

Full Executive Summary Table - 2018 Actual Achievements																		
2018	GOAL				ACTUAL										TEST RESULTS			
	Participants	Electric Budget	Generator kW	Generator kWh	Participants	% of Goal	Electric Spend	% of Goal	Generator kW	% of Goal	Generator kWh	Lifetime years	Lifetime kWh	% of Goal	Part Ratio	Utility Ratio	RIM Ratio	TRC Ratio
Business Segment																		
Lighting Efficiency	325	\$ 389,520	509	3,913,384	134	41%	\$394,257	101%	506	99%	3,497,612	16.82	58,841,050	89%	2.56	5.11	0.54	1.27
Business Saver's Switch	12	\$ 37,213	44	108	10	83%	\$44,850	121%	54	123%	129	15.00	1,936	120%	INF	1.30	0.52	1.30
Peak and Energy Control	1	\$ 10,000	102	3,707	3	300%	\$3,876	39%	11	11%	408	5.00	2,041	11%	INF	1.34	0.11	1.34
Business Segment Total	338	\$ 436,733	655	3,917,198	147	43%	\$442,982	101%	571	87%	3,498,149	16.82	58,845,027	89%	2.63	4.69	0.53	1.27
Residential Segment																		
Residential Home Lighting	3,225	\$ 109,598	162	1,480,452	4,601	143%	\$98,643	90%	282	174%	2,558,158	5.27	13,469,186	173%	17.14	5.32	0.37	3.31
Residential Saver's Switch	770	\$ 187,913	565	1,486	637	83%	\$185,091	98%	485	86%	1,391	15.00	20,868	94%	INF	2.86	0.83	2.86
Consumer Education	68,000	\$ 27,165			79,218	116%	\$35,868	132%	0	N/A	0	N/A	N/A	N/A	-	-	-	N/A
Residential Segment Total	71,995	\$ 324,676	727	1,481,938	84,456	117%	\$319,602	98%	767	105%	2,559,550	5.27	13,490,054	173%	22.71	3.30	0.50	2.81
Planning Segment																		
Regulatory Affairs	0	\$ 13,000	0	0	0	N/A	\$14,323	110%	0	N/A	0	N/A	N/A	N/A	-	-	-	N/A
Planning Segment Total	0	\$ 13,000	0	0	0	N/A	\$14,323	110%	0	N/A	0	N/A	N/A	N/A	-	-	-	N/A
PORTFOLIO TOTAL	72,333	\$ 774,408	1,382	5,399,136	84,603	117%	\$776,907	100%	1,338	97%	6,057,698	11.94	72,335,081	112%	3.70	4.03	0.52	1.53

2018 SD DSM Year End Cost-Effectiveness Analysis

LIGHTING EFFICIENCY						2018	ELECTRIC	ACTUAL
2018 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant	Utility	Rate	Total	Societal	Program "Inputs" per Customer kW		
	Test	Test	Impact	Resource	Test	Lifetime (Weighted on Generator kWh)	A	16.8 years
	(\$Total)	(\$Total)	(\$Total)	(\$Total)	(\$Total)	Annual Hours	B	8760
Benefits						Gross Customer kW	C	1 kW
Avoided Revenue Requirements						Generator Peak Coincidence Factor	D	57.52%
Generation	N/A	\$367,883	\$367,883	\$367,883	\$367,883	Gross Load Factor at Customer	E	46.70%
T & D	N/A	\$218,560	\$218,560	\$218,560	\$218,560	Transmission Loss Factor (Energy)	F	4.710%
Marginal Energy	N/A	\$1,429,765	\$1,429,765	\$1,429,765	\$1,429,765	Transmission Loss Factor (Demand)	G	7.380%
Environmental Externality	N/A	N/A	N/A	N/A	\$0	Societal Net Benefit (Cost)	H	\$619
Subtotal	N/A	\$2,016,208	\$2,016,208	\$2,016,208	\$2,016,208	Program Summary per Participant		
Participant Benefits						Gross kW Saved at Customer	I	6.08 kW
Bill Reduction - Electric	\$3,371,866	N/A	N/A	N/A	N/A	Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$	
Rebates from Xcel Energy	\$331,051	N/A	N/A	\$331,051	\$331,051	Gross Annual kWh Saved at Customer	$(B \times E \times I)$	
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$	
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	Program Summary All Participants		
Subtotal	\$3,702,917	N/A	N/A	\$331,051	\$331,051	Total Participants	J	134
Total Benefits						Total Budget	K	\$394,257
Costs						Gross kW Saved at Customer	$(J \times I)$	814.72 kW
Utility Project Costs						Net coincident kW Saved at Generator	$(I \times D) / (1 - G) \times J$	
Customer Services	N/A	\$0	\$0	\$0	\$0	Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$	
Utility Administration	N/A	\$63,205	\$63,205	\$63,205	\$63,205	Net Annual kWh Saved at Generator	$((B \times E \times I) / (1 - F)) \times J$	
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0	Societal Net Benefits	$(J \times I \times H)$	
Measurement & Verification	N/A	\$0	\$0	\$0	\$0	Utility Program Cost per kWh Lifetime		
Rebates	N/A	\$331,051	\$331,051	\$331,051	\$331,051	Utility Program Cost per kW at Gen		
Other	N/A	\$0	\$0	\$0	\$0	\$0.0067		
Subtotal	N/A	\$394,257	\$394,257	\$394,257	\$394,257	\$779		
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$3,371,866	N/A	N/A			
Subtotal	N/A	N/A	\$3,371,866	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$1,334,410	N/A	N/A	\$1,334,410	\$1,334,410			
Incremental O&M Costs	\$114,229	N/A	N/A	\$114,229	\$114,229			
Subtotal	\$1,448,640	N/A	N/A	\$1,448,640	\$1,448,640			
Total Costs								
	\$1,448,640	\$394,257	\$3,766,123	\$1,842,896	\$1,842,896			
Net Benefit (Cost)								
	\$2,254,278	\$1,621,952	(\$1,749,914)	\$504,363	\$504,363			
Benefit/Cost Ratio								
	2.56	5.11	0.54	1.27	1.27			

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

2018 SD DSM Year End Cost-Effectiveness Analysis

BUSINESS SAVER'S SWITCH						2018	ELECTRIC	ACTUAL
2018 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant	Utility	Rate	Total	Societal	Program "Inputs" per Customer kW		
	Test	Test	Impact	Resource	Test	Lifetime (Weighted on Generator kWh)	A	15.0 years
	(\$Total)	(\$Total)	(\$Total)	(\$Total)	(\$Total)	Annual Hours	B	8760
Benefits						Gross Customer kW	C	1 kW
Avoided Revenue Requirements						Generator Peak Coincidence Factor	D	20.23%
Generation	N/A	\$36,237	\$36,237	\$36,237	\$36,237	Gross Load Factor at Customer	E	0.01%
T & D	N/A	\$22,044	\$22,044	\$22,044	\$22,044	Transmission Loss Factor (Energy)	F	4.710%
Marginal Energy	N/A	\$78	\$78	\$78	\$78	Transmission Loss Factor (Demand)	G	7.380%
Environmental Externality	N/A	N/A	N/A	N/A	\$0	Societal Net Benefit (Cost)	H	\$55
Subtotal	N/A	\$58,360	\$58,360	\$58,360	\$58,360	Program Summary per Participant		
Participant Benefits						Gross kW Saved at Customer	I	24.49 kW
Bill Reduction - Electric	\$67,212	N/A	N/A	N/A	N/A	Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$	5.35 kW
Rebates from Xcel Energy	\$0	N/A	N/A	\$0	\$0	Gross Annual kWh Saved at Customer	$(B \times E \times I)$	12 kWh
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$	13 kWh
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	Program Summary All Participants		
Subtotal	\$67,212	N/A	N/A	\$0	\$0	Total Participants	J	10
Total Benefits						Total Budget	K	\$44,850
Costs						Gross kW Saved at Customer	$(J \times I)$	244.93 kW
Utility Project Costs						Net coincident kW Saved at Generator	$(I \times D) / (1 - G) \times J$	53 kW
Customer Services	N/A	\$0	\$0	\$0	\$0	Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$	123 kWh
Utility Administration	N/A	\$44,574	\$44,574	\$44,574	\$44,574	Net Annual kWh Saved at Generator	$((B \times E \times I) / (1 - F)) \times J$	129 kWh
Advertising & Promotion	N/A	\$275	\$275	\$275	\$275	Societal Net Benefits	$(J \times I \times H)$	\$13,510
Measurement & Verification	N/A	\$0	\$0	\$0	\$0	Utility Program Cost per kWh Lifetime		
Rebates	N/A	\$0	\$0	\$0	\$0	Utility Program Cost per kW at Gen		
Other	N/A	\$0	\$0	\$0	\$0			\$23.1639
Subtotal	N/A	\$44,850	\$44,850	\$44,850	\$44,850			\$838
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$67,212	N/A	N/A			
Subtotal	N/A	N/A	\$67,212	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	\$44,850	\$112,062	\$44,850	\$44,850			
Net Benefit (Cost)								
	\$67,212	\$13,510	(\$53,703)	\$13,510	\$13,510			
Benefit/Cost Ratio								
	INF	1.30	0.52	1.30	1.30			

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

2018 SD DSM Year End Cost-Effectiveness Analysis

PEAK AND ENERGY CONTROL						2018	ELECTRIC	ACTUAL	
2018 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals			
	Participant	Utility	Rate	Total	Societal	Program "Inputs" per Customer kW			
	Test	Test	Impact	Resource	Test	Lifetime (Weighted on Generator kWh)	A	5.0 years	
	(\$Total)	(\$Total)	(\$Total)	(\$Total)	(\$Total)	Annual Hours	B	8760	
Benefits						Gross Customer kW	C	1 kW	
Avoided Revenue Requirements						Generator Peak Coincidence Factor	D	47.46%	
Generation	N/A	\$3,159	\$3,159	\$3,159	\$3,159	Gross Load Factor at Customer	E	0.20%	
T & D	N/A	\$1,912	\$1,912	\$1,912	\$1,912	Transmission Loss Factor (Energy)	F	4.710%	
Marginal Energy	N/A	\$113	\$113	\$113	\$113	Transmission Loss Factor (Demand)	G	7.380%	
Environmental Externality	N/A	N/A	N/A	N/A	\$0	Societal Net Benefit (Cost)	H	\$59	
Subtotal	N/A	\$5,184	\$5,184	\$5,184	\$5,184	Program Summary per Participant			
Participant Benefits						Gross kW Saved at Customer	I	7.33 kW	
Bill Reduction - Electric	\$43,714	N/A	N/A	N/A	N/A	Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$		3.76 kW
Rebates from Xcel Energy	\$0	N/A	N/A	\$0	\$0	Gross Annual kWh Saved at Customer	$(B \times E \times I)$		130 kWh
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$		136 kWh
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	Program Summary All Participants			
Subtotal	\$43,714	N/A	N/A	\$0	\$0	Total Participants	J	3	
Total Benefits						Total Budget	K	\$3,876	
Costs						Gross kW Saved at Customer	$(J \times I)$	22.00 kW	
Utility Project Costs						Net coincident kW Saved at Generator	$(I \times D) / (1 - G) \times J$		11 kW
Customer Services	N/A	\$0	\$0	\$0	\$0	Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$		389 kWh
Utility Administration	N/A	\$3,876	\$3,876	\$3,876	\$3,876	Net Annual kWh Saved at Generator	$((B \times E \times I) / (1 - F)) \times J$		408 kWh
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0	Societal Net Benefits	$(J \times I \times H)$		\$1,308
Measurement & Verification	N/A	\$0	\$0	\$0	\$0	Utility Program Cost per kWh Lifetime			\$1,8989
Rebates	N/A	\$0	\$0	\$0	\$0	Utility Program Cost per kW at Gen			\$344
Other	N/A	\$0	\$0	\$0	\$0				
Subtotal	N/A	\$3,876	\$3,876	\$3,876	\$3,876				
Utility Revenue Reduction									
Revenue Reduction - Electric	N/A	N/A	\$43,714	N/A	N/A				
Subtotal	N/A	N/A	\$43,714	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	\$3,876	\$47,590	\$3,876	\$3,876				
Net Benefit (Cost)									
	\$43,714	\$1,308	(\$42,406)	\$1,308	\$1,308				
Benefit/Cost Ratio									
	INF	1.34	0.11	1.34	1.34				

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

2018 SD DSM Year End Cost-Effectiveness Analysis

BUSINESS SEGMENT TOTAL						2018	ELECTRIC	ACTUAL
2018 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant	Utility	Rate	Total	Societal	Program "Inputs" per Customer kW		
	Test	Test	Impact	Resource	Test	Lifetime (Weighted on Generator kWh)	A	16.8 years
	(\$Total)	(\$Total)	(\$Total)	(\$Total)	(\$Total)	Annual Hours	B	8760
Benefits						Gross Customer kW	C	1 kW
Avoided Revenue Requirements						Generator Peak Coincidence Factor	D	48.87%
Generation	N/A	\$407,279	\$407,279	\$407,279	\$407,279	Gross Load Factor at Customer	E	35.18%
T & D	N/A	\$242,516	\$242,516	\$242,516	\$242,516	Transmission Loss Factor (Energy)	F	4.710%
Marginal Energy	N/A	\$1,429,957	\$1,429,957	\$1,429,957	\$1,429,957	Transmission Loss Factor (Demand)	G	7.380%
Environmental Externality	N/A	N/A	N/A	N/A	\$0	Societal Net Benefit (Cost)	H	\$480
Subtotal	N/A	\$2,079,752	\$2,079,752	\$2,079,752	\$2,079,752	Program Summary per Participant		
Participant Benefits						Gross kW Saved at Customer	I	7.36 kW
Bill Reduction - Electric	\$3,482,792	N/A	N/A	N/A	N/A	Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$	
Rebates from Xcel Energy	\$331,051	N/A	N/A	\$331,051	\$331,051	Gross Annual kWh Saved at Customer	$(B \times E \times I)$	
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$	
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	Program Summary All Participants		
Subtotal	\$3,813,843	N/A	N/A	\$331,051	\$331,051	Total Participants	J	147
Total Benefits						Total Budget	K	\$442,982
Costs						Gross kW Saved at Customer	$(J \times I)$	1,081.65 kW
Utility Project Costs						Net coincident kW Saved at Generator	$(I \times D) / (1 - G) \times J$	
Customer Services	N/A	\$0	\$0	\$0	\$0	Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$	
Utility Administration	N/A	\$111,656	\$111,656	\$111,656	\$111,656	Net Annual kWh Saved at Generator	$((B \times E \times I) / (1 - F)) \times J$	
Advertising & Promotion	N/A	\$275	\$275	\$275	\$275	Societal Net Benefits	$(J \times I \times H)$	
Measurement & Verification	N/A	\$0	\$0	\$0	\$0	Utility Program Cost per kWh Lifetime		
Rebates	N/A	\$331,051	\$331,051	\$331,051	\$331,051	Utility Program Cost per kW at Gen		
Other	N/A	\$0	\$0	\$0	\$0	\$0.0075		
Subtotal	N/A	\$442,982	\$442,982	\$442,982	\$442,982	\$776		
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$3,482,792	N/A	N/A			
Subtotal	N/A	N/A	\$3,482,792	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$1,334,410	N/A	N/A	\$1,334,410	\$1,334,410			
Incremental O&M Costs	\$114,229	N/A	N/A	\$114,229	\$114,229			
Subtotal	\$1,448,640	N/A	N/A	\$1,448,640	\$1,448,640			
Total Costs								
	\$1,448,640	\$442,982	\$3,925,774	\$1,891,622	\$1,891,622			
Net Benefit (Cost)								
	\$2,365,204	\$1,636,769	(\$1,846,023)	\$519,181	\$519,181			
Benefit/Cost Ratio								
	2.63	4.69	0.53	1.27	1.27			

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

RESIDENTIAL HOME LIGHTING						2018	ELECTRIC	ACTUAL
2018 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant	Utility	Rate	Total	Societal	Program "Inputs" per Customer kW		
	Test	Test	Impact	Resource	Test	Lifetime (Weighted on Generator kWh)	A	5.3 years
	(\$Total)	(\$Total)	(\$Total)	(\$Total)	(\$Total)	Annual Hours	B	8760
Benefits						Gross Customer kW	C	1 kW
Avoided Revenue Requirements						Generator Peak Coincidence Factor	D	11.85%
Generation	N/A	\$71,414	\$71,414	\$71,414	\$71,414	Gross Load Factor at Customer	E	12.74%
T & D	N/A	\$43,229	\$43,229	\$43,229	\$43,229	Transmission Loss Factor (Energy)	F	5.132%
Marginal Energy	N/A	\$409,767	\$409,767	\$409,767	\$409,767	Transmission Loss Factor (Demand)	G	8.509%
Environmental Externality	N/A	N/A	N/A	N/A	\$0	Societal Net Benefit (Cost)	H	\$191
Subtotal	N/A	\$524,410	\$524,410	\$524,410	\$524,410	Program Summary per Participant		
Participant Benefits						Gross kW Saved at Customer	I	0.47 kW
Bill Reduction - Electric	\$1,323,601	N/A	N/A	N/A	N/A	Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$	
Rebates from Xcel Energy	\$71,587	N/A	N/A	\$71,587	\$71,587	Gross Annual kWh Saved at Customer	$(B \times E \times I)$	
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$	
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	Program Summary All Participants		
Subtotal	\$1,395,188	N/A	N/A	\$71,587	\$71,587	Total Participants	J	4,601
Total Benefits						Total Budget	K	\$98,643
Costs						Gross kW Saved at Customer	$(J \times I)$	2,174.16 kW
Utility Project Costs						Net coincident kW Saved at Generator	$(I \times D) / (1 - G) \times J$	
Customer Services	N/A	\$0	\$0	\$0	\$0	Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$	
Utility Administration	N/A	\$21,813	\$21,813	\$21,813	\$21,813	Net Annual kWh Saved at Generator	$((B \times E \times I) / (1 - F)) \times J$	
Advertising & Promotion	N/A	\$5,244	\$5,244	\$5,244	\$5,244	Societal Net Benefits	$(J \times I \times H)$	
Measurement & Verification	N/A	\$0	\$0	\$0	\$0	Utility Program Cost per kWh Lifetime		
Rebates	N/A	\$71,587	\$71,587	\$71,587	\$71,587	Utility Program Cost per kW at Gen		
Other	N/A	\$0	\$0	\$0	\$0	\$0.0073		
Subtotal	N/A	\$98,643	\$98,643	\$98,643	\$98,643	\$350		
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$1,323,601	N/A	N/A			
Subtotal	N/A	N/A	\$1,323,601	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$81,380	N/A	N/A	\$81,380	\$81,380			
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0			
Subtotal	\$81,380	N/A	N/A	\$81,380	\$81,380			
Total Costs								
	\$81,380	\$98,643	\$1,422,244	\$180,023	\$180,023			
Net Benefit (Cost)								
	\$1,313,808	\$425,766	(\$897,835)	\$415,973	\$415,973			
Benefit/Cost Ratio								
	17.14	5.32	0.37	3.31	3.31			

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

2018 SD DSM Year End Cost-Effectiveness Analysis

RESIDENTIAL SAVER'S SWITCH						2018	ELECTRIC	ACTUAL	
2018 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals			
	Participant	Utility	Rate	Total	Societal	Program "Inputs" per Customer kW			
	Test	Test	Impact	Resource	Test	Lifetime (Weighted on Generator kWh)	A	15.0 years	
	(\$Total)	(\$Total)	(\$Total)	(\$Total)	(\$Total)	Annual Hours	B	8760	
Benefits						Gross Customer kW	C	1 kW	
Avoided Revenue Requirements						Generator Peak Coincidence Factor	D	27.89%	
Generation	N/A	\$328,601	\$328,601	\$328,601	\$328,601	Gross Load Factor at Customer	E	0.01%	
T & D	N/A	\$199,896	\$199,896	\$199,896	\$199,896	Transmission Loss Factor (Energy)	F	5.260%	
Marginal Energy	N/A	\$654	\$654	\$654	\$654	Transmission Loss Factor (Demand)	G	8.580%	
Environmental Externality	N/A	N/A	N/A	N/A	\$0	Societal Net Benefit (Cost)	H	\$216	
Subtotal	N/A	\$529,150	\$529,150	\$529,150	\$529,150	Program Summary per Participant			
Participant Benefits						Gross kW Saved at Customer	I	2.50 kW	
Bill Reduction - Electric	\$452,600	N/A	N/A	N/A	N/A	Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$		0.76 kW
Rebates from Xcel Energy	\$0	N/A	N/A	\$0	\$0	Gross Annual kWh Saved at Customer	$(B \times E \times I)$		2 kWh
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$		2 kWh
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	Program Summary All Participants			
Subtotal	\$452,600	N/A	N/A	\$0	\$0	Total Participants	J	637	
Total Benefits						Total Budget	K	\$185,091	
Costs						Gross kW Saved at Customer	$(J \times I)$	1,590.10 kW	
Utility Project Costs						Net coincident kW Saved at Generator	$(I \times D) / (1 - G) \times J$		485 kW
Customer Services	N/A	\$0	\$0	\$0	\$0	Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$		1,318 kWh
Utility Administration	N/A	\$183,696	\$183,696	\$183,696	\$183,696	Net Annual kWh Saved at Generator	$((B \times E \times I) / (1 - F)) \times J$		1,391 kWh
Advertising & Promotion	N/A	\$1,395	\$1,395	\$1,395	\$1,395	Societal Net Benefits	$(J \times I \times H)$		\$344,059
Measurement & Verification	N/A	\$0	\$0	\$0	\$0	Utility Program Cost per kWh Lifetime			\$8.8698
Rebates	N/A	\$0	\$0	\$0	\$0	Utility Program Cost per kW at Gen			\$382
Other	N/A	\$0	\$0	\$0	\$0				
Subtotal	N/A	\$185,091	\$185,091	\$185,091	\$185,091				
Utility Revenue Reduction									
Revenue Reduction - Electric	N/A	N/A	\$452,600	N/A	N/A				
Subtotal	N/A	N/A	\$452,600	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	\$185,091	\$637,690	\$185,091	\$185,091				
Net Benefit (Cost)									
	\$452,600	\$344,059	(\$108,541)	\$344,059	\$344,059				
Benefit/Cost Ratio									
	INF	2.86	0.83	2.86	2.86				

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

2018 SD DSM Year End Cost-Effectiveness Analysis

RESIDENTIAL SEGMENT TOTAL						2018	ELECTRIC	ACTUAL
2018 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant	Utility	Rate	Total	Societal	Program "Inputs" per Customer kW		
	Test	Test	Impact	Resource	Test	Lifetime (Weighted on Generator kWh)	A	5.3 years
	(\$Total)	(\$Total)	(\$Total)	(\$Total)	(\$Total)	Annual Hours	B	8760
Benefits						Gross Customer kW	C	1 kW
Avoided Revenue Requirements						Generator Peak Coincidence Factor	D	18.63%
Generation	N/A	\$400,015	\$400,015	\$400,015	\$400,015	Gross Load Factor at Customer	E	7.36%
T & D	N/A	\$243,124	\$243,124	\$243,124	\$243,124	Transmission Loss Factor (Energy)	F	5.132%
Marginal Energy	N/A	\$410,421	\$410,421	\$410,421	\$410,421	Transmission Loss Factor (Demand)	G	8.539%
Environmental Externality	N/A	N/A	N/A	N/A	\$0	Societal Net Benefit (Cost)	H	\$192
Subtotal	N/A	\$1,053,560	\$1,053,560	\$1,053,560	\$1,053,560	Program Summary per Participant		
Participant Benefits						Gross kW Saved at Customer	I	0.04 kW
Bill Reduction - Electric	\$1,776,201	N/A	N/A	N/A	N/A	Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$	0.01 kW
Rebates from Xcel Energy	\$71,587	N/A	N/A	\$71,587	\$71,587	Gross Annual kWh Saved at Customer	$(B \times E \times I)$	29 kWh
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$	30 kWh
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	Program Summary All Participants		
Subtotal	\$1,847,787	N/A	N/A	\$71,587	\$71,587	Total Participants	J	84,456
Total Benefits						Total Budget	K	\$319,602
Costs						Gross kW Saved at Customer	$(J \times I)$	3,764.26 kW
Utility Project Costs						Net coincident kW Saved at Generator	$(I \times D) / (1 - G) \times J$	767 kW
Customer Services	N/A	\$0	\$0	\$0	\$0	Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$	2,428,202 kWh
Utility Administration	N/A	\$212,498	\$212,498	\$212,498	\$212,498	Net Annual kWh Saved at Generator	$((B \times E \times I) / (1 - F)) \times J$	2,559,550 kWh
Advertising & Promotion	N/A	\$35,518	\$35,518	\$35,518	\$35,518	Societal Net Benefits	$(J \times I \times H)$	\$724,164
Measurement & Verification	N/A	\$0	\$0	\$0	\$0	Utility Program Cost per kWh Lifetime		
Rebates	N/A	\$71,587	\$71,587	\$71,587	\$71,587	Utility Program Cost per kW at Gen		
Other	N/A	\$0	\$0	\$0	\$0			\$0.0237
Subtotal	N/A	\$319,602	\$319,602	\$319,602	\$319,602			\$417
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$1,776,201	N/A	N/A			
Subtotal	N/A	N/A	\$1,776,201	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$81,380	N/A	N/A	\$81,380	\$81,380			
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0			
Subtotal	\$81,380	N/A	N/A	\$81,380	\$81,380			
Total Costs								
	\$81,380	\$319,602	\$2,095,803	\$400,982	\$400,982			
Net Benefit (Cost)								
	\$1,766,408	\$733,958	(\$1,042,243)	\$724,164	\$724,164			
Benefit/Cost Ratio								
	22.71	3.30	0.50	2.81	2.81			

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

2018 SD DSM Year End Cost-Effectiveness Analysis

PORTFOLIO TOTAL						2018	ELECTRIC	ACTUAL
2018 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant	Utility	Rate	Total	Societal	Program "Inputs" per Customer kW		
	Test	Test	Impact	Resource	Test	Lifetime (Weighted on Generator kWh)	A	11.9 years
	(\$Total)	(\$Total)	(\$Total)	(\$Total)	(\$Total)	Annual Hours	B	8760
Benefits						Gross Customer kW	C	1 kW
Avoided Revenue Requirements						Generator Peak Coincidence Factor	D	25.32%
Generation	N/A	\$807,294	\$807,294	\$807,294	\$807,294	Gross Load Factor at Customer	E	13.57%
T & D	N/A	\$485,640	\$485,640	\$485,640	\$485,640	Transmission Loss Factor (Energy)	F	4.888%
Marginal Energy	N/A	\$1,840,377	\$1,840,377	\$1,840,377	\$1,840,377	Transmission Loss Factor (Demand)	G	8.283%
Environmental Externality	N/A	N/A	N/A	N/A	\$0	Societal Net Benefit (Cost)	H	\$254
Subtotal	N/A	\$3,133,311	\$3,133,311	\$3,133,311	\$3,133,311	Program Summary per Participant		
Participant Benefits						Gross kW Saved at Customer	I	0.06 kW
Bill Reduction - Electric	\$5,258,993	N/A	N/A	N/A	N/A	Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$	0.02 kW
Rebates from Xcel Energy	\$402,638	N/A	N/A	\$402,638	\$402,638	Gross Annual kWh Saved at Customer	$(B \times E \times I)$	68 kWh
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$	72 kWh
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	Program Summary All Participants		
Subtotal	\$5,661,631	N/A	N/A	\$402,638	\$402,638	Total Participants	J	84,603
Total Benefits						Total Budget	K	\$776,907
Total Benefits	\$5,661,631	\$3,133,311	\$3,133,311	\$3,535,949	\$3,535,949	Gross kW Saved at Customer	$(J \times I)$	4,845.91 kW
Costs						Net coincident kW Saved at Generator	$(I \times D) / (1 - G) \times J$	1,338 kW
Utility Project Costs						Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$	5,761,588 kWh
Customer Services	N/A	\$0	\$0	\$0	\$0	Net Annual kWh Saved at Generator	$((B \times E \times I) / (1 - F)) \times J$	6,057,698 kWh
Utility Administration	N/A	\$338,492	\$338,492	\$338,492	\$338,492	Societal Net Benefits	$(J \times I \times H)$	\$1,229,022
Advertising & Promotion	N/A	\$35,778	\$35,778	\$35,778	\$35,778	Utility Program Cost per kWh Lifetime		
Measurement & Verification	N/A	\$0	\$0	\$0	\$0	Utility Program Cost per kWh at Gen		\$0.0107
Rebates	N/A	\$402,638	\$402,638	\$402,638	\$402,638			\$581
Other	N/A	\$0	\$0	\$0	\$0			
Subtotal	N/A	\$776,907	\$776,907	\$776,907	\$776,907			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$5,258,993	N/A	N/A			
Subtotal	N/A	N/A	\$5,258,993	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$1,415,790	N/A	N/A	\$1,415,790	\$1,415,790			
Incremental O&M Costs	\$114,229	N/A	N/A	\$114,229	\$114,229			
Subtotal	\$1,530,019	N/A	N/A	\$1,530,019	\$1,530,019			
Total Costs								
Total Costs	\$1,530,019	\$776,907	\$6,035,900	\$2,306,927	\$2,306,927			
Net Benefit (Cost)								
Net Benefit (Cost)	\$4,131,611	\$2,356,404	(\$2,902,589)	\$1,229,022	\$1,229,022			
Benefit/Cost Ratio								
Benefit/Cost Ratio	3.70	4.03	0.52	1.53	1.53			

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