

Executive Summary Table - 2027

2027	Electric Participants	Electric Budget	Generator kW	Generator kWh	Participant Test Ratio	Utility Test Ratio	Ratepayer Impact Measure Test Ratio	TRC Ratio
Business Segment								
Lighting Efficiency	137	\$227,803	430	2,894,314	5.71	6.28	0.41	2.03
Business Saver's Switch	18	\$25,240	38	219	INF	2.56	2.52	2.56
Peak and Energy Control	3	\$12,200	929	53,161	INF	53.64	12.18	53.64
HVAC+R	170	\$176,184	263	1,360,755	3.21	4.63	0.46	1.33
Business Segment Total	328	\$441,427	1,659	4,308,448	4.60	6.72	0.55	2.12
Residential Segment								
Residential HVAC	253	\$106,250	72	152,019	2.94	1.68	0.42	1.05
Residential Demand Response	425	\$228,775	416	562	INF	2.46	2.45	2.50
Consumer Education	30,000	\$25,000	N/A	N/A				
Residential Segment Total	30,678	\$360,025	488	152,581	3.01	2.06	1.09	1.67
Planning Segment								
Regulatory Affairs	0	\$11,000	0	0				
Planning Segment Total	0	\$11,000	0	0				
PORTFOLIO TOTAL	31,006	\$812,452	2,148	4,461,030	4.44	4.56	0.61	2.01

2027 SD DSM Plan Cost-Effectiveness Analysis

LIGHTING EFFICIENCY						2027 ELECTRIC			GOAL
2027 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals			
						Program "Inputs" per Customer kW			
	Participant	Utility	Rate	Total		Lifetime (Weighted on Generator kWh)	A	14.7	years
	Test	Test	Impact	Resource	Societal	Annual Hours	B	8760	
	(\$Total)	(\$Total)	Test	Test	Test	Gross Customer kW	C	1	kW
			(\$Total)	(\$Total)	(\$Total)	Generator Peak Coincidence Factor	D	65.10%	
Benefits						Gross Load Factor at Customer	E	50.72%	
Avoided Revenue Requirements						Transmission Loss Factor (Energy)	F	4.520%	
Generation	N/A	\$604,134	\$604,134	\$604,134	\$604,134	Transmission Loss Factor (Demand)	G	5.750%	
T & D	N/A	\$74,483	\$74,483	\$74,483	\$74,483	Societal Net Benefit (Cost)	H	\$2,070	
Marginal Energy	N/A	\$752,188	\$752,188	\$752,188	\$752,188	Program Summary per Participant			
Environmental Externality	N/A	N/A	N/A	N/A	\$401,555	Gross kW Saved at Customer	I	4.54	kW
Subtotal	N/A	\$1,430,805	\$1,430,805	\$1,430,805	\$1,832,360	Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$ 3.14 kW		
Participant Benefits						Gross Annual kWh Saved at Customer	$(B \times E \times I)$ 20,171 kWh		
Bill Reduction - Electric	\$3,290,668	N/A	N/A	N/A	N/A	Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$ 21,126 kWh		
Rebates from Xcel Energy	\$177,803	N/A	N/A	\$177,803	\$177,803	Program Summary All Participants			
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Total Participants	J	137	
Incremental O&M Savings	\$137,142	N/A	N/A	\$137,142	\$137,142	Total Budget	K	\$227,803	
Subtotal	\$3,605,613	N/A	N/A	\$314,945	\$314,945	Gross kW Saved at Customer	$(J \times I)$ 621.97 kW		
Total Benefits						Net coincident kW Saved at Generator	$(I \times D) / (1 - G) \times J$ 430 kW		
	\$3,605,613	\$1,430,805	\$1,430,805	\$1,745,750	\$2,147,305	Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$ 2,763,491 kWh		
Costs						Net Annual kWh Saved at Generator	$((B \times E \times I) / (1 - F)) \times J$ 2,894,314 kWh		
Utility Project Costs						Societal Net Benefits	$(J \times I \times H)$ \$1,287,702		
Customer Services	N/A	\$0	\$0	\$0	\$0	Utility Program Cost per kWh Lifetime \$0.0054			
Utility Administration	N/A	\$24,000	\$24,000	\$24,000	\$24,000	Utility Program Cost per kW at Gen \$530			
Advertising & Promotion	N/A	\$26,000	\$26,000	\$26,000	\$26,000				
Measurement & Verification	N/A	\$0	\$0	\$0	\$0				
Rebates	N/A	\$177,803	\$177,803	\$177,803	\$177,803				
Other	N/A	\$0	\$0	\$0	\$0				
Subtotal	N/A	\$227,803	\$227,803	\$227,803	\$227,803				
Utility Revenue Reduction									
Revenue Reduction - Electric	N/A	N/A	\$3,290,668	N/A	N/A				
Subtotal	N/A	N/A	\$3,290,668	N/A	N/A				
Participant Costs									
Incremental Capital Costs	\$631,800	N/A	N/A	\$631,800	\$631,800				
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0				
Subtotal	\$631,800	N/A	N/A	\$631,800	\$631,800				
Total Costs									
	\$631,800	\$227,803	\$3,518,472	\$859,604	\$859,604				
Net Benefit (Cost)									
	\$2,973,813	\$1,203,002	(\$2,087,666)	\$886,147	\$1,287,702				
Benefit/Cost Ratio									
	5.71	6.28	0.41	2.03	2.50				

2027 SD DSM Plan Cost-Effectiveness Analysis

BUSINESS SAVER'S SWITCH						2027 ELECTRIC	GOAL
2027 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals	
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW	
Benefits						Lifetime (Weighted on Generator kWh)	15.0 years
						Annual Hours	8760
						Gross Customer kW	1 kW
						Generator Peak Coincidence Factor	23.34%
						Gross Load Factor at Customer	0.02%
						Transmission Loss Factor (Energy)	4.520%
						Transmission Loss Factor (Demand)	5.750%
						Societal Net Benefit (Cost)	\$260
Avoided Revenue Requirements						Program Summary per Participant	
Generation	N/A	\$57,459	\$57,459	\$57,459	\$57,459	Gross kW Saved at Customer	8.42 kW
T & D	N/A	\$7,080	\$7,080	\$7,080	\$7,080	Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$
Marginal Energy	N/A	\$75	\$75	\$75	\$75	Gross Annual kWh Saved at Customer	$(B \times E \times I)$
Environmental Externality	N/A	N/A	N/A	N/A	\$34	Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$
Subtotal	N/A	\$64,614	\$64,614	\$64,614	\$64,648	Program Summary All Participants	
Participant Benefits						Total Participants	18
Bill Reduction - Electric	\$408	N/A	N/A	N/A	N/A	Total Budget	\$25,240
Rebates from Xcel Energy	\$0	N/A	N/A	\$0	\$0	Gross kW Saved at Customer	$(J \times I)$
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator	$(I \times D) / (1 - G) \times J$
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$
Subtotal	\$408	N/A	N/A	\$0	\$0	Net Annual kWh Saved at Generator	$((B \times E \times I) / (1 - F)) \times J$
Total Benefits						Societal Net Benefits	\$39,408
	\$408	\$64,614	\$64,614	\$64,614	\$64,648	Utility Program Cost per kWh Lifetime	\$7.6925
Costs						Utility Program Cost per kW at Gen	\$672
Utility Project Costs							
Customer Services	N/A	\$18,240	\$18,240	\$18,240	\$18,240		
Utility Administration	N/A	\$3,000	\$3,000	\$3,000	\$3,000		
Advertising & Promotion	N/A	\$4,000	\$4,000	\$4,000	\$4,000		
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	\$25,240	\$25,240	\$25,240	\$25,240		
Utility Revenue Reduction							
Revenue Reduction - Electric	N/A	N/A	\$408	N/A	N/A		
Subtotal	N/A	N/A	\$408	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	\$25,240	\$25,648	\$25,240	\$25,240		
Net Benefit (Cost)							
	\$408	\$39,374	\$38,966	\$39,374	\$39,408		
Benefit/Cost Ratio							
	INF	2.56	2.52	2.56	2.56		

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

2027 SD DSM Plan Cost-Effectiveness Analysis

PEAK AND ENERGY CONTROL						2027 ELECTRIC	GOAL
2027 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals	
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW	
Benefits						Lifetime (Weighted on Generator kWh)	5.0 years
						Annual Hours	8760
						Gross Customer kW	1 kW
						Generator Peak Coincidence Factor	100.00%
						Gross Load Factor at Customer	0.66%
						Transmission Loss Factor (Energy)	4.520%
						Transmission Loss Factor (Demand)	5.750%
						Societal Net Benefit (Cost)	\$739
Subtotal						Program Summary per Participant	
Participant Benefits						Gross kW Saved at Customer	291.71 kW
Generation	N/A	\$574,345	\$574,345	\$574,345	\$574,345	Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$
T & D	N/A	\$71,693	\$71,693	\$71,693	\$71,693	Gross Annual kWh Saved at Customer	$(B \times E \times I)$
Marginal Energy	N/A	\$8,382	\$8,382	\$8,382	\$8,382	Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$
Environmental Externality	N/A	N/A	N/A	N/A	\$4,332	Program Summary All Participants	
Subtotal						Total Participants	3
Participant Benefits						Total Budget	\$12,200
Bill Reduction - Electric	\$41,529	N/A	N/A	N/A	N/A	Gross kW Saved at Customer	$(J \times I)$
Rebates from Xcel Energy	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator	$(I \times D) / (1 - G) \times J$
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	Net Annual kWh Saved at Generator	$((B \times E \times I) / (1 - F)) \times J$
Subtotal						Societal Net Benefits	$(J \times I \times H)$
Subtotal						Utility Program Cost per kWh Lifetime	\$0.0459
Subtotal						Utility Program Cost per kW at Gen	\$13
Subtotal							
Total Benefits	\$41,529	\$654,421	\$654,421	\$654,421	\$658,752		
Costs							
Utility Project Costs							
Customer Services	N/A	\$400	\$400	\$400	\$400		
Utility Administration	N/A	\$10,400	\$10,400	\$10,400	\$10,400		
Advertising & Promotion	N/A	\$1,400	\$1,400	\$1,400	\$1,400		
Measurement & Verification	N/A	\$0	\$0	\$0	\$0		
Rebates	N/A	\$0	\$0	\$0	\$0		
Other	N/A	\$0	\$0	\$0	\$0		
Subtotal							
Subtotal							
Utility Revenue Reduction							
Revenue Reduction - Electric	N/A	N/A	\$41,529	N/A	N/A		
Subtotal							
Subtotal							
Participant Costs							
Incremental Capital Costs	\$0	N/A	N/A	\$0	\$0		
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0		
Subtotal							
Subtotal							
Total Costs	\$0	\$12,200	\$53,729	\$12,200	\$12,200		
Subtotal							
Subtotal							
Net Benefit (Cost)	\$41,529	\$642,221	\$600,691	\$642,221	\$646,552		
Benefit/Cost Ratio	INF	53.64	12.18	53.64	54.00		

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

2027 SD DSM Plan Cost-Effectiveness Analysis

HVAC+R						2027 ELECTRIC			GOAL
2027 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals			
						Program "Inputs" per Customer kW			
	Participant	Utility	Rate	Total		Lifetime (Weighted on Generator kWh)	A	15.0	years
	Test	Test	Impact	Resource	Societal	Annual Hours	B	8760	
	(\$Total)	(\$Total)	Test	Test	Test	Gross Customer kW	C	1	kW
			(\$Total)	(\$Total)	(\$Total)	Generator Peak Coincidence Factor	D	100.00%	
Benefits						Gross Load Factor at Customer	E	59.72%	
Avoided Revenue Requirements						Transmission Loss Factor (Energy)	F	4.520%	
Generation	N/A	\$403,211	\$403,211	\$403,211	\$403,211	Transmission Loss Factor (Demand)	G	5.750%	
T & D	N/A	\$49,684	\$49,684	\$49,684	\$49,684	Societal Net Benefit (Cost)	H	\$1,730	
Marginal Energy	N/A	\$362,828	\$362,828	\$362,828	\$362,828				
Environmental Externality	N/A	N/A	N/A	N/A	\$191,757				
Subtotal	N/A	\$815,724	\$815,724	\$815,724	\$1,007,481				
Participant Benefits						Program Summary per Participant			
Bill Reduction - Electric	\$1,581,626	N/A	N/A	N/A	N/A	Gross kW Saved at Customer	I	1.46	kW
Rebates from Xcel Energy	\$133,184	N/A	N/A	\$133,184	\$133,184	Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$ 1.55 kW		
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Gross Annual kWh Saved at Customer	$(B \times E \times I)$ 7,643 kWh		
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$ 8,004 kWh		
Subtotal	\$1,714,809	N/A	N/A	\$133,184	\$133,184				
Total Benefits	\$1,714,809	\$815,724	\$815,724	\$948,908	\$1,140,665	Program Summary All Participants			
Costs						Total Participants	J	170	
Utility Project Costs						Total Budget	K	\$176,184	
Customer Services	N/A	\$0	\$0	\$0	\$0	Gross kW Saved at Customer	$(J \times I)$ 248.34 kW		
Utility Administration	N/A	\$30,000	\$30,000	\$30,000	\$30,000	Net coincident kW Saved at Generator	$(I \times D) / (1 - G) \times J$ 263 kW		
Advertising & Promotion	N/A	\$13,000	\$13,000	\$13,000	\$13,000	Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$ 1,299,249 kWh		
Measurement & Verification	N/A	\$0	\$0	\$0	\$0	Net Annual kWh Saved at Generator	$((B \times E \times I) / (1 - F)) \times J$ 1,360,755 kWh		
Rebates	N/A	\$133,184	\$133,184	\$133,184	\$133,184	Societal Net Benefits	$(J \times I \times H)$ \$429,734		
Other	N/A	\$0	\$0	\$0	\$0				
Subtotal	N/A	\$176,184	\$176,184	\$176,184	\$176,184	Utility Program Cost per kWh Lifetime\$0.0086			
Utility Revenue Reduction						Utility Program Cost per kW at Gen\$669			
Revenue Reduction - Electric	N/A	N/A	\$1,581,626	N/A	N/A				
Subtotal	N/A	N/A	\$1,581,626	N/A	N/A				
Participant Costs									
Incremental Capital Costs	\$534,747	N/A	N/A	\$534,747	\$534,747				
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0				
Subtotal	\$534,747	N/A	N/A	\$534,747	\$534,747				
Total Costs	\$534,747	\$176,184	\$1,757,809	\$710,931	\$710,931				
Net Benefit (Cost)	\$1,180,062	\$639,541	(\$942,085)	\$237,977	\$429,734				
Benefit/Cost Ratio	3.21	4.63	0.46	1.33	1.60				

2027 SD DSM Plan Cost-Effectiveness Analysis

BUSINESS SEGMENT TOTAL						2027 ELECTRIC	GOAL
2027 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals	
						Program "Inputs" per Customer kW	
	Participant	Utility	Rate	Total		Lifetime (Weighted on Generator kWh)	14.7 years
	Test	Test	Impact	Resource	Societal	Annual Hours	8760
	(\$Total)	(\$Total)	Test	Test	Test	Gross Customer kW	1 kW
			(\$Total)	(\$Total)	(\$Total)	Generator Peak Coincidence Factor	82.43%
Benefits						Gross Load Factor at Customer	24.75%
Avoided Revenue Requirements						Transmission Loss Factor (Energy)	4.520%
Generation	N/A	\$1,639,150	\$1,639,150	\$1,639,150	\$1,639,150	Transmission Loss Factor (Demand)	5.750%
T & D	N/A	\$202,941	\$202,941	\$202,941	\$202,941	Societal Net Benefit (Cost)	\$1,267
Marginal Energy	N/A	\$1,123,473	\$1,123,473	\$1,123,473	\$1,123,473		
Environmental Externality	N/A	N/A	N/A	N/A	\$597,678		
Subtotal	N/A	\$2,965,564	\$2,965,564	\$2,965,564	\$3,563,242		
Participant Benefits						Program Summary per Participant	
Bill Reduction - Electric	\$4,914,231	N/A	N/A	N/A	N/A	Gross kW Saved at Customer	5.78 kW
Rebates from Xcel Energy	\$310,987	N/A	N/A	\$310,987	\$310,987	Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$ 5.06 kW
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Gross Annual kWh Saved at Customer	$(B \times E \times I)$ 12,542 kWh
Incremental O&M Savings	\$137,142	N/A	N/A	\$137,142	\$137,142	Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$ 13,136 kWh
Subtotal	\$5,362,360	N/A	N/A	\$448,129	\$448,129	Program Summary All Participants	
Total Benefits	\$5,362,360	\$2,965,564	\$2,965,564	\$3,413,693	\$4,011,371	Total Participants	328
Costs						Total Budget	\$441,427
Utility Project Costs						Gross kW Saved at Customer	$(J \times I)$ 1,897.04 kW
Customer Services	N/A	\$18,640	\$18,640	\$18,640	\$18,640	Net coincident kW Saved at Generator	$(I \times D) / (1 - G) \times J$ 1,659 kW
Utility Administration	N/A	\$67,400	\$67,400	\$67,400	\$67,400	Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$ 4,113,707 kWh
Advertising & Promotion	N/A	\$44,400	\$44,400	\$44,400	\$44,400	Net Annual kWh Saved at Generator	$((B \times E \times I) / (1 - F)) \times J$ 4,308,448 kWh
Measurement & Verification	N/A	\$0	\$0	\$0	\$0	Societal Net Benefits	$(J \times I \times H)$ \$2,403,396
Rebates	N/A	\$310,987	\$310,987	\$310,987	\$310,987	Utility Program Cost per kWh Lifetime \$0.0070	
Other	N/A	\$0	\$0	\$0	\$0	Utility Program Cost per kW at Gen \$266	
Subtotal	N/A	\$441,427	\$441,427	\$441,427	\$441,427		
Utility Revenue Reduction							
Revenue Reduction - Electric	N/A	N/A	\$4,914,231	N/A	N/A		
Subtotal	N/A	N/A	\$4,914,231	N/A	N/A		
Participant Costs							
Incremental Capital Costs	\$1,166,547	N/A	N/A	\$1,166,547	\$1,166,547		
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0		
Subtotal	\$1,166,547	N/A	N/A	\$1,166,547	\$1,166,547		
Total Costs	\$1,166,547	\$441,427	\$5,355,658	\$1,607,974	\$1,607,974		
Net Benefit (Cost)						\$4,195,812	\$2,524,137
Benefit/Cost Ratio						4.60	6.72
						0.55	2.12
						2.49	

2027 SD DSM Plan Cost-Effectiveness Analysis

RESIDENTIAL HVAC						2027 ELECTRIC			GOAL
2027 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	15.2	years
			Test	Test		Annual Hours	B	8760	
	(\$Total)	(\$Total)	(\$Total)	(\$Total)	(\$Total)	Gross Customer kW	C	1	kW
Benefits						Generator Peak Coincidence Factor	D	89.12%	
						Gross Load Factor at Customer	E	21.72%	
Avoided Revenue Requirements						Transmission Loss Factor (Energy)	F	5.620%	
Generation	N/A	\$119,475	\$119,475	\$119,475	\$119,475	Transmission Loss Factor (Demand)	G	7.000%	
T & D	N/A	\$14,685	\$14,685	\$14,685	\$14,685	Societal Net Benefit (Cost)	H	\$460	
Marginal Energy	N/A	\$43,813	\$43,813	\$43,813	\$43,813				
Environmental Externality	N/A	N/A	N/A	N/A	\$21,964				
Subtotal	N/A	\$177,974	\$177,974	\$177,974	\$199,937				
Participant Benefits									
Bill Reduction - Electric	\$320,890	N/A	N/A	N/A	N/A				
Rebates from Xcel Energy	\$76,250	N/A	N/A	\$76,250	\$76,250				
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0				
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0				
Subtotal	\$397,140	N/A	N/A	\$76,250	\$76,250				
Total Benefits	\$397,140	\$177,974	\$177,974	\$254,224	\$276,187				
Costs									
Utility Project Costs									
Customer Services	N/A	\$0	\$0	\$0	\$0				
Utility Administration	N/A	\$20,000	\$20,000	\$20,000	\$20,000				
Advertising & Promotion	N/A	\$10,000	\$10,000	\$10,000	\$10,000				
Measurement & Verification	N/A	\$0	\$0	\$0	\$0				
Rebates	N/A	\$76,250	\$76,250	\$76,250	\$76,250				
Other	N/A	\$0	\$0	\$0	\$0				
Subtotal	N/A	\$106,250	\$106,250	\$106,250	\$106,250				
Utility Revenue Reduction									
Revenue Reduction - Electric	N/A	N/A	\$320,890	N/A	N/A				
Subtotal	N/A	N/A	\$320,890	N/A	N/A				
Participant Costs									
Incremental Capital Costs	\$134,110	N/A	N/A	\$134,110	\$134,110				
Incremental O&M Costs	\$1,159	N/A	N/A	\$1,159	\$1,159				
Subtotal	\$135,269	N/A	N/A	\$135,269	\$135,269				
Total Costs	\$135,269	\$106,250	\$427,140	\$241,519	\$241,519				
Net Benefit (Cost)	\$261,871	\$71,724	(\$249,167)	\$12,704	\$34,668				
Benefit/Cost Ratio	2.94	1.68	0.42	1.05	1.14				

Program Summary per Participant		
Gross kW Saved at Customer	I	0.30 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.29 kW
Gross Annual kWh Saved at Customer	(B x E x I)	567 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	601 kWh
Program Summary All Participants		
Total Participants	J	253
Total Budget	K	\$106,250
Gross kW Saved at Customer	(J x I)	75.41 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G) x J	72 kW
Gross Annual kWh Saved at Customer	(B x E x I) x J	143,475 kWh
Net Annual kWh Saved at Generator	((B x E x I) / (1 - F)) x J	152,019 kWh
Societal Net Benefits	(J x I x H)	\$34,668
Utility Program Cost per kWh Lifetime		\$0.0459
Utility Program Cost per kW at Gen		\$1,470

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

2027 SD DSM Plan Cost-Effectiveness Analysis

RESIDENTIAL DEMAND RESPONSE

2027 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	\$501,375	\$501,375	\$501,375	\$501,375
T & D	N/A	\$61,928	\$61,928	\$61,928	\$61,928
Marginal Energy	N/A	\$147	\$147	\$147	\$147
Environmental Externality	N/A	N/A	N/A	N/A	\$56
Subtotal	N/A	\$563,450	\$563,450	\$563,450	\$563,506
Participant Benefits					
Bill Reduction - Electric	\$748	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$9,375	N/A	N/A	\$9,375	\$9,375
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0
Subtotal	\$10,123	N/A	N/A	\$9,375	\$9,375
Total Benefits	\$10,123	\$563,450	\$563,450	\$572,825	\$572,881
Costs					
Utility Project Costs					
Customer Services	N/A	\$159,400	\$159,400	\$159,400	\$159,400
Utility Administration	N/A	\$30,000	\$30,000	\$30,000	\$30,000
Advertising & Promotion	N/A	\$30,000	\$30,000	\$30,000	\$30,000
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$9,375	\$9,375	\$9,375	\$9,375
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$228,775	\$228,775	\$228,775	\$228,775
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$748	N/A	N/A
Subtotal	N/A	N/A	\$748	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	\$228,775	\$229,523	\$228,775	\$228,775

Net Benefit (Cost)	\$10,123	\$334,675	\$333,927	\$344,050	\$344,106
Benefit/Cost Ratio	INF	2.46	2.45	2.50	2.50

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

2027 ELECTRIC

GOAL

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	11.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	100.00%
Gross Load Factor at Customer	E	0.02%
Transmission Loss Factor (Energy)	F	5.620%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	\$889

Program Summary per Participant

Gross kW Saved at Customer	I	0.91 kW
Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$	0.98 kW
Gross Annual kWh Saved at Customer	$(B \times E \times I)$	1 kWh
Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$	1 kWh

Program Summary All Participants

Total Participants	J	425
Total Budget	K	\$228,775
Gross kW Saved at Customer	$(J \times I)$	387.07 kW
Net coincident kW Saved at Generator	$(I \times D) / (1 - G) \times J$	416 kW
Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$	531 kWh
Net Annual kWh Saved at Generator	$((B \times E \times I) / (1 - F)) \times J$	562 kWh
Societal Net Benefits	$(J \times I \times H)$	\$344,106

Utility Program Cost per kWh Lifetime	\$35.7283
Utility Program Cost per kW at Gen	\$550

2027 SD DSM Plan Cost-Effectiveness Analysis

CONSUMER EDUCATION						2027 ELECTRIC			GOAL
2027 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals			
						Program "Inputs" per Customer kW			
	Participant	Utility	Rate	Total	Societal	Lifetime (Weighted on Generator kWh)	A	0.0	years
	Test	Test	Impact	Resource	Test	Annual Hours	B	8760	
	(\$Total)	(\$Total)	Test	Test	Test	Gross Customer kW	C	1	kW
			(\$Total)	(\$Total)	(\$Total)	Generator Peak Coincidence Factor	D	#DIV/0!	
						Gross Load Factor at Customer	E	#DIV/0!	
						Transmission Loss Factor (Energy)	F	0.000%	
						Transmission Loss Factor (Demand)	G	0.000%	
						Societal Net Benefit (Cost)	H	#DIV/0!	
Benefits									
Avoided Revenue Requirements									
Generation	N/A	\$0	\$0	\$0	\$0				
T & D	N/A	\$0	\$0	\$0	\$0				
Marginal Energy	N/A	\$0	\$0	\$0	\$0				
Environmental Externality	N/A	N/A	N/A	N/A	N/A				
Subtotal	N/A	\$0	\$0	\$0	\$0				
Participant Benefits									
Bill Reduction - Electric	\$0	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	\$0	N/A	N/A	\$0	\$0				
Total Benefits	\$0	\$0	\$0	\$0	\$0				
Costs									
Utility Project Costs									
Customer Services	N/A	\$25,000	\$25,000	\$25,000	\$25,000				
Utility Administration	N/A	\$0	\$0	\$0	\$0				
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0				
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	\$25,000	\$25,000	\$25,000	\$25,000				
Utility Revenue Reduction									
Revenue Reduction - Electric	N/A	N/A	\$0	N/A	N/A				
Subtotal	N/A	N/A	\$0	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	\$25,000	\$25,000	\$25,000	\$25,000				
Net Benefit (Cost)									
Net Benefit (Cost)	\$0	(\$25,000)	(\$25,000)	(\$25,000)	(\$25,000)				
Benefit/Cost Ratio									
Benefit/Cost Ratio	INF	-	-	-	-				

Program Summary per Participant		
Gross kW Saved at Customer	I	0.00 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	#DIV/0!
Gross Annual kWh Saved at Customer	(B x E x I)	#DIV/0!
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	#DIV/0!
Program Summary All Participants		
Total Participants	J	30,000
Total Budget	K	\$25,000
Gross kW Saved at Customer	(J x I)	0.00 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G) x J	#DIV/0!
Gross Annual kWh Saved at Customer	(B x E x I) x J	#DIV/0!
Net Annual kWh Saved at Generator	((B x E x I) / (1 - F)) x J	#DIV/0!
Societal Net Benefits	(J x I x H)	#DIV/0!
Utility Program Cost per kWh Lifetime		#DIV/0!
Utility Program Cost per kW at Gen		#DIV/0!

2027 SD DSM Plan Cost-Effectiveness Analysis

RESIDENTIAL SEGMENT TOTAL						2027 ELECTRIC	GOAL
2027 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals	
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW	
Benefits						Lifetime (Weighted on Generator kWh)	15.2 years
						Annual Hours	8760
						Gross Customer kW	1 kW
						Generator Peak Coincidence Factor	98.23%
						Gross Load Factor at Customer	3.55%
						Transmission Loss Factor (Energy)	5.620%
						Transmission Loss Factor (Demand)	7.000%
						Societal Net Benefit (Cost)	\$765
Subtotal							
Participant Benefits						Program Summary per Participant	
Bill Reduction - Electric	\$321,841	N/A	N/A	N/A	N/A	Gross kW Saved at Customer	0.02 kW
Rebates from Xcel Energy	\$85,625	N/A	N/A	\$85,625	\$85,625	Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Gross Annual kWh Saved at Customer	$(B \times E \times I)$
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$
Subtotal							
Total Benefits	\$407,466	\$741,424	\$741,424	\$827,049	\$849,068	Program Summary All Participants	
Costs						Total Participants	30,678
Utility Project Costs						Total Budget	\$360,025
Customer Services	N/A	\$184,400	\$184,400	\$184,400	\$184,400	Gross kW Saved at Customer	$(J \times I)$
Utility Administration	N/A	\$50,000	\$50,000	\$50,000	\$50,000	Net coincident kW Saved at Generator	$(I \times D) / (1 - G) \times J$
Advertising & Promotion	N/A	\$40,000	\$40,000	\$40,000	\$40,000	Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$
Measurement & Verification	N/A	\$0	\$0	\$0	\$0	Net Annual kWh Saved at Generator	$((B \times E \times I) / (1 - F)) \times J$
Rebates	N/A	\$85,625	\$85,625	\$85,625	\$85,625	Societal Net Benefits	$(J \times I \times H)$
Other	N/A	\$0	\$0	\$0	\$0		
Subtotal						Utility Program Cost per kWh Lifetime	\$0.1551
Utility Revenue Reduction						Utility Program Cost per kW at Gen	\$737
Revenue Reduction - Electric	N/A	N/A	\$321,841	N/A	N/A		
Subtotal							
Participant Costs							
Incremental Capital Costs	\$134,110	N/A	N/A	\$134,110	\$134,110		
Incremental O&M Costs	\$1,159	N/A	N/A	\$1,159	\$1,159		
Subtotal							
Total Costs	\$135,269	\$360,025	\$681,866	\$495,294	\$495,294		
Net Benefit (Cost)	\$272,197	\$381,399	\$59,558	\$331,754	\$353,774		
Benefit/Cost Ratio	3.01	2.06	1.09	1.67	1.71		

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

2027 SD DSM Plan Cost-Effectiveness Analysis

REGULATORY AFFAIRS						2027 ELECTRIC			GOAL
2027 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	\$0	\$0	\$0	\$0	Lifetime (Weighted on Generator kWh)	A	0.0	years
T & D	N/A	\$0	\$0	\$0	\$0	Annual Hours	B	8760	
Marginal Energy	N/A	\$0	\$0	\$0	\$0	Gross Customer kW	C	1	kW
Environmental Externality	N/A	N/A	N/A	N/A	\$0	Generator Peak Coincidence Factor	D	#DIV/0!	
Subtotal	N/A	\$0	\$0	\$0	\$0	Gross Load Factor at Customer	E	#DIV/0!	
Participant Benefits						Transmission Loss Factor (Energy)	F	0.000%	
Bill Reduction - Electric	\$0	N/A	N/A	N/A	N/A	Transmission Loss Factor (Demand)	G	0.000%	
Rebates from Xcel Energy	\$0	N/A	N/A	\$0	\$0	Societal Net Benefit (Cost)	H	#DIV/0!	
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0				
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0				
Subtotal	\$0	N/A	N/A	\$0	\$0				
Total Benefits	\$0	\$0	\$0	\$0	\$0				
Costs									
Utility Project Costs									
Customer Services	N/A	\$0	\$0	\$0	\$0				
Utility Administration	N/A	\$11,000	\$11,000	\$11,000	\$11,000				
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0				
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	\$11,000	\$11,000	\$11,000	\$11,000				
Utility Revenue Reduction									
Revenue Reduction - Electric	N/A	N/A	\$0	N/A	N/A				
Subtotal	N/A	N/A	\$0	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	\$11,000	\$11,000	\$11,000	\$11,000				
Net Benefit (Cost)									
Benefit/Cost Ratio									
INF									
-									
-									
-									

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

2027 SD DSM Plan Cost-Effectiveness Analysis

PLANNING SEGMENT TOTAL						2027 ELECTRIC	GOAL
2027 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals	
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW	
Benefits						Lifetime (Weighted on Generator kWh)	A 0.0 years
						Annual Hours	B 8760
						Gross Customer kW	C 1 kW
						Generator Peak Coincidence Factor	D #DIV/0!
						Gross Load Factor at Customer	E #DIV/0!
						Transmission Loss Factor (Energy)	F 0.000%
						Transmission Loss Factor (Demand)	G 0.000%
						Societal Net Benefit (Cost)	H #DIV/0!
Subtotal	N/A	\$0	\$0	\$0	\$0		
Participant Benefits						Program Summary per Participant	
Bill Reduction - Electric	\$0	N/A	N/A	N/A	N/A	Gross kW Saved at Customer	I #DIV/0!
Rebates from Xcel Energy	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator	(I x D) / (1 - G) #DIV/0!
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Gross Annual kWh Saved at Customer	(B x E x I) #DIV/0!
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	Net Annual kWh Saved at Generator	(B x E x I) / (1 - F) #DIV/0!
Subtotal	\$0	N/A	N/A	\$0	\$0		
Total Benefits	\$0	\$0	\$0	\$0	\$0	Program Summary All Participants	
Costs						Total Participants	J 0
Utility Project Costs						Total Budget	K \$11,000
Customer Services	N/A	\$0	\$0	\$0	\$0	Gross kW Saved at Customer	(J x I) #DIV/0!
Utility Administration	N/A	\$11,000	\$11,000	\$11,000	\$11,000	Net coincident kW Saved at Generator	(I x D) / (1 - G) x J #DIV/0!
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0	Gross Annual kWh Saved at Customer	(B x E x I) x J #DIV/0!
Measurement & Verification	N/A	\$0	\$0	\$0	\$0	Net Annual kWh Saved at Generator	((B x E x I) / (1 - F)) x J #DIV/0!
Rebates	N/A	\$0	\$0	\$0	\$0	Societal Net Benefits	(J x I x H) #DIV/0!
Other	N/A	\$0	\$0	\$0	\$0		
Subtotal	N/A	\$11,000	\$11,000	\$11,000	\$11,000	Utility Program Cost per kWh Lifetime	#DIV/0!
Utility Revenue Reduction						Utility Program Cost per kW at Gen	#DIV/0!
Revenue Reduction - Electric	N/A	N/A	\$0	N/A	N/A		
Subtotal	N/A	N/A	\$0	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	\$11,000	\$11,000	\$11,000	\$11,000		
Net Benefit (Cost)	\$0	(\$11,000)	(\$11,000)	(\$11,000)	(\$11,000)		
Benefit/Cost Ratio	INF	-	-	-	-		

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

2027 SD DSM Plan Cost-Effectiveness Analysis

PORTFOLIO TOTAL						2027 ELECTRIC	GOAL
2027 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals	
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW	
Benefits						Lifetime (Weighted on Generator kWh)	14.7 years
						Annual Hours	8760
						Gross Customer kW	1 kW
						Generator Peak Coincidence Factor	85.56%
						Gross Load Factor at Customer	20.60%
						Transmission Loss Factor (Energy)	4.558%
						Transmission Loss Factor (Demand)	5.998%
						Societal Net Benefit (Cost)	\$1,164
Avoided Revenue Requirements						Program Summary per Participant	
Generation	N/A	\$2,260,000	\$2,260,000	\$2,260,000	\$2,260,000	Gross kW Saved at Customer	0.08 kW
T & D	N/A	\$279,554	\$279,554	\$279,554	\$279,554	Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$
Marginal Energy	N/A	\$1,167,433	\$1,167,433	\$1,167,433	\$1,167,433	Gross Annual kWh Saved at Customer	$(B \times E \times I)$
Environmental Externality	N/A	N/A	N/A	N/A	N/A	Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$
Subtotal	N/A	\$3,706,988	\$3,706,988	\$3,706,988	\$4,326,685	Program Summary All Participants	
Participant Benefits						Total Participants	31,006
Bill Reduction - Electric	\$5,236,072	N/A	N/A	N/A	N/A	Total Budget	\$812,452
Rebates from Xcel Energy	\$396,612	N/A	N/A	\$396,612	\$396,612	Gross kW Saved at Customer	$(J \times I)$
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator	$(I \times D) / (1 - G) \times J$
Incremental O&M Savings	\$135,983	N/A	N/A	\$135,983	\$135,983	Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$
Subtotal	\$5,768,667	N/A	N/A	\$532,595	\$532,595	Net Annual kWh Saved at Generator	$((B \times E \times I) / (1 - F)) \times J$
Total Benefits						Societal Net Benefits	$(J \times I \times H)$
	\$5,768,667	\$3,706,988	\$3,706,988	\$4,239,582	\$4,859,279	Utility Program Cost per kWh Lifetime	\$0.0124
Costs						Utility Program Cost per kW at Gen	\$378
Utility Project Costs							
Customer Services	N/A	\$203,040	\$203,040	\$203,040	\$203,040		
Utility Administration	N/A	\$128,400	\$128,400	\$128,400	\$128,400		
Advertising & Promotion	N/A	\$84,400	\$84,400	\$84,400	\$84,400		
Measurement & Verification	N/A	\$0	\$0	\$0	\$0		
Rebates	N/A	\$396,612	\$396,612	\$396,612	\$396,612		
Other	N/A	\$0	\$0	\$0	\$0		
Subtotal	N/A	\$812,452	\$812,452	\$812,452	\$812,452		
Utility Revenue Reduction							
Revenue Reduction - Electric	N/A	N/A	\$5,236,072	N/A	N/A		
Subtotal	N/A	N/A	\$5,236,072	N/A	N/A		
Participant Costs							
Incremental Capital Costs	\$1,300,657	N/A	N/A	\$1,300,657	\$1,300,657		
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0		
Subtotal	\$1,300,657	N/A	N/A	\$1,300,657	\$1,300,657		
Total Costs							
	\$1,300,657	\$812,452	\$6,048,524	\$2,113,109	\$2,113,109		
Net Benefit (Cost)							
	\$4,468,009	\$2,894,536	(\$2,341,536)	\$2,126,473	\$2,746,170		
Benefit/Cost Ratio							
	4.44	4.56	0.61	2.01	2.30		

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