

**Executive Summary Table - 2020 Actual Achievements**

2020	GOAL				ACTUAL										TEST RESULTS			
	Participants	Budget	Generator kW	Generator kWh	Participants	% of Goal	Spend	% of Goal	Generator kW	% of Goal	Generator kWh	Lifetime years	Lifetime Generator kWh	% of Goal	Part Ratio	Utility Ratio	RIM Ratio	TRC Ratio
<b>Business Segment</b>																		
Lighting Efficiency	341	\$389,320	453	3,960,428	136	40%	\$543,250	140%	1,402	309%	8,010,409	15	122,564,278	202%	3.72	8.29	0.52	1.58
Business Saver's Switch	10	\$25,250	28	39	2	20%	\$5,289	21%	57	202%	8	15	126	22%	INF	11.85	5.81	11.85
Peak and Energy Control	1	\$10,000	101	3,713	3	300%	\$7,721	77%	1,527	1518%	3,030	5	15,148	82%	INF	89.17	9.23	89.17
<b>Business Segment Total</b>	<b>352</b>	<b>\$424,570</b>	<b>582</b>	<b>3,964,179</b>	<b>141</b>	<b>40%</b>	<b>\$556,260</b>	<b>131%</b>	<b>2,986</b>	<b>513%</b>	<b>8,013,447</b>	<b>15</b>	<b>122,579,552</b>	<b>202%</b>	<b>3.75</b>	<b>9.44</b>	<b>0.60</b>	<b>1.81</b>
<b>Residential Segment</b>																		
Home Lighting	5,245	\$96,756	408	3,009,728	74,950	1429%	\$85,291	88%	529	130%	3,920,682	9	34,293,275	130%	50.07	14.14	0.27	7.27
Residential Demand Response	1,410	\$235,500	817	99,889	511	36%	\$181,557	77%	479	59%	817	10	8,111	1%	INF	1.99	1.39	2.04
Consumer Education	68,000	\$21,165	N/A	N/A	5,700	8%	\$9,119	43%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Heating	21	\$12,900	12	82,115	1	5%	\$392	3%	1	5%	3,820	10	38,203	5%	3.96	4.28	0.67	1.97
<b>Residential Segment Total</b>	<b>74,676</b>	<b>\$366,321</b>	<b>1,237</b>	<b>3,191,731</b>	<b>81,162</b>	<b>109%</b>	<b>\$276,359</b>	<b>75%</b>	<b>1,008</b>	<b>82%</b>	<b>3,925,319</b>	<b>9</b>	<b>34,339,589</b>	<b>123%</b>	<b>50.72</b>	<b>5.68</b>	<b>0.33</b>	<b>4.49</b>
<b>Planning Segment</b>																		
Regulatory Affairs	0	\$14,000	N/A	N/A	N/A	N/A	\$7,017	50%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Planning Segment Total</b>	<b>0</b>	<b>\$14,000</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>\$7,017</b>	<b>50%</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
<b>PORTFOLIO TOTAL</b>	<b>75,028</b>	<b>\$804,891</b>	<b>1,819</b>	<b>7,155,910</b>	<b>81,303</b>	<b>108%</b>	<b>\$839,636</b>	<b>104%</b>	<b>3,995</b>	<b>220%</b>	<b>11,938,766</b>	<b>13</b>	<b>156,919,142</b>	<b>167%</b>	<b>5.52</b>	<b>8.12</b>	<b>0.50</b>	<b>2.08</b>

2020 SD DSM Plan Cost-Effectiveness Analysis

<b>LIGHTING EFFICIENCY</b>					
2020 Net Present Cost Benefit Summary Analysis For All Participants					
	Participant	Utility	Rate	Total	Societal
	Test	Test	Impact	Resource	Test
	(\$Total)	(\$Total)	(\$Total)	(\$Total)	(\$Total)
<b>Benefits</b>					
<b>Avoided Revenue Requirements</b>					
Generation	N/A	\$908,814	\$908,814	\$908,814	\$908,814
T & D	N/A	\$554,076	\$554,076	\$554,076	\$554,076
Marginal Energy	N/A	\$3,038,839	\$3,038,839	\$3,038,839	\$3,038,839
Environmental Externality	N/A	N/A	N/A	N/A	\$1,898
Subtotal	N/A	\$4,501,729	\$4,501,729	\$4,501,729	\$4,503,627
<b>Participant Benefits</b>					
Bill Reduction - Electric	\$8,115,556	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$509,873	N/A	N/A	\$509,873	\$509,873
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0
Subtotal	\$8,625,429	N/A	N/A	\$509,873	\$509,873
<b>Total Benefits</b>	<b>\$8,625,429</b>	<b>\$4,501,729</b>	<b>\$4,501,729</b>	<b>\$5,011,602</b>	<b>\$5,013,500</b>
<b>Costs</b>					
<b>Utility Project Costs</b>					
Customer Services	N/A	\$0	\$0	\$0	\$0
Utility Administration	N/A	\$33,377	\$33,377	\$33,377	\$33,377
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$509,873	\$509,873	\$509,873	\$509,873
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$543,250	\$543,250	\$543,250	\$543,250
<b>Utility Revenue Reduction</b>					
Revenue Reduction - Electric	N/A	N/A	\$8,115,556	N/A	N/A
Subtotal	N/A	N/A	\$8,115,556	N/A	N/A
<b>Participant Costs</b>					
Incremental Capital Costs	\$2,286,222	N/A	N/A	\$2,286,222	\$2,286,222
Incremental O&M Costs	\$32,575	N/A	N/A	\$32,575	\$32,575
Subtotal	\$2,318,797	N/A	N/A	\$2,318,797	\$2,318,797
<b>Total Costs</b>	<b>\$2,318,797</b>	<b>\$543,250</b>	<b>\$8,658,806</b>	<b>\$2,862,047</b>	<b>\$2,862,047</b>
<b>Net Benefit (Cost)</b>	<b>\$6,306,632</b>	<b>\$3,958,479</b>	<b>(\$4,157,077)</b>	<b>\$2,149,555</b>	<b>\$2,151,453</b>
<b>Benefit/Cost Ratio</b>	<b>3.72</b>	<b>8.29</b>	<b>0.52</b>	<b>1.75</b>	<b>1.75</b>

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

<b>2020 ELECTRIC ACTUAL</b>		
Input Summary and Totals		
Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	15.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	73.58%
Gross Load Factor at Customer	E	48.38%
Transmission Loss Factor (Energy)	F	4.873%
Transmission Loss Factor (Demand)	G	5.640%
Societal Net Benefit (Cost)	H	\$1,196
<b>Program Summary per Participant</b>		
Gross kW Saved at Customer	I	13.22 kW
Net coincident kW Saved at Generator	( I x D ) / ( 1 - G )	10.31 kW
Gross Annual kWh Saved at Customer	( B x E x I )	56,030 kWh
Net Annual kWh Saved at Generator	( B x E x I ) / ( 1 - F )	58,900 kWh
<b>Program Summary All Participants</b>		
Total Participants	J	136
<b>Total Budget</b>	<b>K</b>	<b>\$543,250</b>
Gross kW Saved at Customer	( J x I )	1,798.17 kW
<b>Net coincident kW Saved at Generator</b>	<b>( I x D ) / ( 1 - G ) x J</b>	<b>1,402 kW</b>
Gross Annual kWh Saved at Customer	( B x E x I ) x J	7,620,102 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>( ( B x E x I ) / ( 1 - F ) ) x J</b>	<b>8,010,409 kWh</b>
<b>Societal Net Benefits</b>	<b>( J x I x H )</b>	<b>\$2,151,453</b>
<b>Utility Program Cost per kWh Lifetime</b>		<b>\$0.0044</b>
<b>Utility Program Cost per kW at Gen</b>		<b>\$387</b>

2020 SD DSM Plan Cost-Effectiveness Analysis

<b>BUSINESS SAVER'S SWITCH</b>						<b>2020</b>	<b>ELECTRIC</b>	<b>ACTUAL</b>
<b>2020 Net Present Cost Benefit Summary Analysis For All Participants</b>						<b>Input Summary and Totals</b>		
	<b>Participant Test (\$Total)</b>	<b>Utility Test (\$Total)</b>	<b>Rate Impact Test (\$Total)</b>	<b>Total Resource Test (\$Total)</b>	<b>Societal Test (\$Total)</b>	<b>Program "Inputs" per Customer kW</b>		
<b>Benefits</b>						Lifetime (Weighted on Generator kWh)	A	15.0 years
<b>Avoided Revenue Requirements</b>						Annual Hours	B	8760
Generation	N/A	\$38,932	\$38,932	\$38,932	\$38,932	Gross Customer kW	C	1 kW
T & D	N/A	\$23,740	\$23,740	\$23,740	\$23,740	Generator Peak Coincidence Factor	D	18.00%
Marginal Energy	N/A	\$4	\$4	\$4	\$4	Gross Load Factor at Customer	E	0.00%
Environmental Externality	N/A	N/A	N/A	N/A	\$24	Transmission Loss Factor (Energy)	F	4.873%
Subtotal	N/A	\$62,676	\$62,676	\$62,676	\$62,699	Transmission Loss Factor (Demand)	G	5.640%
						Societal Net Benefit (Cost)	H	\$192
<b>Participant Benefits</b>						<b>Program Summary per Participant</b>		
Bill Reduction - Electric	\$5,491	N/A	N/A	N/A	N/A	Gross kW Saved at Customer	I	149.51 kW
Rebates from Xcel Energy	\$0	N/A	N/A	\$0	\$0	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	\$5,491	N/A	N/A	\$0	\$0	<b>Program Summary All Participants</b>		
<b>Total Benefits</b>	<b>\$5,491</b>	<b>\$62,676</b>	<b>\$62,676</b>	<b>\$62,676</b>	<b>\$62,699</b>	Total Participants	J	2
<b>Costs</b>						<b>Total Budget</b>	K	<b>\$5,289</b>
<b>Utility Project Costs</b>						Gross kW Saved at Customer	$(J \times I)$	
Customer Services	N/A	\$0	\$0	\$0	\$0	<b>Net coincident kW Saved at Generator</b>	$(I \times D) / (1 - G) \times J$	
Utility Administration	N/A	\$5,289	\$5,289	\$5,289	\$5,289	Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$	
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0	<b>Net Annual kWh Saved at Generator</b>	$((B \times E \times I) / (1 - F)) \times J$	
Measurement & Verification	N/A	\$0	\$0	\$0	\$0	<b>Societal Net Benefits</b>	$(J \times I \times H)$	
Rebates	N/A	\$0	\$0	\$0	\$0	<b>Utility Program Cost per kWh Lifetime</b>	\$41,9281	
Other	N/A	\$0	\$0	\$0	\$0	<b>Utility Program Cost per kW at Gen</b>	\$93	
Subtotal	N/A	\$5,289	\$5,289	\$5,289	\$5,289			
<b>Utility Revenue Reduction</b>								
Revenue Reduction - Electric	N/A	N/A	\$5,491	N/A	N/A			
Subtotal	N/A	N/A	\$5,491	N/A	N/A			
<b>Participant Costs</b>								
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			
<b>Total Costs</b>	<b>\$0</b>	<b>\$5,289</b>	<b>\$10,780</b>	<b>\$5,289</b>	<b>\$5,289</b>			
<b>Net Benefit (Cost)</b>	<b>\$5,491</b>	<b>\$57,386</b>	<b>\$51,896</b>	<b>\$57,386</b>	<b>\$57,410</b>			
<b>Benefit/Cost Ratio</b>	<b>INF</b>	<b>11.85</b>	<b>5.81</b>	<b>11.85</b>	<b>11.85</b>			

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

<b>PEAK AND ENERGY CONTROL</b>					
2020 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)
<b>Benefits</b>					
<b>Avoided Revenue Requirements</b>					
Generation	N/A	\$428,129	\$428,129	\$428,129	\$428,129
T & D	N/A	\$259,725	\$259,725	\$259,725	\$259,725
Marginal Energy	N/A	\$590	\$590	\$590	\$590
Environmental Externality	N/A	N/A	N/A	N/A	\$0
Subtotal	N/A	\$688,444	\$688,444	\$688,444	\$688,444
<b>Participant Benefits</b>					
Bill Reduction - Electric	\$66,856	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	\$66,856	N/A	N/A	\$0	\$0
<b>Total Benefits</b>	<b>\$66,856</b>	<b>\$688,444</b>	<b>\$688,444</b>	<b>\$688,444</b>	<b>\$688,444</b>
<b>Costs</b>					
<b>Utility Project Costs</b>					
Customer Services	N/A	\$0	\$0	\$0	\$0
Utility Administration	N/A	\$7,721	\$7,721	\$7,721	\$7,721
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	\$7,721	\$7,721	\$7,721	\$7,721
<b>Utility Revenue Reduction</b>					
Revenue Reduction - Electric	N/A	N/A	\$66,856	N/A	N/A
Subtotal	N/A	N/A	\$66,856	N/A	N/A
<b>Participant Costs</b>					
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
<b>Total Costs</b>	<b>\$0</b>	<b>\$7,721</b>	<b>\$74,577</b>	<b>\$7,721</b>	<b>\$7,721</b>
<b>Net Benefit (Cost)</b>	<b>\$66,856</b>	<b>\$680,723</b>	<b>\$613,866</b>	<b>\$680,723</b>	<b>\$680,723</b>
<b>Benefit/Cost Ratio</b>	<b>INF</b>	<b>89.17</b>	<b>9.23</b>	<b>89.17</b>	<b>89.17</b>

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

2020	ELECTRIC	ACTUAL
<b>Input Summary and Totals</b>		
<b>Program "Inputs" per Customer kW</b>		
Lifetime (Weighted on Generator kWh)	A	5.0 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	4.873%
Transmission Loss Factor (Demand)	G	5.640%
Societal Net Benefit (Cost)	H	\$472
<b>Program Summary per Participant</b>		
Gross kW Saved at Customer	I	480.33 kW
Net coincident kW Saved at Generator	( I x D ) / ( 1 - G )	509.04 kW
Gross Annual kWh Saved at Customer	( B x E x I )	961 kWh
Net Annual kWh Saved at Generator	( B x E x I ) / ( 1 - F )	1,010 kWh
<b>Program Summary All Participants</b>		
Total Participants	J	3
<b>Total Budget</b>	<b>K</b>	<b>\$7,721</b>
Gross kW Saved at Customer	( J x I )	1,441.00 kW
<b>Net coincident kW Saved at Generator</b>	<b>( I x D ) / ( 1 - G ) x J</b>	<b>1,527 kW</b>
Gross Annual kWh Saved at Customer	( B x E x I ) x J	2,882 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>( ( B x E x I ) / ( 1 - F ) ) x J</b>	<b>3,030 kWh</b>
<b>Societal Net Benefits</b>	<b>( J x I x H )</b>	<b>\$680,723</b>
<b>Utility Program Cost per kWh Lifetime</b>		<b>\$0.5097</b>
<b>Utility Program Cost per kW at Gen</b>		<b>\$5</b>

2020 SD DSM Plan Cost-Effectiveness Analysis

<b>BUSINESS SEGMENT TOTAL</b>					
2020 Net Present Cost Benefit Summary Analysis For All Participants					
	Participant	Utility	Rate	Total	Societal
	Test	Test	Impact	Resource	Test
	(\$Total)	(\$Total)	(\$Total)	(\$Total)	(\$Total)
<b>Benefits</b>					
<b>Avoided Revenue Requirements</b>					
Generation	N/A	\$1,375,875	\$1,375,875	\$1,375,875	\$1,375,875
T & D	N/A	\$837,541	\$837,541	\$837,541	\$837,541
Marginal Energy	N/A	\$3,039,433	\$3,039,433	\$3,039,433	\$3,039,433
Environmental Externality	N/A	N/A	N/A	N/A	\$1,922
Subtotal	N/A	\$5,252,848	\$5,252,848	\$5,252,848	\$5,254,770
<b>Participant Benefits</b>					
Bill Reduction - Electric	\$8,187,902	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$509,873	N/A	N/A	\$509,873	\$509,873
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0
Subtotal	\$8,697,776	N/A	N/A	\$509,873	\$509,873
<b>Total Benefits</b>	<b>\$8,697,776</b>	<b>\$5,252,848</b>	<b>\$5,252,848</b>	<b>\$5,762,721</b>	<b>\$5,764,644</b>
<b>Costs</b>					
<b>Utility Project Costs</b>					
Customer Services	N/A	\$0	\$0	\$0	\$0
Utility Administration	N/A	\$46,387	\$46,387	\$46,387	\$46,387
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$509,873	\$509,873	\$509,873	\$509,873
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$556,260	\$556,260	\$556,260	\$556,260
<b>Utility Revenue Reduction</b>					
Revenue Reduction - Electric	N/A	N/A	\$8,187,902	N/A	N/A
Subtotal	N/A	N/A	\$8,187,902	N/A	N/A
<b>Participant Costs</b>					
Incremental Capital Costs	\$2,286,222	N/A	N/A	\$2,286,222	\$2,286,222
Incremental O&M Costs	\$32,575	N/A	N/A	\$32,575	\$32,575
Subtotal	\$2,318,797	N/A	N/A	\$2,318,797	\$2,318,797
<b>Total Costs</b>	<b>\$2,318,797</b>	<b>\$556,260</b>	<b>\$8,744,163</b>	<b>\$2,875,057</b>	<b>\$2,875,057</b>
<b>Net Benefit (Cost)</b>	<b>\$6,378,979</b>	<b>\$4,696,588</b>	<b>(\$3,491,315)</b>	<b>\$2,887,664</b>	<b>\$2,889,586</b>
<b>Benefit/Cost Ratio</b>	<b>3.75</b>	<b>9.44</b>	<b>0.60</b>	<b>2.00</b>	<b>2.01</b>

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

<b>2020 ELECTRIC ACTUAL</b>		
Input Summary and Totals		
Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	15.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	79.64%
Gross Load Factor at Customer	E	24.59%
Transmission Loss Factor (Energy)	F	4.873%
Transmission Loss Factor (Demand)	G	5.640%
Societal Net Benefit (Cost)	H	\$817
<b>Program Summary per Participant</b>		
Gross kW Saved at Customer	I	25.09 kW
Net coincident kW Saved at Generator	( I x D ) / ( 1 - G )	21.18 kW
Gross Annual kWh Saved at Customer	( B x E x I )	54,064 kWh
Net Annual kWh Saved at Generator	( B x E x I ) / ( 1 - F )	56,833 kWh
<b>Program Summary All Participants</b>		
Total Participants	J	141
<b>Total Budget</b>	<b>K</b>	<b>\$556,260</b>
Gross kW Saved at Customer	( J x I )	3,538.19 kW
<b>Net coincident kW Saved at Generator</b>	<b>( I x D ) / ( 1 - G ) x J</b>	<b>2,986 kW</b>
Gross Annual kWh Saved at Customer	( B x E x I ) x J	7,622,992 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>( ( B x E x I ) / ( 1 - F ) ) x J</b>	<b>8,013,447 kWh</b>
<b>Societal Net Benefits</b>	<b>( J x I x H )</b>	<b>\$2,889,586</b>
<b>Utility Program Cost per kWh Lifetime</b>		<b>\$0.0045</b>
<b>Utility Program Cost per kW at Gen</b>		<b>\$186</b>

2020 SD DSM Plan Cost-Effectiveness Analysis

<b>HOME LIGHTING</b>					
2020 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)
<b>Benefits</b>					
<b>Avoided Revenue Requirements</b>					
Generation	N/A	\$204,346	\$204,346	\$204,346	\$204,346
T & D	N/A	\$124,453	\$124,453	\$124,453	\$124,453
Marginal Energy	N/A	\$877,558	\$877,558	\$877,558	\$877,558
Environmental Externality	N/A	N/A	N/A	N/A	\$141
Subtotal	N/A	\$1,206,357	\$1,206,357	\$1,206,357	\$1,206,498
<b>Participant Benefits</b>					
Bill Reduction - Electric	\$4,448,948	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$70,723	N/A	N/A	\$70,723	\$70,723
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0
Subtotal	\$4,519,671	N/A	N/A	\$70,723	\$70,723
<b>Total Benefits</b>	<b>\$4,519,671</b>	<b>\$1,206,357</b>	<b>\$1,206,357</b>	<b>\$1,277,081</b>	<b>\$1,277,221</b>
<b>Costs</b>					
<b>Utility Project Costs</b>					
Customer Services	N/A	\$0	\$0	\$0	\$0
Utility Administration	N/A	\$13,334	\$13,334	\$13,334	\$13,334
Advertising & Promotion	N/A	\$1,234	\$1,234	\$1,234	\$1,234
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$70,723	\$70,723	\$70,723	\$70,723
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$85,291	\$85,291	\$85,291	\$85,291
<b>Utility Revenue Reduction</b>					
Revenue Reduction - Electric	N/A	N/A	\$4,448,948	N/A	N/A
Subtotal	N/A	N/A	\$4,448,948	N/A	N/A
<b>Participant Costs</b>					
Incremental Capital Costs	\$90,276	N/A	N/A	\$90,276	\$90,276
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$90,276	N/A	N/A	\$90,276	\$90,276
<b>Total Costs</b>	<b>\$90,276</b>	<b>\$85,291</b>	<b>\$4,534,239</b>	<b>\$175,567</b>	<b>\$175,567</b>
<b>Net Benefit (Cost)</b>	<b>\$4,429,396</b>	<b>\$1,121,066</b>	<b>(\$3,327,882)</b>	<b>\$1,101,514</b>	<b>\$1,101,655</b>
<b>Benefit/Cost Ratio</b>	<b>50.07</b>	<b>14.14</b>	<b>0.27</b>	<b>7.27</b>	<b>7.27</b>

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

<b>2020 ELECTRIC ACTUAL</b>		
Input Summary and Totals		
Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	8.7 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	16.20%
Gross Load Factor at Customer	E	13.86%
Transmission Loss Factor (Energy)	F	5.698%
Transmission Loss Factor (Demand)	G	6.797%
Societal Net Benefit (Cost)	H	\$362
<b>Program Summary per Participant</b>		
Gross kW Saved at Customer	I	0.04 kW
Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$	0.01 kW
Gross Annual kWh Saved at Customer	$(B \times E \times I)$	49 kWh
Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$	52 kWh
<b>Program Summary All Participants</b>		
Total Participants	J	74,950
<b>Total Budget</b>	<b>K</b>	<b>\$85,291</b>
Gross kW Saved at Customer	$(J \times I)$	3,044.11 kW
<b>Net coincident kW Saved at Generator</b>	$(I \times D) / (1 - G) \times J$	<b>529 kW</b>
Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$	3,697,292 kWh
<b>Net Annual kWh Saved at Generator</b>	$((B \times E \times I) / (1 - F)) \times J$	<b>3,920,682 kWh</b>
<b>Societal Net Benefits</b>	$(J \times I \times H)$	<b>\$1,101,655</b>
<b>Utility Program Cost per kWh Lifetime</b>		<b>\$0.0025</b>
<b>Utility Program Cost per kW at Gen</b>		<b>\$161</b>

2020 SD DSM Plan Cost-Effectiveness Analysis

<b>RESIDENTIAL DEMAND RESPONSE</b>					
2020 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)
<b>Benefits</b>					
<b>Avoided Revenue Requirements</b>					
Generation	N/A	\$223,987	\$223,987	\$223,987	\$223,987
T & D	N/A	\$136,535	\$136,535	\$136,535	\$136,535
Marginal Energy	N/A	\$380	\$380	\$380	\$380
Environmental Externality	N/A	N/A	N/A	N/A	\$59
Subtotal	N/A	\$360,902	\$360,902	\$360,902	\$360,961
<b>Participant Benefits</b>					
Bill Reduction - Electric	\$78,099	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$9,450	N/A	N/A	\$9,450	\$9,450
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0
Subtotal	\$87,549	N/A	N/A	\$9,450	\$9,450
<b>Total Benefits</b>	<b>\$87,549</b>	<b>\$360,902</b>	<b>\$360,902</b>	<b>\$370,352</b>	<b>\$370,411</b>
<b>Costs</b>					
<b>Utility Project Costs</b>					
Customer Services	N/A	\$0	\$0	\$0	\$0
Utility Administration	N/A	\$172,107	\$172,107	\$172,107	\$172,107
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$9,450	\$9,450	\$9,450	\$9,450
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$181,557	\$181,557	\$181,557	\$181,557
<b>Utility Revenue Reduction</b>					
Revenue Reduction - Electric	N/A	N/A	\$78,099	N/A	N/A
Subtotal	N/A	N/A	\$78,099	N/A	N/A
<b>Participant Costs</b>					
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
<b>Total Costs</b>	<b>\$0</b>	<b>\$181,557</b>	<b>\$259,656</b>	<b>\$181,557</b>	<b>\$181,557</b>
<b>Net Benefit (Cost)</b>	<b>\$87,549</b>	<b>\$179,345</b>	<b>\$101,246</b>	<b>\$188,795</b>	<b>\$188,854</b>
<b>Benefit/Cost Ratio</b>	<b>INF</b>	<b>1.99</b>	<b>1.39</b>	<b>2.04</b>	<b>2.04</b>

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

2020	ELECTRIC	ACTUAL
<b>Input Summary and Totals</b>		
<b>Program "Inputs" per Customer kW</b>		
Lifetime (Weighted on Generator kWh)	A	9.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	28.88%
Gross Load Factor at Customer	E	0.01%
Transmission Loss Factor (Energy)	F	5.950%
Transmission Loss Factor (Demand)	G	7.220%
Societal Net Benefit (Cost)	H	\$123
<b>Program Summary per Participant</b>		
Gross kW Saved at Customer	I	3.01 kW
Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$	0.94 kW
Gross Annual kWh Saved at Customer	$(B \times E \times I)$	2 kWh
Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$	2 kWh
<b>Program Summary All Participants</b>		
Total Participants	J	511
<b>Total Budget</b>	<b>K</b>	<b>\$181,557</b>
Gross kW Saved at Customer	$(J \times I)$	1,537.89 kW
<b>Net coincident kW Saved at Generator</b>	$(I \times D) / (1 - G) \times J$	<b>479 kW</b>
Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$	768 kWh
<b>Net Annual kWh Saved at Generator</b>	$((B \times E \times I) / (1 - F)) \times J$	<b>817 kWh</b>
<b>Societal Net Benefits</b>	$(J \times I \times H)$	<b>\$188,854</b>
<b>Utility Program Cost per kWh Lifetime</b>		<b>\$22.3852</b>
<b>Utility Program Cost per kW at Gen</b>		<b>\$379</b>

<b>WATER HEATING</b>					
2020 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)
<b>Benefits</b>					
<b>Avoided Revenue Requirements</b>					
Generation	N/A	\$314	\$314	\$314	\$314
T & D	N/A	\$191	\$191	\$191	\$191
Marginal Energy	N/A	\$1,169	\$1,169	\$1,169	\$1,169
Environmental Externality	N/A	N/A	N/A	N/A	\$0
Subtotal	N/A	\$1,674	\$1,674	\$1,674	\$1,674
<b>Participant Benefits</b>					
Bill Reduction - Electric	\$2,119	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$300	N/A	N/A	\$300	\$300
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0
Subtotal	\$2,419	N/A	N/A	\$300	\$300
<b>Total Benefits</b>	<b>\$2,419</b>	<b>\$1,674</b>	<b>\$1,674</b>	<b>\$1,974</b>	<b>\$1,974</b>
<b>Costs</b>					
<b>Utility Project Costs</b>					
Customer Services	N/A	\$0	\$0	\$0	\$0
Utility Administration	N/A	\$92	\$92	\$92	\$92
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$300	\$300	\$300	\$300
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$392	\$392	\$392	\$392
<b>Utility Revenue Reduction</b>					
Revenue Reduction - Electric	N/A	N/A	\$2,119	N/A	N/A
Subtotal	N/A	N/A	\$2,119	N/A	N/A
<b>Participant Costs</b>					
Incremental Capital Costs	\$611	N/A	N/A	\$611	\$611
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$611	N/A	N/A	\$611	\$611
<b>Total Costs</b>	<b>\$611</b>	<b>\$392</b>	<b>\$2,511</b>	<b>\$1,003</b>	<b>\$1,003</b>
<b>Net Benefit (Cost)</b>	<b>\$1,808</b>	<b>\$1,283</b>	<b>(\$836)</b>	<b>\$971</b>	<b>\$971</b>
<b>Benefit/Cost Ratio</b>	<b>3.96</b>	<b>4.28</b>	<b>0.67</b>	<b>1.97</b>	<b>1.97</b>

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

<b>2020 ELECTRIC ACTUAL</b>		
Input Summary and Totals		
Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	10.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	100.00%
Gross Load Factor at Customer	E	70.84%
Transmission Loss Factor (Energy)	F	5.950%
Transmission Loss Factor (Demand)	G	7.220%
Societal Net Benefit (Cost)	H	\$1,678
<b>Program Summary per Participant</b>		
Gross kW Saved at Customer	I	0.58 kW
Net coincident kW Saved at Generator	$(I \times D) / (1 - G)$	0.62 kW
Gross Annual kWh Saved at Customer	$(B \times E \times I)$	3,593 kWh
Net Annual kWh Saved at Generator	$(B \times E \times I) / (1 - F)$	3,820 kWh
<b>Program Summary All Participants</b>		
Total Participants	J	1
<b>Total Budget</b>	<b>K</b>	<b>\$392</b>
Gross kW Saved at Customer	$(J \times I)$	0.58 kW
<b>Net coincident kW Saved at Generator</b>	$(I \times D) / (1 - G) \times J$	<b>1 kW</b>
Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$	3,593 kWh
<b>Net Annual kWh Saved at Generator</b>	$((B \times E \times I) / (1 - F)) \times J$	<b>3,820 kWh</b>
<b>Societal Net Benefits</b>	$(J \times I \times H)$	<b>\$971</b>
<b>Utility Program Cost per kWh Lifetime</b>		<b>\$0.0102</b>
<b>Utility Program Cost per kW at Gen</b>		<b>\$627</b>



2020 SD DSM Plan Cost-Effectiveness Analysis

<b>RESIDENTIAL SEGMENT TOTAL</b>						<b>2020</b>	<b>ELECTRIC</b>	<b>ACTUAL</b>
<b>2020 Net Present Cost Benefit Summary Analysis For All Participants</b>						<b>Input Summary and Totals</b>		
	<b>Participant Test (\$Total)</b>	<b>Utility Test (\$Total)</b>	<b>Rate Impact Test (\$Total)</b>	<b>Total Resource Test (\$Total)</b>	<b>Societal Test (\$Total)</b>	<b>Program "Inputs" per Customer kW</b>		
<b>Benefits</b>						Lifetime (Weighted on Generator kWh)	A	8.7 years
<b>Avoided Revenue Requirements</b>						Annual Hours	B	8760
Generation	N/A	\$428,647	\$428,647	\$428,647	\$428,647	Gross Customer kW	C	1 kW
T & D	N/A	\$261,179	\$261,179	\$261,179	\$261,179	Generator Peak Coincidence Factor	D	20.46%
Marginal Energy	N/A	\$879,107	\$879,107	\$879,107	\$879,107	Gross Load Factor at Customer	E	9.22%
Environmental Externality	N/A	N/A	N/A	N/A	\$200	Transmission Loss Factor (Energy)	F	5.698%
Subtotal	N/A	\$1,568,934	\$1,568,934	\$1,568,934	\$1,569,134	Transmission Loss Factor (Demand)	G	6.998%
						Societal Net Benefit (Cost)	H	\$280
<b>Participant Benefits</b>						<b>Program Summary per Participant</b>		
Bill Reduction - Electric	\$4,529,166	N/A	N/A	N/A	N/A	Gross kW Saved at Customer	I	0.06 kW
Rebates from Xcel Energy	\$80,473	N/A	N/A	\$80,473	\$80,473	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	\$4,609,639	N/A	N/A	\$80,473	\$80,473	<b>Program Summary All Participants</b>		
<b>Total Benefits</b>	<b>\$4,609,639</b>	<b>\$1,568,934</b>	<b>\$1,568,934</b>	<b>\$1,649,407</b>	<b>\$1,649,607</b>	Total Participants	J	81,162
<b>Costs</b>						<b>Total Budget</b>	K	<b>\$276,359</b>
<b>Utility Project Costs</b>						Gross kW Saved at Customer	$(J \times I)$	
Customer Services	N/A	\$0	\$0	\$0	\$0	<b>Net coincident kW Saved at Generator</b>	$(I \times D) / (1 - G) \times J$	
Utility Administration	N/A	\$185,966	\$185,966	\$185,966	\$185,966	Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$	
Advertising & Promotion	N/A	\$9,920	\$9,920	\$9,920	\$9,920	<b>Net Annual kWh Saved at Generator</b>	$((B \times E \times I) / (1 - F)) \times J$	
Measurement & Verification	N/A	\$0	\$0	\$0	\$0	<b>Societal Net Benefits</b>	$(J \times I \times H)$	
Rebates	N/A	\$80,473	\$80,473	\$80,473	\$80,473	<b>Utility Program Cost per kWh Lifetime</b>	\$0.0080	
Other	N/A	\$0	\$0	\$0	\$0	<b>Utility Program Cost per kW at Gen</b>	\$274	
Subtotal	N/A	\$276,359	\$276,359	\$276,359	\$276,359			
<b>Utility Revenue Reduction</b>								
Revenue Reduction - Electric	N/A	N/A	\$4,529,166	N/A	N/A			
Subtotal	N/A	N/A	\$4,529,166	N/A	N/A			
<b>Participant Costs</b>								
Incremental Capital Costs	\$90,887	N/A	N/A	\$90,887	\$90,887			
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0			
Subtotal	\$90,887	N/A	N/A	\$90,887	\$90,887			
<b>Total Costs</b>	<b>\$90,887</b>	<b>\$276,359</b>	<b>\$4,805,525</b>	<b>\$367,246</b>	<b>\$367,246</b>			
<b>Net Benefit (Cost)</b>	<b>\$4,518,752</b>	<b>\$1,292,575</b>	<b>(\$3,236,591)</b>	<b>\$1,282,161</b>	<b>\$1,282,361</b>			
<b>Benefit/Cost Ratio</b>	<b>50.72</b>	<b>5.68</b>	<b>0.33</b>	<b>4.49</b>	<b>4.49</b>			

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

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<b>PORTFOLIO TOTAL</b>						<b>2020 ELECTRIC</b>		<b>ACTUAL</b>
<b>2020 Net Present Cost Benefit Summary Analysis For All Participants</b>						<b>Input Summary and Totals</b>		
	<b>Participant Test (\$Total)</b>	<b>Utility Test (\$Total)</b>	<b>Rate Impact Test (\$Total)</b>	<b>Total Resource Test (\$Total)</b>	<b>Societal Test (\$Total)</b>	<b>Program "Inputs" per Customer kW</b>		
<b>Benefits</b>						Lifetime (Weighted on Generator kWh)	A	64.0 years
<b>Avoided Revenue Requirements</b>						Annual Hours	B	8760
Generation	N/A	\$1,804,522	\$1,804,522	\$1,804,522	\$1,804,522	Gross Customer kW	C	1 kW
T & D	N/A	\$1,098,720	\$1,098,720	\$1,098,720	\$1,098,720	Generator Peak Coincidence Factor	D	46.25%
Marginal Energy	N/A	\$3,918,540	\$3,918,540	\$3,918,540	\$3,918,540	Gross Load Factor at Customer	E	15.92%
Environmental Externality	N/A	N/A	N/A	N/A	\$2,122	Transmission Loss Factor (Energy)	F	32.215%
Subtotal	N/A	\$6,821,782	\$6,821,782	\$6,821,782	\$6,823,904	Transmission Loss Factor (Demand)	G	5.983%
						Societal Net Benefit (Cost)	H	\$513
<b>Participant Benefits</b>						<b>Program Summary per Participant</b>		
Bill Reduction - Electric	\$12,717,068	N/A	N/A	N/A	N/A	Gross kW Saved at Customer	I	0.10 kW
Rebates from Xcel Energy	\$590,347	N/A	N/A	\$590,347	\$590,347	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	\$13,307,415	N/A	N/A	\$590,347	\$590,347	<b>Program Summary All Participants</b>		
<b>Total Benefits</b>	<b>\$13,307,415</b>	<b>\$6,821,782</b>	<b>\$6,821,782</b>	<b>\$7,412,128</b>	<b>\$7,414,251</b>	Total Participants	J	81,303
<b>Costs</b>						<b>Total Budget</b>	K	<b>\$839,636</b>
<b>Utility Project Costs</b>						Gross kW Saved at Customer	$(J \times I)$	
Customer Services	N/A	\$0	\$0	\$0	\$0	<b>Net coincident kW Saved at Generator</b>	$(I \times D) / (1 - G) \times J$	
Utility Administration	N/A	\$239,370	\$239,370	\$239,370	\$239,370	Gross Annual kWh Saved at Customer	$(B \times E \times I) \times J$	
Advertising & Promotion	N/A	\$9,920	\$9,920	\$9,920	\$9,920	<b>Net Annual kWh Saved at Generator</b>	$((B \times E \times I) / (1 - F)) \times J$	
Measurement & Verification	N/A	\$0	\$0	\$0	\$0	<b>Societal Net Benefits</b>	$(J \times I \times H)$	
Rebates	N/A	\$590,347	\$590,347	\$590,347	\$590,347	<b>Utility Program Cost per kWh Lifetime</b>	\$0.0008	
Other	N/A	\$0	\$0	\$0	\$0	<b>Utility Program Cost per kW at Gen</b>	\$210	
Subtotal	N/A	\$839,636	\$839,636	\$839,636	\$839,636			
<b>Utility Revenue Reduction</b>								
Revenue Reduction - Electric	N/A	N/A	\$12,717,068	N/A	N/A			
Subtotal	N/A	N/A	\$12,717,068	N/A	N/A			
<b>Participant Costs</b>								
Incremental Capital Costs	\$2,377,109	N/A	N/A	\$2,377,109	\$2,377,109			
Incremental O&M Costs	\$32,575	N/A	N/A	\$32,575	\$32,575			
Subtotal	\$2,409,684	N/A	N/A	\$2,409,684	\$2,409,684			
<b>Total Costs</b>	<b>\$2,409,684</b>	<b>\$839,636</b>	<b>\$13,556,704</b>	<b>\$3,249,320</b>	<b>\$3,249,320</b>			
<b>Net Benefit (Cost)</b>	<b>\$10,897,731</b>	<b>\$5,982,145</b>	<b>(\$6,734,923)</b>	<b>\$4,162,808</b>	<b>\$4,164,931</b>			
<b>Benefit/Cost Ratio</b>	<b>5.52</b>	<b>8.12</b>	<b>0.50</b>	<b>2.28</b>	<b>2.28</b>			

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