

## **Appendix D**

### **Demand Side Management Data**

## Appendix D.1 Xcel Energy Demand Side Management (“DSM”) Data

Minnesota Rule 7849.0290 requires that an application for a Certificate of Need include information regarding the applicant’s conservation and load management programs (collectively, “Demand Side Management” or “DSM”). This information is presented below for Xcel Energy.

Minnesota Rule 7849.0290 requires that an application must include:

***A. The name of the committee, department, or individual responsible for the applicant's energy conservation and efficiency programs, including load management;***

Lee Gabler, Director, DSM and Renewable Operations is responsible for Xcel Energy’s demand-side management (conservation and load management) programs.

***B. A list of the applicant's energy conservation and efficiency goals and objectives;***

Xcel Energy’s<sup>1</sup> proposed 2013-2015 Triennial Plan<sup>2</sup> represents a budget of over \$304 million, energy savings of 1,307 GWh and demand savings of 315 MW over the three years.

***C. A description of the specific energy conservation and efficiency programs the applicant has considered, a list of those that have been implemented, and the reasons why the other programs have not been implemented;***

Minn. Stat. § 216B.2401, states “it is the energy policy of the state of Minnesota to achieve annual energy savings equal to 1.5 percent of annual retail energy sales of electricity and natural gas unless modified by the Commissioner.” The minimum energy savings goal is 1 percent of retail sales. The energy savings may occur directly through energy conservation improvement programs and rate design, and indirectly through energy codes and appliance standards, programs designed to transform the market or change consumer behavior, energy savings resulting from efficiency improvements to the utility infrastructure and system, and other efforts to promote energy efficiency and energy conservation.

Additionally, Minn. Stat. § 216B.241, Subd. 1a requires Xcel Energy to spend at least 2 percent of its electric gross operating revenue (“GOR”) on electric conservation programs and 0.5 percent of its gas GOR on gas conservation programs.

To comply with the minimum spending requirement, Xcel Energy offers an extensive portfolio of programs. In general, these programs can be categorized as direct or indirect. Further, the direct programs can be categorized as prescriptive or custom.

Direct programs result in quantifiable energy savings. The Lighting Efficiency program, for example, offers rebates for the installation of energy efficient lighting within our business customer segment. Prescriptive programs use technical assumptions based on stipulated or deemed technical assumptions that are assigned to measures in order to calculate gross energy and demand savings. The rebates and savings are predetermined based on the deemed technical assumptions. Custom programs use technical assumptions that are specific to the actual measure characteristics in order to calculate the energy and demand savings. The rebates and savings vary

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<sup>1</sup> Northern States Power Company, a Minnesota corporation.

<sup>2</sup> Docket No. E,G002/CIP-12-447.

with the measure. Further, direct programs can be categorized as conservation or load management programs. Load management programs are specifically designed to manage peak load.

At this time, indirect programs do not result in quantifiable energy savings. They are largely information-based and are intended to create customer awareness as well as encourage customers to participate in our direct impact programs.

**Table 1** below includes a list of our comprehensive program offerings over the last ten years. Please note that some of the programs have been discontinued, modified or incorporated into other programs.

**Table 1**

<b><u>Business Segment</u></b>
<b><i>Conservation</i></b>
Commercial Heating Efficiency f.k.a. Boiler Efficiency
Commercial Real Estate
Compressed Air Efficiency
Commercial Audit and Contract Management
Computer Efficiency
Cooling Efficiency
Custom Efficiency
Data Center Efficiency
Distributed Generation Incentive
Efficiency Controls
Energy Assets
Energy Design Assistance (EDA)
Energy Design Assistance - Business New Construction
Energy Efficient Buildings – Business New Construction
Energy Efficient Rebate
Energy Management Systems
Food Service
Furnace Efficiency
Government Conservation
Heat Recovery Rebate
Industrial Efficiency
Lighting Efficiency
Market Transformation – Computer Efficiency
Market Transformation – Vending Efficiency
Motor & Drive Efficiency f.k.a Motor Efficiency
Process Efficiency
Recommissioning
Refrigeration Efficiency
Roofing Efficiency
Segment Efficiency
<b><i>Load Management</i></b>

<b><u>Business Segment</u></b>
Electric Rates Savings f.k.a Peak Controlled Rates
Business Saver's Switch
<b><i>Indirect Impact</i></b>
Business Education
Energy Advisory Service
Energy Analysis
Energy Financing
Lamp Recycling
School Financing
Turn Key Services

<b><u>Residential Segment</u></b>
<b><i>Conservation</i></b>
Central AC Quality Installation
ENERGY STAR Homes
ENERGY STAR Rebates
Energy Efficiency Showerheads f.k.a High-Efficiency Showerheads
Home Efficiency
Home Lighting Direct Purchase
Home Performance with ENERGY STAR
Insulation Rebate Program
Refrigerator Recycling
Residential Cooling
Home Energy Squad f.k.a Residential Quick Fix
Premier Home
School Education Kits
Water Heater Rebates
<b><i>Load Management</i></b>
Residential Saver's Switch
<b><i>Indirect Impact</i></b>
Consumer Education
Energy Loans
Home Energy Audits
Lamp Recycling
Energy Efficiency Support Services

<b><u>Low-Income Segment</u></b>
<b><i>Conservation</i></b>
Conservation Kits
Home Electric Savings
Low Income Weatherization
Home Energy Squad – Low Income f.k.a. Residential Quick Fix

Research, Evaluation & Pilots
Annex 49 Pilot
Energy Feedback Pilot

For more details on our current business, residential and low-income programs, see the Xcel Energy website at <http://www.xcelenergy.com>.

Xcel Energy’s Product Development department continually analyzes potential measures and concepts to add to our program portfolio offering. Products or programs are selected for development based on several criteria including, but not limited to energy efficiency potential, ability to develop quickly, longevity of the offering (i.e. how long until it become the standard), level of market barriers and risk (technological, press, market, education) among others.

***D. A description of the major accomplishments that have been made by the applicant with respect to energy conservation and efficiency***

The 2013-2015 CIP Triennial Plan continues Xcel Energy’s long-standing commitment to DSM. Although DSM activities in many states around the country have ebbed and flowed, Minnesota and Xcel Energy as its largest utility have generally maintained a consistent approach to DSM. This long-standing commitment and dedication to excellence in running cost effective conservation and load management programs places the Company among the nation’s top utilities in terms of energy and demand saved and most innovative programs.

The Company has received many awards for its commitment to DSM. Most recently, we were awarded ENERGY STAR’s 2012 Sustained Excellence Award, which is considered their most prestigious award, for our ongoing leadership across ENERGY STAR programs, including energy efficient products, services, new homes and buildings in the commercial, industrial and public sectors. This is the third year that ENERGY STAR has recognized Xcel Energy. In 2009 and 2011, the Company won Partner of the Year for Excellence in Program Delivery.

Between 1990 and 2011, Xcel Energy invested over \$1 billion (nominal) resulting in 5,912 GWh of electric energy savings, 2,675 MW of electric demand savings and an estimated 10,992,937 MCF of natural gas savings. The following figures show our historical spending on CIP and energy savings achievements. Our proposed goals for 2013, 2014, and 2015 are provided for context.

Figure 1: CIP Electric Expenditures and Achievements 2000-2015

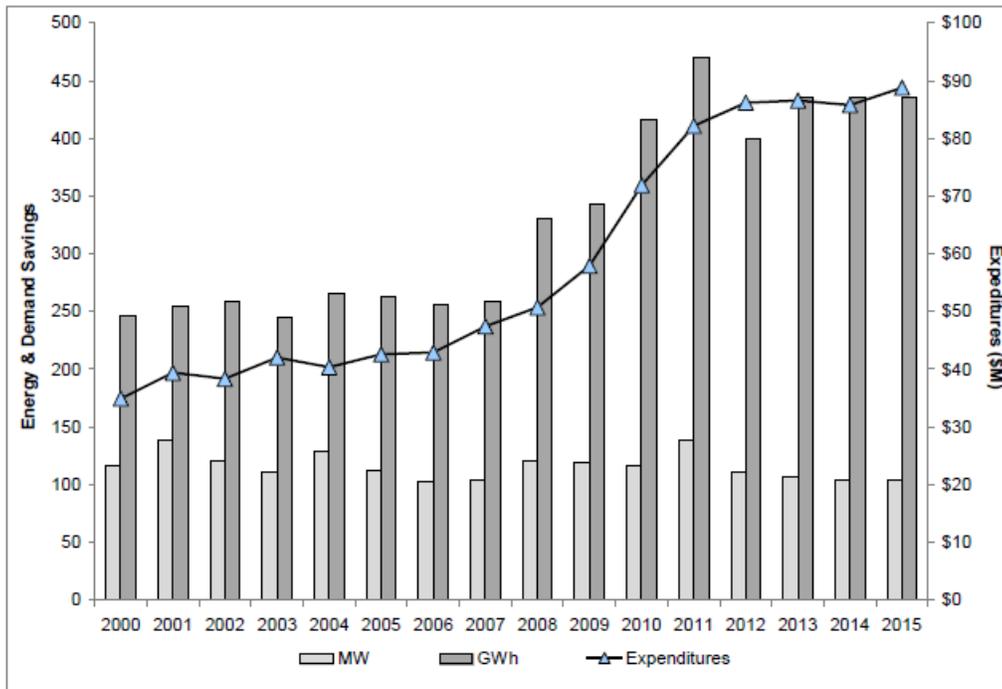
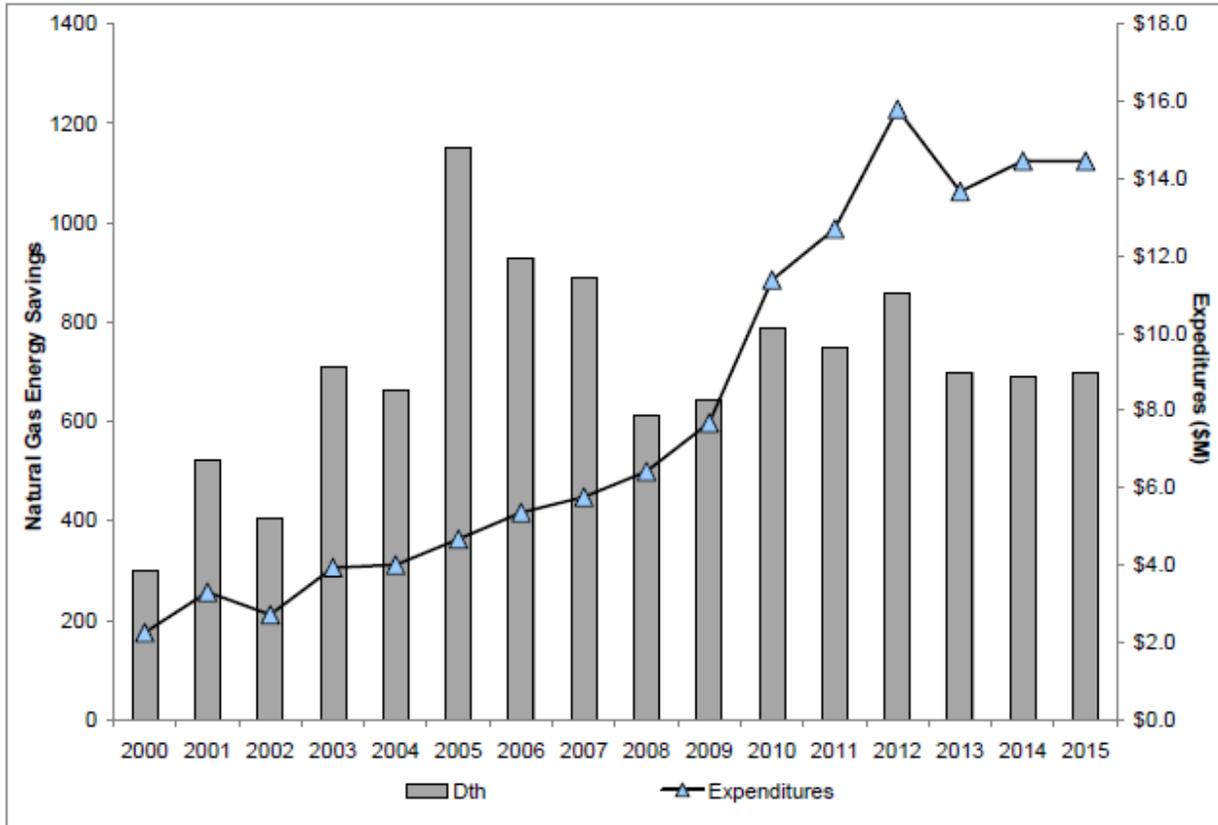


Figure 2: CIP Gas Expenditures and Achievements 2000-2015



***E. A description of the applicant's future plans through the forecast years with respect to energy conservation and efficiency***

In its 2013-2015 CIP Triennial Plan, Xcel Energy continues its legacy of providing customers with nearly unlimited options for saving energy. The proposed plan establishes ambitious goals of saving 1,307 GWh, 315 MW, and 2,084,797 Dth over the three year period at a cost of \$304 million. The proposed Plan also includes estimated budgets and energy savings from anticipated alternative filings. This plan is designed to achieve electric savings equal to 1.5% of retail sales and gas savings equal to 1.0% of retail sales in 2013, 2014, and 2015. Our proposal is consistent with the goal approved in Xcel Energy's most recently approved resource plan in Docket No. E002/RP-07-1572<sup>3</sup> to strive to achieve the 1.5% savings goal over the planning horizon. The table below summarizes our proposed goals. The following tables provide proposed goals and budgets for each program and segment by year.

**Goals and Budgets as a Percent of Retail Sales**

Year	Electric				Gas			
	Budget	Proposed Energy Savings (GWh)	Total Adjusted Sales (GWh)	Savings as % of Retail Sales	Budget	Proposed Energy Savings (Dth)	Total Adjusted Sales (Dth)	Savings as % of Retail Sales
2013	\$86,763,621	436	28,987	1.5%	\$13,616,878	696,415	69,458,419	1.0%
2014	\$86,057,389	436	28,987	1.5%	\$14,389,693	691,908	69,458,419	1.0%
2015	\$89,038,690	435	28,987	1.5%	\$14,367,523	696,474	69,458,419	1.0%

<sup>3</sup> Xcel Energy filed a Resource Plan in August 2, 2010 for the years 2011-2025 that is currently under review by the Commission. See Docket No. E002/RP-10-825

**2013 Segment-Level Goals**

Segment	Electric				Gas		
	Participation	Budget	Gen kW	Gen kWh	Participation	Budget	Dth
Business	72,162	\$41,556,765	53,167	286,545,465	2,775	\$4,269,785	430,500
Residential	1,485,313	\$20,378,392	40,845	109,575,754	581,243	\$5,265,055	242,281
Low-Income	4,146	\$2,321,035	477	2,602,248	2,050	\$1,656,980	23,635
Planning		\$4,154,742				\$1,010,746	
Research, Evaluations, & Pilots		\$1,971,538				\$682,862	
Renewable Energy		\$2,500,000					
Assessments		\$1,736,000				\$345,600	
EUI							
<b>Total</b>	<b>1,561,736</b>	<b>\$86,763,621</b>	<b>106,273</b>	<b>435,844,594</b>	<b>586,068</b>	<b>\$13,616,878</b>	<b>696,415</b>

**2014 Segment-Level Goals**

Segment	Electric				Gas		
	Participation	Budget	Gen kW	Gen kWh	Participation	Budget	Dth
Business	77,185	\$43,198,901	53,088	296,888,998	2,902	\$4,644,432	490,913
Residential	1,560,397	\$20,730,713	39,869	101,190,600	573,836	\$5,573,531	177,360
Low-Income	4,346	\$2,568,863	498	2,633,067	2,050	\$1,636,181	23,635
Planning		\$4,216,343				\$1,029,794	
Research, Evaluations, & Pilots		\$1,381,920				\$671,305	
Renewable Energy							
Assessments		\$1,736,000				\$345,600	
EUI							
<b>Total</b>	<b>1,641,928</b>	<b>\$86,057,359</b>	<b>104,455</b>	<b>435,712,665</b>	<b>578,788</b>	<b>\$14,389,693</b>	<b>691,908</b>

**2015 Segment-Level Goals**

Segment	Electric				Gas		
	Participation	Budget	Gen kW	Gen kWh	Participation	Budget	Dth
Business	82,173	\$44,698,041	52,840	297,568,573	2,900	\$4,809,699	496,084
Residential	1,699,699	\$21,762,406	39,647	100,401,037	566,752	\$5,632,928	177,115
Low-Income	4,246	\$2,520,587	476	2,445,325	2,050	\$1,636,221	23,275
Planning		\$4,290,268				\$1,057,933	
Research, Evaluations, & Pilots		\$1,805,988				\$417,042	
Renewable Energy							
Assessments		\$1,736,000				\$345,600	
EUI							
<b>Total</b>	<b>1,786,119</b>	<b>\$89,038,690</b>	<b>103,962</b>	<b>435,414,935</b>	<b>571,702</b>	<b>\$14,367,523</b>	<b>696,474</b>

*F. A quantification of the manner by which these programs affect or help determine the forecast provided in response to part 7849.0270, subpart 2, a list of their total costs by program, and a discussion of their expected effects in reducing the need for new generation and transmission facilities*

Load forecasts are based on historical data. Therefore, the forecasted annual peak demand for electricity and annual energy consumed reflect the savings due to DSM programs that have been implemented in the past. Because load forecasts are based on historic load data, a certain amount of continued DSM is already included in the forecast. This “amount” is known as embedded DSM and is roughly equal to the average annual DSM

achievements obtained during the historical years. Thus, the energy and demand savings as ordered in the Resource Plan are not fully reflected in the forecasts. However, the forecast does include the historical or embedded DSM amount.

The energy and demand goals ordered in the 2008 Resource Plan are fully reflected in the resource planning analysis that determines future generation needs. An estimate of the embedded DSM is added to the load forecast in Strategist to derive an estimate of peak and energy as if no DSM were going to be implemented in future years. Then the approved DSM goals are subtracted from the modified forecast to calculate net peak and energy forecasts. If embedded DSM were not added to the load forecast, DSM would be double counted and the forecasts would consistently be too low.

Below is a list of our proposed 2013-2015 DSM programs including their individual proposed budgets, energy and demand savings. Following the annual tables is a three year Triennial Plan roll-up.

**Executive Summary Table - Electric 2013**

2013	Electric Participants	Electric Budget	Customer kW	Generator kW	Generator kWh	Societal Test Ratio
<b>Business Segment</b>						
Business New Construction	53	\$6,145,119	6,412	6,287	26,464,770	1.32
Commercial Efficiency	10	\$1,049,963	700	443	4,259,068	1.41
Computer Efficiency	2,804	\$1,277,315	1,546	1,662	12,098,358	1.66
Cooling Efficiency	1,105	\$1,959,471	1,994	1,661	7,097,985	1.48
Custom Efficiency	121	\$3,014,398	3,608	1,739	16,816,821	1.63
Data Center Efficiency	13	\$753,467	557	398	4,831,078	3.20
Efficiency Controls	87	\$1,378,684	2,092	338	16,692,249	2.09
Fluid Systems Optimization	451	\$1,470,374	2,006	1,977	13,054,622	2.42
Foodservice Equipment	46	\$48,181	102	73	491,753	2.65
Heating Efficiency						
Lighting Efficiency	798	\$6,961,434	10,305	9,000	54,022,924	1.81
Motor Efficiency	877	\$4,316,494	7,217	6,057	36,021,638	2.14
Process Efficiency	74	\$6,023,911	10,608	7,752	65,971,934	2.63
Recommissioning	119	\$1,105,147	1,771	566	11,511,765	1.87
Self-Direct	10	\$1,870,868	3,220	2,172	9,917,591	1.46
Turn Key Services	353	\$1,375,116	1,905	602	6,931,471	1.71
<b>Business Segment Energy Efficiency Total</b>	<b>6,921</b>	<b>\$38,749,942</b>	<b>54,045</b>	<b>40,725</b>	<b>286,184,027</b>	<b>1.89</b>
Electric Rate Savings	90	\$557,534	18,000	9,186	340,347	6.67
Saver's Switch for Business	1,151	\$1,970,791	12,620	3,256	21,090	1.57
<b>Business Segment Load Management Total</b>	<b>1,241</b>	<b>\$2,528,325</b>	<b>30,620</b>	<b>12,441</b>	<b>361,437</b>	<b>2.70</b>
Business Education	14,000	\$247,498				
Small Business Lamp Recycling	50,000	\$31,000				
<b>Business Segment Indirect Total</b>	<b>64,000</b>	<b>\$278,498</b>				
<b>Business Segment Total</b>	<b>72,162</b>	<b>\$41,556,765</b>	<b>84,665</b>	<b>53,167</b>	<b>286,545,465</b>	<b>1.90</b>
<b>Residential Segment</b>						
Energy Efficient Showerheads	1,050	\$14,488	175		360,781	8.51
Energy Feedback	150,000	\$1,110,027	896	668	8,570,819	0.96
ENERGY STAR Homes	860	\$195,622	315	108	916,126	1.68
Heating System Rebates	7,000	\$758,550	1,750	1,343	4,745,263	1.40
Home Energy Squad	5,500	\$1,188,089	3,461	574	2,820,471	1.24
Home Lighting	527,877	\$4,463,168	67,206	10,273	77,675,154	2.78
Home Performance with ENERGY STAR®	225	\$97,692	221	141	169,025	1.26
Insulation Rebate	288	\$86,211	453	231	331,717	1.37
Refrigerator Recycling	5,500	\$782,428	1,183	713	6,221,426	3.08
Residential Cooling	9,859	\$4,703,374	9,050	8,921	5,355,937	1.01
School Education Kits	20,000	\$616,858	2,189	181	2,231,297	1.48
Water Heater Rebate						
<b>Residential Segment Energy Efficiency Total</b>	<b>728,159</b>	<b>\$14,016,508</b>	<b>86,900</b>	<b>23,155</b>	<b>109,398,017</b>	<b>1.74</b>
<b>Residential Segment Load Management - Saver's Switch</b>	<b>20,000</b>	<b>\$4,842,843</b>	<b>60,413</b>	<b>17,690</b>	<b>177,738</b>	<b>3.48</b>
Consumer Education	433,854	\$775,640				
Home Energy Audit	3,300	\$557,401				
Residential Lamp Recycling	300,000	\$186,000				
<b>Residential Segment Indirect Total</b>	<b>737,154</b>	<b>\$1,519,041</b>				
<b>Residential Segment Total</b>	<b>1,485,313</b>	<b>\$20,378,392</b>	<b>147,312</b>	<b>40,845</b>	<b>109,575,754</b>	<b>1.89</b>
<b>Low-Income Segment</b>						
Home Energy Savings Program	2,100	\$1,354,160	584	188	938,843	0.65
Low-Income Home Energy Squad	1,650	\$386,163	1,365	196	1,105,499	1.56
Multi-Family Energy Savings Program	396	\$580,712	366	94	557,906	0.69
<b>Low-Income Segment Total</b>	<b>4,146</b>	<b>\$2,321,035</b>	<b>2,315</b>	<b>477</b>	<b>2,602,248</b>	<b>0.77</b>
<b>Planning Segment</b>						
Application Development and Maintenance		\$1,101,600				
Advertising & Promotion		\$2,520,000				
CIP Training		\$125,000				
Regulatory Affairs		\$408,142				
<b>Planning Segment Total</b>		<b>\$4,154,742</b>				
<b>Research, Evaluations &amp; Pilots Segment</b>						
Market Research		\$1,164,538				
Product Development		\$807,000				
<b>Research, Evaluations &amp; Pilots Segment Total</b>		<b>\$1,971,538</b>				
<b>PORTFOLIO SUBTOTAL</b>	<b>1,561,621</b>	<b>\$70,382,471</b>	<b>234,293</b>	<b>94,489</b>	<b>398,723,467</b>	<b>1.81</b>

Renewable Energy Segment - Solar*Rewards	116	\$2,500,000	1,533	783	2,121,127	0.45
Anticipated Alternative Filings						
CEE One-Stop Efficiency Shop		\$11,200,000	10,230	11,000	35,000,000	
EnerChange		\$270,000				
Energy Smart		\$327,750				
Trillion BTU		\$347,400				
Anticipated Alternative Filings Total		\$12,145,150	10,230	11,000	35,000,000	
Assessments Segment		\$1,736,000				
Electric Utility Infrastructure Segment						
<b>PORTFOLIO TOTAL</b>	<b>1,561,736</b>	<b>\$86,763,621</b>	<b>246,056</b>	<b>106,273</b>	<b>435,844,594</b>	

**Executive Summary Table - Gas 2013**

2013	Gas Participants	Gas Budget	Dth Savings	Societal Test Ratio
<b>Business Segment</b>				
Business New Construction	14	\$443,688	24,018	1.14
Commercial Efficiency	4	\$211,178	12,023	2.31
Computer Efficiency				
Cooling Efficiency				
Custom Efficiency	39	\$633,706	25,253	2.47
Data Center Efficiency				
Efficiency Controls	27	\$206,988	20,324	2.09
Fluid Systems Optimization				
Foodservice Equipment	58	\$92,129	5,388	2.19
Heating Efficiency	633	\$1,553,325	190,028	2.26
Lighting Efficiency				
Motor Efficiency				
Process Efficiency	19	\$815,182	120,014	3.88
Recommissioning	30	\$126,038	14,071	3.20
Self-Direct	2	\$85,738	9,868	3.75
Turn Key Services	49	\$64,402	9,513	2.57
<b>Business Segment Energy Efficiency Total</b>	<b>875</b>	<b>\$4,232,373</b>	<b>430,500</b>	<b>2.43</b>
Electric Rate Savings				
Saver's Switch for Business				
<b>Business Segment Load Management Total</b>				
Business Education	1,900	\$37,412		
Small Business Lamp Recycling				
<b>Business Segment Indirect Total</b>	<b>1,900</b>	<b>\$37,412</b>		
<b>Business Segment Total</b>	<b>2,775</b>	<b>\$4,269,785</b>	<b>430,500</b>	<b>2.43</b>
<b>Residential Segment</b>				
Energy Efficient Showerheads	13,950	\$175,502	22,852	11.83
Energy Feedback	150,000	\$453,245	27,220	1.09
ENERGY STAR Homes	500	\$742,389	35,485	2.23
Heating System Rebates	5,777	\$928,352	82,800	1.91
Home Energy Squad	3,000	\$785,723	27,263	2.31
Home Lighting				
Home Performance with ENERGY STAR®	225	\$266,823	7,149	1.21
Insulation Rebate	1,049	\$323,651	14,455	1.43
Refrigerator Recycling				
Residential Cooling				
School Education Kits	20,000	\$482,038	21,597	4.50
Water Heater Rebate	1,330	\$177,146	3,461	0.68
<b>Residential Segment Energy Efficiency Total</b>	<b>195,831</b>	<b>\$4,334,869</b>	<b>242,281</b>	<b>2.12</b>
<b>Residential Segment Load Management - Saver's Switch</b>				
Consumer Education	382,912	\$540,806		
Home Energy Audit	2,500	\$389,380		
Residential Lamp Recycling				
<b>Residential Segment Indirect Total</b>	<b>385,412</b>	<b>\$930,186</b>		
<b>Residential Segment Total</b>	<b>581,243</b>	<b>\$5,265,055</b>	<b>242,281</b>	<b>1.92</b>
<b>Low-Income Segment</b>				
Home Energy Savings Program	400	\$1,192,083	9,360	1.12
Low-Income Home Energy Squad	1,650	\$464,897	14,274	2.45
Multi-Family Energy Savings Program				
<b>Low-Income Segment Total</b>	<b>2,050</b>	<b>\$1,656,980</b>	<b>23,635</b>	<b>1.51</b>
<b>Planning Segment</b>				
Application Development and Maintenance		\$267,246		
Advertising & Promotion		\$572,000		
CIP Training		\$40,000		
Regulatory Affairs		\$131,500		
<b>Planning Segment Total</b>		<b>\$1,010,746</b>		
<b>Research, Evaluations &amp; Pilots Segment</b>				
Market Research		\$454,890		
Product Development		\$227,972		
<b>Research, Evaluations &amp; Pilots Segment Total</b>		<b>\$682,862</b>		
<b>PORTFOLIO SUBTOTAL</b>	<b>586,068</b>	<b>\$12,885,428</b>	<b>696,415</b>	<b>2.06</b>

Renewable Energy Segment - Solar*Rewards			
Anticipated Alternative Filings			
CEE One-Stop Efficiency Shop			
EnerChange		\$330,000	
Energy Smart		\$17,250	
Trillion BTU		\$38,600	
Anticipated Alternative Filings Total		\$385,850	
Assessments Segment		\$345,600	
Electric Utility Infrastructure Segment			
PORTFOLIO TOTAL	586,068	\$13,616,878	696,415

**Executive Summary Table - Electric 2014**

2014	Electric Participants	Electric Budget	Customer kW	Generator kW	Generator kWh	Societal Test Ratio
<b>Business Segment</b>						
Business New Construction	49	\$6,055,734	6,083	5,975	25,085,206	1.55
Commercial Efficiency	20	\$1,837,293	1,527	1,033	8,861,195	1.62
Computer Efficiency	2,908	\$1,420,915	1,588	1,707	12,426,585	1.65
Cooling Efficiency	1,106	\$1,950,860	1,979	1,644	7,106,359	1.53
Custom Efficiency	123	\$3,074,265	3,677	1,773	17,140,222	1.68
Data Center Efficiency	15	\$848,062	807	557	7,050,853	3.10
Efficiency Controls	90	\$1,426,994	2,165	350	17,274,536	2.17
Fluid Systems Optimization	494	\$1,615,374	2,248	2,202	14,507,254	2.62
Foodservice Equipment	72	\$55,191	147	108	729,965	2.96
Heating Efficiency						
Lighting Efficiency	589	\$5,471,322	7,547	6,675	40,022,385	1.83
Motor Efficiency	877	\$4,335,454	7,217	6,057	36,021,638	2.22
Process Efficiency	81	\$6,909,437	12,314	9,076	75,856,071	2.71
Recommissioning	124	\$1,148,781	1,838	587	11,938,416	1.96
Self-Direct	15	\$2,743,423	4,831	3,258	14,876,387	1.52
Turn Key Services	391	\$1,502,201	2,108	666	7,668,306	1.79
<b>Business Segment Energy Efficiency Total</b>	<b>6,954</b>	<b>\$40,395,306</b>	<b>56,076</b>	<b>41,668</b>	<b>296,565,377</b>	<b>1.96</b>
Electric Rate Savings	80	\$483,602	16,000	8,165	302,531	7.01
Saver's Switch for Business	1,151	\$2,037,295	12,620	3,256	21,090	1.55
<b>Business Segment Load Management Total</b>	<b>1,231</b>	<b>\$2,520,897</b>	<b>28,620</b>	<b>11,421</b>	<b>323,621</b>	<b>2.60</b>
Business Education	14,000	\$247,498				
Small Business Lamp Recycling	55,000	\$35,200				
		\$282,698				
<b>Business Segment Total</b>	<b>77,185</b>	<b>\$43,198,901</b>	<b>84,696</b>	<b>53,088</b>	<b>296,888,998</b>	<b>1.97</b>
<b>Residential Segment</b>						
Energy Efficient Showerheads	1,050	\$15,025	175		360,781	8.51
Energy Feedback	142,500	\$1,017,621	851	635	8,142,278	1.08
ENERGY STAR Homes	860	\$204,376	297	106	900,058	1.70
Heating System Rebates	7,000	\$759,010	1,750	1,343	4,745,263	1.45
Home Energy Squad	5,501	\$1,229,621	3,468	583	2,820,466	1.25
Home Lighting	594,824	\$4,598,468	60,027	9,176	69,378,126	2.53
Home Performance with ENERGY STAR®	225	\$98,853	211	140	162,570	1.29
Insulation Rebate	296	\$89,082	467	240	340,788	1.41
Refrigerator Recycling	6,000	\$848,163	1,290	778	6,787,010	3.26
Residential Cooling	9,987	\$4,735,920	9,153	9,022	5,417,907	1.04
School Education Kits	20,000	\$617,668	1,890	155	1,957,614	1.38
Water Heater Rebate						
<b>Residential Segment Energy Efficiency Total</b>	<b>788,243</b>	<b>\$14,213,807</b>	<b>79,579</b>	<b>22,178</b>	<b>101,012,862</b>	<b>1.70</b>
<b>Residential Segment Load Management - Saver's Switch</b>	<b>20,000</b>	<b>\$4,961,935</b>	<b>60,413</b>	<b>17,690</b>	<b>177,738</b>	<b>3.47</b>
Consumer Education	433,854	\$776,640				
Home Energy Audit	3,300	\$576,731				
Residential Lamp Recycling	315,000	\$201,600				
		\$1,554,971				
<b>Residential Segment Total</b>	<b>1,560,397</b>	<b>\$20,730,713</b>	<b>139,991</b>	<b>39,869</b>	<b>101,190,600</b>	<b>1.85</b>
<b>Low-Income Segment</b>						
Home Energy Savings Program	2,100	\$1,358,641	563	186	915,688	0.66
Low-Income Home Energy Squad	1,650	\$391,308	1,228	184	994,948	1.47
Multi-Family Energy Savings Program	596	\$818,914	478	129	722,431	0.69
<b>Low-Income Segment Total</b>	<b>4,346</b>	<b>\$2,568,863</b>	<b>2,269</b>	<b>498</b>	<b>2,633,067</b>	<b>0.75</b>
<b>Planning Segment</b>						
Application Development and Maintenance		\$1,101,600				
Advertising & Promotion		\$2,574,000				
CIP Training		\$125,000				
Regulatory Affairs		\$415,743				
<b>Planning Segment Total</b>		<b>\$4,216,343</b>				
<b>Research, Evaluations &amp; Pilots Segment</b>						
Market Research		\$574,920				
Product Development		\$807,000				
<b>Research, Evaluations &amp; Pilots Segment Total</b>		<b>\$1,381,920</b>				
<b>PORTFOLIO SUBTOTAL</b>	<b>1,641,928</b>	<b>\$72,096,739</b>	<b>226,956</b>	<b>93,455</b>	<b>400,712,665</b>	<b>1.85</b>

<b>Renewable Energy Segment - Solar*Rewards</b>						
<b>Anticipated Alternative Filings</b>						
CEE One-Stop Efficiency Shop		\$11,200,000	10,230	11,000	35,000,000	
EnerChange		\$337,500				
Energy Smart		\$342,000				
Trillion BTU		\$345,150				
<b>Anticipated Alternative Filings Total</b>		<b>\$12,224,650</b>	<b>10,230</b>	<b>11,000</b>	<b>35,000,000</b>	
<b>Assessments Segment</b>		<b>\$1,736,000</b>				
<b>Electric Utility Infrastructure Segment</b>						
<b>PORTFOLIO TOTAL</b>	<b>1,641,928</b>	<b>\$86,057,389</b>	<b>237,186</b>	<b>104,455</b>	<b>435,712,665</b>	

**Executive Summary Table - Gas 2014**

2014	Gas Participants	Gas Budget	Dth Savings	Societal Test Ratio
<b>Business Segment</b>				
Business New Construction	13	\$450,056	23,235	1.14
Commercial Efficiency	8	\$335,181	20,301	2.31
Computer Efficiency				
Cooling Efficiency				
Custom Efficiency	53	\$713,216	39,984	2.47
Data Center Efficiency				
Efficiency Controls	33	\$249,168	25,014	2.09
Fluid Systems Optimization				
Foodservice Equipment	82	\$108,101	7,207	2.19
Heating Efficiency	704	\$1,578,882	200,010	2.26
Lighting Efficiency				
Motor Efficiency				
Process Efficiency	21	\$851,073	135,761	3.88
Recommissioning	30	\$127,139	14,071	3.20
Self-Direct	3	\$125,437	14,801	3.75
Turn Key Services	54	\$68,767	10,529	2.57
<b>Business Segment Energy Efficiency Total</b>	<b>1,002</b>	<b>\$4,607,020</b>	<b>490,913</b>	<b>2.43</b>
Electric Rate Savings				
Saver's Switch for Business				
<b>Business Segment Load Management Total</b>				
Business Education	1,900	\$37,412		
Small Business Lamp Recycling				
	<b>1,900</b>	<b>\$37,412</b>		
<b>Business Segment Total</b>	<b>2,902</b>	<b>\$4,644,432</b>	<b>490,913</b>	<b>2.43</b>
<b>Residential Segment</b>				
Energy Efficient Showerheads	13,950	\$182,087	22,852	11.83
Energy Feedback	142,500	\$415,873	25,859	1.09
ENERGY STAR Homes	500	\$781,748	35,485	2.23
Heating System Rebates	5,777	\$1,173,079	17,418	1.91
Home Energy Squad	3,000	\$800,059	28,229	2.31
Home Lighting				
Home Performance with ENERGY STAR®	225	\$271,998	7,210	1.21
Insulation Rebate	1,092	\$334,065	15,033	1.43
Refrigerator Recycling				
Residential Cooling				
School Education Kits	20,000	\$483,082	21,597	4.50
Water Heater Rebate	1,380	\$187,995	3,677	0.68
<b>Residential Segment Energy Efficiency Total</b>	<b>188,424</b>	<b>\$4,629,986</b>	<b>177,360</b>	<b>2.12</b>
<b>Residential Segment Load Management - Saver's Switch</b>				
Consumer Education	382,912	\$540,806		
Home Energy Audit	2,500	\$402,739		
Residential Lamp Recycling				
	<b>385,412</b>	<b>\$943,545</b>		
<b>Residential Segment Total</b>	<b>573,836</b>	<b>\$5,573,531</b>	<b>177,360</b>	<b>1.92</b>
<b>Low-Income Segment</b>				
Home Energy Savings Program	400	\$1,188,045	9,360	1.12
Low-Income Home Energy Squad	1,650	\$468,136	14,274	2.45
Multi-Family Energy Savings Program				
<b>Low-Income Segment Total</b>	<b>2,050</b>	<b>\$1,656,181</b>	<b>23,635</b>	<b>1.51</b>
<b>Planning Segment</b>				
Application Development and Maintenance		\$267,246		
Advertising & Promotion		\$588,000		
CIP Training		\$40,000		
Regulatory Affairs		\$134,548		
<b>Planning Segment Total</b>		<b>\$1,029,794</b>		
<b>Research, Evaluations &amp; Pilots Segment</b>				
Market Research		\$443,333		
Product Development		\$227,972		
<b>Research, Evaluations &amp; Pilots Segment Total</b>		<b>\$671,305</b>		
<b>PORTFOLIO SUBTOTAL</b>	<b>578,788</b>	<b>\$13,575,243</b>	<b>691,908</b>	<b>2.06</b>

Renewable Energy Segment - Solar*Rewards			
Anticipated Alternative Filings			
CEE One-Stop Efficiency Shop			
EnerChange		\$412,500	
Energy Smart		\$18,000	
Trillion BTU		\$38,350	
Anticipated Alternative Filings Total		\$468,850	
Assessments Segment		\$345,600	
Electric Utility Infrastructure Segment			
PORTFOLIO TOTAL	578,788	\$14,389,693	691,908

**Executive Summary Table - Electric 2015**

2015	Electric Participants	Electric Budget	Customer kW	Generator kW	Generator kWh	Societal Test Ratio
<b>Business Segment</b>						
Business New Construction	43	\$5,337,135	5,094	4,988	21,048,986	1.38
Commercial Efficiency	37	\$3,171,977	2,865	2,094	16,132,446	1.80
Computer Efficiency	2,911	\$1,490,993	1,588	1,707	12,426,585	1.67
Cooling Efficiency	1,109	\$1,963,169	1,982	1,645	7,134,438	1.58
Custom Efficiency	128	\$3,172,659	3,816	1,840	17,787,022	1.74
Data Center Efficiency	18	\$1,010,286	1,183	796	10,380,517	3.01
Efficiency Controls	92	\$1,490,726	2,213	358	17,662,728	2.24
Fluid Systems Optimization	551	\$1,860,934	2,646	2,573	16,634,440	2.74
Foodservice Equipment	72	\$58,727	147	108	729,965	3.02
Heating Efficiency						
Lighting Efficiency	449	\$4,917,319	5,694	5,041	30,027,945	1.70
Motor Efficiency	877	\$4,354,982	7,217	6,057	36,021,638	2.30
Process Efficiency	91	\$6,609,504	11,586	8,565	71,224,992	2.78
Recommissioning	124	\$1,151,320	1,838	587	11,938,416	2.06
Self-Direct	20	\$3,616,137	6,441	4,344	19,835,182	1.57
Turn Key Services	421	\$1,605,351	2,271	717	8,259,652	1.87
<b>Business Segment Energy Efficiency Total</b>	<b>6,942</b>	<b>\$41,811,218</b>	<b>56,581</b>	<b>41,419</b>	<b>297,244,952</b>	<b>2.00</b>
Electric Rate Savings	80	\$492,822	16,000	8,165	302,531	7.05
Saver's Switch for Business	1,151	\$2,106,903	12,620	3,256	21,090	1.54
<b>Business Segment Load Management Total</b>	<b>1,231</b>	<b>\$2,599,725</b>	<b>28,620</b>	<b>11,421</b>	<b>323,621</b>	<b>2.58</b>
Business Education	14,000	\$247,498				
Small Business Lamp Recycling	60,000	\$39,600				
<b>Business Segment Indirect Total</b>	<b>74,000</b>	<b>\$287,098</b>				
<b>Business Segment Total</b>	<b>82,173</b>	<b>\$44,698,041</b>	<b>85,201</b>	<b>52,840</b>	<b>297,568,573</b>	<b>2.01</b>
<b>Residential Segment</b>						
Energy Efficient Showerheads	1,050	\$15,747	175		360,781	8.39
Energy Feedback	190,375	\$1,530,056	1,297	967	12,406,647	1.23
ENERGY STAR Homes	860	\$199,145	281	105	885,775	1.77
Heating System Rebates	7,000	\$759,470	1,750	1,343	4,745,263	1.49
Home Energy Squad	5,499	\$1,239,558	2,925	537	2,384,706	1.18
Home Lighting	675,611	\$4,857,433	55,664	8,520	64,376,286	2.27
Home Performance with ENERGY STAR®	225	\$99,995	200	138	156,325	1.31
Insulation Rebate	311	\$93,156	493	250	361,265	1.46
Refrigerator Recycling	6,500	\$920,950	1,398	843	7,352,594	3.42
Residential Cooling	10,114	\$4,768,217	9,254	9,121	5,479,306	1.07
School Education Kits	20,000	\$618,350	1,624	131	1,714,351	1.28
Water Heater Rebate						
<b>Residential Segment Energy Efficiency Total</b>	<b>917,545</b>	<b>\$15,102,077</b>	<b>75,061</b>	<b>21,957</b>	<b>100,223,299</b>	<b>1.64</b>
<b>Residential Segment Load Management - Saver's Switch</b>	<b>20,000</b>	<b>\$5,083,549</b>	<b>60,413</b>	<b>17,690</b>	<b>177,738</b>	<b>3.47</b>
Consumer Education	433,854	\$765,640				
Home Energy Audit	3,300	\$596,640				
Residential Lamp Recycling	325,000	\$214,500				
<b>Residential Segment Indirect Total</b>	<b>762,154</b>	<b>\$1,576,780</b>				
<b>Residential Segment Total</b>	<b>1,699,699</b>	<b>\$21,762,406</b>	<b>135,474</b>	<b>39,647</b>	<b>100,401,037</b>	<b>1.80</b>
<b>Low-Income Segment</b>						
Home Energy Savings Program	2,000	\$1,307,042	505	174	842,035	0.66
Low-Income Home Energy Squad	1,650	\$394,569	1,142	177	925,303	1.43
Multi-Family Energy Savings Program	596	\$818,976	430	124	677,988	0.68
<b>Low-Income Segment Total</b>	<b>4,246</b>	<b>\$2,520,587</b>	<b>2,076</b>	<b>476</b>	<b>2,445,325</b>	<b>0.75</b>
<b>Planning Segment</b>						
Application Development and Maintenance		\$1,101,600				
Advertising & Promotion		\$2,628,000				
CIP Training		\$124,999				
Regulatory Affairs		\$435,669				
<b>Planning Segment Total</b>		<b>\$4,290,268</b>				
<b>Research, Evaluations &amp; Pilots Segment</b>						
Market Research		\$998,988				
Product Development		\$807,000				
<b>Research, Evaluations &amp; Pilots Segment Total</b>		<b>\$1,805,988</b>				
<b>PORTFOLIO SUBTOTAL</b>	<b>1,786,119</b>	<b>\$75,077,290</b>	<b>222,750</b>	<b>92,962</b>	<b>400,414,935</b>	<b>1.86</b>

<b>Renewable Energy Segment - Solar*Rewards</b>						
<b>Anticipated Alternative Filings</b>						
CEE One-Stop Efficiency Shop		\$11,200,000	10,230	11,000	35,000,000	
EnerChange		\$337,500				
Energy Smart		\$356,250				
Traction BTU		\$331,650				
<b>Anticipated Alternative Filings Total</b>		<b>\$12,225,400</b>	<b>10,230</b>	<b>11,000</b>	<b>35,000,000</b>	
<b>Assessments Segment</b>		<b>\$1,736,000</b>				
<b>Electric Utility Infrastructure Segment</b>						
<b>PORTFOLIO TOTAL</b>	<b>1,786,119</b>	<b>\$89,038,690</b>	<b>232,980</b>	<b>103,962</b>	<b>435,414,935</b>	

Three Year Summary	Electric Participants	Electric Budget	Customer kW	Generator kW	Generator kWh
2013	1,561,736	\$86,763,621	246,056	106,273	435,844,594
2014	1,641,928	\$86,057,389	237,186	104,455	435,712,665
2015	1,786,119	\$89,038,690	232,980	103,962	435,414,935
<b>2013 - 2015 Total</b>	<b>4,989,783</b>	<b>\$261,859,701</b>	<b>716,223</b>	<b>314,690</b>	<b>1,306,972,193</b>

**Executive Summary Table - Gas 2015**

2015	Gas Participants	Gas Budget	Dth Savings	Societal Test Ratio
<b>Business Segment</b>				
Business New Construction	12	\$419,412	20,739	1.14
Commercial Efficiency	13	\$482,239	25,591	2.31
Computer Efficiency				
Cooling Efficiency				
Custom Efficiency	53	\$719,247	39,984	2.47
Data Center Efficiency				
Efficiency Controls	33	\$238,902	25,014	2.09
Fluid Systems Optimization				
Foodservice Equipment	82	\$107,430	7,207	2.19
Heating Efficiency	691	\$1,578,199	195,006	2.26
Lighting Efficiency				
Motor Efficiency				
Process Efficiency	23	\$862,029	137,395	3.88
Recommissioning	30	\$127,259	14,071	3.20
Self-Direct	4	\$165,145	19,735	3.75
Turn Key Services	58	\$72,425	11,342	2.57
<b>Business Segment Energy Efficiency Total</b>	<b>1,000</b>	<b>\$4,772,287</b>	<b>496,084</b>	<b>2.43</b>
Electric Rate Savings				
Saver's Switch for Business				
<b>Business Segment Load Management Total</b>				
Business Education	1,900	\$37,412		
Small Business Lamp Recycling				
<b>Business Segment Indirect Total</b>	<b>1,900</b>	<b>\$37,412</b>		
<b>Business Segment Total</b>	<b>2,900</b>	<b>\$4,809,699</b>	<b>496,084</b>	<b>2.43</b>
<b>Residential Segment</b>				
Energy Efficient Showerheads	13,950	\$191,126	22,852	11.83
Energy Feedback	135,375	\$399,534	24,566	1.09
ENERGY STAR Homes	500	\$775,123	35,485	2.23
Heating System Rebates	5,777	\$1,200,159	17,736	1.91
Home Energy Squad	3,000	\$808,680	28,328	2.31
Home Lighting				
Home Performance with ENERGY STAR®	225	\$277,193	7,259	1.21
Insulation Rebate	1,133	\$344,870	15,615	1.43
Refrigerator Recycling				
Residential Cooling				
School Education Kits	20,000	\$484,023	21,597	4.50
Water Heater Rebate	1,380	\$194,914	3,677	0.68
<b>Residential Segment Energy Efficiency Total</b>	<b>181,340</b>	<b>\$4,675,622</b>	<b>177,115</b>	<b>2.12</b>
<b>Residential Segment Load Management - Saver's Switch</b>				
Consumer Education	382,912	\$540,806		
Home Energy Audit	2,500	\$416,500		
Residential Lamp Recycling				
<b>Residential Segment Indirect Total</b>	<b>385,412</b>	<b>\$957,306</b>		
<b>Residential Segment Total</b>	<b>566,752</b>	<b>\$5,632,928</b>	<b>177,115</b>	<b>1.92</b>
<b>Low-Income Segment</b>				
Home Energy Savings Program	400	\$1,167,851	9,001	1.12
Low-Income Home Energy Squad	1,650	\$468,370	14,274	2.45
Multi-Family Energy Savings Program				
<b>Low-Income Segment Total</b>	<b>2,050</b>	<b>\$1,636,221</b>	<b>23,275</b>	<b>1.51</b>
<b>Planning Segment</b>				
Application Development and Maintenance		\$267,246		
Advertising & Promotion		\$610,000		
CIP Training		\$40,000		
Regulatory Affairs		\$140,687		
<b>Planning Segment Total</b>		<b>\$1,057,933</b>		
<b>Research, Evaluations &amp; Pilots Segment</b>				
Market Research		\$189,070		
Product Development		\$227,972		
<b>Research, Evaluations &amp; Pilots Segment Total</b>		<b>\$417,042</b>		
<b>PORTFOLIO SUBTOTAL</b>	<b>571,702</b>	<b>\$13,553,823</b>	<b>696,474</b>	<b>2.06</b>

Renewable Energy Segment - Solar*Rewards			
Anticipated Alternative Filings			
CEE One-Stop Efficiency Shop			
EnerChange		\$412,500	
Energy Smart		\$18,750	
Trillion BTU		\$36,850	
Anticipated Alternative Filings Total		\$468,100	
Assessments Segment		\$345,600	
Electric Utility Infrastructure Segment			
PORTFOLIO TOTAL	571,702	\$14,367,523	696,474

Three Year Summary	Gas Participants	Gas Budget	Dth Savings
2013	586,068	\$13,616,878	696,413
2014	578,788	\$14,389,693	691,908
2015	571,702	\$14,367,523	696,474
2013 - 2015 Total	1,736,558	\$42,374,094	2,084,797

## **Appendix D.2 Great River Energy Demand Side Management (“DSM”) Data**

### **Energy Conservation**

Great River Energy has a robust portfolio of rebate programs, promotions and energy efficiency expertise. These programs help Great River Energy achieve the requirements outlined in The Next Generation Energy Act of 2007. In 2010, Great River Energy and its member cooperatives invested more than \$25 million in the delivery of energy efficiency, conservation and demand side management programs. In 2010 these efforts resulted in over 219 million kilowatt-hours throughout Great River Energy’s system.

Great River Energy and its member owners not only provide rebates to meet the Next Generation Energy Act goals, but also consider energy conservation and load management as an important resource in the planning process. Individual member-system participation goals are used in conjunction with Great River Energy's diversified demand assumptions and loss factors to calculate total system peak reduction. Great River Energy’s goal is to maintain and enhance existing programs and continue to introduce new programs that provide net benefits to cooperative members, cooperatives and Great River Energy. The programs are designed to save natural resources and delay the need for additional transmission and/or generation resources.

Great River Energy’s conservation programs are described in more detail below.

## **GREAT RIVER ENERGY DEMAND SIDE MANAGEMENT PROGRAMS**

Minn. R. 7849.0290 requires that an application for a Certificate of Need include information regarding the applicant's conservation and load management programs (collectively "Demand Side Management" or "DSM"). This information is presented below for Great River Energy.

Minn. R. 7849.0290 requires that an application must include:

**A. The name of the committee, department, or individual responsible for the applicants energy conservation and efficiency programs, including load management;**

Great River Energy's Member Services Division is responsible for energy conservation and load management programs.

**B. A list of the applicant's energy conservation and efficiency goals and objectives;**

- Per Minnesota Statute 216B.241, Subd. 1c. Great River Energy's 2012 energy conservation goal for its member cooperatives is equal to 169,012,726 kWh at the generator. This figure represents 1.5% of GRE's members average weather normalized sales for 2008-2010, less sales to customers that have received formal CIP exemptions from the Minnesota Department of Commerce. The Minnesota Department of Commerce, Division of Energy Resources has approved GRE's 2012 program plan, which includes a broad array of programs that cover the residential, commercial, industrial and agricultural sectors.
- Per Great River Energy's load management programs, the goal is to maximize the value of current load management programs by identifying new revenue streams available in a FERC approved ISO market. Opportunities include load management as market energy, regulation and/or reserves.

**A description of the specific energy conservation and efficiency programs that the applicant has considered, a list of those that have been implemented and the reasons why the other programs have not been implemented;**

Each year, Great River Energy conducts feasibility studies on potential programs. Programs with verifiable energy reductions and no market barriers that are found to be cost effective are implemented. Programs that are difficult to quantify with market barriers, or are not cost effective are not added to the program portfolio.

A brief description of each program, by program type, that allows Great River Energy to achieve its strategic conservation and load management goals is provided below.

## **INDIRECT CONSERVATION PROGRAMS**

### **Energy Education**

Member cooperatives assist residential and commercial/industrial customers to help make them aware of the available energy conservation and energy efficiency programs through brochures, bill inserts, radio advertisements, newsletters, workshops, fairs, trade shows, and one-on-one consultation.

### **Residential Electrical Evaluation and Consultation**

The residential electrical evaluation and consultation program is targeted at customers who contact their member cooperative and express concern over their electrical usage. When a customer contacts their cooperative representative, the representative reviews general appliance usage and costs with the customer. The review provides an overview of the customer's energy usage and provides suggestions on various means by which the customer can conserve energy.

## **DIRECT CONSERVATION PROGRAMS - RESIDENTIAL**

### **Energy Assessments/Audits**

Members offer free or reduced cost energy audits for residential and commercial customers. Cooperatives have staff specifically trained to conduct basic audits. In addition to the basic audits, participating members work with local Community Action Programs (CAP) agencies to target low-income households that could benefit from energy conservation education.

Commercial consumers are provided with either a walk-through energy audit performed by cooperative staff or a more comprehensive audit performed by a professional consultant. Costs for the comprehensive audit are typically shared 50 percent by Great River Energy, through the distribution cooperative, and 30 percent by the customer.

### **Residential Cooling**

Residential air conditioning is a critical load to Great River Energy and its member distribution cooperatives. High-efficiency air conditioners improve system load factor, reduce peak capacity requirements, improve system efficiencies, and lower customer's cooling costs. Great River Energy, through its member cooperatives, provides a rebate for central air conditioners that have a Seasonal Energy Efficiency Ratio (SEER) of 13 or greater. This increased efficiency results in energy and demand savings during Great River Energy's critical summer period.

### **Residential Air Source Heat Pump (ASHP)**

ASHPs provide summer cooling and spring/fall heating in residential or commercial installations. ASHPs are sized for cooling. In the cooling mode, the ASHP functions as a central air conditioner and is load managed during the summer per Great River Energy's cycled air conditioning control strategy. In the heating mode, the ASHP provides very efficient space heating to a temperature of approximately 20 degrees F. At this temperature the ASHP automatically shuts off and the secondary heating system (typically a natural gas or liquid propane furnace) heats the home. If

conditions should require load control, Great River Energy also has the ability to control ASHPs during the heating season. ASHPs help Great River Energy improve load factor, reduce peak capacity requirements, and improve system efficiencies.

#### Quality Installation Program for Central Air Conditioners and Air Source Heat Pumps

In addition to offering equipment rebates, GRE and its member cooperatives provide additional incentives for quality installation of high-efficient central air conditioners and air-source heat pumps. In order to generate maximum electric energy savings, it is essential that the equipment is installed correctly and according to manufacturer's specifications. The quality installation program seeks to validate four components of the installation:

- 1) Air flow
- 2) Duct Sealing
- 3) Proper sizing
- 4) Refrigerant charge

New central air conditioners and air source heat pumps with an overall efficiency of 13 SEER or higher are eligible. The system must be matched, which means the outdoor condenser unit and the indoor evaporator coil are designed by the manufacturer to work together to provide top performance and maximum efficiency.

#### Residential HVAC Tune-Up

Rebates are available to members who hire a registered and/or professional Heating Ventilation and Air Conditioning (HVAC) contractor to perform a tune-up of an existing, working Cycled Air Conditioner (CAC) or ASHP. This program is designed to improve the efficiency and maintain the operation of CACs and ASHPs.

#### Residential Cycled Air Conditioning and ASHP

The cycled air conditioning program provides customers with an incentive to allow Great River Energy to cycle (15 minutes on, 15 minutes off) their central air conditioner during periods of high peak demand. The cycling provides approximately one kilowatt (kW) of demand reduction per air conditioner. Air conditioning is a critical load to the member distribution cooperatives and to Great River Energy. The program helps improve system load factor, reduce peak capacity requirements, and improve system efficiencies.

#### Residential Geothermal

Ground Source Heat Pumps (GSHPs) have proven to be one of the most efficient space conditioning options with the added potential of significant energy savings. Acceptance of this technology continues to grow nationwide. GSHPs use the latent heat in the earth as a heat sink and a heat source. By utilizing a series of buried heavy-duty plastic pipes filled with a food-grade antifreeze solution as the heat transfer medium, GSHPs are highly efficient in both heating and cooling modes. This high efficiency results in reduced kWh usage in the cooling season and can also significantly reduce the total energy used to heat a home when compared to alternative heating systems. Along with the kilowatt hour (kWh) savings, there is capacity savings when the GSHP is part of the load management program.

### Income Eligible: AC Tune-UP

Participating member distribution cooperatives offer air conditioning tune-ups to low-income customers in conjunction with local CAP agencies. The role of a CAP agency is to help identify customers that would benefit from this service and to provide instruction to local HVAC service vendors authorized under this program to provide tune-ups. The tune-up service includes:

- Cleaning condenser coil
- Checking Freon level and pressures
- Checking indoor filter
- Testing all controls
- Blowing out drain line
- Visually inspecting the entire system
- Educating homeowner on operation

The low-income air conditioner tune-up program improves air conditioner efficiency, which in turn lowers the customer's energy bill.

### Income Eligible

Participating member distribution cooperatives provide renters or rental property owners with help to improve the energy efficiency of the property. Programs include high efficiency space heating and cooling, lighting retrofit, appliance replacement, energy saving water kits, Habitat for Humanity, and air conditioner tune-ups.

### Residential Lighting

Lighting makes up ten percent of a typical home's electricity consumption. The home lighting program is an energy conservation program in the form of a rebate that encourages the conversion from incandescent lighting to more energy efficient lighting – particularly compact fluorescent lighting (CFLs) and light emitting diodes (LEDs). Promotions are also offered throughout the year at major retailers for instant in-store savings (Wal-Mart and Target).

### Bulb Recycling

This program is designed to support Minn. Stat. §115A.932 to encourage residential members to properly recycle CFLs. Great River Energy offers \$0.50 per lamp rebate through local retailers. Free recycling was available in 2008-2009 through participating Menards stores.

### High Efficiency Water Heat

Customers replacing old inefficient electric water heaters with new high efficiency electric water heaters receive a cash rebate from a participating distribution cooperative. The minimum acceptable water heater has insulation of R16 or greater, and an energy efficiency factor of 0.92. The average water heater replaced has an efficiency factor of 0.82 or less.

### Residential Dual Fuel and Pool Heat

Dual fuel space heating is a heating option for the conditioned living space in residential customers' homes that use only electric heat as the primary heat source. Cooperative members must have a backup heat source (propane or fuel oil) to provide heat to the entire living area or pool. Member incentives may include all or a portion of the costs to install load controls on equipment.

#### Hot Water Savings

This program offers an opportunity for residential members to purchase and install a variety of energy saving water equipment at a significantly reduced price. The kit includes Hower head, kitchen aerator, bathroom aerators, hot water temperature card, and teflon tape to assist with the installation. Kits are provided at no cost to income-eligible members and CAP agencies for installation in income-eligible properties.

#### Electric Vehicle and ChargeWise<sup>SM</sup>

Great River Energy provides a specific rate for charging on and off-road electric vehicles such as Plug-in Hybrid Electric Vehicles (PHEV), golf carts, forklifts, etc., which can operate “around-the-clock” from a nightly eight hour charge. Great River Energy will rebate up to \$500 of the installation cost for the ChargeWise<sup>SM</sup> kit. The ChargeWise<sup>SM</sup> program requires the program participant be a residential customer of an all requirements member.

### **DIRECT CONSERVATION PROGRAMS – COMMERCIAL, INDUSTRIAL, and AGRICULTURE (CI&A)**

#### Agriculture

Agricultural prescriptive and custom rebates are available to members for the installation of various types of high efficiency agricultural equipment. Rebates are offered for the following applications:

- Ventilation
- Dairy-Free Heater
- Dairy Plate Cooler
- Hog Farrowing
- Compressor Heat Recovery Systems
- Scroll Compressors for Bulk Tank
- Low Pressure Irrigation Systems
- Livestock Water Heaters

#### Compressed Air

This program rebates members for installing compressed air systems, equipment updates or system improvements that result in lower energy usage.

#### Custom

The CI&A energy grant and rebate program provides cash incentives to qualified applicants for energy efficiency improvements to their business, industry, or farm. Interested customers must

complete a grant application form, which describes the intended energy efficiency improvement measures and calculates the expected energy and demand savings. The individual member cooperative evaluates the proposal for viability and cost effectiveness, and those that rank the highest are awarded grants to help offset the cost of their project. Grant funds are typically used for the installation of high efficiency lighting, motors, adjustable speed drives, refrigeration compressors, high efficiency air conditioning, and other energy-conserving equipment. The program also includes a New Construction Rebate for Lighting and Motors. This rebate is on a per fixture basis or on the horsepower rating of the motor.

#### Energy Assessments/Audits

Members offer free or reduced cost energy audits for residential and commercial customers. Cooperatives have staff specifically trained to conduct basic audits. In addition to the basic audits, participating members work with local CAP agencies to target low-income households that could benefit from energy conservation education.

Commercial consumers are provided with either a walk-through energy audit performed by cooperative staff or a more comprehensive audit performed by a professional consultant. Costs for the comprehensive audit are typically shared 50 percent by Great River Energy, through the distribution cooperative, and 50 percent by the customer.

### **COMMERCIAL HEATING VENTILATION AND AIR CONDITIONING (HVAC)**

Program rebates are offered to members for qualifying commercial cooling equipment installation. Only new and complete central air conditioning units and remote condensing unit retrofits qualify.

#### Commercial GSHPs

GSHPs have proven to be one of the most efficient space conditioning options with the added potential of significant energy savings. This high efficiency results in the reduction of kWh usage in the cooling season and can also significantly reduce the total energy used to heat a building when compared to alternative heating systems. A number of building types are able to take advantage of the benefits of heating and cooling with GSHPs and the program targets schools, churches, and other commercial and industrial buildings where appropriate.

#### Commercial New Construction Lighting

Prescriptive and custom rebates are available for lighting projects in retrofit, new construction and LED traffic signal retrofit applications. Specific dollar amounts, per fixture, vary based on the type of luminaires installed, lamp wattage, length and number of lamps per fixture.

#### Commercial Retrofit Lighting

Rebates are offered for retrofit lighting projects in existing structures. They are determined individually, based on equipment being removed and replaced with more efficient lighting or

controls. For projects not covered by the prescriptive rebate application form, a custom rebate will calculate the energy savings and determine the rebate amount.

#### Commercial Motors and Drives

This program offers rebates for new or existing retail businesses. Rebates are determined on an individual basis using the prescriptive rebate forms for the motors and drives being installed. Motors that meet the National Electrical Manufacturers Association (NEMA) Premium Efficiency Motor Standards for retrofit applications are eligible.

#### Commercial Whole Building Energy Efficiency

Member cooperatives provide energy efficient educational materials and speakers for little or no cost to members at community meetings, key account meetings and other public informational gatherings. Member cooperatives also offer design assistance, building commissioning, building recommissioning, and audits that are specific for the commercial, industrial, or agricultural members needs.

#### Vending Controls

Rebates are available for control devices that are either occupancy or moisture sensor-based installed on beverage vending machines, glass-front beverage machine coolers or glass-front refrigerated display case doors.

### **DIRECT LOAD CONTROL PROGRAMS**

#### Interruptible CI&A Loads

The Interruptible CI&A Loads Program provides a reduced electric rate to CI&A customers that can reduce their demand by a minimum of 25 kW during periods of high demand.

#### Interruptible Irrigation

Interruptible commercial irrigation systems, generally agricultural, turf growers, or golf courses, can be interrupted once per day for up to four hours.

#### Dual Fuel Space Heating

Dual fuel space heating systems are a combination of interruptible electric and non-electric space heating. Both the primary and secondary heating systems are sized for the entire heating load of the home. During periods of high electric demand, the interruptible electric heating system is shut off and the secondary (non-electric) heating system heats the home.

#### Electric Thermal Storage (ETS) Space Heating

The ETS space heating program uses off-peak electric energy to provide 100% of a home's heating requirements. During the nightly eight-hour ETS charge time, heat is stored in a water or ceramic medium. There are three commonly available storage heating configurations: central furnaces, room

or dispersed heaters, and slab. Customers receive a special off-peak rate in return for allowing Great River Energy to control their systems each day during the on-peak hours.

#### Electric Thermal Storage (ETS) Water Heating

The ETS water heating program uses off-peak electric energy coupled with a high efficient water heater with sufficient storage capacity to supply the user's hot water needs. The water heaters are charged between 11:00 pm and 7:00 am each evening.

#### Interruptible Water Heating

Interruptible water heaters can be interrupted during periods of high electric demand for up to eight hours per day. Customers receive a special interruptible rate in return for allowing Great River Energy to control their water heaters during peak periods.

#### Electric Thermal Storage (ETS) Pool Heating

The ETS pool heating program uses off-peak electric energy to heat water for swimming pools. Swimming pools can be sufficiently heated during the nightly eight-hour off-peak charge time. Member distribution cooperatives provide participants a reduced electric rate for the ability to interrupt this load during the on-peak hours.

#### Off Peak Electric Vehicles and "ChargeWise<sup>SM</sup>"

The Electric Vehicle and "ChargeWise<sup>SM</sup>" program charges electric vehicle batteries using only off-peak energy between 11:00 pm and 7:00 nightly. Examples of qualifying vehicles are electric forklifts, golf carts, and residential PHEVs and EVs.

### **WELLSPRING RENEWABLE ENERGY PROGRAM**

The Wellspring renewable wind energy program is a voluntary "green pricing" program that offers wind-generated electricity to cooperative members. Great River Energy was the first utility in the five-state region to offer such a program. Green pricing is a voluntary service that allows members the opportunity to purchase 100 kWh blocks of renewable energy and pay a premium on their electric bill to cover the incremental cost.

### **EVALUATED PROGRAMS**

#### Pool Pump

The Pool Pump program is currently available on a pilot basis. The program is available to members that have an in-ground swimming pool. Members replacing an old inefficient pump with a new high efficiency pump can receive a rebate from their participating distribution cooperative.

#### PC Power Management

Connexus Energy, Dakota Electric, and Minnesota Valley Electric Cooperative are currently evaluating PC Power Management based on the "Electricity Savings Opportunities for Home Electronics and Other Plug-In Devices in Minnesota Homes". The report was completed in 2010 by the Energy Center of Wisconsin. The program allows a member to download an internet

application that manages the energy used by a home PC based on an energy use profile that automatically switches the computer to a hibernate mode when it is not used for a predetermined length of time.

#### Data Centers

Data center rebates are not a specific program, rather they are covered under the custom grant program or by individual measures done at the site (HVAC, Lighting, Controls, etc.)

#### Battery Energy Storage

The intent of the program was to store off-peak energy in lead acid batteries to be discharged during the on-peak hours. Great River Energy's analysis showed that the cost of the units and the kWh capacity was not able to yield a positive return on investment, via energy arbitrage, over the life of the unit.

#### Ice Energy Storage

The potential to store off-peak energy in large insulated vessels to be discharged during on-peak hours was investigated. The units are deployed in conjunction with existing commercially packaged HVAC rooftop units. When the HVAC unit calls for cooling, a pump circulates coolant through coils in the ice and transfers the cold fluid to a separate condenser installed in the HVAC unit. The program was not found to be cost effective.

### **C. A description of the major accomplishments that have been made by the applicant with respect to energy conservation and efficiency;**

#### **Conservation and Efficiency**

Great River Energy has met the CIP goals outlined not only in 2010 when the legislation took effect, but also the goals established internally for 2008 and 2009. Additional information on the success of the conservation and load management programs is provided in the tables on the following page.

**2008:** 78,000,000 kWhs saved (0.7% of member sales)

**2009:** 94,000,000 kWhs saved (0.85% of member sales)

**2010 All Requirements Members:** 183,926,700 kWh saved at the generator equaling 2.1% of member sales.

2011 All Requirements Members (preliminary): 145,951,628 kWh saved at the generator equaling 1.68%\* of member sales.

*\* Twenty (20) all-requirements members purchase all of the power and energy needed to satisfy their electricity sales from Great River Energy, with limited exceptions for amounts historically supplied by the Western Area Power Administration ("WAPA") or from renewable generation facilities directly interconnected at a distribution level. Great River Energy has the responsibility and obligation to plan for and supply all of the future power and energy needs of the all-requirements member rate class.*

Eight (8) fixed members purchase a finite contractual amount of power and energy from Great River Energy that does not change based on their current actual use or need. As such, the energy conservation savings achieved by the fixed members does not reduce Great River Energy's power supply obligations or impact its need for future generation resources. Some fixed members purchase power and energy historically supplied by WAPA or from renewable generation facilities directly interconnected at the distribution level. The fixed members have made arrangements for other wholesale suppliers to assume responsibility and obligation to plan for and supply all of their future power and energy needs.

Generator kWh savings add 11.5% to the energy savings that are realized at the end use member. This amount is an average reflecting the line-losses that occur through the Transmission and Distribution of electricity to end use members.

<b>CIP Savings and Expenditures – All Requirements Members Only</b>						
<b>Great River Energy</b>						
<b>2008-2010</b>						
<b>CIP Year</b>	<b>Annual kWh</b>	<b>Lifetime kWh (based on average measure lifetime)</b>	<b>Annual KW</b>	<b>Aggregate KW (based on measure of lifetime)</b>	<b>Annual CIP Spending</b>	<b>Aggregate CIP Spending</b>
<b>2008</b>	70,432,275	880,403,438	125,825	125,825	\$16,248,830	\$16,248,830
<b>2009</b>	79,467,727	998,114,651	77,418	203,243	\$18,759,091	\$35,007,921
<b>2010</b>	117,226,945	1,441,891,424	41,634	244,877	\$20,598,092	\$55,606,013
<b>2011</b>	91,961,746	1,149,521,825	32,781	277,659	<i>Pending</i>	<i>Pending</i>
<b>Total</b>	<b>359,088,693</b>	<b>4,469,931,337</b>	<b>277,658</b>	<b>277,658</b>	<b>\$55,606,013*</b>	<b>\$55,606,013*</b>

\*Total amounts do not include spending for 2011, GRE and its all-requirement member cooperatives spent approximately \$8,000,000 on participant incentives in 2011. All additional costs associated with the delivery, administration, evaluation, and advertising and promotion of these programs is being collected. Historically these costs have represented more than 100% of the costs associated with participant incentives.

### Demand Side Management

<b>Additional Controlled Load</b>			
<b>Great River Energy</b>			
<b>2008-2010</b>			
<b>Additional Controlled Load Installed by Customer Class</b>			
	<b>2008</b>	<b>2009</b>	<b>2010</b>
<b>Residential</b>	170	176	180

<b>Commercial</b>	178	183	190
<b>Total**</b>	<b>337</b>	<b>349</b>	<b>360</b>
<b>Total Controlled Load Installed by Load Type</b>			
	<b>2008</b>	<b>2009</b>	<b>2010</b>
<b>Dual Fuel</b>	132	137	140
<b>Cycled Air Conditioning</b>	121	127	130
<b>Interruptible Water Heating</b>	38	39	40
<b>Irrigation</b>	37	39	40
<b>Interruptible C&amp;I</b>	141	144	150
<b>Total KW</b>	<b>469</b>	<b>486</b>	<b>500</b>

\*\* Total control does not equal the sum of commercial and residential due to the differences in residential and commercial capabilities across control seasons. Total control values are derived from historical summer control performance.

**D. A description of the applicants future plans through the forecast years with respect to energy conservation and efficiency.**

Great River Energy and its Members have developed a robust portfolio of energy efficiency programs that provide measureable value for member-consumers in Minnesota. These programs are a dynamic and active part of Great River Energy’s planning and daily operations and provide member-consumers with options for managing their energy use and associated costs.

The key to maintaining success hinges on the ability to promote current programs while developing new programs that find a sustainable balance between reducing energy and maintaining member-consumer satisfaction. Success can be seen not only in the achievement of conservation goals but also in the creation of new programs. An ongoing goal at Great River Energy is to create new programs that provide more opportunities for member-consumer participation. On average, Great River Energy creates two new energy efficiency programs each year. Recent goals have been achieved by reaching out and partnering with large retailers such as Wal-Mart and, Target. Continuing to reach out to local retailers and others across the industry will enable Great River Energy to identify new opportunities that will lead to successful achievement of its strategic conservation goals.

**E. A quantification of the manner by which these programs affect or help determine the forecast provided in response to part 7849.0270 subpart 2, a list of their total costs by**

programs, and a discussion of their expected effects in reducing the need for new generation and transmission facilities.

<b>Energy Conservation and Demand Side Management Budgets 2012-2013**</b>			
	<b>2012 Budget</b>	<b>2013 Proposed</b>	<b>2014 Proposed</b>
<b>Energy Conservation</b>			
Residential	\$6,394,148	\$6,394,148	\$6,394,148
Commercial	\$2,605,852	\$2,605,852	\$2,605,852
Income Eligible	\$1,189,076	\$1,189,076	\$1,189,076
<b>Total</b>	<b>\$10,189,076</b>	<b>\$10,189,076</b>	<b>\$10,189,076</b>
<b>Demand Side Management</b>			
Residential	\$6,178,798	\$6,178,798	\$6,178,798
Commercial	\$388,839	\$388,839	\$388,839
<b>Total</b>	<b>\$6,567,638</b>	<b>\$6,567,638</b>	<b>\$6,567,638</b>
<b>Total Budget</b>	<b>\$16,756,714</b>	<b>\$16,756,714</b>	<b>\$16,756,714</b>

\*\*2012-2014 Budget projections are based on the statutory mandated spending requirements and will change with changes in subsequent years revenues. Currently Minnesota Statutes §216B.241, Subd. 1b. requires that cooperative associations spend a minimum of 1.5% of their gross operating revenues from service provided in the state, excluding gross operating revenues from service provided to large electric customer facilities indirectly through a distribution cooperative electric association. Cooperatives are allowed to use 50% of this minimum spending requirement on load management program expenditures.

The effect of energy conservation and load management programs on load is implicit in Great River Energy's forecasts. The forecast is calculated using raw load data, and does not make any adjustments that attempt to measure the impact of energy efficiency or load management activities.

DSM and conservation programs do have a significant effect in reducing the need for new resource additions. In aggregate, Great River Energy's load management programs are capable of reducing summer and winter peak loads by 15%.

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## Appendix D.3

### Demand Side Management Data for the Study Area

*Monthly historical load control data served by each substation imputed to each Applicants' respective system peak forecast*

**Northern States Power (“NSP”) System Historic Summer Peak Potential Load Relief from Interruptible Customers (kW)**

Year	Month			Percentage of System Load
	June	July	August	
2002	525,253	527,271	525,673	N/A
2003	516,970	518,986	517,377	N/A
2004	530,962	533,026	531,390	N/A
2005	560,253	562,556	560,698	N/A
2006	652,867	655,441	653,368	N/A
2007	707,134	710,929	709,366	N/A
2008	706,904	709,886	707,248	N/A
2009	736,156	739,288	736,512	N/A
2010	695,756	698,789	696,076	N/A
2011	663,792	666,684	664,073	N/A
2012	692,622	695,650	692,913	N/A

**Hollydale Area Peak Historic Potential Load Relief by Zip Code for Xcel Energy Customers (kW)**

Medina (Zip Code 55340)				
Year	Month			Percentage of System Load
	June	July	August	
2002	192	193	192	0.04%
2003	189	190	189	0.04%
2004	170	170	170	0.03%
2005	179	180	179	0.03%
2006	209	209	209	0.03%
2007	226	227	227	0.03%
2008	226	227	226	0.03%
2009	268	269	268	0.04%
2010	253	254	253	0.04%
2011	242	243	242	0.04%
2012	252	253	252	0.04%

**Interruptible Customers—Historic Summer Peak**

<b>Medina (Zip Code 55356)</b>				
<b>Year</b>	<b>Month</b>			<b>Percentage of System Load</b>
	<b>June</b>	<b>July</b>	<b>August</b>	
2002	1,728	1,735	1,730	0.33%
2003	1,701	1,708	1,703	0.33%
2004	1,358	1,363	1,359	0.26%
2005	1,432	1,438	1,434	0.26%
2006	1,669	1,676	1,670	0.26%
2007	1,808	1,818	1,814	0.26%
2008	1,807	1,815	1,808	0.26%
2009	1,875	1,883	1,876	0.25%
2010	1,772	1,780	1,773	0.25%
2011	1,691	1,698	1,692	0.25%
2012	1,764	1,772	1,765	0.25%

<b>Medina (Zip Code 55391)</b>				
<b>Year</b>	<b>Month</b>			<b>Percentage of System Load</b>
	<b>June</b>	<b>July</b>	<b>August</b>	
2002	2,497	2,506	2,499	0.48%
2003	2,457	2,467	2,459	0.48%
2004	2,376	2,385	2,378	0.45%
2005	2,507	2,517	2,509	0.45%
2006	2,921	2,933	2,923	0.45%
2007	3,164	3,181	3,174	0.45%
2008	3,163	3,176	3,164	0.45%
2009	3,750	3,766	3,752	0.51%
2010	3,545	3,560	3,546	0.51%
2011	3,382	3,396	3,383	0.51%
2012	3,529	3,544	3,530	0.51%

**Interruptible Customers—Historic Summer Peak**

<b>Plymouth (Zip Code 55441)</b>				
<b>Year</b>	<b>Month</b>			<b>Percentage of System Load</b>
	<b>June</b>	<b>July</b>	<b>August</b>	
2002	4,033	4,049	4,036	0.77%
2003	3,969	3,985	3,973	0.77%
2004	3,224	3,237	3,227	0.61%
2005	3,402	3,416	3,405	0.61%
2006	3,964	3,980	3,967	0.61%
2007	4,294	4,317	4,307	0.61%
2008	4,292	4,311	4,295	0.61%
2009	5,626	5,650	5,628	0.76%
2010	5,317	5,340	5,319	0.76%
2011	5,073	5,095	5,075	0.76%
2012	5,293	5,316	5,295	0.76%

<b>Plymouth (Zip Code 55446)</b>				
<b>Year</b>	<b>Month</b>			<b>Percentage of System Load</b>
	<b>June</b>	<b>July</b>	<b>August</b>	
2002	1,728	1,735	1,730	0.33%
2003	1,701	1,708	1,703	0.33%
2004	2,036	2,044	2,038	0.38%
2005	2,149	2,157	2,150	0.38%
2006	2,504	2,514	2,506	0.38%
2007	2,712	2,726	2,720	0.38%
2008	2,711	2,722	2,712	0.38%
2009	3,483	3,497	3,484	0.47%
2010	3,291	3,306	3,293	0.47%
2011	3,140	3,154	3,142	0.47%
2012	3,277	3,291	3,278	0.47%

<b>Plymouth (Zip Code 55447)</b>				
<b>Year</b>	<b>Month</b>			<b>Percentage of System Load</b>
	<b>June</b>	<b>July</b>	<b>August</b>	
2002	3,649	3,663	3,652	0.69%
2003	3,591	3,605	3,594	0.69%
2004	3,903	3,918	3,906	0.74%
2005	4,118	4,135	4,121	0.74%
2006	4,799	4,818	4,803	0.74%
2007	5,198	5,226	5,214	0.74%
2008	5,196	5,218	5,199	0.74%
2009	5,626	5,650	5,628	0.76%
2010	5,317	5,340	5,319	0.76%
2011	5,073	5,095	5,075	0.76%
2012	5,293	5,316	5,295	0.76%

**Hollydale Peak Historic Potential Area Total for  
Xcel Energy Customers (kW)**

Year	Month			Percentage of System Load
	June	July	August	
2002	13,828	13,881	13,839	2.63%
2003	13,609	13,663	13,620	2.63%
2004	13,066	13,117	13,077	2.46%
2005	13,787	13,844	13,798	2.46%
2006	16,066	16,129	16,078	2.46%
2007	17,402	17,495	17,456	2.46%
2008	17,396	17,469	17,404	2.46%
2009	20,627	20,715	20,637	2.80%
2010	19,495	19,580	19,504	2.80%
2011	18,600	18,681	18,608	2.80%
2012	19,408	19,492	19,416	2.80%

**Wright-Hennepin Cooperative Electric Association (“Wright-Hennepin”)  
Historic Summer Peak Potential Load Relief from Interruptible Customers (kW)**

Year	Month			Percentage of System Load
	June	July	August	
2005	17,236	17,322	17,270	10%
2006	21,977	22,087	22,021	13%
2007	22,683	22,796	22,728	14%
2008	34,819	34,993	34,888	21%
2009	37,196	37,382	37,270	24%
2010	35,593	35,771	35,664	21%
2011	31,916	32,075	31,979	17%
2012	32,561	NA	NA	20%

**Historic Potential Load Relief by Substation  
for Wright-Hennepin Customers (kW)**

Medina Substation				
Year	Month			Percentage of System Load
	June	July	August	
2005	776	NA	NA	0.46%
2006	989	994	991	0.57%
2007	1,021	1,026	1,023	0.61%
2008	1,465	1,473	1,468	0.87%
2009	1,436	1,443	1,439	0.92%
2010	1,602	1,610	1,605	0.93%
2011	1,674	1,682	1,677	0.92%
2012	1,567	1,575	1,570	0.98%

Plymouth Substation				
Year	Month			Percentage of System Load
	June	July	August	
2005	1,253	NA	NA	0.75%
2006	1,598	1,606	1,601	0.93%
2007	1,649	1,657	1,652	0.99%
2008	2,367	2,379	2,372	1.40%
2009	2,320	2,332	2,325	1.48%
2010	2,588	2,601	2,593	1.50%
2011	2,704	2,718	2,710	1.48%
2012	2,531	2,544	2,536	1.59%

**Interruptible Customers—Historic Summer Peak**

<b>Willow Substation</b>				
<b>Year</b>	<b>Month</b>			<b>Percentage of System Load</b>
	<b>June</b>	<b>July</b>	<b>August</b>	
2005	327	329	328	0.04%
2006	418	420	418	0.04%
2007	431	433	432	0.04%
2008	619	622	620	0.04%
2009	606	609	608	0.03%
2010	676	680	678	0.03%
2011	707	710	708	0.03%
2012	662	665	663	0.03%

**NSP System Historic Summer Peak Revised Potential Load Relief  
from Saver's Switch Customers (kW)**

Year	Month			Percentage of System Load
	June	July	August	
2002	314,707	318,239	316,793	N/A
2003	318,168	322,213	322,755	N/A
2004	341,363	346,244	346,140	N/A
2005	329,695	334,941	334,328	N/A
2006	327,640	331,819	331,949	N/A
2007	309,098	313,996	315,232	N/A
2008	274,452	279,360	280,696	N/A
2009	302,349	306,242	306,967	N/A
2010	317,351	316,495	316,738	N/A
2011	313,285	318,362	319,296	N/A
2012	312,043	317,014	317,449	N/A

**Hollydale Area Historic Peak Revised Potential Load Relief by Zip Code for  
Xcel Energy Customers (kW)**

Medina (Zip Code 55340)				
Year	Month			Percentage of System Load
	June	July	August	
2002	337	340	339	0.11%
2003	340	345	345	0.11%
2004	365	370	370	0.11%
2005	353	358	358	0.11%
2006	350	355	355	0.11%
2007	331	336	337	0.11%
2008	322	327	329	0.12%
2009	354	359	360	0.12%
2010	372	371	371	0.12%
2011	367	373	374	0.12%
2012	366	372	372	0.12%

Saver's Switch—Historic Summer Peak

Medina (Zip Code 55356)				
Year	Month			Percentage of System Load
	June	July	August	
2002	603	610	607	0.19%
2003	610	618	619	0.19%
2004	655	664	664	0.19%
2005	632	642	641	0.19%
2006	628	636	637	0.19%
2007	593	602	604	0.19%
2008	479	488	490	0.17%
2009	528	535	536	0.17%
2010	554	553	553	0.17%
2011	547	556	558	0.17%
2012	545	554	554	0.17%

Medina (Zip Code 55391)				
Year	Month			Percentage of System Load
	June	July	August	
2002	2,265	2,290	2,280	0.72%
2003	2,289	2,319	2,322	0.72%
2004	2,456	2,491	2,491	0.72%
2005	2,372	2,410	2,406	0.72%
2006	2,358	2,388	2,389	0.72%
2007	2,224	2,259	2,268	0.72%
2008	1,707	1,737	1,746	0.62%
2009	1,880	1,905	1,909	0.62%
2010	1,974	1,968	1,970	0.62%
2011	1,948	1,980	1,986	0.62%
2012	1,941	1,972	1,974	0.62%

Plymouth (Zip Code 55441)				
Year	Month			Percentage of System Load
	June	July	August	
2002	2,255	2,280	2,270	0.72%
2003	2,280	2,309	2,313	0.72%
2004	2,446	2,481	2,480	0.72%
2005	2,362	2,400	2,395	0.72%
2006	2,348	2,377	2,378	0.72%
2007	2,215	2,250	2,259	0.72%
2008	1,914	1,948	1,958	0.70%
2009	2,109	2,136	2,141	0.70%
2010	2,213	2,207	2,209	0.70%
2011	2,185	2,220	2,227	0.70%
2012	2,176	2,211	2,214	0.70%

Saver's Switch—Historic Summer Peak

<b>Plymouth (Zip Code 55446)</b>				
<b>Year</b>	<b>Month</b>			<b>Percentage of System Load</b>
	<b>June</b>	<b>July</b>	<b>August</b>	
2002	1,773	1,793	1,785	0.56%
2003	1,793	1,816	1,819	0.56%
2004	1,923	1,951	1,950	0.56%
2005	1,858	1,887	1,884	0.56%
2006	1,846	1,870	1,870	0.56%
2007	1,742	1,769	1,776	0.56%
2008	1,399	1,424	1,431	0.51%
2009	1,541	1,561	1,565	0.51%
2010	1,618	1,613	1,615	0.51%
2011	1,597	1,623	1,628	0.51%
2012	1,591	1,616	1,618	0.51%

<b>Plymouth (Zip Code 55447)</b>				
<b>Year</b>	<b>Month</b>			<b>Percentage of System Load</b>
	<b>June</b>	<b>July</b>	<b>August</b>	
2002	3,139	3,175	3,160	1.00%
2003	3,174	3,214	3,220	1.00%
2004	3,405	3,454	3,453	1.00%
2005	3,289	3,341	3,335	1.00%
2006	3,268	3,310	3,311	1.00%
2007	3,084	3,132	3,145	1.00%
2008	2,426	2,469	2,481	0.88%
2009	2,672	2,707	2,713	0.88%
2010	2,805	2,797	2,800	0.88%
2011	2,769	2,814	2,822	0.88%
2012	2,758	2,802	2,806	0.88%

**Hollydale Historic Potential Area Total for  
Xcel Energy Customers (kW)**

Year	Month			Percentage of System Load
	June	July	August	
2002	10,372	10,489	10,441	3.30%
2003	10,486	10,620	10,637	3.30%
2004	11,251	11,412	11,408	3.30%
2005	10,866	11,039	11,019	3.30%
2006	10,798	10,936	10,941	3.30%
2007	10,187	10,349	10,390	3.30%
2008	8,247	8,394	8,434	3.00%
2009	9,085	9,202	9,224	3.00%
2010	9,536	9,510	9,517	3.00%
2011	9,414	9,566	9,594	3.00%
2012	9,376	9,526	9,539	3.00%

**NSP System Forecasted Summer Peak Potential Load Relief from Interruptible Customers (kW)**

Year	Month			Percentage of System Load
	June	July	August	
2013	684,652	687,634	684,934	N/A
2014	684,652	687,634	684,934	N/A
2015	684,652	687,634	684,934	N/A
2016	684,652	687,634	684,934	N/A
2017	684,652	687,634	684,934	N/A
2018	684,652	687,634	684,934	N/A
2019	684,652	687,634	684,934	N/A
2020	684,652	687,634	684,934	N/A
2021	684,652	687,634	684,934	N/A
2022	684,652	687,634	684,934	N/A
2023	684,652	687,634	684,934	N/A
2024	684,652	687,634	684,934	N/A
2025	684,652	687,634	684,934	N/A

**Hollydale Area Forecasted Potential Load Relief by Zip Code for Xcel Energy Customers (kW)**

Medina (Zip Code 55340)				
Year	Month			Percentage of System Load
	June	July	August	
2013	249	250	249	0.04%
2014	249	250	249	0.04%
2015	249	250	249	0.04%
2016	249	250	249	0.04%
2017	249	250	249	0.04%
2018	249	250	249	0.04%
2019	249	250	249	0.04%
2020	249	250	249	0.04%
2021	249	250	249	0.04%
2022	249	250	249	0.04%
2023	249	250	249	0.04%
2024	249	250	249	0.04%
2025	249	250	249	0.04%

**Interruptible Customers—Forecasted Summer Peak**

<b>Medina (Zip Code 55356)</b>				
<b>Year</b>	<b>Month</b>			<b>Percentage of System Load</b>
	<b>June</b>	<b>July</b>	<b>August</b>	
2013	1,744	1,752	1,745	0.25%
2014	1,744	1,752	1,745	0.25%
2015	1,744	1,752	1,745	0.25%
2016	1,744	1,752	1,745	0.25%
2017	1,744	1,752	1,745	0.25%
2018	1,744	1,752	1,745	0.25%
2019	1,744	1,752	1,745	0.25%
2020	1,744	1,752	1,745	0.25%
2021	1,744	1,752	1,745	0.25%
2022	1,744	1,752	1,745	0.25%
2023	1,744	1,752	1,745	0.25%
2024	1,744	1,752	1,745	0.25%
2025	1,744	1,752	1,745	0.25%

<b>Medina (Zip Code 55391)</b>				
<b>Year</b>	<b>Month</b>			<b>Percentage of System Load</b>
	<b>June</b>	<b>June</b>	<b>June</b>	
2013	3,488	3,503	3,489	0.51%
2014	3,488	3,503	3,489	0.51%
2015	3,488	3,503	3,489	0.51%
2016	3,488	3,503	3,489	0.51%
2017	3,488	3,503	3,489	0.51%
2018	3,488	3,503	3,489	0.51%
2019	3,488	3,503	3,489	0.51%
2020	3,488	3,503	3,489	0.51%
2021	3,488	3,503	3,489	0.51%
2022	3,488	3,503	3,489	0.51%
2023	3,488	3,503	3,489	0.51%
2024	3,488	3,503	3,489	0.51%
2025	3,488	3,503	3,489	0.51%

**Interruptible Customers—Forecasted Summer Peak**

<b>Plymouth (Zip Code 55441)</b>				
<b>Year</b>	<b>Month</b>			<b>Percentage of System Load</b>
	<b>June</b>	<b>July</b>	<b>August</b>	
2013	5,232	5,255	5,234	0.76%
2014	5,232	5,255	5,234	0.76%
2015	5,232	5,255	5,234	0.76%
2016	5,232	5,255	5,234	0.76%
2017	5,232	5,255	5,234	0.76%
2018	5,232	5,255	5,234	0.76%
2019	5,232	5,255	5,234	0.76%
2020	5,232	5,255	5,234	0.76%
2021	5,232	5,255	5,234	0.76%
2022	5,232	5,255	5,234	0.76%
2023	5,232	5,255	5,234	0.76%
2024	5,232	5,255	5,234	0.76%
2025	5,232	5,255	5,234	0.76%

<b>Plymouth (Zip Code 55446)</b>				
<b>Year</b>	<b>Month</b>			<b>Percentage of System Load</b>
	<b>June</b>	<b>July</b>	<b>August</b>	
2013	3,239	3,253	3,240	0.47%
2014	3,239	3,253	3,240	0.47%
2015	3,239	3,253	3,240	0.47%
2016	3,239	3,253	3,240	0.47%
2017	3,239	3,253	3,240	0.47%
2018	3,239	3,253	3,240	0.47%
2019	3,239	3,253	3,240	0.47%
2020	3,239	3,253	3,240	0.47%
2021	3,239	3,253	3,240	0.47%
2022	3,239	3,253	3,240	0.47%
2023	3,239	3,253	3,240	0.47%
2024	3,239	3,253	3,240	0.47%
2025	3,239	3,253	3,240	0.47%

**Interruptible Customers—Forecasted Summer Peak**

<b>Plymouth (Zip Code 55447)</b>				
<b>Year</b>	<b>Month</b>			<b>Percentage of System Load</b>
	<b>June</b>	<b>July</b>	<b>August</b>	
2013	5,232	5,255	5,234	0.76%
2014	5,232	5,255	5,234	0.76%
2015	5,232	5,255	5,234	0.76%
2016	5,232	5,255	5,234	0.76%
2017	5,232	5,255	5,234	0.76%
2018	5,232	5,255	5,234	0.76%
2019	5,232	5,255	5,234	0.76%
2020	5,232	5,255	5,234	0.76%
2021	5,232	5,255	5,234	0.76%
2022	5,232	5,255	5,234	0.76%
2023	5,232	5,255	5,234	0.76%
2024	5,232	5,255	5,234	0.76%
2025	5,232	5,255	5,234	0.76%

**Hollydale Forecasted Historical Potential Area Total for  
Xcel Energy Customers (kW)**

<b>Year</b>	<b>Month</b>			<b>Percentage of System Load</b>
	<b>June</b>	<b>July</b>	<b>August</b>	
2013	19,184	19,268	19,192	2.80%
2014	19,184	19,268	19,192	2.80%
2015	19,184	19,268	19,192	2.80%
2016	19,184	19,268	19,192	2.80%
2017	19,184	19,268	19,192	2.80%
2018	19,184	19,268	19,192	2.80%
2019	19,184	19,268	19,192	2.80%
2020	19,184	19,268	19,192	2.80%
2021	19,184	19,268	19,192	2.80%
2022	19,184	19,268	19,192	2.80%
2023	19,184	19,268	19,192	2.80%
2024	19,184	19,268	19,192	2.80%
2025	19,184	19,268	19,192	2.80%

**NSP System Summer Forecasted Peak Revised Potential Load Relief from Saver's Switch Customers (kW)**

Year	Month			Percentage of System Load
	June	July	August	
2013	323,117	327,346	326,922	N/A
2014	329,573	334,192	334,082	N/A
2015	337,013	341,320	341,522	N/A
2016	345,179	349,800	349,518	N/A
2017	355,665	360,346	360,005	N/A
2018	366,047	370,787	370,388	N/A
2019	376,326	381,124	380,667	N/A
2020	386,501	391,357	390,843	N/A
2021	396,574	401,488	400,916	N/A
2022	401,250	403,533	401,254	N/A
2023	397,235	399,496	397,239	N/A
2024	393,258	395,496	393,262	N/A
2025	389,321	391,537	389,326	N/A

**Hollydale Area Forecasted Revised Potential Load Relief by Zip Code for Xcel Energy Customers (kW)**

Medina (Zip Code 55340)				
Year	Month			Percentage of System Load
	June	July	August	
2013	379	384	383	0.12%
2014	386	392	392	0.12%
2015	395	400	400	0.12%
2016	405	410	410	0.12%
2017	417	422	422	0.12%
2018	429	435	434	0.12%
2019	441	447	446	0.12%
2020	453	459	458	0.12%
2021	465	471	470	0.12%
2022	470	473	470	0.12%
2023	466	468	466	0.12%
2024	461	464	461	0.12%
2025	456	459	456	0.12%

Saver's Switch—Forecasted Summer Peak

<b>Medina (Zip Code 55356)</b>				
<b>Year</b>	<b>Month</b>			<b>Percentage of System Load</b>
	<b>June</b>	<b>July</b>	<b>August</b>	
2012	545	554	554	0.17%
2013	564	572	571	0.17%
2014	576	584	583	0.17%
2015	589	596	596	0.17%
2016	603	611	610	0.17%
2017	621	629	629	0.17%
2018	639	648	647	0.17%
2019	657	666	665	0.17%
2020	675	683	683	0.17%
2021	693	701	700	0.17%
2022	701	705	701	0.17%
2023	694	698	694	0.17%
2024	687	691	687	0.17%
2025	680	684	680	0.17%

<b>Medina (Zip Code 55391)</b>				
<b>Year</b>	<b>Month</b>			<b>Percentage of System Load</b>
	<b>June</b>	<b>July</b>	<b>August</b>	
2013	2,010	2,036	2,033	0.62%
2014	2,050	2,078	2,078	0.62%
2015	2,096	2,123	2,124	0.62%
2016	2,147	2,176	2,174	0.62%
2017	2,212	2,241	2,239	0.62%
2018	2,277	2,306	2,304	0.62%
2019	2,340	2,370	2,367	0.62%
2020	2,404	2,434	2,431	0.62%
2021	2,466	2,497	2,493	0.62%
2022	2,496	2,510	2,496	0.62%
2023	2,471	2,485	2,471	0.62%
2024	2,446	2,460	2,446	0.62%
2025	2,421	2,435	2,421	0.62%

Saver's Switch—Forecasted Summer Peak

<b>Plymouth (Zip Code 55441)</b>				
<b>Year</b>	<b>Month</b>			<b>Percentage of System Load</b>
	<b>June</b>	<b>July</b>	<b>August</b>	
2013	2,253	2,283	2,280	0.70%
2014	2,298	2,331	2,330	0.70%
2015	2,350	2,380	2,382	0.70%
2016	2,407	2,439	2,438	0.70%
2017	2,480	2,513	2,511	0.70%
2018	2,553	2,586	2,583	0.70%
2019	2,624	2,658	2,655	0.70%
2020	2,695	2,729	2,726	0.70%
2021	2,766	2,800	2,796	0.70%
2022	2,798	2,814	2,798	0.70%
2023	2,770	2,786	2,770	0.70%
2024	2,743	2,758	2,743	0.70%
2025	2,715	2,731	2,715	0.70%

<b>Plymouth (Zip Code 55446)</b>				
<b>Year</b>	<b>Month</b>			<b>Percentage of System Load</b>
	<b>June</b>	<b>July</b>	<b>August</b>	
2013	1,647	1,669	1,667	0.51%
2014	1,680	1,704	1,703	0.51%
2015	1,718	1,740	1,741	0.51%
2016	1,760	1,783	1,782	0.51%
2017	1,813	1,837	1,835	0.51%
2018	1,866	1,890	1,888	0.51%
2019	1,918	1,943	1,941	0.51%
2020	1,970	1,995	1,992	0.51%
2021	2,022	2,047	2,044	0.51%
2022	2,046	2,057	2,046	0.51%
2023	2,025	2,037	2,025	0.51%
2024	2,005	2,016	2,005	0.51%
2025	1,985	1,996	1,985	0.51%

<b>Plymouth (Zip Code 55447)</b>				
<b>Year</b>	<b>Month</b>			<b>Percentage of System Load</b>
	<b>June</b>	<b>July</b>	<b>August</b>	
2013	2,856	2,893	2,890	0.88%
2014	2,913	2,954	2,953	0.88%
2015	2,979	3,017	3,019	0.88%
2016	3,051	3,092	3,089	0.88%
2017	3,144	3,185	3,182	0.88%
2018	3,235	3,277	3,274	0.88%
2019	3,326	3,369	3,365	0.88%

Appendix D.3

Hollydale 115 kV Transmission Line Project  
Certificate of Need Application

<b>Plymouth (Zip Code 55447)</b>				
<b>Year</b>	<b>Month</b>			<b>Percentage of System Load</b>
	<b>June</b>	<b>July</b>	<b>August</b>	
2020	3,416	3,459	3,455	0.88%
2021	3,505	3,549	3,544	0.88%
2022	3,547	3,567	3,547	0.88%
2023	3,511	3,531	3,511	0.88%
2024	3,476	3,496	3,476	0.88%
2025	3,441	3,461	3,441	0.88%

**Hollydale Forecasts Area Total Revised Potential for Xcel Energy Customers (kW)**

<b>Year</b>	<b>Month</b>			<b>Percentage of System Load</b>
	<b>June</b>	<b>July</b>	<b>August</b>	
2013	9,709	9,836	9,823	3.00%
2014	9,903	10,042	10,039	3.00%
2015	10,127	10,256	10,262	3.00%
2016	10,372	10,511	10,502	3.00%
2017	10,687	10,828	10,818	3.00%
2018	10,999	11,142	11,130	3.00%
2019	11,308	11,452	11,438	3.00%
2020	11,614	11,760	11,744	3.00%
2021	11,916	12,064	12,047	3.00%
2022	12,057	12,126	12,057	3.00%
2023	11,936	12,004	11,936	3.00%
2024	11,817	11,884	11,817	3.00%
2025	11,698	11,765	11,699	3.00%

***List of customers participating in the Applicants' direct load control and/or load management program, by utility, served by each substation (actual and proposed)***

The Department of Commerce requested that Applicants provide data on the use of direct load control and/or load management programs served by each substation (actual and proposed). Historic residential and business load management data for Xcel Energy's customers served by the Gleason Lake, Hollydale, and Parkers Lake substations is detailed in **Table 1**, **Table 2**, **Figure 1**, and **Figure 2**. Historic residential and business load management data for Wright Hennepin customers served by the Medina, Willow, and Plymouth substations is detailed **Table 3**.

**Table 1: Load Management Summary for Xcel Energy Residential Saver's Switch Customers**

	PARTICIPANTS <sup>1</sup>						
	2005	2006	2007	2008	2009	2010	2011
Total Number of Business Customers signed up for Xcel Energy Saver's Switch Program at the Gleason Lake, Hollydale, and Parkers Lake Substations	169	322	499	262	224	368	441

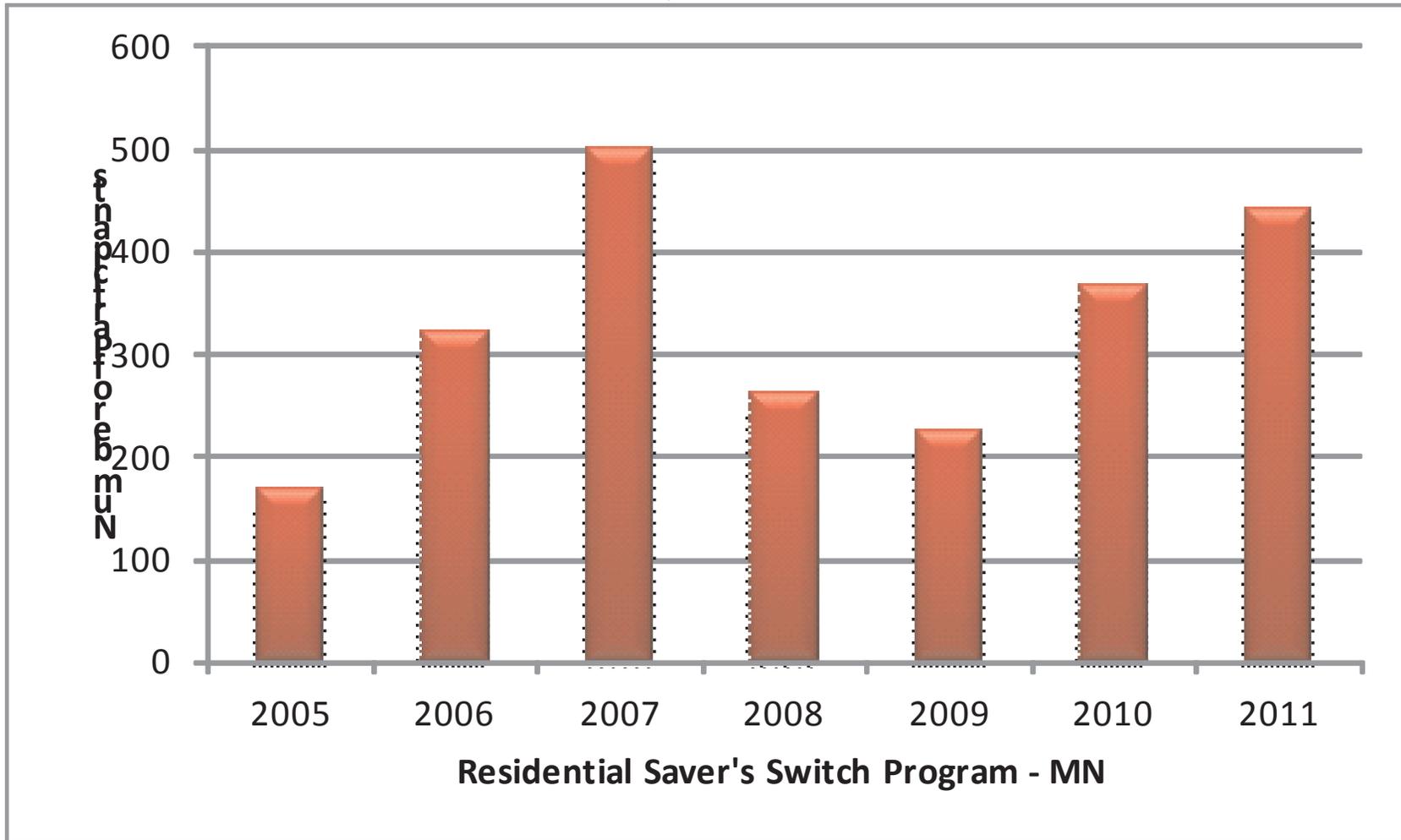
**Table 2: Load Management Summary for Xcel Energy Business Customers**

	PARTICIPANTS					
	2005	2006	2007 & 2008 <sup>2</sup>	2009	2010	2011
Total Number of Business Customers signed up for Xcel Energy Load Management Programs at the Gleason Lake, Hollydale, and Parkers Lake Substations	33	27	34	33	32	30

<sup>1</sup> "Participants" are those customers who have signed up for these programs in a given year and may not reflect actual participation in the program.

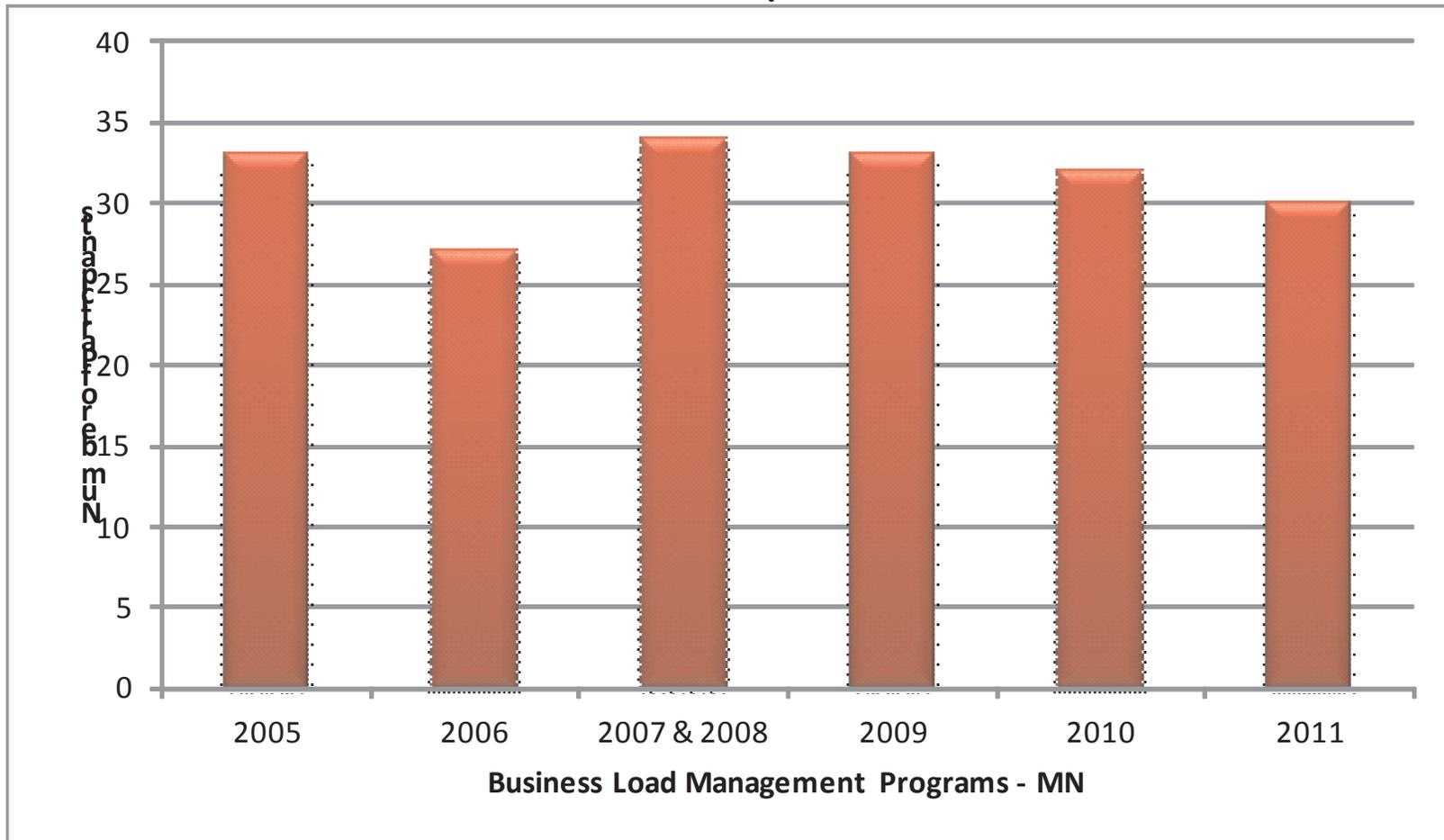
<sup>2</sup> The value for 2007 & 2008 is the combined number for the two years.

Figure 1: Participation<sup>3</sup> in Xcel Energy's Residential Saver's Switch Program for the Greater Study Area Substations



<sup>3</sup> "Participants" are those customers who have signed up for these programs in a given year and may not reflect actual participation in the program.

Figure 2: Participation<sup>4</sup> in Xcel Energy's Business Load Management Programs for the Greater Study Area<sup>5</sup>



<sup>4</sup> "Participants" are those customers who have signed up for these programs in a given year and may not reflect actual participation in the program.

<sup>5</sup> The value for 2007 & 2008 is the combined number for the two years.

**Table 3: Load Management Participation Summary for Wright-Hennepin Customers**

		PARTICIPANTS							
		2005	2006	2007	2008	2009	2010	2011	Total #
STRATEGY	SUBSTATION								
Load Mgmt	Medina	534	547	609	1,159	1,258	1,401	1,449	6,957
	Plymouth	863	884	983	1,873	2,032	2,263	2,341	11,239
	Willow	226	231	257	489	531	591	612	2,937
Load Mgmt Total		1,623	1,663	1,849	3,521	3,821	4,255	4,402	

***List of customers, on an annual basis, that received Conservation Improvement Program (CIP) rebates, by type and Applicant, served by each substation over the last ten years***

The Department of Commerce requested information regarding the number of customers that received Conservation Improvement Program (“CIP”) rebates, by utility, served by each substation over the last ten years. **Table 4** and **Figure 3**, below, outline the number of energy efficiency projects for Xcel Energy residential customers served by the Gleason Lake, Hollydale, and Parkers Lake substations from 2005 to 2011.

Although these energy efficient programs include air conditioning, energy efficient showerhead, energy star homes, home energy squad, home lighting, insulation rebates, low income services, refrigerator recycling, and residential heating, the majority of Xcel Energy’s customers participating in energy efficiency programs participate in the air conditioning program. **Table 5** and **Figure 4** outline the total dollar amount of residential rebates for the energy efficiency projects, by type, for Xcel Energy customers served by the Gleason Lake (“GSL”), Hollydale (“HOL”), and Parkers Lake (“PKL”) substations from 2005 to 2011.

**Table 6** and **Figure 5** detail the number of business energy efficiency and load management projects for Xcel Energy customers for the same substations over the same period.

**Table 4: Number of Xcel Energy Residential Energy Efficiency Programs**

	2005	2006	2007	2008	2009	2010	2011
Gleason Lake Total	266	236	143	144	115	221	297
Hollydale Total	69	79	51	60	43	95	128
Parkers Lake Total	240	295	168	173	239	292	264
<b>Conservation Total</b>	<b>575</b>	<b>610</b>	<b>362</b>	<b>377</b>	<b>397</b>	<b>608</b>	<b>689</b>

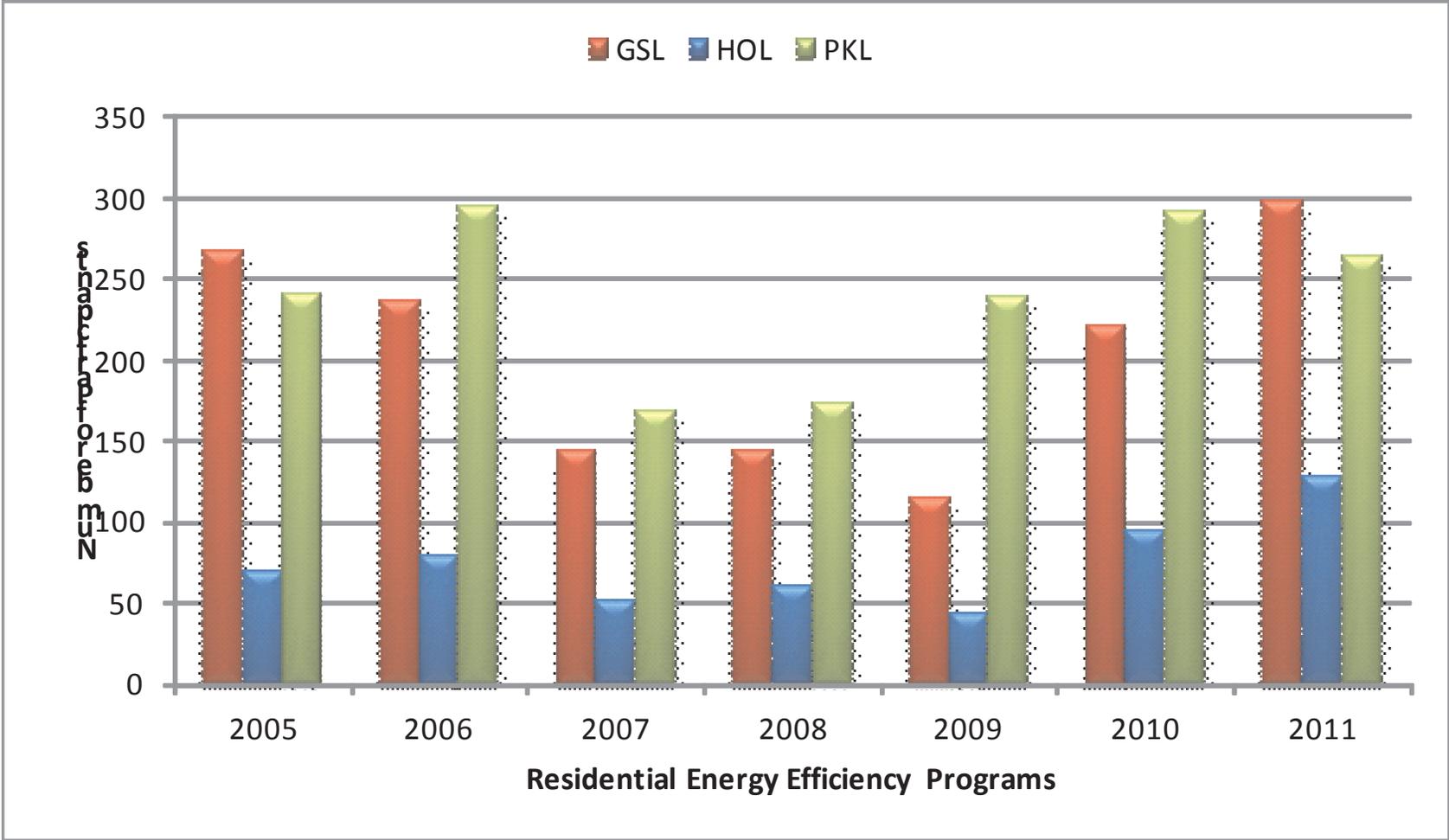
**Table 5: Total Rebates for Xcel Energy Residential Energy Efficiency Programs**

	2005	2006	2007	2008	2009	2010	2011
Gleason Lake Total	\$55,220	\$65,880	\$29,020	\$32,550	\$30,390	\$66,435	\$78,250
Hollydale Total	\$16,710	\$18,500	\$10,880	\$14,670	\$11,990	\$28,285	\$36,550
Parkers Lake Total	\$63,665	\$80,430	\$32,320	\$40,190	\$49,870	\$86,329	\$71,126
<b>Conservation Total</b>	<b>\$135,595</b>	<b>\$164,810</b>	<b>\$72,220</b>	<b>\$87,410</b>	<b>\$92,250</b>	<b>\$181,049</b>	<b>\$185,926</b>

**Table 6: Number of Xcel Energy Business Energy Efficiency and Load Management Program Participants**

<b>STRATEGY</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Conservation Total	62	66	106	90	121	176	225
Load Mgmt Total	33	27	21	13	33	32	30
<b>Grand Total</b>	<b>163</b>	<b>170</b>	<b>171</b>	<b>160</b>	<b>188</b>	<b>303</b>	<b>369</b>

Figure 3: Number of Participants<sup>6</sup> in Xcel Energy Residential Energy Efficiency Programs By Substation<sup>7</sup>



<sup>6</sup> “Participants” are those customers who have signed up for these programs in a given year and may not reflect actual participation in the program.

<sup>7</sup> The number of participants at the Hollydale Substation is less than the Gleason Lake and Parkers Lake substations because the Hollydale Substation serves fewer customers compared to these other two substations. See Appendix B.1 at Appendix A.1

Figure 4: Total Dollar Amount of Xcel Energy Residential Rebates for Energy Efficiency Projects for the Hollydale Area

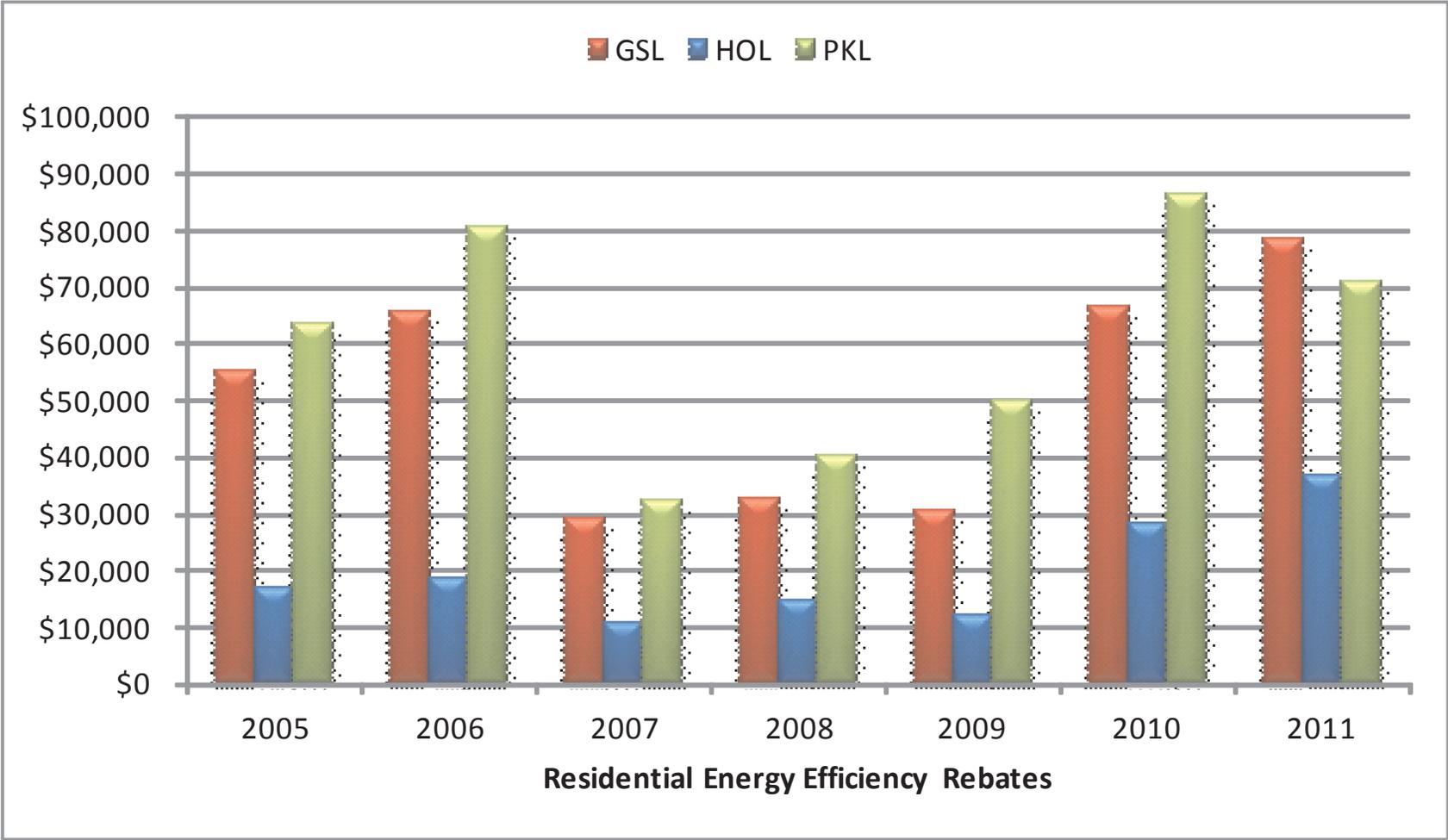
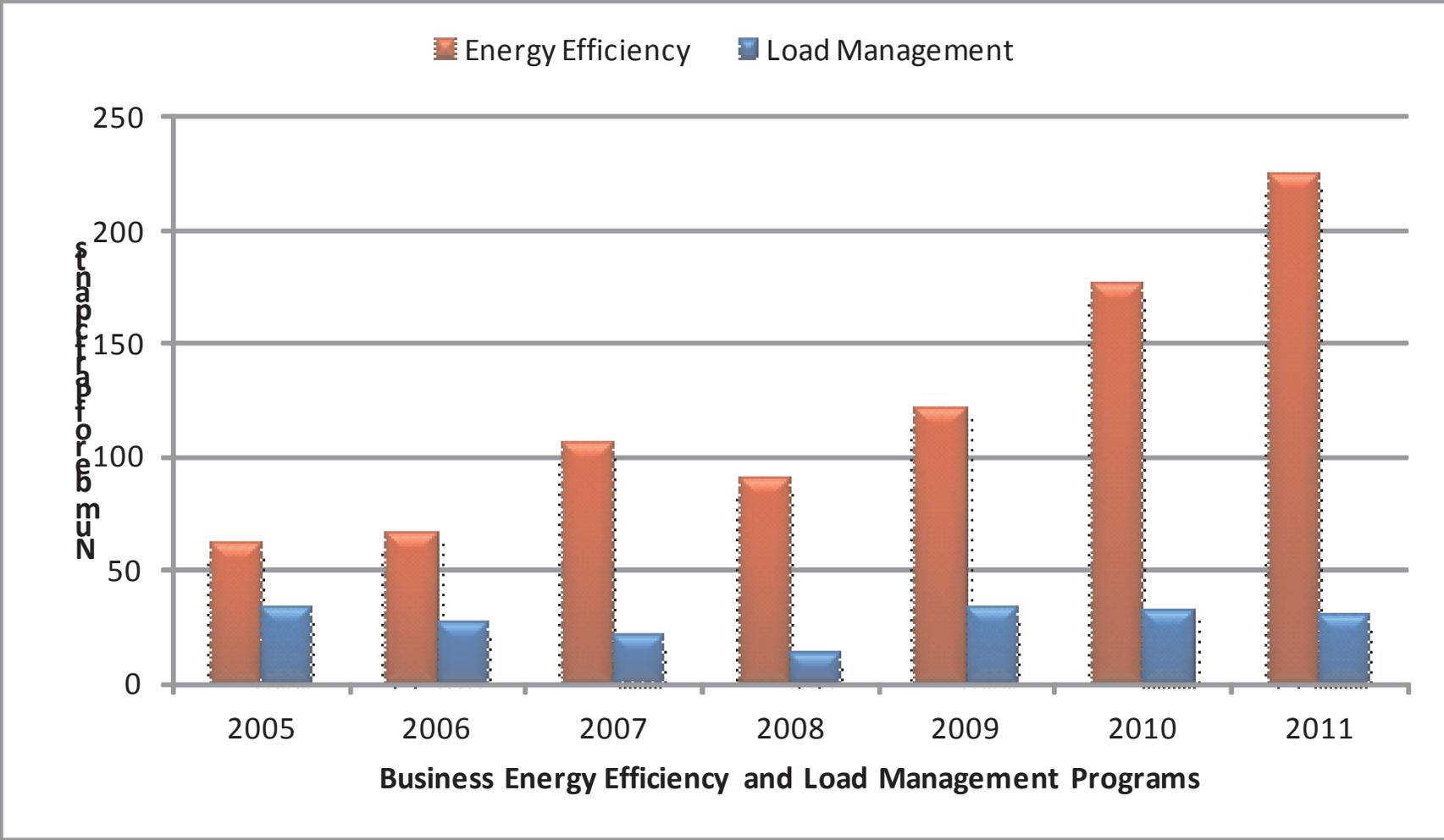


Figure 5: Number of Participants<sup>8</sup> in Xcel Energy Business Energy Efficiency and Load Management Programs



<sup>8</sup> “Participants” are those customers who have signed up for these programs in a given year and may not reflect actual participation in the program.

Table 7 below outlines the number of participants in Wright-Hennepin’s conservation programs that are served from the Medina, Plymouth, and Willow substations from 2008 to 2011.

**Table 7: Number of Participants in Wright-Hennepin’s Conservation Programs For Medina, Plymouth, and Willow Substations**

Year	Program Name	Category Name	Market Segment	Total Number of Participants
2008	Bulb Recycling	Lamp Disposal and Recycling	General/Other	6
2008	Com Custom	C/I Custom Projects	CIA	4
2008	Com Design Assistance Audits	Commercial Energy Audits / Analysis	CIA	32
2008	Com Retrofit Lighting	Commercial Lighting	CIA	9
2008	ES Appliance	ENERGY STAR Appliances	Residential	19
2008	ETS Water & Space Heat	Residential Load Management	Residential	1
2008	Indirect Education	Other - Indirect	General/Other	0
2008	Interruptible CI&A	Commercial Load Management	CIA	2
2008	Off Peak Dual Fuel & Pool Heat	Residential Load Management	Residential	97
2008	Peak Save Water Heat	Residential Load Management	Residential	34
2008	Renewable	Residential Load Management	Residential	15
2008	Res ASHP	Residential Heat Pumps	Residential	8
2008	Res Cooling	Residential Cooling	Residential	26
2008	Res Cycled AC & ASHP	Residential Load Management	Residential	203
2008	Res Geothermal	Residential Heat Pumps	Residential	7
2008	Res Home Energy Saving	Whole House Programs	Residential	2
2008	Res Lighting	Residential Lighting	Residential	305
2009	Bulb Recycling	Lamp Disposal and Recycling	General/Other	36
2009	Com Custom	C/I Custom Projects	CIA	0
2009	Com Design Assistance Audits	Commercial Energy Audits / Analysis	CIA	5

Conservation Improvement Program Rebates

Year	Program Name	Category Name	Market Segment	Total Number of Participants
2009	Com HVAC	Commercial Cooling	CIA	0
2009	Com Motors and Drives	Motors & Drives	CIA	0
2009	Com Retrofit Lighting	Commercial Lighting	CIA	4
2009	ES Appliance	ENERGY STAR Appliances	Residential	25
2009	ETS Water & Space Heat	Residential Load Management	Residential	0
2009	Indirect Education	Other - Indirect	General/Other	375
2009	Interruptible CI&A	Commercial Load Management	CIA	1
2009	Off Peak Dual Fuel & Pool Heat	Residential Load Management	Residential	37
2009	Peak Save Water Heat	Residential Load Management	Residential	28
2009	Renewable	Residential Load Management	Residential	15
2009	Res ASHP	Residential Heat Pumps	Residential	8
2009	Res Cooling	Residential Cooling	Residential	22
2009	Res Cycled AC & ASHP	Residential Load Management	Residential	343
2009	Res Geothermal	Residential Heat Pumps	Residential	17
2009	Res Home Energy Saving	Whole House Programs	Residential	2
2009	Res Lighting	Residential Lighting	Residential	397
2010	Bulb Recycling	Lamp Disposal and Recycling	General/Other	0
2010	Com Agriculture	Agricultural Efficiency	CIA	0
2010	Com Custom	C/I Custom Projects	CIA	1
2010	Com Design Assistance Audits	Commercial Energy Audits / Analysis	CIA	0
2010	Com HVAC	Commercial Cooling	CIA	0
2010	Com Motors and Drives	Motors & Drives	CIA	0
2010	Com New Const. Lighting	Commercial Lighting	CIA	0
2010	Com Retrofit Lighting	Commercial Lighting	CIA	6
2010	Electrically Commutated Motor (ECM)	Residential Cooling	Residential	38

Conservation Improvement Program Rebates

Year	Program Name	Category Name	Market Segment	Total Number of Participants
2010	ES Appliance	ENERGY STAR Appliances	Residential	124
2010	Hot Water Savings	Residential Domestic Hot Water	Residential	6
2010	Income Eligible: Appliance Replacement	Specialty Low Income Programs	Residential	1
2010	Income Eligible: Custom	Specialty Low Income Programs	Residential	1
2010	Income Eligible: Energy Efficient Kits	Specialty Low Income Programs	Residential	0
2010	Income Eligible: Weatherization	Low Income Weatherization	Residential	0
2010	Indirect Education	Other - Indirect	General/Other	334
2010	Interruptible CI&A	Commercial Load Management	CIA	8
2010	Off Peak Dual Fuel & Pool Heat	Residential Load Management	Residential	34
2010	Peak Save Water Heat	Residential Load Management	Residential	11
2010	Regulatory, Admin, Association, R&D	Regulatory Charges	General/Other	0
2010	Renewable	Residential Load Management	Residential	13
2010	Res ASHP	Residential Heat Pumps	Residential	7
2010	Res Cooling	Residential Cooling	Residential	38
2010	Res Cycled AC & ASHP	Residential Load Management	Residential	163
2010	Res Geothermal	Residential Heat Pumps	Residential	11
2010	Res Home Energy Saving	Whole House Programs	Residential	2
2010	Res Lighting	Residential Lighting	Residential	257
2010	Space Heat	Residential Load Management	Residential	1
2010	Water Heat	Residential Domestic Hot Water	Residential	29
2011	Bulb Recycling	Lamp Disposal and Recycling	General/Other	0
2011	Com Agriculture	Agricultural Efficiency	CIA	0
2011	Com Custom	C/I Custom Projects	CIA	1
2011	Com Design Assistance Audits	Commercial Energy Audits /	CIA	0

Conservation Improvement Program Rebates

Year	Program Name	Category Name	Market Segment	Total Number of Participants
		Analysis		
2011	Com HVAC	Commercial Cooling	CIA	0
2011	Com Motors and Drives	Motors & Drives	CIA	0
2011	Com New Const. Lighting	Commercial Lighting	CIA	0
2011	Com Retrofit Lighting	Commercial Lighting	CIA	6
2011	Electrically Commutated Motor (ECM)	Residential Cooling	Residential	38
2011	ES Appliance	ENERGY STAR Appliances	Residential	124
2011	Hot Water Savings	Residential Domestic Hot Water	Residential	6
2011	Income Eligible: Appliance Replacement	Specialty Low Income Programs	Residential	1
2011	Income Eligible: Custom	Specialty Low Income Programs	Residential	1
2011	Income Eligible: Energy Efficient Kits	Specialty Low Income Programs	Residential	0
2011	Income Eligible: Weatherization	Low Income Weatherization	Residential	0
2011	Indirect Education	Other - Indirect	General/Other	294
2011	Interruptible CI&A	Commercial Load Management	CIA	8
2011	Off Peak Dual Fuel & Pool Heat	Residential Load Management	Residential	34
2011	Peak Save Water Heat	Residential Load Management	Residential	11
2011	Regulatory, Admin, Association, R&D	Regulatory Charges	General/Other	0
2011	Renewable	Residential Load Management	Residential	13
2011	Res ASHP	Residential Heat Pumps	Residential	7
2011	Res Cooling	Residential Cooling	Residential	38
2011	Res Cycled AC & ASHP	Residential Load Management	Residential	163
2011	Res Geothermal	Residential Heat Pumps	Residential	11
2011	Res Home Energy Saving	Whole House Programs	Residential	2

**Conservation Improvement Program Rebates**

<b>Year</b>	<b>Program Name</b>	<b>Category Name</b>	<b>Market Segment</b>	<b>Total Number of Participants</b>
2011	Res Lighting	Residential Lighting	Residential	415
2011	Space Heat	Residential Load Management	Residential	1
2011	Water Heat	Residential Domestic Hot Water	Residential	29

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