	\$11
Project Administration	N/A	\$1,240	\$1,240	\$1,240	\$1,240
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$22,644	\$22,644	\$22,644	\$22,644
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$23,895	\$23,895	\$23,895	\$23,895
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$59,224	N/A	N/A
Subtotal	N/A	N/A	\$59,224	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$138,050	N/A	N/A	\$138,050	\$138,050
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$138,050	N/A	N/A	\$138,050	\$138,050
Total Costs	\$138,050	\$23,895	\$83,119	\$161,945	\$161,945
Net Benefit (Cost)	(\$56,182)	\$64,909	\$5,685	(\$50,497)	(\$50,497)
Benefit/Cost Ratio	0.59	3.72	1.07	0.69	0.69

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals		
Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	20.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	90.01%
Gross Load Factor at Customer	E	10.09%
Transmission Loss Factor (Energy)	F	8.310%
Transmission Loss Factor (Demand)	G	9.770%
Societal Net Benefit (Cost)	H	(\$1,278)
Program Summary per Participant		
Gross kW Saved at Customer	I	2.08 kW
Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$	2.08 kW
Gross Annual kWh Saved at Customer	$(B \times E \times I)$	1,839 kWh
Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$	2,005 kWh
Program Summary All Participants		
Total Participants	J	19
Total Budget	K	\$23,895
Gross kW Saved at Customer	$(J \times I)$	40 kW
Net coincident kW Saved at Generator	$(I \times D) / (1 - G) \times J$	39 kW
Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$	34,933 kWh
Net Annual kWh Saved at Generator	$((B \times E \times I) / (1 - F)) \times J$	38,099 kWh
Societal Net Benefits	$(J \times I \times H)$	(\$50,497)
Utility Program Cost per kWh Lifetime		\$0.0314
Utility Program Cost per kW at Gen		\$606

2014 SD DSM Plan Cost-Effectiveness Analysis

PORTFOLIO TOTAL						ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals
	Participant	Utility	Rate	Total		Program "Inputs" per Customer kW
	Test	Test	Impact	Resource	Societal	
	(\$Total)	(\$Total)	(\$Total)	(\$Total)	(\$Total)	
Benefits						
Avoided Revenue Requirements						
Generation	N/A	\$2,011,791	\$2,011,791	\$2,011,791	\$2,011,791	Lifetime (Weighted on Generator kWh) A 16.0 years
T & D	N/A	\$762,835	\$762,835	\$762,835	\$762,835	Annual Hours B 8760
Marginal Energy	N/A	\$2,091,349	\$2,091,349	\$2,091,349	\$2,091,349	Gross Customer kW C 1 kW
Environmental Externality	N/A	N/A	N/A	N/A	\$0	Generator Peak Coincidence Factor D 37.70%
Subtotal	N/A	\$4,865,976	\$4,865,976	\$4,865,976	\$4,865,976	Gross Load Factor at Customer E 7.36%
Participant Benefits						Transmission Loss Factor (Energy) F 7.085%
Bill Reduction - Electric	\$5,328,437	N/A	N/A	N/A	N/A	Transmission Loss Factor (Demand) G 8.810%
Rebates from Xcel Energy	\$479,697	N/A	N/A	\$479,697	\$479,697	Societal Net Benefit (Cost) H \$488
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	
Subtotal	\$5,808,134	N/A	N/A	\$479,697	\$479,697	
Total Benefits	\$5,808,134	\$4,865,976	\$4,865,976	\$5,345,673	\$5,345,673	
Costs						
Utility Project Costs						Program Summary per Participant
Product Delivery	N/A	\$177,733	\$177,733	\$177,733	\$177,733	Gross kW Saved at Customer I 0.07 kW
Project Administration	N/A	\$96,577	\$96,577	\$96,577	\$96,577	Net coincident kW Saved at Generator $(I \times D) / (1 - G)$ 0.03 kW
Advertising & Promotion	N/A	\$17,633	\$17,633	\$17,633	\$17,633	Gross Annual kWh Saved at Customer $(B \times E \times I)$ 46 kWh
Measurement & Verification	N/A	\$0	\$0	\$0	\$0	Net Annual kWh Saved at Generator $(B \times E \times I) / (1 - F)$ 50 kWh
Rebates	N/A	\$479,697	\$479,697	\$479,697	\$479,697	
Other	N/A	\$0	\$0	\$0	\$0	
Subtotal	N/A	\$771,640	\$771,640	\$771,640	\$771,640	
Utility Revenue Reduction						Program Summary All Participants
Revenue Reduction - Electric	N/A	N/A	\$5,328,437	N/A	N/A	Total Participants J 89,125
Subtotal	N/A	N/A	\$5,328,437	N/A	N/A	Total Budget K \$771,639
Participant Costs						
Incremental Capital Costs	\$1,270,555	N/A	N/A	\$1,270,555	\$1,270,555	Gross kW Saved at Customer $(J \times I)$ 6,418 kW
Incremental O&M Costs	\$170,847	N/A	N/A	\$170,847	\$170,847	Net coincident kW Saved at Generator $(I \times D) / (1 - G) \times J$ 2,653 kW
Subtotal	\$1,441,403	N/A	N/A	\$1,441,403	\$1,441,403	Gross Annual kWh Saved at Customer $(B \times E \times I) \times J$ 4,137,374 kWh
Total Costs	\$1,441,403	\$771,640	\$6,100,078	\$2,213,043	\$2,213,043	Net Annual kWh Saved at Generator $((B \times E \times I) / (1 - F)) \times J$ 4,452,883 kWh
Net Benefit (Cost)	\$4,366,732	\$4,094,336	(\$1,234,102)	\$3,132,630	\$3,132,630	Societal Net Benefits $(J \times I \times H)$ \$3,132,630
Benefit/Cost Ratio	4.03	6.31	0.80	2.42	2.42	Utility Program Cost per kWh Lifetime \$0.0108
						Utility Program Cost per kW at Gen \$291

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

PEAK AND ENERGY CONTROL **ACTUAL**

Net Present Cost Benefit Summary Analysis For All Participants					
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	\$321,592	\$321,592	\$321,592	\$321,592
T & D	N/A	\$121,927	\$121,927	\$121,927	\$121,927
Marginal Energy	N/A	\$10,878	\$10,878	\$10,878	\$10,878
Environmental Externality	N/A	N/A	N/A	N/A	\$0
Subtotal	N/A	\$454,398	\$454,398	\$454,398	\$454,398
Participant Benefits					
Bill Reduction - Electric	\$132,533	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$0	N/A	N/A	\$0	\$0
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0
Subtotal	\$132,533	N/A	N/A	\$0	\$0
Total Benefits	\$132,533	\$454,398	\$454,398	\$454,398	\$454,398
Costs					
Utility Project Costs					
Product Delivery	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$3,818	\$3,818	\$3,818	\$3,818
Advertising & Promotion	N/A	\$613	\$613	\$613	\$613
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$0	\$0	\$0	\$0
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$4,431	\$4,431	\$4,431	\$4,431
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$132,533	N/A	N/A
Subtotal	N/A	N/A	\$132,533	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$0	N/A	N/A	\$0	\$0
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$0	N/A	N/A	\$0	\$0
Total Costs	\$0	\$4,431	\$136,964	\$4,431	\$4,431

Net Benefit (Cost)	\$132,533	\$449,967	\$317,434	\$449,967	\$449,967
Benefit/Cost Ratio	INF	102.55	3.32	102.55	102.55

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals		
Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	5.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	44.46%
Gross Load Factor at Customer	E	0.28%
Transmission Loss Factor (Energy)	F	6.740%
Transmission Loss Factor (Demand)	G	7.890%
Societal Net Benefit (Cost)	H	\$277

Program Summary per Participant		
Gross kW Saved at Customer	I	232.43 kW
Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$	112.19 kW
Gross Annual kWh Saved at Customer	$(B \times E \times I)$	5,761 kWh
Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$	6,177 kWh

Program Summary All Participants		
Total Participants	J	7
Total Budget	K	\$4,431
Gross kW Saved at Customer	$(J \times I)$	1,627 kW
Net coincident kW Saved at Generator	$(I \times D) / (1 - G) \times J$	785 kW
Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$	40,327 kWh
Net Annual kWh Saved at Generator	$((B \times E \times I) / (1 - F)) \times J$	43,241 kWh
Societal Net Benefits	$(J \times I \times H)$	\$449,967

Utility Program Cost per kWh Lifetime	\$0.0205
Utility Program Cost per kW at Gen	\$6

LIGHTING EFFICIENCY						ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	
Benefits						
Avoided Revenue Requirements						
Generation	N/A	\$929,619	\$929,619	\$929,619	\$929,619	
T & D	N/A	\$352,477	\$352,477	\$352,477	\$352,477	
Marginal Energy	N/A	\$1,757,378	\$1,757,378	\$1,757,378	\$1,757,378	
Environmental Externality	N/A	N/A	N/A	N/A	\$0	
Subtotal	N/A	\$3,039,475	\$3,039,475	\$3,039,475	\$3,039,475	
Participant Benefits						
Bill Reduction - Electric	\$3,807,173	N/A	N/A	N/A	N/A	
Rebates from Xcel Energy	\$432,516	N/A	N/A	\$432,516	\$432,516	
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	
Subtotal	\$4,239,689	N/A	N/A	\$432,516	\$432,516	
Total Benefits	\$4,239,689	\$3,039,475	\$3,039,475	\$3,471,991	\$3,471,991	
Costs						
Utility Project Costs						
Product Delivery	N/A	\$7,855	\$7,855	\$7,855	\$7,855	
Project Administration	N/A	\$374	\$374	\$374	\$374	
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0	
Measurement & Verification	N/A	\$0	\$0	\$0	\$0	
Rebates	N/A	\$432,516	\$432,516	\$432,516	\$432,516	
Other	N/A	\$0	\$0	\$0	\$0	
Subtotal	N/A	\$440,745	\$440,745	\$440,745	\$440,745	
Utility Revenue Reduction						
Revenue Reduction - Electric	N/A	N/A	\$3,807,173	N/A	N/A	
Subtotal	N/A	N/A	\$3,807,173	N/A	N/A	
Participant Costs						
Incremental Capital Costs	\$1,047,373	N/A	N/A	\$1,047,373	\$1,047,373	
Incremental O&M Costs	\$170,847	N/A	N/A	\$170,847	\$170,847	
Subtotal	\$1,218,221	N/A	N/A	\$1,218,221	\$1,218,221	
Total Costs	\$1,218,221	\$440,745	\$4,247,918	\$1,658,966	\$1,658,966	
Net Benefit (Cost)	\$3,021,468	\$2,598,730	(\$1,208,443)	\$1,813,025	\$1,813,025	
Benefit/Cost Ratio	3.48	6.90	0.72	2.09	2.09	

Input Summary and Totals		
Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	17.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	77.61%
Gross Load Factor at Customer	E	34.24%
Transmission Loss Factor (Energy)	F	6.740%
Transmission Loss Factor (Demand)	G	7.890%
Societal Net Benefit (Cost)	H	\$1,700

Program Summary per Participant		
Gross kW Saved at Customer	I	7.46 kW
Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$	6.28 kW
Gross Annual kWh Saved at Customer	$(B \times E \times I)$	22,362 kWh
Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$	23,979 kWh

Program Summary All Participants		
Total Participants	J	143
Total Budget	K	\$440,745
Gross kW Saved at Customer	$(J \times I)$	1,066 kW
Net coincident kW Saved at Generator	$(I \times D) / (1 - G) \times J$	898 kW
Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$	3,197,826 kWh
Net Annual kWh Saved at Generator	$((B \times E \times I) / (1 - F)) \times J$	3,428,936 kWh
Societal Net Benefits	$(J \times I \times H)$	\$1,813,025

Utility Program Cost per kWh Lifetime	\$0.0073
Utility Program Cost per kW at Gen	\$491

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

BUSINESS SEGMENT TOTAL						ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	
Benefits						
Avoided Revenue Requirements						
Generation	N/A	\$1,359,874	\$1,359,874	\$1,359,874	\$1,359,874	
T & D	N/A	\$515,602	\$515,602	\$515,602	\$515,602	
Marginal Energy	N/A	\$1,768,733	\$1,768,733	\$1,768,733	\$1,768,733	
Environmental Externality	N/A	N/A	N/A	N/A	N/A	\$0
Subtotal	N/A	\$3,644,209	\$3,644,209	\$3,644,209	\$3,644,209	
Participant Benefits						
Bill Reduction - Electric	\$4,042,171	N/A	N/A	N/A	N/A	
Rebates from Xcel Energy	\$432,516	N/A	N/A	\$432,516	\$432,516	
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	
Subtotal	\$4,474,687	N/A	N/A	\$432,516	\$432,516	
Total Benefits	\$4,474,687	\$3,644,209	\$3,644,209	\$4,076,725	\$4,076,725	
Costs						
Utility Project Costs						
Product Delivery	N/A	\$42,067	\$42,067	\$42,067	\$42,067	
Project Administration	N/A	\$21,142	\$21,142	\$21,142	\$21,142	
Advertising & Promotion	N/A	\$1,985	\$1,985	\$1,985	\$1,985	
Measurement & Verification	N/A	\$0	\$0	\$0	\$0	
Rebates	N/A	\$432,516	\$432,516	\$432,516	\$432,516	
Other	N/A	\$0	\$0	\$0	\$0	
Subtotal	N/A	\$497,710	\$497,710	\$497,710	\$497,710	
Utility Revenue Reduction						
Revenue Reduction - Electric	N/A	N/A	\$4,042,171	N/A	N/A	
Subtotal	N/A	N/A	\$4,042,171	N/A	N/A	
Participant Costs						
Incremental Capital Costs	\$1,047,373	N/A	N/A	\$1,047,373	\$1,047,373	
Incremental O&M Costs	\$170,847	N/A	N/A	\$170,847	\$170,847	
Subtotal	\$1,218,221	N/A	N/A	\$1,218,221	\$1,218,221	
Total Costs	\$1,218,221	\$497,710	\$4,539,881	\$1,715,931	\$1,715,931	
Net Benefit (Cost)	\$3,256,467	\$3,146,499	(\$895,672)	\$2,360,794	\$2,360,794	
Benefit/Cost Ratio	3.67	7.32	0.80	2.38	2.38	

Input Summary and Totals		
Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	17.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	50.06%
Gross Load Factor at Customer	E	11.17%
Transmission Loss Factor (Energy)	F	6.740%
Transmission Loss Factor (Demand)	G	7.890%
Societal Net Benefit (Cost)	H	\$714

Program Summary per Participant		
Gross kW Saved at Customer	I	14.84 kW
Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$	8.06 kW
Gross Annual kWh Saved at Customer	$(B \times E \times I)$	14,524 kWh
Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$	15,574 kWh

Program Summary All Participants		
Total Participants	J	223
Total Budget	K	\$497,710
Gross kW Saved at Customer	$(J \times I)$	3,309 kW
Net coincident kW Saved at Generator	$(I \times D) / (1 - G) \times J$	1,798 kW
Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$	3,238,931 kWh
Net Annual kWh Saved at Generator	$((B \times E \times I) / (1 - F)) \times J$	3,473,012 kWh
Societal Net Benefits	$(J \times I \times H)$	\$2,360,794

Utility Program Cost per kWh Lifetime	\$0.0082
Utility Program Cost per kW at Gen	\$277

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

BUSINESS SAVER'S SWITCH **ACTUAL**

Net Present Cost Benefit Summary Analysis For All Participants					
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	\$108,662	\$108,662	\$108,662	\$108,662
T & D	N/A	\$41,198	\$41,198	\$41,198	\$41,198
Marginal Energy	N/A	\$476	\$476	\$476	\$476
Environmental Externality	N/A	N/A	N/A	N/A	\$0
Subtotal	N/A	\$150,336	\$150,336	\$150,336	\$150,336
Participant Benefits					
Bill Reduction - Electric	\$102,465	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$0	N/A	N/A	\$0	\$0
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0
Subtotal	\$102,465	N/A	N/A	\$0	\$0
Total Benefits	\$102,465	\$150,336	\$150,336	\$150,336	\$150,336
Costs					
Utility Project Costs					
Product Delivery	N/A	\$34,212	\$34,212	\$34,212	\$34,212
Project Administration	N/A	\$16,950	\$16,950	\$16,950	\$16,950
Advertising & Promotion	N/A	\$1,372	\$1,372	\$1,372	\$1,372
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$0	\$0	\$0	\$0
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$52,534	\$52,534	\$52,534	\$52,534
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$102,465	N/A	N/A
Subtotal	N/A	N/A	\$102,465	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$0	N/A	N/A	\$0	\$0
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$0	N/A	N/A	\$0	\$0
Total Costs	\$0	\$52,534	\$154,999	\$52,534	\$52,534
Net Benefit (Cost)	\$102,465	\$97,802	(\$4,663)	\$97,802	\$97,802
Benefit/Cost Ratio	INF	2.86	0.97	2.86	2.86

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals		
Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	15.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	17.11%
Gross Load Factor at Customer	E	0.01%
Transmission Loss Factor (Energy)	F	6.740%
Transmission Loss Factor (Demand)	G	7.890%
Societal Net Benefit (Cost)	H	\$159
Program Summary per Participant		
Gross kW Saved at Customer	I	8.43 kW
Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$	1.57 kW
Gross Annual kWh Saved at Customer	$(B \times E \times I)$	11 kWh
Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$	11 kWh
Program Summary All Participants		
Total Participants	J	73
Total Budget	K	\$52,534
Gross kW Saved at Customer	$(J \times I)$	615 kW
Net coincident kW Saved at Generator	$(I \times D) / (1 - G) \times J$	114 kW
Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$	778 kWh
Net Annual kWh Saved at Generator	$((B \times E \times I) / (1 - F)) \times J$	834 kWh
Societal Net Benefits	$(J \times I \times H)$	\$97,802
Utility Program Cost per kWh Lifetime		\$4.1982
Utility Program Cost per kW at Gen		\$460