



2010
Demand-Side Management Annual Status Report
Electric and Natural Gas
Public Service Company of Colorado
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Docket No. 08A-366EG

2010 Demand-Side Management Annual Status Report

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Executive Summary

Public Service Company of Colorado ("Public Service" or the "Company") submits this combined electric and natural gas 2010 Colorado Demand-Side Management Annual Status Report ("Status Report") to the Colorado Public Utilities Commission ("Commission") at the conclusion of the second year of its 2009/2010 DSM Biennial Plan. In this filing, Public Service will report on its 2010 electric and natural gas savings achievements of approximately 252 GWh and 454,238 Dth for its electric and natural gas DSM programs.

The electric savings of 252 GWh are a significant accomplishment compared to both the Commission ordered goal of 220 GWh and the 237 GWh savings target for 2010 agreed to as part of the Settlement entered into in Docket No. 08A-366EG. The gas savings of 454,238 Dth were also a significant accomplishment, as we exceeded our approved goal of 402,808 Dth. To achieve these savings, the Company spent a total of \$71.6 million (\$54.7 million – electric, \$16.9 million – natural gas) on its electric and natural gas programs, thereby spending less than the approved electric budget of \$63.7 and spending slightly more than the approved gas budget of \$16.5 million. Below in Figures 1 and 2 are Public Service's historical achievements and expenditures for its electric and natural gas DSM programs.

Figure 1: Historical Electric Program Savings and Expenditures

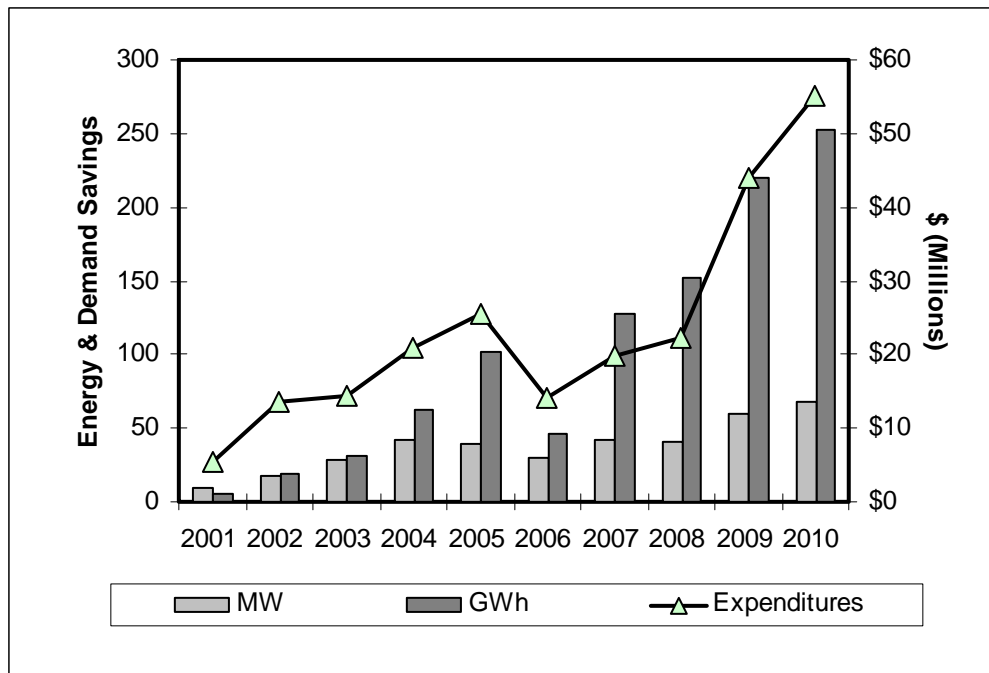
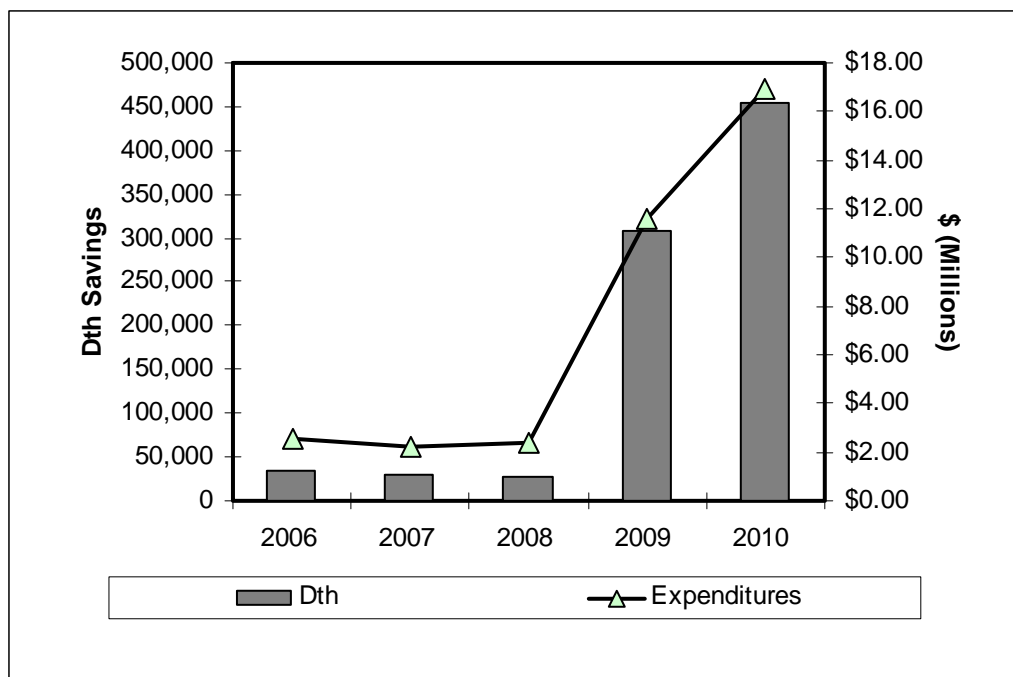


Figure 2: Historical Natural Gas Program Savings and Expenditures



History of Plan

Over the last fifteen years, Public Service has entered into several regulatory settlements involving demand-side management in conjunction with its integrated resource/least-cost planning process. The following paragraphs describe those settlements:

- In the 1996 Integrated Resource Plan Settlement Agreement (Decision C98-1042, Docket No. 97A-297E), the Company committed up to \$10M for DSM over four years through two bid processes. The first focused on residential air conditioning load control and lighting for commercial customers (“Bid 2000”) and the second followed the completion of the Bid 2000 program.
- In the 1999 Integrated Resource Plan DSM Stipulation and Settlement Agreement (Decision C00-1057, Docket No. 00A-008E), the Company committed to use its best efforts to acquire 124 MW of cost-effective DSM resources through the 1999 IRP Resource Acquisition Period ending December 31, 2005. The Company was authorized to spend no more than \$75 million (Year 2000 dollars) to obtain the 124 MW of DSM. This amount included total capital costs and operating expenses incurred by the Company, but excluded expenses for the natural gas Energy Savings Partners (“E\$P”) low-income weatherization program. The 1999 Agreement identified target savings by customer class and program type.
- As part of the 2003 Least-Cost Resource Plan Settlement Agreement (Decision C05-0049, Docket Nos. 04A-214E, 04A-215E, 04A-216E), the Company committed to obtain 320 MW and 800 GWh of cost-effective conservation for \$196 million (year 2005 dollars) between 2006 and 2013.

House Bill 07-1037, *Concerning Measures to Promote Energy Efficiency, and Making an Appropriation Therefore*, was passed by the Colorado General Assembly and signed into law by Governor Ritter in 2007, and codified in relevant part at §§ 40-1-102(5), (6) and (7), C.R.S., as well as §§ 40-3.2-101 and 104, C.R.S. That bill establishes that:

... cost-effective natural gas and electricity demand-side management programs will save money for consumers and utilities and protect Colorado's environment. The general assembly further finds, determines, and declares that providing funding mechanisms to encourage Colorado's public utilities to reduce emissions or air pollutants and to increase energy efficiency are matters of statewide concern and that that public interest is served by providing such funding mechanisms. Such efforts will result in an improvement in the quality of life and health of Colorado citizens and an increase in the attractiveness of Colorado as a place to live and conduct business.¹

Section 40-3.2-104, C.R.S. further charges the Commission to:

...establish energy savings and peak demand reduction goals to be achieved by an investor-owned electric utility, taking into account the utility's cost-effective DSM potential, the need for electricity resources, the benefits of DSM investments, and other factors as determined by the commission. The energy savings and peak demand reduction goals shall be at least five percent of the utility's retail system peak demand measured in megawatts in the base year and at least five percent of the utility's retail energy sales measured in megawatt-hours in the base year. The base year shall be 2006. The goals shall be met in 2018, counting savings in 2018 from DSM measures installed starting in 2006. The commission may establish interim goals and may revise the goals as it deems appropriate.²

On June 27, 2007, the Commission issued Decision No. C07-0562 opening Docket No. 07I-251G to investigate issues associated with the natural gas DSM requirements contained in § 40-3.2-103, C.R.S. which directs the Commission to implement rules to establish specific natural gas DSM requirements for jurisdictional natural gas utilities. Through an informal workshop and two rounds of comments on proposed rules, the Commission issued Decision No. C08-0248 adopting the Rules regarding Natural Gas Demand-side Management, pursuant to House Bill 07-1037, enacted as §40-3.2-103.

On October 31, 2007, Public Service filed its Application for Authorization to Implement an Enhanced Demand Side Management (DSM) Program and to Revise its Demand Side Management Cost Adjustment Mechanism to Include Current Cost Recovery and Incentives (Application). Public Service requested approval to implement an enhanced DSM program and to revise its demand-side management cost adjustment mechanism (DSMCA) to include current cost recovery and incentives designed to reward Public Service for successfully implementing cost-effective DSM programs and measures. On June 5, 2008, the Commission issued its Decision No. C08-0560 approving, in part, the Enhanced DSM Plan proposed by the Company and establishing annual electric energy savings goals for Public Service from 2009 through 2020. As part of Decision No. C08-0560, the Commission also endorsed the Company's proposal to file biennial DSM plans and to

¹ § 40-3.2-101, C.R.S.

² § 40-3.2-104(2).

combine gas and electric DSM plans in one filing, thereby waiving the gas DSM rules' requirement for the Company to file triennial natural gas DSM plans.

In compliance with Decision No. C08-0560, Public Service filed its first combined gas and electric 2009/10 DSM Plan on August 11, 2008. In this Plan, the Company proposed a comprehensive portfolio of electric and natural gas demand-side management programs for 2009 and 2010 as well as annual budgets and annual goals for the natural gas DSM programs. The Commission initiated Docket No. 08A-366EG to consider the 2009/2010 DSM Plan filing and numerous parties intervened. However, prior to hearings, the majority of the Intervenors, the Commission Staff, and the Company entered into a Stipulation and Settlement Agreement. The Settling Parties recommended approval of the Plan subject to certain amendments and changes to specific DSM programs agreed to and described in Appendix A to the Agreement. The Settling Parties further agreed to recommend to the Commission that the Company be afforded the discretion to modify the plan during the course of the plan period and agreed to a process for providing notice of plan changes to interested stakeholders.

The Commission accepted the Settlement Agreement in Decision R08-1243 issued on November 28, 2008. As agreed to in the Settlement Agreement, in compliance with Decision No. R08-1243, on February 20, 2009, the Company filed its 2009/2010 DSM Plan Update, including all changes that had been agreed to in the Settlement as well as corrections to certain errors made in the original plan filing. On May 1, 2009, the Company filed a further amendment to the Plan.

High-Level Achievements

In 2010, Public Service's electric portfolio achieved demand savings of 67,644 generator kW (101% of goal) and energy savings of 252,096,450 generator kWh (106% of goal) at a cost of \$54,669,260 (86% of goal). The gas portfolio achieved savings of 454,238 Dth (113% of goal) at a cost of \$16,930,026 (103% of goal). These achievements have provided electric net benefits of over \$256 million and gas net benefits of \$14.9 million. Based on these achievements and net benefits, the Company has calculated an associated financial incentive of \$17,525,700 for its electric portfolio and \$2,948,876 plus \$420,573 for acknowledgement of lost revenues for its gas portfolio. The gas incentive bonus was based on an Energy Factor of 16% and a Savings Factor of 1.22347538. The incentive calculations are shown in more detail in the Financial Incentive Calculations section of this Report.

Public Service built on the success of the 2009 program year, including very strong performance in several programs, including Lighting Efficiency, Motor and Drive Efficiency, School Education Kits, and Insulation Rebate. The Company also worked on building customer awareness about the programs and providing education on the benefits of energy efficiency. Public Service maintained cost-effective electric and gas portfolios, achieving TRC ratios of 3.33 and 1.37, respectively, compared to goal TRC ratios of 3.39 and 1.61, respectively. Tables 1a and 1b below compare at a segment level the forecasted budgets, savings goals, and expected cost-effectiveness for 2010 to the actual expenditures, realized savings, and actual cost-effectiveness results. Table 1c provides the values used to calculate the Total Resource Cost Test ratio both without the financial incentive and taking into consideration the financial incentive. The TRC ratio drops slightly for both electric and gas, from 3.33 to 2.87 and 1.37 to 1.26, respectively.

Table 1a: High-Level Electric Goals and Achievements for 2010

2010	Electric Budget	Electric Actual Spend	Generator kW Goal	Net Realized Generator kW	Generator kWh Goal	Net Realized Generator kWh	Goal Modified TRC Ratio	Achieved Modified TRC Ratio
Business Segment	\$32,191,888	\$27,407,608	35,053	31,356	166,138,016	160,043,540	3.35	3.28
Residential Segment	\$24,778,527	\$20,336,596	31,479	35,072	65,746,200	78,951,945	4.44	3.82
Low-Income Segment	\$1,695,693	\$2,149,531	417	946	5,580,745	13,018,931	2.38	4.89
Indirect Segment	\$4,981,038	\$4,775,524						
2010 TOTAL	\$63,650,147	\$54,669,260	66,949	67,373	237,464,961	252,014,416	3.39	3.33

Table 1b: High-Level Natural Gas Goals and Achievements for 2010

2010	Gas Budget	Gas Actual Spend	Goal Dth	Net Realized Dth	Goal Modified TRC Ratio	Achieved Modified TRC Ratio
Business Segment	\$1,505,522	\$1,806,512	96,956	79,868	2.84	1.63
Residential Segment	\$7,916,965	\$7,977,950	196,828	298,647	1.60	1.45
Low-Income Segment	\$3,795,193	\$4,244,658	109,024	75,724	1.59	1.39
Indirect Segment	\$3,301,713	\$2,900,906				
2010 TOTAL	\$16,516,394	\$16,930,026	402,808	454,238	1.61	1.37

Table 1c: Total Resource Cost Test Results with Financial Incentive

	Electric	Gas
Modified TRC Benefits w/ Adder	\$365,433,918	\$55,603,890
Modified TRC Costs	\$109,655,930	\$40,718,462
Modified TRC Ratio	3.33	1.37
Modified TRC Benefits w/ Adder	\$365,433,918	\$55,603,890
Incentive	\$17,525,700	\$2,948,876
Acknowledgement of Lost Revenue (ALR)	N/A	\$420,573
Modified TRC Costs w/ Incentive & ALR	\$127,181,630	\$44,087,911
Modified TRC Ratio w/ Incentive & ALR	2.87	1.26

Summary of Program Changes

60/90-Day Notices and May 1, 2009 Amendment

In recognition of the need to afford the Company discretion to make changes to the Plan in order to achieve the greatest level of energy savings, the Stipulation and Settlement Agreement provided for a 60/90-Day Notice process for advising interested stakeholders of changes to the Plan. 60-Day Notices are required for any proposal to add a new DSM program, reduce rebate levels, adopt new or discontinue existing measures, or change technical assumptions or eligibility requirements. 90-Day Notices are required for any program the Company wishes to discontinue. DSM Roundtable participants have 30 days from the time of notice date to provide comments to Public Service on the

proposed changes. Public Service will have 30 days thereafter to consider comments. Listed below are the 60-Day Notices that were completed during 2010. Detailed programmatic changes made through 60-Day Notices are described in the “Changes in 2010” section of the pertinent program descriptions. A description of these changes can also be found at: www.xcelenergy.com. There were no 90-Day Notices.

Table 2: 60-Day Notices Submitted in 2010

Program 60-Day Notice	Changes Made	Effective Date
AC Tune Up Pilot	New Pilot Program Description	3/2010
SmartGridCity Pricing Pilot	New Pilot Program Description	N/A
Standard Offer	Program Description	3/2010
Boiler Efficiency	Program Description, Technical Modifications	6/2010
Cooling Efficiency	Program Description, Technical Modifications	6/2010
Furnace Efficiency	Program Description, Technical Modifications	6/2010
High Efficiency Air Conditioning- Early Retirement	Program Description, Technical Modifications	6/2010
High Efficiency Air Conditioning- M&V	Program Description	6/2010
Home Lighting & Recycling	Program Description, Technical Modifications	6/2010
New Construction- Energy Design Assistance	Program Description	6/2010
Lighting Efficiency	Program Description, Technical Modifications	6/2010
ENERGY STAR Retailer Incentive Pilot	Program Description, Technical Modifications	7/2010
ENERGY STAR New Homes	Program Description, Technical Modifications	7/2010
Boiler Efficiency	Program Description, Technical Modifications	9/2010
Energy Feedback Pilot	New Pilot Program Description	9/2010

Program Achievements and Expenditures

The following tables 3a, 3b, 4a, and 4b provide the goals and budgets approved in the 2009/10 DSM Plan, as well as Public Service’s 2010 achievements, actual spending, and cost-effectiveness results by program.

Some of the programs did not pass the modified Total Resource Cost (TRC) test in 2010. While each of the programs listed below are discussed in more detail in the Status Report section of this report, below is a bulleted summary of the primary reasons for the failing of program TRC test ratios (gas and/or electric) as well as a brief description of plans to improve the ratios in 2011.

- o **Data Center Efficiency-** Electric. The program did not pass because the only rebate was for a study, which did not have direct impacts in 2010. We are working with customers and account managers on project implementation plans.

- **ENERGY STAR New Homes-** Gas. While we made changes to the incremental cost technical assumption and lowered the minimum HERS index requirement part way through the year to improve cost-effectiveness, the gas component still failed. We believe that these changes will result in a cost-effective product in 2011, when the changes are in effect for the entire year.
- **ENERGY STAR Retailer Incentive-** Electric and Gas. The program didn't pass because a larger number of televisions meeting the highest ENERGY STAR standard came through the program than was originally anticipated. Because this highest tier of television is not cost-effective as a stand-alone measure, the over-representation of these televisions in the product mix caused the program to fail. For 2011, the incremental cost of this measure has been revised to use only the cost of LED light board, making this measure cost-effective as an individual measure.
- **Furnace Efficiency-** Gas. The product did not pass primarily because of fixed administrative costs and increased spending to try to improve participation that ultimately did not significantly increase energy savings. We have repackaged this product with Boiler Efficiency to reduce administrative costs and make the product more attractive to customers.
- **High Efficiency Air Conditioning-** Electric. The product had a difficult time attracting qualified projects due to the complexity of the program requirements. All planned marketing tactics were implemented, including print, outdoor and online advertising, trade events and training to ensure the success of this program in future years.
- **Home Performance with ENERGY STAR-** Electric and Gas. The product had a very challenging year because of the high cost to participate, the long time period given to customers to make the improvements, and overall economic conditions. We expect to increase participation by increasing training of air sealing and insulation contractors to proactively market to end customers to receive an energy audit.
- **Non-Profit Energy Efficiency-** Gas. The reason the gas component did not pass was due to high rebate costs for projects that had a smaller gas savings than anticipated. In 2011, the goals increased and administration costs will be lower to drive the success of the program.
- **Segment Efficiency-** Gas. The program had no gas savings in 2010, which caused the gas component to fail. To increase participation in 2011, the study provider will begin actively marketing the program with a goal of 25 applications by mid-year.
- **Water Heating Rebate-** Gas. While participation and interest was high, the high proportion of rebates for tankless water heaters had a negative impact on the program's TRC, causing it to fail with a TRC ratio of 0.99.

Table 3a: 2010 Electric Program Goals and Budgets

	2010	Electric Participants	Electric Budget	Net Generator kW	Net Generator kWh	Modified TRC Ratio
Business Segment						
	Boiler Efficiency					
	Compressed Air Efficiency	249	\$1,208,969	1,591	9,941,064	4.04
	Cooling Efficiency	252	\$2,582,748	3,253	6,951,439	2.04
	Custom Efficiency	50	\$3,085,144	1,595	8,682,818	2.06
	Data Center Efficiency	14	\$1,026,465	1,142	11,846,949	4.91
	Energy Management Systems	38	\$1,093,870	62	5,554,401	2.27
	Furnace Efficiency					
	Lighting Efficiency	678	\$5,066,713	8,759	35,890,773	3.24
	Motor & Drive Efficiency	1,100	\$2,832,479	3,681	20,711,411	4.93
	New Construction	65	\$5,313,990	8,051	30,410,718	4.41
	Process Efficiency	4	\$1,574,800	1,233	7,797,936	2.76
	Recommissioning	38	\$858,540	471	5,122,522	1.91
	Segment Efficiency	175	\$2,227,436	1,368	10,716,550	2.75
	Self-Direct	10	\$654,000	956	4,364,903	4.73
	Small Business Lighting	200	\$3,156,935	1,264	4,614,158	1.92
	Standard Offer	48	\$1,509,800	1,625	3,532,372	2.53
	Energy Efficiency Subtotal	2,921	\$32,191,888	35,053	166,138,016	3.35
	Business Segment Total	2,921	\$32,191,888	35,053	166,138,016	3.35
Residential Segment						
	Energy Efficient Showerhead					
	ENERGY STAR New Homes	200	\$97,550	21	234,059	1.90
	ENERGY STAR Retailer Incentive	18,116	\$2,964,229	704	2,701,058	1.14
	Evaporative Cooling Rebate	4,000	\$1,652,696	4,005	2,181,848	7.91
	Heating System Rebate					
	High-Efficiency A/C Program	0	\$2,400,000	0	0	0.00
	Home Lighting & Recycling	300,000	\$3,433,520	3,969	55,485,357	6.69
	Home Performance w/ ENERGY STAR	1,000	\$484,778	103	1,249,049	2.15
	Insulation Rebate					
	Refrigerator Recycling	4,375	\$885,382	400	2,947,146	2.04
	School Education Kits	7,300	\$573,938	60	902,324	2.96
	Water Heating Rebate					
	Energy Efficiency Subtotal	334,991	\$12,492,093	9,261	65,700,842	5.00
	Saver's Switch	19,500	\$12,286,434	22,218	45,359	4.03
	Load Management Subtotal	19,500	\$12,286,434	22,218	45,359	4.03
	Residential Segment Total (w/o Low-Income)	354,491	\$24,778,527	31,479	65,746,200	4.44
Low-Income Segment						
	Easy Savings Energy Kits	22,000	\$650,410	180	2,719,334	2.38
	Multi-Family Weatherization	556	\$125,458	30	347,783	2.19
	Non-Profit Energy Efficiency	350	\$92,602	19	219,700	1.92
	Single-Family Weatherization	2,103	\$827,223	188	2,293,929	2.46
	Energy Efficiency Subtotal	25,009	\$1,695,693	417	5,580,745	2.38
	Low-Income Segment Total	25,009	\$1,695,693	417	5,580,745	2.38
Indirect Segment						
	Education/Market Transformation					
	Business Energy Analysis	400	\$820,467			
	Customer Behavioral Change - Business	1,385	\$171,781			
	Residential Home Energy Audit	7,416	\$762,937			
	Customer Behavioral Change - Residential	34,000	\$1,381,488			
	Energy Feedback Pilot	0	\$0			
	Education/Market Transformation Subtotal	43,201	\$3,136,672			
	Planning and Research					
	DSM Market Research		\$247,610			
	DSM Planning & Administration		\$298,896			
	DSM Product Development		\$676,030			
	Evaluation, Measurement & Verification		\$621,830			
	Planning and Research Subtotal		\$1,844,366			
	Indirect Total	43,201	\$4,981,038			
	2010 TOTAL	425,622	\$63,647,147	66,949	237,464,961	3.39

Table 3b: 2010 Electric Program Achievements and Expenditures

	2010	Electric Participants	Electric Actual Spend	Net Realized Generator kW	Net Realized Generator kWh	Modified TRC Ratio
Business Segment						
Boiler Efficiency						
Compressed Air Efficiency		60	\$551,759	538	3,142,200	2.70
Cooling Efficiency		174	\$1,844,190	2,532	4,939,989	3.05
Custom Efficiency		49	\$1,832,657	864	7,404,169	2.94
Data Center Efficiency		1	\$319,880	0	0	0.08
Energy Management Systems		50	\$1,019,052	212	7,576,706	1.94
Furnace Efficiency						
Lighting Efficiency		1,474	\$6,704,250	13,507	62,961,839	3.70
Motor & Drive Efficiency		2,169	\$3,912,054	4,829	29,628,243	5.05
New Construction		27	\$3,769,237	4,232	16,755,282	2.48
Process Efficiency		11	\$1,024,660	94	2,641,561	2.01
Recommissioning		84	\$1,037,367	422	6,137,691	2.10
Segment Efficiency		9	\$350,548	91	1,158,503	2.70
Self-Direct		10	\$1,877,874	1,955	8,965,180	2.20
Small Business Lighting		268	\$2,833,816	1,992	7,321,329	2.81
Standard Offer		1	\$330,264	88	1,410,848	1.58
Energy Efficiency Subtotal		4,387	\$27,407,608	31,356	160,043,540	3.28
Business Segment Total		4,387	\$27,407,608	31,356	160,043,540	3.28
Residential Segment						
Energy Efficient Showerhead		9,383	\$220,782	0	1,451,466	4.22
ENERGY STAR New Homes		1,367	\$340,864	-2	1,186,483	1.21
ENERGY STAR Retailer Incentive		27,641	\$801,596	501	4,362,944	0.85
Evaporative Cooling Rebate		3,064	\$1,282,306	2,863	1,404,552	4.42
Heating System Rebate						
High-Efficiency A/C Program		855	\$1,159,863	875	673,790	0.80
Home Lighting & Recycling		218,382	\$2,798,366	7,664	64,020,459	7.18
Home Performance w/ ENERGY STAR		682	\$98,117	10	87,894	0.87
Insulation Rebate		6,173	\$196,840	1,571	1,545,537	3.40
Refrigerator Recycling		3,053	\$601,019	279	2,131,872	2.11
School Education Kits		36,636	\$395,570	101	2,042,031	3.20
Water Heating Rebate						
Energy Efficiency Subtotal		307,236	\$7,895,323	13,862	78,907,028	3.84
Saver's Switch		19,310	\$12,441,273	21,209	44,917	3.80
Load Management Subtotal		19,310	\$12,441,273	21,209	44,917	3.80
Residential Segment Total (w/o Low-Income)		326,546	\$20,336,596	35,072	78,951,945	3.82
Low-Income Segment						
Easy Savings Energy Kits		21,105	\$702,364	391	8,151,880	12.06
Multi-Family Weatherization		13	\$319,240	151	1,777,602	2.87
Non-Profit Energy Efficiency		230	\$177,046	225	803,409	1.13
Single-Family Weatherization		1,950	\$950,881	178	2,286,041	1.80
Energy Efficiency Subtotal		23,298	\$2,149,531	946	13,018,931	4.89
Low-Income Segment Total		23,298	\$2,149,531	946	13,018,931	4.89
Indirect Segment						
Education/Market Transformation						
Business Energy Analysis		420	\$845,266			
Customer Behavioral Change - Business		1,880	\$142,942			
Energy Feedback Pilot		67,616	\$1,353,648			
Residential Home Energy Audit		15,331	\$618,920			
In-Home Smart Device Pilot		3	\$237,952			
Energy Feedback Pilot		0	\$7,071			
Education/Market Transformation Subtotal		85,250	\$3,205,799			
Planning and Research						
DSM Market Research			\$165,350			
DSM Planning & Administration			\$282,083			
DSM Product Development			\$376,968			
Evaluation, Measurement & Verification			\$745,324			
Planning and Research Subtotal			\$1,569,725			
Indirect Total		85,250	\$4,775,524			
2010 TOTAL		439,481	\$54,669,260	67,373	252,014,416	3.33

Table 4a: 2010 Natural Gas Program Goals and Budgets

	2010	Gas Participants	Gas Budget	Net Annual Dth Savings	Annual Dth/\$M	Modified TRC Ratio
Business Segment						
	Boiler Efficiency	146	\$555,188	31,650	57,007	2.54
	Compressed Air Efficiency					
	Cooling Efficiency					
	Custom Efficiency	14	\$177,505	13,492	76,010	2.51
	Data Center Efficiency					
	Energy Management Systems	14	\$129,649	6,286	48,486	1.68
	Furnace Efficiency	50	\$50,139	4,204	83,850	4.02
	Lighting Efficiency					
	Motor & Drive Efficiency					
	New Construction	12	\$313,864	15,510	49,415	1.77
	Process Efficiency	12	\$60,600	18,099	298,656	7.55
	Recommissioning	8	\$100,477	2,199	21,883	1.23
	Segment Efficiency	17	\$84,100	3,627	43,126	2.00
	Self-Direct					
	Small Business Lighting					
	Standard Offer	24	\$34,000	1,890	55,597	1.93
	Energy Efficiency Subtotal	297	\$1,505,522	96,956	64,400	2.84
	Business Segment Total	297	\$1,505,522	96,956	64,400	2.84
Residential Segment						
	Energy Efficient Showerhead	22,950	\$227,224	16,387	72,118	5.94
	ENERGY STAR New Homes	3,200	\$4,345,000	50,411	11,602	1.26
	ENERGY STAR Retailer Incentive					
	Evaporative Cooling Rebate					
	Heating System Rebate	6,500	\$1,091,733	51,810	47,456	1.88
	Home Lighting & Recycling					
	Home Performance w/ ENERGY STAR	1,000	\$1,031,721	32,058	31,072	1.25
	Insulation Rebate	1,500	\$534,755	28,210	52,753	1.73
	Refrigerator Recycling					
	School Education Kits	7,300	\$575,736	15,833	27,500	4.01
	Water Heating Rebate	1,750	\$110,766	2,119	19,129	1.17
	Energy Efficiency Subtotal	44,200	\$7,916,935	196,828	24,862	1.60
	Saver's Switch					
	Load Management Subtotal					
	Residential Segment Total (w/o Low-Income)	44,200	\$7,916,935	196,828	24,862	1.60
Low-Income Segment						
	Easy Savings Energy Kits	22,000	\$651,246	40,333	61,932	3.61
	Multi-Family Weatherization	556	\$353,615	6,760	19,116	1.41
	Non-Profit Energy Efficiency	350	\$494,471	4,417	8,932	1.21
	Single-Family Weatherization	3,164	\$2,295,861	57,515	25,051	1.35
	Energy Efficiency Subtotal	26,070	\$3,795,193	109,024	28,727	1.59
	Low-Income Segment Total	26,070	\$3,795,193	109,024	28,727	1.59
Indirect Segment						
	Education/Market Transformation					
	Business Energy Analysis	100	\$156,091			
	Customer Behavioral Change - Business	593	\$71,275			
	Customer Behavioral Change - Residential	34,000	\$1,418,512			
	Residential Home Energy Audit	8,034	\$820,356			
	Education/Market Transformation Subtotal	42,727	\$2,466,233			
	Planning and Research					
	DSM Market Research		\$247,610			
	DSM Planning & Administration		\$180,100			
	DSM Product Development		\$205,400			
	Evaluation, Measurement & Verification		\$202,370			
	Planning and Research Subtotal		\$835,480			
	Indirect Total	42,727	\$3,301,713			
	2010 TOTAL	113,294	\$16,519,364	402,808	24,384	1.61

Table 4b: 2010 Natural Gas Program Achievements and Expenditures

	2010	Gas Participants	Gas Budget	Net Realized Annual Dth Savings	Annual Dth/\$M	Modified TRC Ratio
Business Segment						
	Boiler Efficiency	248	\$957,422	43,387	45,316	1.67
	Compressed Air Efficiency					
	Cooling Efficiency					
	Custom Efficiency	28	\$233,773	10,024	42,879	1.61
	Data Center Efficiency					
	Energy Management Systems	26	\$56,298	4,694	83,384	1.83
	Furnace Efficiency	32	\$29,787	535	17,971	0.44
	Lighting Efficiency					
	Motor & Drive Efficiency					
	New Construction	10	\$373,512	14,628	39,162	1.86
	Process Efficiency	0	\$9,414	0	0	0.00
	Recommissioning	14	\$87,772	2,611	29,747	1.12
	Segment Efficiency	0	\$19,006	0	0	0.11
	Self-Direct					
	Small Business Lighting					
	Standard Offer	1	\$39,528	3,989	100,911	1.30
	Energy Efficiency Subtotal	359	\$1,806,512	79,868	44,211	1.63
	Business Segment Total	359	\$1,806,512	79,868	44,211	1.63
Residential Segment						
	Energy Efficient Showerhead	53,173	\$410,938	39,704	96,618	9.22
	ENERGY STAR New Homes	2,477	\$3,194,864	40,184	12,578	0.84
	ENERGY STAR Retailer Incentive	8,004	\$0	2,376	N/A	0.68
	Evaporative Cooling Rebate					
	Heating System Rebate	9,583	\$1,566,582	79,045	50,457	1.92
	Home Lighting & Recycling					
	Home Performance w/ ENERGY STAR	242	\$244,011	2,773	11,362	0.91
	Insulation Rebate	8,370	\$1,879,929	111,857	59,500	1.28
	Refrigerator Recycling					
	School Education Kits	15,570	\$394,044	14,110	35,808	1.52
	Water Heating Rebate	3,886	\$287,582	8,599	29,903	0.99
	Energy Efficiency Subtotal	101,305	\$7,977,950	298,647	37,434	1.45
	Saver's Switch					
	Load Management Subtotal					
	Residential Segment Total (w/o Low-Income)	101,305	\$7,977,950	298,647	37,434	1.45
Low-Income Segment						
	Easy Savings Energy Kits	36,094	\$974,146	31,729	32,571	1.80
	Multi-Family Weatherization	7	\$307,962	8,525	27,681	2.35
	Non-Profit Energy Efficiency	10	\$701,818	6,642	9,464	0.87
	Single-Family Weatherization	2,699	\$2,260,731	28,827	12,751	1.33
	Energy Efficiency Subtotal	38,810	\$4,244,658	75,724	17,840	1.39
	Low-Income Segment Total	38,810	\$4,244,658	75,724	17,840	1.39
Indirect Segment						
	Education/Market Transformation					
	Business Energy Analysis	329	\$183,693			
	Customer Behavioral Change - Business	806	\$152,356			
	Customer Behavioral Change - Residential	67,616	\$1,295,799			
	Residential Home Energy Audit	15,623	\$660,236			
	In-Home Smart Device Pilot	3	\$24,035			
	Energy Feedback Pilot	0	\$5,215			
	Education/Market Transformation Subtotal	84,377	\$2,321,334			
	Planning and Research					
	DSM Market Research		\$131,665			
	DSM Planning & Administration		\$97,068			
	DSM Product Development		\$186,359			
	Evaluation, Measurement & Verification		\$164,481			
	Planning and Research Subtotal		\$579,572			
	Indirect Total	84,377	\$2,900,906			
	2010 TOTAL	224,851	\$16,930,026	454,238	26,830	1.37

The following Table 5 provides the CO₂ and SO_x emissions avoided for 2010 and cumulatively over the lifetime for each program.

Table 5: 2010 Emissions Avoided

	2010	Annual				Cumulative over Lifetime			
		Tons CO ₂			lbs SO _x	Tons CO ₂			lbs SO _x
		Electric	Gas	TOTAL	Electric	Electric	Gas	TOTAL	Electric
Business Segment									
	Boiler Efficiency		2,538	2,538			42,036	42,036	
	Compressed Air Efficiency	2,229		2,229	3,519	35,423		35,423	23,260
	Cooling Efficiency	3,505		3,505	5,533	63,286		63,286	40,685
	Custom Efficiency	5,253	586	5,840	8,293	81,742	10,555	92,297	53,399
	Data Center Efficiency	0		0	0	0		0	0
	Energy Management Systems	5,376	275	5,650	8,486	49,731	2,746	52,478	36,291
	Furnace Efficiency		31	31			470	470	
	Lighting Efficiency	44,671		44,671	70,517	660,336		660,336	436,680
	Motor & Drive Efficiency	21,021		21,021	33,184	379,563		379,563	244,013
	New Construction	11,888	856	12,744	18,766	214,650	17,114	231,764	137,994
	Process Efficiency	1,874	0	1,874	2,959	32,329	0	32,329	21,013
	Recommissioning	4,355	153	4,507	6,874	28,528	1,069	29,597	23,420
	Segment Efficiency	822	0	822	1,298	13,485	0	13,485	8,762
	Self-Direct	6,361		6,361	10,041	98,976		98,976	64,657
	Small Business Lighting	5,194		5,194	8,200	93,793		93,793	60,297
	Standard Offer	1,001	233	1,234	0	12,970	2,139	15,109	8,823
	Energy Efficiency Subtotal	113,551	4,672	118,223	177,669	1,764,811	76,129	1,840,940	1,159,293
	Business Segment Total	113,551	4,672	118,223	177,669	1,764,811	76,129	1,840,940	1,159,293
Residential Segment									
	Energy Efficient Showerhead	1,030	2,323	3,352	1,626	5,806	23,227	29,033	5,025
	ENERGY STAR New Homes	842	549	1,391	1,329	11,126	3,293	14,419	7,561
	ENERGY STAR Retailer Incentive	3,096		3,096	4,886	40,799		40,799	27,734
	Evaporative Cooling Rebate	997		997	1,573	9,219		9,219	6,728
	Heating System Rebate		4,624	4,624			83,234	83,234	
	Home Lighting & Recycling	45,423		45,423	71,703	260,344		260,344	222,233
	Home Performance w/ ENERGY STAR	62	861	923	98	738	17,221	17,959	512
	Insulation Rebate		6,544	6,544		18,216	117,296	135,512	11,855
	Refrigerator Recycling	1,513		1,513	2,388	9,909		9,909	8,135
	School Education Kits	1,449	825	2,274	2,287	8,060	4,676	12,736	7,010
	Water Heating Rebate		503	503			9,248	9,248	
	Energy Efficiency Subtotal	54,410	16,229	70,639	85,890	364,217	258,195	622,412	296,792
	Saver's Switch	32		32	50	442		442	298
	Load Management Subtotal								
	Residential Segment Total (w/o Low-Income)	54,442	16,229	70,671	85,941	364,659	258,195	622,854	297,091
Low-Income Segment									
	Easy Savings Energy Kits	5,784	1,856	7,640	9,130	32,109	10,045	42,154	27,946
	Multi-Family Weatherization	1,261	499	1,760	1,991	7,954	9,788	17,741	6,615
	Non-Profit Energy Efficiency	570	389	959	900	3,275	3,886	7,161	2,815
	Single-Family Weatherization	1,622	1,686	3,308	2,560	13,388	32,726	46,113	10,219
	Energy Efficiency Subtotal	9,237	4,430	13,667	14,581	56,725	56,444	113,169	47,594
	Low-Income Segment Total	9,237	4,430	13,667	14,581	56,725	56,444	113,169	47,594
	2010 TOTAL	177,230	25,331	202,561	278,190	2,186,195	390,768	2,576,963	1,503,978

* Emissions assumptions: To calculate the avoided CO₂ and SO_x emissions resulting from its 2009 electric DSM programs, Public Service used the same emissions intensity (lbs/kWh) used to determine the avoided emissions values in the 2009/10 DSM Plan. For natural gas, Public Service assumed 117 lbs of CO₂ avoided per Dth saved. Emissions reductions of SO_x for natural gas are negligible and not reported here.

Program Costs by Budget Category

Public Service uses the following five budget categories to track and report its annual expenditures for each DSM program:

- **Program Planning and Design** – Costs to develop programs.
- **Administration and Program Delivery** – This category includes the costs for:
 - Project Delivery – to deliver the program to the customer including Program Manager labor and costs;
 - Utility Administration – to administer the program internally, including Rebate Processing and Planning and Administration; and
 - Other Project Administration – other costs not covered in any other cost category.
- **Advertising, Promotion, and Customer Education** – Costs to raise awareness, promote, and inform customers of program offerings.
- **Incentive (Rebates)** – The total dollars paid in rebates to program participants.
- **Equipment and Installation** – Costs for equipment purchase and installation.
- **Measurement and Verification** – Costs to perform measurement and verification activities.

Please note that in certain programs, the Measurement and Verification spending may appear lower than budgeted for one or more of the following reasons:

- Vendor billing did not separate out M&V work as opposed to other consulting work; thus some charges may be in the category of Administration and Program Delivery.
- Little or no participation in the program.
- M&V work charged to the Company in 2011.
- There weren't as many as anticipated metering projects.

Table 6a: Electric Program Costs by Budget Category – Budget

Program	Budget						
	Prog. Planning & Design	Admin. & Prog. Delivery	Advert. / Promo. / Customer Ed.	Incentives (Rebates)	Equip. & Install.	M&V	Total Budget
Business Segment							
Compressed Air Efficiency	\$52,427	\$390,889	\$171,960	\$555,271	\$0	\$38,422	\$1,208,969
Cooling Efficiency	\$83,980	\$175,964	\$219,999	\$2,008,005	\$0	\$94,800	\$2,582,748
Custom Efficiency	\$334,731	\$815,132	\$1,010,557	\$830,800	\$0	\$93,923	\$3,085,144
Data Center Efficiency	\$84,622	\$23,069	\$254,740	\$615,155	\$0	\$48,879	\$1,026,465
Energy Management Systems	\$49,850	\$413,762	\$172,611	\$418,754	\$0	\$38,893	\$1,093,870
Lighting Efficiency	\$4,869	\$711,980	\$413,500	\$3,690,544	\$0	\$245,820	\$5,066,713
Motor & Drive Efficiency	\$10,143	\$278,224	\$321,000	\$2,085,100	\$0	\$138,011	\$2,832,479
New Construction	\$4,981	\$1,801,533	\$474,008	\$2,249,796	\$0	\$783,672	\$5,313,990
Process Efficiency	\$0	\$586,060	\$10,000	\$900,000	\$0	\$78,740	\$1,574,800
Recommissioning	\$0	\$168,951	\$199,275	\$449,431	\$0	\$40,883	\$858,540
Segment Efficiency	\$84,233	\$722,021	\$262,475	\$1,058,717	\$0	\$99,990	\$2,227,436
Self-Direct	\$4,000	\$86,000	\$4,000	\$560,000	\$0	\$0	\$654,000
Small Business Lighting	\$145,219	\$1,780,874	\$200,099	\$972,046	\$0	\$58,697	\$3,156,935
Standard Offer	\$5,000	\$257,600	\$28,000	\$1,219,200	\$0	\$0	\$1,509,800
Total Business	\$864,055	\$8,212,059	\$3,742,225	\$17,612,819	\$0	\$1,760,730	\$32,191,888
Residential Segment							
Energy Efficient Showerhead	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ENERGY STAR New Homes	\$2,300	\$12,750	\$30,500	\$22,000	\$0	\$30,000	\$97,550
ENERGY STAR Retailer Incentive	\$349,750	\$152,442	\$1,372,607	\$969,430	\$0	\$120,000	\$2,964,229
Evaporative Cooling Rebate	\$45,783	\$47,052	\$179,739	\$1,319,220	\$0	\$60,902	\$1,652,696
High-Efficiency A/C Program	\$424,373	\$407,874	\$349,619	\$620,799	\$0	\$597,335	\$2,400,000
Home Lighting & Recycling	\$58,238	\$668,453	\$946,829	\$1,560,000	\$0	\$200,000	\$3,433,520
Home Performance w/ ENERGY STAR	\$27,897	\$110,396	\$93,680	\$215,840	\$0	\$36,965	\$484,778
Insulation Rebate	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Refrigerator Recycling	\$28,779	\$575,192	\$97,880	\$153,125	\$0	\$30,406	\$885,382
School Education Kits	\$10,549	\$13,066	\$0	\$528,243	\$0	\$22,080	\$573,938
Total Residential	\$947,668	\$1,987,225	\$3,070,854	\$5,388,657	\$0	\$1,097,688	\$12,492,093
Load Management							
Saver's Switch	\$54,450	\$820,821	\$1,119,260	\$5,311,050	\$4,806,363	\$174,490	\$12,286,434
Total Load Management	\$54,450	\$820,821	\$1,119,260	\$5,311,050	\$4,806,363	\$174,490	\$12,286,434
Low-Income Segment							
Easy Savings Energy Kits	\$3,168	\$169,522	\$282	\$452,430	\$0	\$25,008	\$650,410
Multi-Family Weatherization	\$3,168	\$17,060	\$282	\$102,500	\$0	\$2,448	\$125,458
Non-Profit Energy Efficiency	\$3,168	\$11,061	\$282	\$76,591	\$0	\$1,500	\$92,602
Single-Family Weatherization	\$11,617	\$18,690	\$1,034	\$778,110	\$0	\$17,772	\$827,223
Total Low Income	\$21,122	\$216,333	\$1,880	\$1,409,631	\$0	\$46,728	\$1,695,693
Indirect Segment							
Education/Market Transformation							
Business Energy Analysis	\$29,346	\$623,621	\$167,500	\$0	\$0	\$0	\$820,467
Customer Behavioral Change - Business	\$41,654	\$10,348	\$119,779	\$0	\$0	\$0	\$171,781
Energy Feedback Pilot	\$120,984	\$15,000	\$1,245,504	\$0	\$0	\$0	\$1,381,488
Residential Home Energy Audit	\$25,120	\$588,217	\$143,600	\$0	\$0	\$6,000	\$762,937
In-Home Smart Device Pilot	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Energy Feedback Pilot	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Education/Market Transformation	\$217,104	\$1,237,186	\$1,676,383	\$0	\$0	\$6,000	\$3,136,672
Planning and Research							
DSM Market Research	\$0	\$247,610	\$0	\$0	\$0	\$0	\$247,610
DSM Planning & Administration	\$0	\$298,896	\$0	\$0	\$0	\$0	\$298,896
DSM Product Development	\$280,334	\$370,499	\$0	\$0	\$25,196	\$0	\$676,030
Evaluation, Measurement & Verification	\$0	\$124,630	\$0	\$0	\$0	\$497,200	\$621,830
Total Planning and Research	\$280,334	\$1,041,635	\$0	\$0	\$25,196	\$497,200	\$1,844,366
Total Indirect	\$497,438	\$2,278,821	\$1,676,383	\$0	\$25,196	\$503,200	\$4,981,038
TOTAL ELECTRIC PORTFOLIO	\$2,384,733	\$13,515,259	\$9,610,601	\$29,722,158	\$4,831,559	\$3,582,837	\$63,647,147
% OF TOTAL	4%	21%	15%	47%	8%	6%	

Table 6b: Electric Program Costs by Budget Category – Actuals

Program	Actuals						
	Prog. Planning & Design	Admin. & Prog. Delivery	Advert. / Promo. / Customer Ed.	Incentives (Rebates)	Equip. & Install.	M&V	Total Cost
Business Segment							
Compressed Air Efficiency	\$23,291	\$170,131	\$90,762	\$256,056	\$0	\$11,520	\$551,759
Cooling Efficiency	\$90,246	\$394,770	\$129,411	\$1,200,186	\$0	\$29,578	\$1,844,190
Custom Efficiency	\$164,055	\$793,619	\$346,355	\$492,335	\$0	\$36,294	\$1,832,657
Data Center Efficiency	\$51,028	\$111,411	\$132,440	\$25,000	\$0	\$0	\$319,880
Energy Management Systems	\$28,658	\$288,137	\$140,522	\$557,941	\$0	\$3,795	\$1,019,052
Lighting Efficiency	\$92,249	\$1,169,710	\$235,474	\$5,165,891	\$0	\$40,927	\$6,704,250
Motor & Drive Efficiency	\$56,629	\$452,501	\$369,572	\$3,004,941	\$0	\$28,410	\$3,912,054
New Construction	\$9,225	\$1,992,077	\$237,909	\$1,357,012	\$0	\$173,015	\$3,769,237
Process Efficiency	\$39,540	\$705,287	\$11,780	\$210,948	\$0	\$57,105	\$1,024,660
Recommissioning	\$42,081	\$245,466	\$105,545	\$644,275	\$0	\$0	\$1,037,367
Segment Efficiency	\$2,105	\$125,390	\$113,213	\$109,841	\$0	\$0	\$350,548
Self-Direct	\$20,536	\$104,376	\$16,843	\$1,736,120	\$0	\$0	\$1,877,874
Small Business Lighting	\$0	\$2,036,934	\$114,301	\$648,761	\$0	\$33,820	\$2,833,816
Standard Offer	\$32,017	\$116,467	\$16,673	\$165,107	\$0	\$0	\$330,264
Total Business	\$651,659	\$8,706,275	\$2,060,799	\$15,574,412	\$0	\$414,463	\$27,407,608
Residential Segment							
Energy Efficient Showerhead	\$151	\$34,620	\$23,754	\$161,581	\$0	\$675	\$220,782
ENERGY STAR New Homes	\$4,150	\$75,039	\$6,193	\$156,406	\$0	\$99,076	\$340,864
ENERGY STAR Retailer Incentive	\$5,909	\$536,745	\$49,367	\$209,575	\$0	\$0	\$801,596
Evaporative Cooling Rebate	\$1,277	\$110,205	\$234,864	\$900,930	\$0	\$35,030	\$1,282,306
High-Efficiency A/C Program	\$2,316	\$234,335	\$289,302	\$608,100	\$0	\$25,810	\$1,159,863
Home Lighting & Recycling	\$9,140	\$252,781	\$1,203,824	\$1,322,621	\$0	\$10,000	\$2,798,366
Home Performance w/ ENERGY STAR	\$903	\$39,165	\$42,406	\$10,098	\$0	\$5,544	\$98,117
Insulation Rebate	\$83	\$14,054	\$173	\$182,530	\$0	\$0	\$196,840
Refrigerator Recycling	\$0	\$404,002	\$92,567	\$83,650	\$0	\$20,800	\$601,019
School Education Kits	\$83	\$395,488	\$0	\$0	\$0	\$0	\$395,570
Total Residential	\$24,011	\$2,096,434	\$1,942,451	\$3,635,492	\$0	\$196,935	\$7,895,323
Load Management							
Saver's Switch	\$24,521	\$5,426,324	\$1,779,279	\$5,108,162	\$0	\$102,986	\$12,441,273
Total Load Management	\$24,521	\$5,426,324	\$1,779,279	\$5,108,162	\$0	\$102,986	\$12,441,273
Low-Income Segment							
Easy Savings Energy Kits	\$83	\$292,285	\$40,829	\$367,952	\$0	\$1,216	\$702,364
Multi-Family Weatherization	\$1,652	\$19,560	\$784	\$297,244	\$0	\$0	\$319,240
Non-Profit Energy Efficiency	\$822	\$30,683	\$504	\$145,037	\$0	\$0	\$177,046
Single-Family Weatherization	\$779	\$282,421	\$40,953	\$616,791	\$0	\$9,938	\$950,881
Total Low Income	\$3,335	\$624,950	\$83,071	\$1,427,023	\$0	\$11,153	\$2,149,531
Indirect Segment							
Education/Market Transformation							
Business Energy Analysis	\$2,758	\$827,628	\$111,160	-\$96,280	\$0	\$0	\$845,266
Customer Behavioral Change - Business	\$0	\$18,902	\$124,040	\$0	\$0	\$0	\$142,942
Energy Feedback Pilot	\$0	\$336,879	\$1,016,769	\$0	\$0	\$0	\$1,353,648
Residential Home Energy Audit	\$5,670	\$500,248	\$113,001	\$0	\$0	\$0	\$618,920
In-Home Smart Device Pilot	\$0	\$191,809	\$11,341	\$0	\$0	\$34,802	\$237,952
Energy Feedback Pilot	\$6,245	\$827	\$0	\$0	\$0	\$0	\$7,071
Total Education/Market Transformation	\$14,673	\$1,876,292	\$1,376,312	-\$96,280	\$0	\$34,802	\$3,205,799
Planning and Research							
DSM Market Research	\$1,377	\$162,360	\$0	\$0	\$0	\$1,613	\$165,350
DSM Planning & Administration	\$0	\$282,083	\$0	\$0	\$0	\$0	\$282,083
DSM Product Development	\$133,997	\$242,971	\$0	\$0	\$0	\$0	\$376,968
Evaluation, Measurement & Verification	\$0	\$106	\$0	\$0	\$0	\$745,218	\$745,324
Total Planning and Research	\$135,374	\$687,520	\$0	\$0	\$0	\$746,831	\$1,569,725
Total Indirect	\$150,047	\$2,563,812	\$1,376,312	-\$96,280	\$0	\$781,633	\$4,775,524
TOTAL ELECTRIC PORTFOLIO	\$853,573	\$19,417,796	\$7,241,913	\$25,648,809	\$0	\$1,507,170	\$54,669,260
% OF TOTAL	2%	36%	13%	47%	0%	3%	

Table 7a: Gas Program Costs by Budget Category – Budget

	2010	Budget						Total Budget
		Prog. Planning & Design	Admin. & Prog. Delivery	Advert. / Promo. / Customer Ed.	Incentives (Rebates)	Equip. & Install.	M&V	
Business Segment								
	Boiler Efficiency	\$76,760	\$134,650	\$92,375	\$223,463	\$0	\$27,940	\$555,188
	Custom Efficiency	\$1,457	\$60,386	\$64,304	\$47,600	\$0	\$3,758	\$177,505
	Energy Management Systems	\$1,329	\$74,563	\$6,931	\$43,400	\$0	\$3,426	\$129,649
	Furnace Efficiency	\$15,687	\$16,222	\$4,750	\$8,480	\$0	\$5,000	\$50,139
	New Construction	\$518	\$65,578	\$131,440	\$72,818	\$0	\$43,510	\$313,864
	Process Efficiency	\$0	\$14,370	\$600	\$42,600	\$0	\$3,030	\$60,600
	Recommissioning	\$0	\$38,888	\$21,400	\$33,185	\$0	\$7,004	\$100,477
	Segment Efficiency	\$3,146	\$6,235	\$62,500	\$8,214	\$0	\$4,005	\$84,100
	Standard Offer	\$0	\$16,000	\$0	\$18,000	\$0	\$0	\$34,000
	Total Business	\$98,897	\$426,892	\$384,300	\$497,760	\$0	\$97,673	\$1,505,522
Residential Segment								
	Energy Efficient Showerhead	\$18,079	\$40,802	\$42,700	\$114,750	\$0	\$10,893	\$227,224
	ENERGY STAR New Homes	\$48,236	\$720,995	\$375,769	\$1,600,000	\$0	\$1,600,000	\$4,345,000
	Heating System Rebate	\$57,557	\$60,808	\$181,379	\$715,000	\$0	\$76,989	\$1,091,733
	Home Performance w/ ENERGY STAR	\$33,657	\$202,109	\$295,020	\$432,160	\$0	\$68,775	\$1,031,721
	Insulation Rebate	\$23,750	\$18,025	\$27,500	\$450,000	\$0	\$15,480	\$534,755
	School Education Kits	\$5,014	\$15,477	\$0	\$533,118	\$0	\$22,126	\$575,736
	Water Heating Rebate	\$15,200	\$3,746	\$8,500	\$79,060	\$0	\$4,260	\$110,766
	Total Residential	\$201,493	\$1,061,962	\$930,868	\$3,924,088	\$0	\$1,798,523	\$7,916,935
Low-Income Segment								
	Easy Savings Energy Kits	\$5,534	\$167,956	\$282	\$452,430	\$0	\$25,044	\$651,246
	Multi-Family Weatherization	\$5,534	\$24,195	\$282	\$318,636	\$0	\$4,968	\$353,615
	Non-Profit Energy Efficiency	\$5,534	\$5,955	\$282	\$463,692	\$0	\$19,008	\$494,471
	Single-Family Weatherization	\$20,291	\$31,740	\$55,034	\$2,100,500	\$0	\$88,296	\$2,295,861
	Total Low-Income	\$36,893	\$229,846	\$55,880	\$3,335,258	\$0	\$137,316	\$3,795,193
Indirect Segment								
Education/Market Transformation								
	Business Energy Analysis	\$9,365	\$143,726	\$3,000	\$0	\$0	\$0	\$156,091
	Customer Behavioral Change - Business	\$12,823	\$5,348	\$53,104	\$0	\$0	\$0	\$71,275
	Customer Behavioral Change - Residential	\$154,213	\$15,000	\$1,249,299	\$0	\$0	\$0	\$1,418,512
	Residential Home Energy Audit	\$25,121	\$633,560	\$155,175	\$0	\$0	\$6,500	\$820,356
	In-Home Smart Device Pilot	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Energy Feedback Pilot	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Total Education/Market Transformation	\$201,522	\$797,634	\$1,460,578	\$0	\$0	\$6,500	\$2,466,233
Planning and Research								
	DSM Market Research	\$0	\$247,610	\$0	\$0	\$0	\$0	\$247,610
	DSM Planning & Administration	\$0	\$180,100	\$0	\$0	\$0	\$0	\$180,100
	DSM Product Development	\$106,809	\$84,922	\$0	\$0	\$13,669	\$0	\$205,400
	Evaluation, Measurement & Verification	\$0	\$19,570	\$0	\$0	\$0	\$182,800	\$202,370
	Total Planning and Research	\$106,809	\$532,202	\$0	\$0	\$13,669	\$182,800	\$835,480
	Total Indirect	\$308,331	\$1,329,836	\$1,460,578	\$0	\$13,669	\$189,300	\$3,301,713
	TOTAL GAS PORTFOLIO	\$645,614	\$3,048,537	\$2,831,626	\$7,757,106	\$13,669	\$2,222,813	\$16,519,364
	% OF TOTAL	4%	18%	17%	47%	0%	13%	

Table 7b: Gas Program Costs by Budget Category – Actuals

		Actuals						
	2010	Prog. Planning & Design	Admin. & Prog. Delivery	Advert. / Promo. / Customer Ed.	Incentives (Rebates)	Equip. & Install.	M&V	Total Cost
Business Segment								
	Boiler Efficiency	\$6,809	\$183,122	\$62,494	\$679,676	\$0	\$25,320	\$957,422
	Custom Efficiency	\$53,170	\$49,610	\$45,119	\$84,031	\$0	\$1,843	\$233,773
	Energy Management Systems	\$5,849	\$14,641	\$477	\$35,332	\$0	\$0	\$56,298
	Furnace Efficiency	\$718	\$19,003	\$366	\$5,440	\$0	\$4,260	\$29,787
	New Construction	\$8,382	\$169,944	\$78,303	\$103,017	\$0	\$13,867	\$373,512
	Process Efficiency	\$0	\$9,209	\$206	\$0	\$0	\$0	\$9,414
	Recommissioning	\$7,176	\$20,143	\$42,488	\$17,966	\$0	\$0	\$87,772
	Segment Efficiency	\$0	\$8,488	\$8,518	\$2,000	\$0	\$0	\$19,006
	Standard Offer	\$361	\$8,870	\$273	\$30,023	\$0	\$0	\$39,528
	Total Business	\$82,465	\$483,029	\$238,244	\$957,485	\$0	\$45,289	\$1,806,512
Residential Segment								
	Energy Efficient Showerhead	\$151	\$75,903	\$45,380	\$287,965	\$0	\$1,540	\$410,938
	ENERGY STAR New Homes	\$3,995	\$672,811	\$115,993	\$1,004,642	\$0	\$1,397,424	\$3,194,864
	Heating System Rebate	\$0	\$250,045	\$107,532	\$1,184,610	\$0	\$24,395	\$1,566,582
	Home Performance w/ ENERGY STAR	\$70	\$49,112	\$125,607	\$57,966	\$0	\$11,256	\$244,011
	Insulation Rebate	\$1,699	\$74,149	\$23,082	\$1,777,999	\$0	\$3,000	\$1,879,929
	School Education Kits	\$0	\$394,044	\$0	\$0	\$0	\$0	\$394,044
	Water Heating Rebate	\$925	\$38,544	\$12,503	\$226,340	\$0	\$9,270	\$287,582
	Total Residential	\$6,840	\$1,554,606	\$430,097	\$4,539,522	\$0	\$1,446,885	\$7,977,950
Low-Income Segment								
	Easy Savings Energy Kits	\$83	\$482,518	\$27,553	\$462,777	\$0	\$1,216	\$974,146
	Multi-Family Weatherization	\$2,450	\$40,693	\$497	\$260,812	\$0	\$3,510	\$307,962
	Non-Profit Energy Efficiency	\$2,198	\$33,683	\$179	\$656,753	\$0	\$9,005	\$701,818
	Single-Family Weatherization	\$83	\$261,321	\$156,238	\$1,826,858	\$0	\$16,233	\$2,260,731
	Total Low-Income	\$4,814	\$818,215	\$184,467	\$3,207,200	\$0	\$29,963	\$4,244,658
Indirect Segment								
Education/Market Transformation								
	Business Energy Analysis	\$567	\$180,959	\$2,166	\$0	\$0	\$0	\$183,693
	Customer Behavioral Change - Business	\$0	\$38,094	\$114,262	\$0	\$0	\$0	\$152,356
	Customer Behavioral Change - Residential	\$0	\$293,308	\$1,002,491	\$0	\$0	\$0	\$1,295,799
	Residential Home Energy Audit	\$6,143	\$529,040	\$125,053	\$0	\$0	\$0	\$660,236
	In-Home Smart Device Pilot	\$0	\$23,632	\$0	\$0	\$0	\$403	\$24,035
	Energy Feedback Pilot	\$4,740	\$475	\$0	\$0	\$0	\$0	\$5,215
	Total Education/Market Transformation	\$11,450	\$1,065,508	\$1,243,973	\$0	\$0	\$403	\$2,321,334
Planning and Research								
	DSM Market Research	\$0	\$131,665	\$0	\$0	\$0	\$0	\$131,665
	DSM Planning & Administration	\$0	\$97,068	\$0	\$0	\$0	\$0	\$97,068
	DSM Product Development	\$72,702	\$113,657	\$0	\$0	\$0	\$0	\$186,359
	Evaluation, Measurement & Verification	\$0	\$1,178	\$0	-\$350	\$0	\$163,652	\$164,481
	Total Planning and Research	\$72,702	\$343,568	\$0	-\$350	\$0	\$163,652	\$579,572
	Total Indirect	\$84,152	\$1,409,077	\$1,243,973	-\$350	\$0	\$164,055	\$2,900,906
	TOTAL GAS PORTFOLIO	\$178,270	\$4,264,927	\$2,096,780	\$8,703,857	\$0	\$1,686,192	\$16,930,026
	% OF TOTAL	1%	25%	12%	51%	0%	10%	

Compliance

Table 8: Status Report Compliance and Reporting Requirements

Item #	Compliance Point	Reference ³	Report Reference / Comment
ELECTRIC			
1	PSCo shall work with Staff prior to filing its first advice letter in accordance resulting from this docket (the DSMCA filing), in order to develop templates for the supporting documentation and data that will accompany these filings. This template shall be filed in this docket as a compliance item. Parties shall develop the format and content of the annual DSM report filings.	E - p.53, paragraph 172	PSCo. met Commission Staff on January 27, 2010 to discuss reporting requirements.
2	The annual DSM report will be filed with the Commission on April 1 of each year, starting in 2010.	E - p.53, paragraph 173	Report filed April 1, 2011.
3	We accept the modification proposed by PSCo that the avoided costs underlying the net economic benefits not be updated between the first and second installment calculation. Also, we find that the avoided cost data shall be updated with each annual report so that the degree of change can be assessed and this issue incorporated into the overall review of DSM incentives in 2010. We will thereby consider whether avoided costs should be updated more frequently.	E - p.18 (ARRR), paragraph 58	Avoided Cost Assumptions, Pages 92 – 97
4	Shall include the results achieved during the previous plan year in total and by program, including achieved energy and demand savings, avoided annual and cumulative CO ₂ and SO _x emissions in metric tons, actual expenditures, expenditures expressed in terms of \$/kWh over the lifetime of the measures installed, and net economic benefits achieved.	S - p.16	See Tables 3a - 5. \$/kWh over lifetime and net economic benefits achieved by program in Cost-Effectiveness Section.
5	Use Appendix B for: <ul style="list-style-type: none"> o Developing forecast of annual DSMCA expenditures for 2009 and 2010; o Establishing overall annual energy savings targets for 2009 and 2010, and o Determining savings achieved in 2009 and 2010 to calculate the electric DSM financial incentive. o Determining cost-effectiveness and calculating net economic benefits (with avoided costs from App E) using the incremental customer O&M savings (for prescriptive measures only), customer O&M costs (for prescriptive measures only), incremental customer capital costs (for prescriptive measures only), net-to-gross ratios, and deemed savings formulas and other technical assumptions. 	S - p.13	2009/2010 Plan, Docket No. 08A-366EG
6	Use deemed savings from the technical assumptions to calculate the prescriptive program savings.	S - p.14	2009/2010 Plan, Docket No. 08A-366EG
7	Use the methodology described in the Direct Testimony of Company witness Jeremy Petersen (JP) to determine DSM portfolio and program cost-effectiveness.	S - p.14	2009/2010 Plan, Docket No. 08A-366EG

³ **Reference Key:**

E = Enhanced Plan Order, Docket No. 07A-420E, Decision No. C08-0560

S = DSM Stipulation & Settlement Agreement, Docket No. 08A-366EG, Decision No. R08-1243

G = Gas Rules, 4 CCR 723-4

Table 8: Status Report Compliance and Reporting Requirements (cont.)

Item #	Compliance Point	Reference ⁴	Report Reference / Comment
8	Use this same JP methodology for calculating the net economic benefit associated with DSM measures actually installed.	S - p.14	2009/2010 Plan, Docket No. 08A-366EG
9	All Participant O&M data should be treated as proprietary in the absence of a written agreement signed by the Participant authorizing disclosure.	S - p.8	2009/2010 Plan, Docket No. 08A-366EG
10	Do not include Participant O&M data in incentive calculations unless there is authorization to disclose such data.	S - p.8	No participant O&M data was included in the financial incentive calculations for 2010.
11	PSCo may only disclose the results, by cost category, of calculations made using the privileged values, but not values themselves, by making such results available for inspection by both the Staff of CO PUC and OCC at the Company's Colorado offices, pursuant to the following procedures: <ul style="list-style-type: none"> o PSCo will provide the customer 10 business-days notice of the place and time of the inspection and provide the opportunity for a customer representative to be present during the inspection. o PSCo shall maintain a log of persons, dates, times and documents reviewed. o Participant O&M data shall not be disclosed to any other party or by any other means, except after receipt of written authorization from the Participant 	S - p.9	Participant O&M data has been neither requested nor disclosed to any external party.
12	Verify results of Self-Directed customers' energy savings calculations and evaluation, M&V results.	S - p.7	See Evaluation, Measurement and Verification Results, p.77
13	Approve projects for which the customer meets TRC test value at least equal to one (1), rather than limiting this program to installations that have a TRC value at least equal to the TRC value for the overall DSM portfolio.	S - p.7	Ongoing process as part of 2009/2010 Plan, Docket No. 08A-366EG
14	Offer the Self-Directed Custom Efficiency Program to commercial and industrial customers who have an aggregated peak demand at all meters of at least 2 MW in any single month and an aggregated annual energy usage of at least 10 GWh. The customer of record must be the same for all meters aggregated to qualify for this program.	S - p.8	Ongoing process as part of 2009/2010 Plan, Docket No. 08A-366EG
15	Track expenditures, energy savings, and paybacks associated with each approved project under the Self-Directed Custom Efficiency Program.	S - p.8	Ongoing process as part of 2009/2010 Plan, Docket No. 08A-366EG

⁴ **Reference Key:**

E = Enhanced Plan Order, Docket No. 07A-420E, Decision No. C08-0560

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G = Gas Rules, 4 CCR 723-4

Table 8: Status Report Compliance and Reporting Requirements (cont.)

Item #	Compliance Point	Reference ⁵	Report Reference / Comment
16	All incentive payments must be included in the final TRC calculation. At the time of the annual report following the DSM performance year, the incentive amounts will be "proposed" versus "final". PSCo shall include the proposed incentive amounts in their annual report.	E - p.37, paragraph 117	Financial Incentive Calculations, Pages 23 – 26. The proposed financial incentive is included in the final TRC calculation shown on p.6
17	For any low-income program that achieves a TRC<1.0, the costs and benefits may be excluded from the calculation of net economic benefits. The energy and demand savings may be applied toward the calculation of overall energy and demand savings, for the purposes of determining progress toward annual goals.	E - p.44, paragraph 140	Included in Financial Incentive Calculations, Pages 23 – 26.
GAS			
18	Beginning April 1, 2010 and each April 1st thereafter, each utility shall submit its annual DSM report, application for bonus and DSMCA filing.	G - Rule 4752(b)	Report filed April 1, 2011.
19	Each utility shall also file an annual DSM report and an application for bonus.	G - Rule 4750(b)	Included with Report filed April 1, 2011.
20	The utility's annual expenditure target for DSM programs shall be, at a minimum, two percent of a natural gas utility's base rate revenues, (exclusive of commodity costs), from its sales customers in the 12-month calendar period prior to setting the targets, or one-half of one percent of total revenues from its sales customers in the 12-month calendar period prior to setting the targets, whichever is greater.	G – Rule 4753(h)(I)	PSCo spent a total of \$16.9 million on its natural gas DSM programs. This surpassed the expenditure targets - \$5,759,839 (2% of gas base rate revenues), and \$5,673,820 (0.5% of total gas revenues) set in Docket No. 08A-366EG.
21	In the annual DSM report the utility shall describe its actual DSM programs as implemented. For each DSM program, the utility shall document actual program expenditures, energy savings, participation levels and cost-effectiveness.	G - Rule 4754(a)	See Status Report Section, Pages 27 – 67.
22	Annual program expenditures shall be separated into cost categories contained in the approved DSM plan.	G – Rule 4754(b)	See Program Costs by Budget Category Tables, Pages 14 – 17.
23	For each DSM program, the utility shall compare the program's proposed and actual expenditures, savings, participation rate, and cost-effectiveness; in addition, the utility shall prepare an assessment of the success of the program, and list any suggestions for improvement and greater customer involvement.	G – Rule 4754(c)	Executive Summary Tables 4a & 4b. Also, see Status Report Section for each program.

⁵ **Reference Key:**

E = Enhanced Plan Order, Docket No. 07A-420E, Decision No. C08-0560

S = DSM Stipulation & Settlement Agreement, Docket No. 08A-366EG, Decision No. R08-1243

G = Gas Rules, 4 CCR 723-4

Table 8: Status Report Compliance and Reporting Requirements (cont.)

Item #	Compliance Point	Reference ⁶	Report Reference / Comment
24	The utility shall provide actual benefit/cost results for the overall DSM plan and individual DSM programs implemented during the plan year. The benefit/cost analysis shall be based on the costs incurred and benefits achieved, as identified in the modified TRC test. Benefit values are to be based upon the results of M&V evaluation, when such has been conducted as set forth in rule 4755. Otherwise, the benefit values of the currently approved DSM plan are to be used.	G – Rule 4754(d)	See Cost Effectiveness section for portfolio results. Individual program results included in work papers.
25	If the annual report covers a year within which an M&V evaluation was completed, the complete M&V results are to be included as part of the annual report.	G – Rule 4754(e)	See Evaluation, Measurement & Verification 2010 Results, Pages 68 – 88.
26	<p>The utility may file an application for bonus, pursuant to rule 4760. The application for bonus shall include the utility’s calculation of estimated bonus applying the methodology set forth in this rule to the utility’s actual performance.</p> <p>(II) As a threshold matter, the utility must expend at least the minimum amount set forth in rule 4753 (g)(I), except during a phase-in period as set forth in rule 4753 (g)(III), in order to earn a bonus.</p> <p>(III) The bonus amount is a percentage of the net economic benefits resulting from the DSM plan over the period under review. The percentage value is the product of the two factors:</p> <p>(A) The Energy Factor is determined by the percentage of the energy target achieved by the utility. The energy factor is zero plus 0.5% for each one percent above 80 percent of the energy target achieved by the utility.</p> <p>(B) The Savings Factor is the actual savings achieved divided by the approved savings target. Each of these quantities is expressed in dekatherms saved per dollar expended.</p> <p>(IV) The following is provided as an example of the bonus calculation, using these illustrative numbers: utility achieves 106 percent of its energy target; the utility’s savings target is 15,000 dekatherms per \$1 million expended, and the utility’s actual savings is 18,000 dekatherms per \$1 million.</p>	G - Rule 4754(f)	Included with Report filed April 1, 2011. See also Financial Incentive Calculation, Pages 23 – 26.
27	Acknowledgment of Lost Revenues (ALR) - Separate from any bonus determined by the Commission, the Commission may authorize a utility to recover a calculated amount of revenue that acknowledges that an effective DSM program reduced the utility’s revenue. The amount shall be calculated as set forth in Rule 4754(g)(I) (A)-(F)	G – Rule 4754(g)	See Financial Incentive Calculation, Pages 23 – 26.

⁶ **Reference Key:**
E = Enhanced Plan Order, Docket No. 07A-420E, Decision No. C08-0560
S = DSM Stipulation & Settlement Agreement, Docket No. 08A-366EG, Decision No. R08-1243
G = Gas Rules, 4 CCR 723-4

Financial Incentive Calculations

Electric Financial Incentive

In 2008, the Commission approved a new DSM incentive mechanism for electric programs (Docket No. 07A-420E). The mechanism includes a \$2.0 million “Disincentive Offset” that is grossed-up for income taxes. The Disincentive Offset is awarded when Public Service achieves 80% of the year’s savings goal. Based upon the Public Service’s effective tax rate, 38.01%, the Disincentive Offset is grossed-up to \$3.2 million. The incentive mechanism was recently modified as a result of a Stipulation and Settlement Agreement entered into in Docket No. 07A-420E-Reopened. On December 3, 2010, the ALJ issued Decision No. R10-1297 approving the Settlement Agreement without modification resulting in an increase to the cap applicable to the electric incentive equal to 25% of the higher of the approved 2010 Plan Budget or 2010 actual program expenditures, plus one-half of the Disincentive Offset (\$1,613,647). For 2011, this same modification is effective; however, the combination of the Disincentive Offset and the Performance Incentive can not exceed \$21,613,164.

The performance incentive component awards a percentage of net benefits for achievement above the 2010 savings goal, 220 GWh. A minor adjustment is made for market transformation programs, allowing for the costs of these programs to be excluded from the net benefits. The Disincentive Offset along with 60% of the performance incentive comprises the first installment that is awarded in the year following the 2010 performance year. The second installment includes the remaining 40% of the performance incentive. For the 2010 achievements, this amount will be filed on April 1, 2013 with the 2012 DSM Annual Status Report.

Based upon Public Service’s achievements of 252 GWh and net benefits of \$227,292,219, the total Disincentive Offset and performance incentive for the 2010 performance year was limited by the program spending cap of 25%, plus one-half of the Disincentive Offset (\$1,613,647), or **\$17,525,700**. Table 9 below shows the first and second installments. Table 10 has the full calculation of the electric financial incentive. Based on the scale of net benefits set by the Commission, the performance incentive would have been \$19.1M (including the \$3.2M Disincentive Offset) absent a cap on spending.

Table 9: Summary of 2010 Electric Incentive

	Amount
1 st Installment:	
Disincentive Offset	\$ 3,226,327
Performance Incentive (60%)	\$ 8,579,624
Total 1st Installment	\$ 11,805,951
2 nd Installment:	
Performance Incentive (40%)	\$ 5,719,749
Total	\$ 17,525,700

The full calculation of Public Service’s 2010 Electric Incentive is shown in Table 10.

Table 10: Public Service 2010 Electric DSM Incentive

(A) = \$2M / (1 - Tax Rate)	Disincentive Offset (Grossed-up for Income Taxes)	\$3,226,327
	Disincentive Offset (Not Grossed-up for income taxes)	\$2,000,000
	Tax Rate	38.01%
	Performance Incentive Calculation	
(B)	Approved 2010 kWh Goal	220,000,000
(C)	kWh from YE Achievements	252,014,416
(D)	Net Economic Benefits from YE Achievements	\$225,731,604
	Net Economic Benefits Adjustments:	
(E)	Low-Income Allowance from YE Achievements	\$0
(F)	Market Transformation Allowance from YE Achievements.	\$1,741,614
(G)	Incremental Participant O&M - Excluded for 2010 Incentive Calculation	-\$180,999
(H) = (D) + (E) + (F) + (G)	FINAL Net Benefits from YE Achievements	\$227,292,219
(I) = (C)/(B)	% of Goal Achieved	115%
(J)	% of Net Benefits Awarded	7.0%
(K) = (H) * (J)	Performance Incentive	\$15,910,455
(L) = (A) + (K)	Total Un-Capped Incentive	\$19,136,782
(M)	2010 Total Approved Budget	\$63,650,147
(N)	2010 Total DSM Expenditures from YE Achievements	\$54,669,260
(O) = IF (M) > (N), (M), (N)	Program Expenditures Subject to Cap (Higher of Budget or Actual)	\$63,650,147
(P) = ((O) * 25%) + ((A) * 50%)	Incentive Cap	\$17,525,700
(Q) = (A)	Disincentive Offset	\$3,226,327
(R) = (P) - (Q)	Capped Performance Incentive	\$14,299,373
(S) = (Q) + (R)	Total 2010 Proposed Electric Financial Incentive	\$17,525,700
	Performance Incentive Installments	
(T) = (Q)	Disincentive Offset	\$3,226,327
(U) = (R) * 60%	+ 60% of Performance Incentive	\$8,579,624
(V) = (T) + (U)	subtotal 1st Installment	\$11,805,951
(W) = (R) * 40%	+ 40% of Performance Incentive - 2nd Installment	\$5,719,749
(X) = (V) + (W)	Total	\$17,525,700

Natural Gas Bonus

The natural gas incentive mechanism (Gas DSM “Bonus”) is calculated as set forth in 4 CCR 723-4-4754 (“Rule 4754”). The natural gas DSM Bonus is awarded in a single installment, requested by application and approved in the first status report year following the Gas DSM program year in which the savings were achieved. The approved Gas DSM Bonus amount is recovered through the Gas Demand-Side Management Cost Adjustment (“G-DSMCA”), over the same twelve-month period as set forth in 4 CCR 723-4-4752 (b)(I). (See, Rule 4752(g)(I)(E))

The natural gas incentive is awarded on a sliding scale of net benefits, calculated based on an Energy Factor (percent of Dth goal achieved) and a Savings Factor (Dth per \$1 million spend). The natural gas DSM Bonus is capped at 25% of expenditures, or 20% of net benefits, whichever is less. For 2010, the natural gas incentive is calculated to be **\$2,948,876**. This bonus is well under both an expenditure cap of \$4,232,507 and the net benefits cap of \$2,977,085. In addition, Public Service is filing for an acknowledgement of lost revenues associated with gas DSM programs of **\$420,573** for a total award of **\$3,369,449**. The full calculation of Public Service’s 2010 Natural Gas Incentive is detailed in Table 11.

Table 11: Public Service 2010 Natural Gas Bonus and Acknowledgement of Lost Revenue

(A)	Approved Energy Target (Goal) (Dth)	402,808		
(B)	Energy Target Achieved - YE Forecast (Dth)	454,238		
(C)	% of Energy Target Achieved	112.8%		
			Dth	Spend
(D) = Approved Dth / Approved Spend	Approved Savings Target (Dth per \$1M)	24,388	402,808	\$ 16,516,364
(E) = Achieved Dth / Actual Spend	Savings Target Achieved - Portfolio Total (Dth per \$1M)	26,830	454,238	\$ 16,930,026
(F) = Low-Income Achieved Dth / Low-Income Actual Spend	Savings Target Achieved - Low-Income Program (Dth per \$1M)	17,840	75,724	\$ 4,244,658
(G) = If Low-Income Achieve / Spend < Portfolio Achieve / Spend, remove Low-Income from Portfolio Total	Savings Target Achieved - Adjusted (Dth per \$1M)	29,839	378,514	\$ 12,685,368
(H)	Total DSM Expenditures	\$16,930,026		
(I) = 0.5% * ((C) - 80)	Energy Factor	16.0%		
(J) = (G) / (D)	Savings Factor	1.22347538		
(K) = (I) * (J)	% of Net Benefits Awarded (Energy Factor * Savings Factor)	19.6%		
(L)	Net Economic Benefits Achieved (with Adder) <i>Net Economic Benefits Adjustments</i>	\$14,885,427		
(M)	Low-Income Allowance from Plan	\$178,607		
(N) = (L) + (M)	FINAL Net Economic Benefits Achieved (No Incremental Participant O&M for 2010 Gas Projects Included)	\$15,064,034		
(O) = MIN(20%*(L), 25%*(H))	Incentive Cap (20% of net economic benefits or 25% of expenditures, whichever is less)	\$2,977,055		
(P) = If (K)*(L) < (O), (K)*(L), (O)	Total 2010 Proposed Gas Bonus	\$2,948,976		
	Business/Residential Allocation		%	
(Q)	Business Achieved Savings (Dth)	79,868	18%	
(R)	Residential & Low Income Achieved Savings (Dth)	374,371	82%	
	Total Savings	454,239	100%	
	Allocated Bonus			
(S) = (P) * (Q)	Business	518,494		
(T) = (P) * (R)	Residential & Low Income	2,430,382		
(U) = (S) + (T)	Total	2,948,876		
	Acknowledgement of Lost Revenue [ALR] Calculation:			
	Dollar Value Per Therm			
(V)	Business (Non-residential)	\$ 0.11027		
(W)	Residential	\$ 0.05892		
	12-Month Therm Reduction Impact From 2009 Programs			
(X)	Business (Non-residential)	798,677		
(Y)	Residential	3,743,710		
	ALR Totals			
(Z) = (V) * (X)	Business (Non-residential)	\$ 88,068		
(A1) = (W) * (Y)	Residential	\$ 332,305		
(A2) = (Z) + (A1)	Total ALR	\$ 420,373		
(A3) = (P) + (A2)	Total Gas Bonus and ALR	\$ 3,369,449		

2010 Status Report

Business Segment

The business DSM programs serve commercial and industrial customers of all sizes with a broad portfolio of offerings designed to meet the needs of this varied segment. Eligible customers are on a Public Service business rate for electric service and/or retail natural gas service. The portfolio has three main components. Prescriptive programs focus on the most common equipment. Custom programs encourage savings from unique situations, often involving newer technologies or measures. Study and educational programs help customers identify efficiency opportunities.

Table 12a: Business Segment – Electric Programs (Budget to Actual)

2010	Budget					Actual				
	Electric Participants	Electric Budget	Net Gen. kW	Net Gen. kWh	Modified TRC	Electric Participants	Electric Budget	Net Gen. kW	Net Gen. kWh	Modified TRC
Business Segment										
Compressed Air Efficiency	249	\$ 1,208,969	1,591	9,941,064	4.04	60	\$ 551,759	538	3,142,200	2.70
Cooling Efficiency	252	\$ 2,582,748	3,253	6,951,439	2.04	174	\$ 1,844,190	2,532	4,939,989	3.05
Custom Efficiency	50	\$ 3,085,144	1,595	8,682,818	2.06	49	\$ 1,832,657	864	7,404,169	2.94
Data Center Efficiency	14	\$ 1,026,465	1,142	11,846,949	4.91	1	\$ 319,880	-	-	0.08
Energy Management Systems	38	\$ 1,093,870	62	5,554,401	2.27	50	\$ 1,019,052	212	7,576,706	1.94
Lighting Efficiency	678	\$ 5,066,713	8,759	35,890,773	3.24	1,474	\$ 6,704,250	13,507	62,961,839	3.70
Motor & Drive Efficiency	1,100	\$ 2,832,479	3,681	20,711,411	4.93	2,169	\$ 3,912,054	4,829	29,628,243	5.05
New Construction	65	\$ 5,313,990	8,051	30,410,718	4.41	27	\$ 3,769,237	4,232	16,755,282	2.48
Process Efficiency	4	\$ 1,574,800	1,233	7,797,936	2.76	11	\$ 1,024,660	94	2,641,561	2.01
Recommissioning	38	\$ 858,540	471	5,122,522	1.91	84	\$ 1,037,367	422	6,137,691	2.10
Segment Efficiency	175	\$ 2,227,436	1,368	10,716,550	2.75	9	\$ 350,548	91	1,158,503	2.70
Self-Direct	10	\$ 654,000	956	4,364,903	4.73	10	\$ 1,877,874	1,955	8,965,180	2.20
Small Business Lighting	200	\$ 3,156,935	1,264	4,614,158	1.92	268	\$ 2,833,816	1,992	7,321,329	2.81
Standard Offer	48	\$ 1,509,800	1,625	3,532,372	2.53	1	\$ 330,264	88	1,410,848	1.58
Business Segment Total	2,921	\$ 32,191,888	35,053	166,138,016	3.35	4,387	\$27,407,608	31,356	160,043,540	3.28

Table 12b: Business Segment – Gas Programs (Budget to Actual)

2010	Budget					Actual				
	Gas Participants	Gas Budget	Net Annual Dth Savings	Annual Dth/\$M	Modified TRC	Gas Participants	Gas Budget	Net Annual Dth Savings	Annual Dth/\$M	Modified TRC
Business Segment										
Boiler Efficiency	146	\$ 555,188	31,650	\$ 57,007	2.54	248	\$957,422	43,387	\$ 45,316	1.67
Custom Efficiency	14	\$ 177,505	13,492	\$ 76,010	2.51	28	\$233,773	10,024	\$ 42,879	1.61
Energy Management Systems	14	\$ 129,649	6,286	\$ 48,486	1.68	26	\$56,298	4,694	\$ 83,384	1.83
Furnace Efficiency	50	\$ 50,139	4,204	\$ 83,850	4.02	32	\$29,787	535	\$ 17,971	0.44
New Construction	12	\$ 313,864	15,510	\$ 49,415	1.77	10	\$373,512	14,628	\$ 39,162	1.86
Process Efficiency	12	\$ 60,600	18,099	\$ 298,656	7.55	-	\$9,414	-	\$ -	-
Recommissioning	8	\$ 100,477	2,199	\$ 21,883	1.23	14	\$87,772	2,611	\$ 29,747	1.12
Segment Efficiency	17	\$ 84,100	3,627	\$ 43,126	2	-	\$19,006	-	\$ -	0.11
Standard Offer	24	\$ 34,000	1,890	\$ 55,597	1.93	1	\$39,528	3,989	\$ 100,911	1.30
Business Segment Total	297	\$ 1,505,522	96,956	\$ 64,400	2.84	359	\$1,806,512	79,868	\$ 44,211	1.63

The electric portfolio performed close to its targets due to the strength of its established programs and the growth of newer products launched in 2009. Lighting Efficiency was the largest contributor due to increasing trade participation and the growing awareness of the product across Public Service territory. New contributors to the portfolio included Self Direct and Standard Offer products, which were launched in 2009.

Self Direct exceeded targets based on a simplified application process delivered by knowledgeable and well established Public Service account managers. The majority of the projects were identified in

early 2009 and completed in the second half of 2010. Also noteworthy was the growth of the Small Business Lighting product, which exceeded target due to aggressive promotion and an efficient partnership between the product provider and Public Service sales teams.

Some products struggled in 2010 due to aggressive targets, long customer implementation timelines and constrained access to capital. For example, Segment Efficiency has been focusing on the Commercial Real Estate market, which continues to struggle. However, heavy marketing through industry organizations is beginning to break down barriers and gain interest from building owners and operators. Other products, such as Standard Offer and Data Center Efficiency fell far short of their goals, but saw high interest and have built strong pipelines for future years.

The business natural gas portfolio fell short of its energy savings target but showed significant improvement over 2009. Changes to the Boiler Efficiency product's rebate structure, the addition of new measures and coordinated marketing campaigns contributed to the portfolio's growth. The Standard Offer and Recommissioning products also performed above expectations. Falling natural gas prices and confusion in the market regarding transport natural gas customers contributed to the shortfall in achievement.

Electric spending in the Business Segment was below budgeted levels. Electric spending was lower than anticipated due to the more cost-effective programs such as Lighting Efficiency and Motor & Drive Efficiency bringing in the majority of impacts. Gas spending in the Business segment was more than budgeted due to raising rebate levels in Boiler Efficiency and higher than anticipated costs for analysis in the custom products.

Business Programs

Boiler Efficiency

The Boiler Efficiency program provides rebates for retail natural gas business customers who purchase high efficiency natural gas or dual-fuel commercial equipment for heating or process loads. Program rebates are designed to promote the installation of high efficiency boilers, commercial water heaters, pipe insulation, and boiler system auxiliary equipment that improves combustion and seasonal efficiency. Boiler tune-ups are also eligible for rebates.

Deviation from Goal

2010 was only the second year that Boiler Efficiency was available in Colorado. With very poor participation in 2009, a renewed focus was placed on the product including expanding the prescriptive offerings, increasing rebates for boiler tune-ups, intensifying outreach to the trade and running targeted promotions to increase customer awareness. These changes, combined with the education and awareness efforts conducted in 2009, helped the program exceed its savings goal for the first time.

Many hurdles experienced in 2009 also impacted 2010 performance including low natural gas prices, large number of transport gas customers, limited project pipeline, low market awareness and the economic recession. A 60-Day Notice was filed in May 2010 to help overcome these hurdles. This notice provided for an increase in rebates for boilers and the introduction of prescriptive measures for Plan B boilers (early replacement), water heaters, and pipe insulation.

A boiler tune-up promotion from September 1st through November 30th brought a dramatic turn-around in participation. Boiler tune-ups still represent a small proportion of the product's impacts, but they help identify deeper opportunities for energy efficiency improvement and help Public Service build stronger relationships with customers.

We significantly exceeded the budget due to the increased rebate levels and higher participation compared to 2009 and the additional spend required for the 60-Day Notice changes.

Changes in 2010

60-Day Notice

The following rebates were increased and/or added;

- Non-Condensing – from \$600 to \$1,000 / MMBtuh
- Condensing Plan A – from \$2,500 to \$4,000 / MMBtuh
- Condensing Plan B (early replacement) – from nothing being offered to \$14,000 / MMBtuh

To qualify for the Plan B boiler rebate, the customer must supply a copy of their most recent State of Colorado boiler inspection certificate to prove it is still functional, nameplate efficiency and prove that the boiler is less than 25 years old.

Technical assumptions were also adjusted for boilers, as follows:

- Space heating operating hours were reduced from 1,004 to 659 to align with the weather bin data for Denver, CO and 30% over-sizing assumption.

- Operating hours for domestic water heating only boilers were increased from 876 hours per year to 2,190 hours per year, to align with the weather bin data for Denver, CO and 30% over sizing assumption.
- Operating hours for space and water heating was reduced from 1,880 hours per year to 1,443 hours per year, to align with the weather bin data for Denver, CO and 30% over sizing assumption.

Commercial water heaters greater than 150,000 Btuh became eligible for a prescriptive rebate of \$350 per unit rebate. Also, pipe insulation prescriptive rebates were introduced, which provide \$3-\$5 per linear foot based on pipe diameter and R-value of the insulation.

Compressed Air Efficiency

The Compressed Air Efficiency program helps customers identify and address inefficiencies in their compressed air systems. The program encourages repair and redesign of existing systems and encourages the purchase of efficient options for new and replacement systems. The program has three components:

- Prescriptive rebates for new no-loss air drains, and prescriptive rebates for replacement Variable Frequency Drive (VFD) compressors of 10 hp to 50 hp.
- Study rebates of up to \$2,500 for 50 hp to 99 hp systems and 75% of the study costs up to \$15,000 for systems of at least 100 hp. To receive study rebates, the customer must repair at least half of the leaks identified in the study (which usually requires no customer capital expense, but significantly reduces energy waste).
- Custom rebates of up to \$400 per kW saved for improvements identified in the studies. Identified opportunities cover a wide range of options and can include capital purchases, such as qualifying compressors and “process” changes, such as piping modifications or horsepower reductions.

Deviation from Goal

In 2010 the program fell significantly short of its savings goal and as a result spending was lower than planned. Vendor feedback shows that compressed air users have been particularly reluctant to make capital improvements during the economic downturn. Additionally, vendors have mentioned that the majority of compressors in service are 5 hp to 10 hp compressors, which are too small to have much potential for energy savings. Contributing to the deviation in 2010, the largest of projects, including two large customers that had previously participated in the Compressed Air Efficiency program, are using our Process Efficiency and Standard Offer programs to address additional compressed air projects. Finally, the rebated studies have uncovered fewer custom projects than anticipated.

In 2010 heavy emphasis was placed on improving vendor participation through educational activities to improve the thoroughness of the studies. Additionally we conducted market analysis to better identify customers likely to have need for compressed air systems and executed outreach through direct mail and email.

Changes in 2010

None.

Cooling Efficiency

The Cooling Efficiency program offers incentives to customers who purchase and install high efficiency cooling equipment. Rebate dollars, as well as study funding, are offered to assist in buying down the incremental cost associated with purchasing high efficiency equipment and to shorten the associated payback period. Customers are able to qualify for rebates through a mix of prescriptive rebates for common high efficiency equipment and custom rebates for newer and more system-based high efficiency solutions. Marketing efforts and events are directed toward educating customers on making strategic decisions that will benefit their facility, as well as to vendors who work with customers on a daily basis.

Deviation from Goal

The Cooling Efficiency program fell short of its annual electric achievement goals in 2010 due in part to the discontinuance of the Variable Air Volume boxes (VAV) prescriptive rebate measure, which had substantial participation in 2009, and the significant reduction in net-to-gross (NTG) values from .94 to .75. Electric spending was under budget, but in line with the electric achievements.

To improve program performance, we increased presentations to trade partners on the differences between the prescriptive and custom programs, in order to raise awareness of the range of technologies that can be considered through the custom program.

Changes in 2010

60-Day Notice. There was one 60-Day Notice in 2010. The notice was based on a comprehensive process and impact evaluation conducted in 2009. The evaluation recommended that the net-to-gross (NTG) factor be adjusted from .94 to .75. The impact evaluation also recommended that the Variable Air Volume (VAV) boxes be removed from the prescriptive program. Both recommendations resulted in downward pressure on achievements.

Custom Efficiency

The Custom Efficiency program is designed to provide rebates on a wide variety of equipment and process improvements that do not fall within Public Service's prescriptive rebate programs. Contributors to the program include: business customers; lighting, HVAC, refrigeration, or building controls contractors; architecture and engineering firms; energy services companies; equipment manufacturers and distributors; and project financing entities. All Custom Efficiency projects require preapproval before purchase and installation and must pass TRC tests within our analysis. This process is in place to help ensure that the program significantly influenced the project and that rebates are awarded to projects that are technically and financially sound.

In 2010, some of the technologies rebated included refrigerated cases, window replacement, and foodservice cooking equipment. Custom Efficiency is experiencing some erosion of participants as the Self Direct and Process Efficiency programs expand and gain traction.

Deviation from Goal

The Custom Efficiency program did not meet its electric and natural gas goals in 2010. This was due to the faster than anticipated growth of Self Direct and a decision to categorize some projects

originally classified as Custom Electric to their applicable end use programs, such as the custom component of Motor and Drive Efficiency.

Electric spending was under the budget, while the gas spending exceeded budget. The electric spending was less than the budget primarily due to lower than expected labor and rebate costs. The gas spending exceeded budget primarily due to higher than expected labor, promotions and rebate costs.

Changes in 2010

None.

Data Center Efficiency

The Data Center Efficiency program is designed to assist customers with energy efficiency projects specific to the unique needs of data centers. The program takes a holistic approach that packages energy efficiency information and rebate opportunities together through the use of site evaluations and design assistance.

Deviation from Goal

The program performed below goal and budget and did not pass the Modified TRC Test. The program did not pass because the only rebate was for a study, which did not have immediate direct impacts. In addition to rebating one study in 2010, we preapproved others. Upon study completion, we are working with customers and account managers on project implementation plans.

As we continue to receive new applications and completed studies in for review, the pipeline continues to grow. The holistic approach is known to be a challenging one and involves different technical disciplines such as facility management, equipment engineers and information technology professionals; as such, the program continues to focus on trade outreach to increase understanding of the program and grow the pipeline.

Efforts taken during the year to attempt to accelerate the product's growth cycle include program development of new tools and templates incorporating DOE tools for study provider use, as well as in-person trade updates on using the program and the new tools and templates.

Changes in 2010

None.

Energy Management Systems

The Energy Management Systems (EMS) program is designed to encourage customers to install or upgrade building control systems. Such systems include centralized networks programmed to monitor and control lighting and mechanical systems within a building, which allow customers to reduce energy costs by centrally managing equipment use.

The program offers rebates of up to \$400 per saved kW and up to \$7 per saved Dth. Systems covered in the program include new energy management systems in an existing building, replacing a non-functional energy management system, replacing an obsolete energy management system, and

adding functionality and/or control points to an existing system. The duplication of existing systems or adjusting the set points of an existing system does not qualify for rebate under the EMS Program.

Deviation from Goal

The EMS program exceeded its electric savings goal, and substantially grew compared to the prior year. Spending was slightly less than the budget. Contributing to the performance was:

- In-depth involvement with each project to educate vendors and customers and help them understand the energy usage of their facility and how their new system can increase their control, resulting in more descriptive information for appropriate analysis of costs and energy savings.
- Successfully encouraging two customers with multiple sites to implement EMS strategies.

The program did not achieve its goal for gas savings. A sample of 2010 projects indicated that most EMS applications were for customers who are not Public Service retail gas customers, and that the majority of applications for retail gas customers did not meet the requirements for project approval. However, the program's gas savings grew by almost five-fold versus the prior year due to active pursuit of qualifying natural gas projects.

Changes in 2010

None.

Furnace Efficiency

The Furnace Efficiency program incentivizes business customers when they opt for a high efficiency furnace. The program's customer benefits include the offset of initial equipment costs and the long-term natural gas savings over the lifetime of the equipment.

Deviation from Goal

The Furnace Efficiency program did not reach its gas savings goal in 2010 and did not pass the Modified TRC Test. The program struggled to reach goal due to low natural gas prices and very tight customer operating and capital budgets. Our spending was also short of the filed budget due to low participation. The program did not pass the Modified TRC Test primarily because of fixed administrative costs and increased spending to try to improve participation that ultimately did not significantly increase energy savings.

In order to continue providing prescriptive Furnace Efficiency rebates and to reduce administrative costs, the Furnace Efficiency product has been merged with Boiler Efficiency for 2011. This new consolidated product will now be called Heating Efficiency. The consolidation better aligns with the measures that are offered within the products and how other Public Service product offerings are structured, such as Cooling, Lighting and Motors. Administrative cost reductions should also be realized through this merger.

Changes in 2010

60-Day Notice. This Notice corrected reporting errors in this program's technical assumptions. The deemed savings listed and calculated incremental costs using erroneous costs for baseline and high efficient equipment. The deemed savings were adjusted to identify specific incremental costs for

different size furnaces. These corrected costs positively affected the program's Total Resource Cost test, participant test and simple payback.

Lighting Efficiency

The Lighting Efficiency Program offers cash rebates to business customers who purchase and install energy efficient lighting equipment in existing or new construction facilities. The program's objective is to encourage the use of energy efficient lighting by reducing the higher upfront cost of choosing more efficient lighting equipment and automatic controls. Prescriptive rebates are the primary incentive to influence the purchase of energy efficient lighting in retrofit and new construction projects. Custom Efficiency rebates are available for lighting solutions not included in the prescriptive rebate menu. Lighting Redesign studies and rebates are available for customers who need assistance determining the appropriate light levels for their facilities. Custom Efficiency and Lighting Redesign require preapproval prior to purchasing equipment and commencing the project.

Deviation from Goal

The program exceeded its energy savings goal and budget. The higher savings are due to a higher volume of core prescriptive lighting and Custom Efficiency lighting projects implemented, increased participation among electrical and lighting trade partners, the launch of new LED prescriptive measures and continued momentum driven by higher rebate levels commenced in 2009.

Changes in 2010

60-Day Notice. A significant reduction in the Lighting Efficiency program's net-to-gross (NTG) value for prescriptive rebates from .96 to .84 had a substantial effect on net energy savings achievement reported in 2010 and future years. This change, required by a mid-2009 program evaluation, was introduced via a 60-Day Notice, effective January 11, 2010. In the same notice, CFL measures were split between screw-based lamps and pin-based fixtures, and rebates were modified accordingly.

Another 60-Day Notice was filed and went into effect in 2010. This notice expanded the program's prescriptive rebate offerings by updating technical assumptions, adding or altering market segments to accurately reflect annual lighting usage, and introducing prescriptive rebates for LED interior, exterior and refrigerated case lighting.

Motor & Drive Efficiency

The Motor & Drive Efficiency program was designed to reduce the barriers that prevent customers from purchasing high efficiency National Electrical Manufacturers Association ("NEMA") Premium® motors and variable frequency drives used on eligible fans and pumps. We offered prescriptive rebates to eligible customers who installed qualifying equipment, and custom rebates to those customers whose projects did not meet the prescriptive criteria.

Deviation from Goal

The Motor & Drive Efficiency Program did well in its 2010 program as it remained under its budget while surpassing its energy savings target. Its successful performance may be attributed to our specific multifaceted customer awareness campaign (radio, print, articles and trade meetings) throughout the year. In addition, several large customers who had indicated that they would delay projects did implement in the fourth quarter of 2010 as they sought to finalize their activities. As in

the past, the majority of the program's impact continues to come from variable speed/frequency drives. Both customer and vendor understanding of the program and growing acceptance of our application process continue to facilitate customer action.

Changes in 2010

None.

New Construction

The Business New Construction mission is to help business customers prioritize energy efficiency when constructing new buildings. By providing whole building energy analysis for larger buildings and a checklist of opportunities for smaller buildings, we help customers achieve their energy and sustainability goals.

The **Energy Design Assistance** (EDA) component was the primary offering to customers in 2010. Features include:

1. **Energy Consulting Services:** We pay for the services rendered by an energy consultant to help facilitate the decision making process for our customer. These services include the cost of modeling the entire building for energy savings as well as individual strategy modeling, schematic description of selected strategies, and bundling of strategies into packages of measures, which are analyzed for their net effect on the building energy use.
2. **Construction incentives:** Once a package of energy savings has been identified, an incentive commensurate with the energy savings projections is offered to the building owner based on bundle selection. Rebates in 2010 were \$300 per kW and \$7 per Dth.
3. **Measurement and Verification:** The EDA consultant reviews construction documents for opportunities selected in bundle selection. Upon completion of construction, the operation of the areas affected by the strategies is reviewed in the field to provide feedback to the owners and design team on the as-built results.
4. **Design Team Reimbursement:** While design teams are often interested in exploring energy saving alternatives, the typical fee structure provides little room for alternative analyses. Thus, the program offers a financial reimbursement to help compensate the design team for their time participating in the process.

The **Energy Efficient Buildings** (EEB) component was implemented in late 2009 to address the needs of smaller buildings or buildings later in the design process. EEB began to get traction in the marketplace in early 2010 and finished the year with six projects rebated. EEB is a prescriptive program that allows customers to package numerous measures into an online workbook (Microsoft Excel calculator) and fill out just one application versus multiple applications. The workbook provides immediate, preliminary rebate amounts per measure input into the calculator, giving the customer the tools to make early decisions to influence better energy efficiency equipment choices.

Rebates vary by project and are based on prescriptive levels for cooling, heating, motors and VFDs, and other prescriptive measures. Rebates for non-prescriptive measures, such as lighting and building envelope, are \$400 per kW and \$7 per Dth.

Deviation from Goal

The program fell far short of its electric savings goal, but fell only slightly short of its natural gas savings goal. We experienced challenges due to the recession and continued downturn in the commercial new construction market. Many projects that we expected to finish in 2010 were either put on hold or cancelled entirely. Specifically, 19 projects were put on hold and six were cancelled. Due to long lead times (two to four years) before a project actually finishes construction, there isn't a way to build a contingency plan to fill the gap in the short-term. As we anticipate new building construction to improve in the near future, funding was spent to help increase the pipeline for future years, with a focus on education and marketing the programs to architects, contractors, and other interested stakeholders.

Changes in 2010

60-Day Notice. A 60-Day Notice changed the net-to-gross factor from 98% to 79% for the Energy Design Assistance (EDA) component. This change was based on the results from the comprehensive program impact evaluation report, finalized March 23, 2010, and applies to EDA projects rebated in 2010 and beyond. In addition, we implemented, as appropriate, the suggested program marketing process improvements and methods for streamlining the administration of the program.

Process Efficiency

Process Efficiency was designed to target energy intensive processes at large industrial facilities. The program is primarily intended to identify and incent large process changes that are not currently completed through Custom Efficiency or the prescriptive programs, and establish business practices that drive additional conservation measures in the future. The program uses a three phase approach to provide customers with the resources necessary to drive conservation through the development and implementation of a holistic, sustainable energy management plan. Participation in this program results in not only a list of conservation opportunities with a plan for implementation but also involves integrating energy efficiency into the customer's daily business operations.

Deviation from Goal

While the program did not achieve its electric or gas savings goals, it did experience solid electric savings and participant growth in 2010. Growth can be attributed to customers in the more advanced stages of the program implementing projects and seven new customers completing the first Phase. This has created a much more diverse customer base making the pipeline much more stable.

We were expecting to reach goal at the beginning of 2010, but a number of factors affected that outcome, including shifting employee roles within our customers' organizations, the continued downturn in the economy and longer than expected lead times on projects for new customers. Several opportunities slated for completion in 2010 were delayed by the customer as a result of one

or more of these factors. However, most of these projects are expected to be revived in the coming years.

Because the achievements were under goal, we also under spent our budget. Spend was higher than achievement on a percentage comparison due to increased participation in the early phases of the program.

A lack of natural gas opportunities in the program continues to be a difficult hurdle to overcome. Customers who qualify for the program generally do not purchase natural gas from Public Service on retail rates. If a qualifying customer has a Public Service retail gas meter, it is typically not feeding large industrial process equipment but rather used in a limited capacity for space heat and is not a high priority for the customer. The goal has been adjusted for 2011, but with nothing in the pipeline we plan to continue our efforts on identification of all gas opportunities through our studies.

Changes in 2010

None.

Recommissioning

The Recommissioning program is designed to assist electric and/or natural gas customers in improving the efficiency of their existing building operations. It focuses on “tuning up” their existing systems to run as efficiently as possible and to operate as intended, as an alternative to purchasing new equipment. The program offers study funding to identify measures and implementation rebates to encourage the implementation of those recommissioning measures.

Deviation from Goal

The Recommissioning program exceeded its electric and gas savings and participation goals. The electric and gas spending was in line with the achievements of the program. Part of the success of the electric achievement can be attributed to successfully encouraging a couple of customers to implement projects at multiple sites.

Changes in 2010

At the beginning of 2010, we launched a recommissioning energy savings calculator tool, which contained common recommissioning measures found within a building that study providers could use when completing recommissioning studies in our territory. The tool provides energy and cost savings estimates and it was developed to standardize and simplify the study preparation and review process.

Segment Efficiency

The Segment Efficiency Program was designed to target specific market segments by utilizing a comprehensive assessment of building systems and operations. The assessment provides an exhaustive list of energy saving opportunities. The first market segment targeted was Commercial Real Estate- Office Buildings in excess of 50,000 square feet. The assessment includes:

- A low-cost Preliminary Report that describes the building’s energy-consuming systems, identifies energy conservation opportunities, and provides estimates of the projected savings,

cost, and rebates for each measure. Customers are charged \$2500 on their energy bill after the completion of the report.

- An optional Investigative Study includes a net operating income analysis and detailed engineering calculations for specific energy conservation opportunities. Customers receive Investigative Study funding up to 50% of the study cost, not to exceed \$25,000.
- Customers earn up to 30% in bonus rebates on items identified in the Preliminary Report that are implemented within the program timeframe.
- ENERGY STAR Benchmarking score

Deviation from Goal

The Segment Efficiency program did not meet its electric or gas savings goal in 2010. The program was re-launched in 2010 with a new study provider and only received five applications. The first two applications were submitted in March with the study not being completed until late June. The remaining three applications were submitted at the end of May with the study being completed in late July. The program is being promoted through Account Management, local chapters of NAIOP, BOMA, Resource Smart Colorado, and Watts 2 Water. To increase participation in 2011, the study provider will begin actively marketing the program with a goal of 25 applications by mid-year. The program had no gas savings in 2010, which caused it to fail the Modified TRC Test.

Changes in 2010

None.

Self Direct Energy Efficiency

The Self-Direct Energy Efficiency program provides large commercial and industrial electric customers in Colorado the opportunity to self-fund energy conservation projects at their facilities. Customers who engineer, implement and commission qualifying projects can receive increased rebate levels to offset their costs of implementation. Participants must be prequalified and have an aggregated peak demand of 2 MW and annual energy sales of 10 GWh to participate.

Deviation from Goal

The Self Direct program exceeded its participation and savings goals, which led to increased spending. This was the result of the 10 preapproved 2009 projects being completed in 2010. Also, Account Management provided solid customer communication and promotion, which built a robust pipeline.

Changes in 2010

None.

Small Business Lighting

The Small Business Lighting program offers free lighting audits, recommendations for energy saving measures, special services and attractive cash rebates to business customers who purchase and install energy efficient lighting equipment in existing facilities. The program is available to businesses with peak demand of up to 400 kW, and seeks to overcome barriers that often prevent small businesses from investing in energy efficient lighting, including limited financial resources and time, low awareness of lighting equipment and lack of access to quality contractors.

Deviation from Goal

The program exceeded its energy savings goal and kept spending below budget, due to a higher-than-expected volume of prescriptive lighting projects implemented and growing momentum driven by attractive rebates announced in June 2009.

Changes in 2010

60-Day Notice. Prescriptive rebate choices were expanded, CFL measures were split between screw-based lamps and pin-based fixtures, and rebates were modified accordingly via a 60-Day Notice, effective January 11, 2010. Another 60-Day Notice was filed and went into effect in 2010. This notice added or altered market segments to accurately reflect annual lighting usage, and introduced prescriptive rebates for LED interior, exterior and refrigerated case lighting.

Standard Offer

The Standard Offer program is designed to provide business electric and gas customers, who have little or no available upfront capital, the opportunity to participate in the implementation of energy saving measures through Performance Contracting. Performance Contracting allows the customer to pay for the improvements through the energy savings that result. Targeted primarily to public entities such as K-12 schools, colleges and universities, state, local, and country government, all business customers are eligible to participate. The Standard Offer program works closely with the Governor's Energy Office.

Business customers contract with an Energy Service Company (ESCO) who will identify, evaluate energy saving opportunities, recommend, and install a package of improvements to be paid through the savings they generate. The ESCO will guarantee that savings meet or exceed annual payments for the project.

The ESCO will provide a Technical Energy Audit (TEA), which is an investment grade audit, to Public Service for review of the measures. Agreed upon measures will be "bundled" into a comprehensive project that qualifies for both kW, kWh and Dth rebates.

The Standard Offer program allows alternate forms of energy audits other than a TEA for multiple building projects. A single application can be submitted for multiple premises. Both TEA's and alternative energy audits must be individually approved to qualify for rebates. Public Service will pay 50% of the study costs up to \$.10 per square foot.

Deviation from Goal

The program did not meet its electric goal due to most of the participants taking longer to implement improvements than expected, but did exceed its gas goal for 2010. The program has a very strong pipeline for 2011. Public Service intends to continue its work with trade participants and push for project implementation in 2011.

Changes in 2010

60-Day Notice. There was one 60-Day Notice in 2010. The notice provided for alternate forms of energy audits, other than the Technical Energy Audit (TEA), for multiple building projects. Both the

TEA and alternate audits must be individually approved to be eligible for a rebate. The notice also stipulated that one application can be submitted for multiple premises, where the multiple premises would be evaluated as a building group. After pre-approval, additional premises would need to be evaluated as a separate project.

Residential Segment

The Residential Segment serves customers who live in single-family dwellings, apartments and condominiums and receive electric and/or natural gas from Public Service. The Company focuses on cost-effective, direct impact programs that target household appliances and lighting. This effort is supplemented with educational services intended to further increase customer understanding and interest in conservation and energy efficiency.

Table 13a: Residential Segment – Electric Programs (Budget to Actual)

2010	Budget					Actual				
	Electric Participants	Electric Budget	Net Gen. kW	Net Gen. kWh	Modified TRC	Electric Participants	Electric Budget	Net Gen. kW	Net Gen. kWh	Modified TRC
Residential Segment										
Energy Efficient Showerhead						9,383	\$ 220,782	-	1,451,466	4.22
ENERGY STAR New Homes	200	\$ 97,550	21	234,059	1.90	1,367	\$ 340,864	(2)	1,186,483	1.21
ENERGY STAR Retailer Incentive	18,116	\$ 2,964,229	704	2,701,058	1.14	27,641	\$ 801,596	501	4,362,944	0.85
Evaporative Cooling Rebate	4,000	\$ 1,652,696	4,005	2,181,848	7.91	3,064	\$ 1,282,306	2,863	1,404,552	4.42
High-Efficiency A/C Program		\$ 2,400,000				855	\$ 1,159,863	875	673,790	0.80
Home Lighting & Recycling	300,000	\$ 3,433,520	3,969	55,485,357	6.69	218,382	\$ 2,798,366	7,664	64,020,459	7.18
Home Performance w/ ENERGY STAR	1,000	\$ 484,778	103	1,249,049	2.15	682	\$ 98,117	10	87,894	0.87
Insulation Rebate						6,173	\$ 196,840	1,571	1,545,537	3.40
Refrigerator Recycling	4,375	\$ 885,382	400	2,947,146	2.04	3,053	\$ 601,019	279	2,131,872	2.11
School Education Kits	7,300	\$ 573,938	60	902,324	2.96	36,636	\$ 395,570	101	2,042,031	3.20
Saver's Switch	19,500	\$ 12,286,434	22,218	45,359	4.03	19,310	\$ 12,441,273	21,209	44,917	3.80
Residential Segment Total	354,491	\$ 24,778,527	31,479	65,746,200	4.44	326,546	\$ 20,336,596	35,072	78,951,945	3.82

Table 13b: Residential Segment – Gas Programs (Budget to Actual)

2010	Budget					Actual				
	Gas Participants	Gas Budget	Net Annual Dth Savings	Annual Dth/\$M	Modified TRC	Gas Participants	Gas Budget	Net Annual Dth Savings	Annual Dth/\$M	Modified TRC
Residential Segment										
Energy Efficient Showerhead	22,950	\$ 227,224	16,387	\$ 72,118	5.94	53,173	\$ 410,938	39,704	\$ 96,618	9.22
ENERGY STAR New Homes	3,200	\$ 4,345,000	50,411	\$ 11,602	1.26	2,477	\$ 3,194,864	40,184	\$ 12,578	0.84
ENERGY STAR Retailer Incentive						8,004	\$ -	2,376		0.68
Heating System Rebate	6,500	\$ 1,091,733	51,810	\$ 47,456	1.88	9,583	\$ 1,566,582	79,045	\$ 50,457	1.92
Home Performance w/ ENERGY STAR	1,000	\$ 1,031,721	32,058	\$ 31,072	1.25	242	\$ 244,011	2,773	\$ 11,362	0.91
Insulation Rebate	1,500	\$ 534,755	28,210	\$ 52,753	1.73	8,370	\$ 1,879,929	111,857	\$ 59,500	1.28
School Education Kits	7,300	\$ 575,766	15,833	\$ 27,500	4.01	15,570	\$ 394,044	14,110	\$ 35,808	1.52
Water Heating Rebate	1,750	\$ 110,766	2,119	\$ 19,129	1.17	3,886	\$ 287,582	8,599	\$ 29,903	0.99
Residential Segment Total	44,200	\$ 7,916,965	196,828	\$ 24,862	1.60	101,305	\$ 7,977,950	298,647	\$ 37,434	1.45

Both the overall electric and natural gas residential portfolios performed extremely well in 2010. The best performing programs included Home Lighting, Energy Efficient Showerheads, Heating System Rebates, and Insulation Rebates. Both portfolios exceeded energy savings goals while coming in near or under budget.

The Home Lighting program led performance in the residential electric segment. Nearly 1.2 million bulbs were sold through retail partners and online sales. Increased advertising, event marketing and a broader group of retail partners lead to the success.

Continued focus on building relationships with equipment contractors and promoting the benefits of energy efficiency helped the Heating System Rebate and Insulation Rebate programs far exceed goals. During 2010 the number of registered contractors in all residential rebates, including Heating System Rebate and Insulation Rebate programs, increased by 50% from end of 2009 levels. More

contractors were educated and trained and selling energy efficiency and Public Service rebates to customers.

Due to challenges with some of the programs, such as Home Performance with ENERGY STAR and School Education Kits, Public Service increased participation in the Energy Efficient Showerhead program to help the residential segment reach and exceed goals. Over 50,000 customers requested free energy efficient showerheads.

The ENERGY STAR Retail Incentive offering was redesigned in 2010 and launched late summer. It focused on providing funding for sales training, in-store signage and incentives to retailers for increasing sales of ENERGY STAR-qualified appliances and televisions compared to past periods. The offering far exceeded goal for a fraction of the original budget, which was developed in 2008 before the 2009-10 DSM Plan was filed.

Other programs performed very well considering challenges in the marketplace. While short of the filed goal, the ENERGY STAR New Homes program completed nearly 2,500 homes in a depressed new construction market, which is an increase of nearly 950 homes above the 2009 program performance.

The High Efficiency Air Conditioning program had limited participation because of the high requirements expected of contractors. To improve performance in future years, we added an early retirement rebate for customers that replace a still operating older unit with a new qualifying energy efficient air conditioner. In addition to the customer rebate, Public Service also provided an additional incentive to contractors since it will be more challenging and time-consuming to engage customers to replace their still operating unit.

Residential Programs

Energy Efficient Showerheads

The Energy Efficient Showerheads Program provides a free energy efficient showerhead to Public Service's residential customers to help them save energy, water, and money. Qualifying customers receive a direct mail offer for a 1.5-gallon per minute showerhead. Customers accept the offer by mailing in the business reply card or calling the toll free number. They are then mailed a showerhead and installation instructions free of charge.

Deviation from Goal

The program exceeded its filed goals for participation and natural gas savings and maintained cost-effectiveness. The Company was able to meet its savings goal despite a reduction in energy savings due to a lower than expected verified installation rate of 57%.

Due to the underperformance of the Company's overall natural gas portfolio, the showerhead program increased its targets to aid in generating additional savings. The program was successful in reaching the increased targets.

Changes in 2010

None.

ENERGY STAR New Homes

The ENERGY STAR New Homes program encourages homebuilders and homeowners to consider a "whole-house" approach to energy conservation. The program provides incentives to builders to achieve both natural gas and electric energy savings. A qualified energy rater works with the builder during the construction phase to ensure the home is built to ENERGY STAR standards and the Public Service program requirements. Public Service pays the rater a fixed amount for each home enrolled and completed.

The natural gas component provides an incentive for homebuilders who construct energy efficient residential homes that meet the program requirements, which includes achieving a minimum HERS index of 75 or lower. The HERS index is a recognized industry standard for measuring the energy efficiency of a home. The lower the index, the more efficient the home.

The electric component provides builders with incentives totaling \$110 when installing a qualifying ENERGY STAR dishwasher, clothes washer, refrigerator and 20 ENERGY STAR fixtures or CFL's. Builders must install all of the above to receive the \$110 rebate.

In early 2009, Public Service hired a third party to implement this program. The implementer provides a local Program Manager, who works directly with participating raters and builders throughout our service territory. The implementer is also responsible for collecting and storing the required information for each home from the rater and reporting it to Public Service.

Deviation from Goal

For 2010, the program performed well even with the challenging economic conditions for new home construction. For the year, over 2,400 homes completed the gas component of the program,

which is below the approved gas participation goal but well beyond expectations at the beginning of 2010. As a result of lower participation, energy achievement also came in under goal, as did spending.

Electric participation exceeded our filed goal, which in turn explains why we exceeded our filed budget and electric achievement goals. This increase in participation occurred primarily due to how we calculate electric energy savings. We include impacts from envelope measures and not just the electric appliances that may have been installed in a home. ENERGY STAR-qualified homes incorporate envelope measures and as such, also become an electric participant in our program. All electric savings, including envelope measures, are assigned an appropriate portion of the rebate earned by the builder, which was the largest single factor in exceeding our electric budget.

Efforts were made throughout the year to increase builder awareness of this program and generate greater market share (homes that are ENERGY STAR-qualified). We created and delivered bi-monthly newsletters, one targeting our builders and the other targeting participating raters. We also promoted program awareness by placing ads in key medium, such as the Home Builders Association magazine and the Colorado Association of Realtors magazine.

Raters are the vital link in communicating the program benefits to builders and enrolling builders into our program. Our program implementer is responsible for maintaining this relationship with our raters. The implementer met with our raters as a group twice in 2010 to keep them up to speed on the program and receive feedback regarding the program. Raters let us know that some of data we were asking them to provide was unnecessary and as a result of this feedback, we removed some of these data requirements. In addition, the implementer updated their database system (“HouseRater”) which automates processes that previously were not available to raters. This update allows raters to complete homes faster with less work and less potential for errors.

In early 2010, we determined the gas and electric program was not cost-effective due to several factors, including outdated incremental capital costs that were too high and too few energy savings coming from homes that met the minimum HERS requirement. As discussed below, we filed a 60-Day Notice to update the incremental capital costs for all homes completed in 2010 and lower the minimum HERS index requirement. Our analysis indicated that these program modifications would significantly improve the cost-effectiveness for 2010 and when fully deployed in 2011, make the program cost effective. In 2010, the electric portion of the program passed the Modified TRC Test, while the gas component did not.

Changes in 2010

60-Day Notice: As a result of the 60-Day Notice approved on July 2, we implemented program modifications for homes enrolled in the program on or after August 1. The modifications included lowering the minimum qualifying HERS level from 85 to 75 (for homes outside Boulder) and updating incremental capital costs from our previous technical assumptions. Rebate levels were also modified to align with the changes in qualifying HERS levels and our new incremental capital cost assumptions. When comparing HERS levels before and after August 1, some rebates decreased while others increased. For example, a home with a HERS index of 75 in 2009, was eligible for a \$500 rebate, while the same home enrolled after August 1, 2010, is now eligible for the minimum rebate of \$360. Conversely, a home with a HERS index of 65 in 2009, was eligible for a rebate of \$700, while the same home enrolled after August 1, 2010, is eligible for a rebate of \$1,400.

ENERGY STAR Retailer Incentive Program

The ENERGY STAR Retailer Incentive program provides upstream incentives to retailers for the sale of qualifying ENERGY STAR televisions and appliances. The 2010 program was implemented August through December and included four participating retailers: Best Buy, Sears, K-Mart and Lowes. Retailers were required to develop a marketing and merchandising plan, implement sales training for employees and display point of purchase signage. The signage was created for all eligible units and displayed during the promotional period. The retailers were highly engaged and communicated information about the program regularly to their sales staff.

The retailers were required to submit sales data on a monthly basis to our third party implementer, Wisconsin Energy Conservation Corporation (WECC). WECC contracted with Castenea Labs to validate the data and keep an updated database of product SKUs, model numbers and eligible Public Service zip codes.

In 2010, Public Service was able to successfully implement the program. We attracted three more retail partners than in 2009, ran the promotion in 70 retail stores and motivated the sales of over 27,000 units. As a result the program exceeded the energy savings goal substantially with significantly less dollars than projected.

Deviation from Goal

Although the program achieved positive results, the program did not pass the Modified TRC test for electric and gas. The program didn't pass because a larger number of televisions meeting the highest ENERGY STAR standard came through the program than was originally anticipated. Because this highest tier of television is not cost-effective as a stand-alone measure, the over-representation of these televisions in the product mix caused the program to fail. For 2011, the incremental cost of this measure has been revised to use only the cost of LED light board, making this measure cost-effective as an individual measure.

Changes in 2010

60 Day Notice. In 2010, Public Service made a number of changes to this program to improve the viability and cost effectiveness of the program. The 2009 ES Retailer Pilot achieved substantially less than the filed goal because of lack of participation and ability for retailers to get behind the "lift" concept. For 2010, Public Service implemented a *60 Day Notice* to pursue a different implementation technique offering upstream incentives to retailers in the form of rebates for each individual unit sold meeting the rebate criteria. The new technique used individual net-to-gross (NTG) ratios for each level of TV and appliances. The NTG ratios were based on data for market saturation rates from the Consortium of Energy Efficiency. Using the NTG ratios eliminated the need for the retailer to submit one year of historical data and complete an analysis of it. This simplified the concept for the retailer and attracted more participants for 2010.

In addition, Public Service modified many of the deemed savings technical assumptions to reflect the new technique including a new rebate criteria and NTG ratios. (See the *ENERGY STAR Retailer Incentive 60 Day Notice* dated 6/1/10 for details). Public Service also increased the participants slightly for 2010 to align with estimated sales potential. In addition, Public Service eliminated the ceiling fans as a measure, because the majority of the energy savings for the ceiling fan was a result of the CFLs,

not the fan. Since this pilot program is focused on appliances and electronics, Public Service believes that it is better to promote CFLs within the Home Lighting Program.

Evaporative Cooling Rebate

The Evaporative Cooling Rebate Program provides a cash rebate to electric customers or builders who purchase and permanently install high efficiency evaporative cooling equipment for residential use. This is a tiered rebate program rebating \$200 (or the cost of the unit, whichever is less) for Tier 1 units with a CFM of 2,500 or greater; \$500 for Tier 2 units with a minimum media saturation effectiveness of 85%, a remote thermostat and a periodic purge water control; and \$1,000 for Tier 3 units that are indirect closed whole house ducted systems for new construction.

Deviation from Goal

Participation in this program is typically weather sensitive. Due to cooler than normal late spring and early summer temperatures, participation was lower than goal, which resulted in lower savings. Increased marketing efforts were launched to raise program participation, which resulted in a 12% increase over 2009 participation.

Changes in 2010

None.

Heating System Rebate

The Heating System Rebate Program rewards customers with rebates when they choose a high efficiency furnace or boiler. The program's customer benefits include the offset of initial equipment costs, long-term natural gas savings during the lifetime of the equipment, and increased home comfort. The program's market transformation strategy is moving customer behavior toward the purchase of the highest efficiency heating products rather than the federal minimum standard.

Trade relations are the strongest promotion channel for this program. Frequent communications with trade partners and meetings to gain their feedback all contributed toward exceeding program goals in 2010. All planned customer and trade marketing tactics were implemented in addition to seasonal promotions. Federal tax incentives encouraged customers to invest in the comfort and savings of their homes.

Deviation from Goal

The Heating System Rebate Program exceeded its energy savings goals in 2010 and its participant goal due to several factors. Customers chose equipment in the highest tier rebate level due to the federal tax incentives available throughout the year. In addition, funding and efforts throughout Colorado to increase the sales of energy efficient equipment was more prevalent in 2010 due to the American Recovery and Reinvestment Act. The budget surpassed goal in an effort to create and maintain awareness throughout the year and to pay additional rebates.

Changes in 2010

None.

High Efficiency Air Conditioning

The High Efficiency Air Conditioning program comprehensively addresses energy efficiency opportunities related to central air conditioners and air-source heat pumps. This program consists of three major components:

- **Equipment Rebates**– Central air conditioners and air-source heat pumps ranging from 14.5 to 16 SEER or greater are eligible for a rebate. Rebates range from \$250-\$500.
- **Quality Installation**– This component is the cornerstone of the program since the other two components are built with the quality installation process in mind. This process is based on standards developed by the Air Conditioning Contractors of America (ACCA) which dictate the steps a contractor must take to ensure a truly quality installation. Contractors who meet the quality installation requirements are eligible to receive a \$100 incentive from Public Service.
- **Tune-Ups**– The Tune-up component includes rebates for repair, service work, and related improvements to central air conditioners and air-source heat pumps that result in improvements in cooling efficiency. The Tune-up component remained in pilot status in 2010.

The High Efficiency Air Conditioning program strives to create increased awareness of quality installation among customers and trade partners.

Deviation from Goal

The program did not meet its savings goal in 2010 and as a result, did not spend its allocated budget. The program also did not pass the Modified TRC Test, primarily due to the complexity of the program and the need to educate the trade on all of the required qualifications to participate. Program administration was primarily focused on training and education. All planned marketing tactics were implemented, including print, outdoor and online advertising, trade events and training to ensure the success of this program in future years. Training will be required in 2011 to ensure that contractors know the program requirements and submit qualified rebate applications.

Changes in 2010

60-Day Notice. Public Service added an Early Retirement (or Plan B) component to the High Efficiency Air Conditioning Program through a 60-Day Notice. The Plan B component is intended to motivate homeowners to replace older, lower efficiency residential central air conditioning units that are still operable or those needing some capital dollars for repair, by replacing them with high efficiency units (14 SEER or higher) before the end of the unit's useful life. Feedback from HVAC contractors and distributors in Public Service Company service area indicates that the weak economy seems to be driving more service calls for component replacement (such as fan motors rather than new, quality installed AC units. It is anticipated that the addition of the Plan B Early Retirement measure to the program will accelerate retirement of functioning, older AC units instead of repairing them. We also clarified the M&V plan for this program through this Notice.

Home Lighting

The Home Lighting program offers compact fluorescent light (CFL) bulbs at a discounted price. CFLs are an easy, low cost way for customers to save energy and money. Public Service provides two ways for customers to purchase energy saving CFLs:

- Retail Store Instant Rebates: Public Service provides limited-time instant rebates at participating retailers for the purchase of CFLs. Public Service works with retailers and manufacturers to buy down the price of twist bulbs to roughly \$0.99 each and discount the price of specialty CFLs.
- Mail Order Program: Customers can purchase a wide variety of CFLs via mail, telephone or Internet. There are 20 different models available for purchase. Customers get wholesale prices and an incentive if they order over \$35 in products.

Public Service also participates in the national ENERGY STAR Change A Light, Start with ENERGY STAR campaign and leverages the national promotion efforts. Public Service promotes the program through television, radio, and online advertising, as well as community events and point of purchase displays.

During this challenging economic time, customers are looking for ways to reduce their costs. As a result, Public Service has seen increased interest in CFLs by both consumers and retailers. Public Service expanded the participating retailers and increased advertising to leverage this trend. Public Service believes that there is further potential to increase CFL sales in the coming year and will look to continue to expand the program in 2011.

Deviation from Goal

We were able to exceed the goal substantially in 2010 by selling over 1.6 million CFLs, while spending less than the allocated budget. This was a result of efficiencies that were created by marketing the program across three states. The program did not meet its participation goal because customers are increasing the number of bulbs that they are purchasing. Each person bought five CFLs rather than the four CFLs that were estimated in the filing. This is consistent with the fact that some bulbs are sold in multi-packs, which require customers to purchase more units.

Changes in 2010

60 Day Notice.

In 2010, Public Service implemented the following changes:

1. Modify the net-to-gross (NTG) ratio by increasing it from the previously negotiated 83% to 100% based on results from the program evaluation results received in January of 2010. Public Service and parties ultimately agreed on a NTG ratio of 90%.
2. Modify the number of CFLs currently installed in the home from three to seven.
3. Modify the mix of participating customers from 100% residential customers to 94% residential and 6% non-residential customers.
4. Modify the installation rate from 100% to 99% and discount avoided system benefits based on the expected year of installation.

For details, see the Home Lighting 60 Day Notice dated 5/3/10.

Home Performance with ENERGY STAR

The Home Performance with ENERGY STAR (HPwES) Program is a comprehensive, “whole house” retrofit program only available to Public Service residential combination gas and electric customers. Customers residing in multi-unit complexes greater than four do not qualify. This program is designed to give cash rebates to customers for implementation of measures identified during the Home Energy Audit.

Participants have a limited amount of time from sign up to implement three required measures (attic insulation, air sealing/weatherization, and installation of 20 compact fluorescent bulbs) and an additional two measures from a list of 11 gas and electric savings options. Optional measures include installation of new heating equipment, wall insulation, ENERGY STAR appliances, etc. Upon the customer’s completion of the program requirements, a post improvement inspection is completed.

Through an RFP process in 2009, Public Service hired a third-party program implementer for this program and the Home Energy Audit Program. The implementer is responsible for conducting the in-home post improvement inspection and managing the program tracking, administration, and management of the auditor team.

Deviation from Goal

The program did not achieve its electric and gas savings goal or pass the benefit-cost test. The program had a very challenging year because of the high cost to participate, the long time period given to customers to make the improvements, and overall economic conditions.

At the end of 2010, there were over 400 customers enrolled in this program, with 100 customers completing the program requirements by year end. Our bonus rebate offer that ended in December was a primary reason for increased enrollments and participation in the program.

While we did not hit our goals, we did make great strides educating our customers about the benefits in the program and why it is great for those looking to stay in their home and make multiple improvements. The program was marketed through advertising, bill inserts, direct mail, event sponsorship, cross-marketing, and rebate bonuses.

In 2010, a contractor incentive was offered to increase the number of sign ups and completions in the Home Performance with ENERGY STAR Program. Contractors received a cash incentive for every home they successfully completed. We expect to increase participation by increasing training of air sealing and insulation contractors to proactively market to end customers to receive an energy audit.

Changes in 2010

None.

Insulation Rebate Program

The Insulation Rebate program was available to all residential gas and electric customers for installing insulation in their existing single-family home or one-to-four unit property.

Rebates were available for the following types of qualifying insulation installations:

- Attic insulation and bypass sealing,
- Wall insulation, and/or
- Air sealing and weather-stripping.

Customers may use any licensed, bonded and insured insulation contractor to qualify for the rebate.

Deviation from Goal

The Insulation Rebate program far exceeded its participation and energy savings goals for both the electric and gas components of the program. The program reached its goals early in 2010, but the popularity of the program continued to drive participation and savings higher for the rest of the year. The budget was exceeded in line with the increased program participation. The strong performance is believed to be a mix of increased customer and contractor communications and other offerings available to customers through the American Recovery and Reinvestment Act funding.

Changes in 2010

None.

Refrigerator Recycling

The Refrigerator Recycling program strives to decrease the number of inefficient secondary refrigerators in general use, and by doing so, deliver electric energy savings and peak demand reduction. The program is designed to reduce energy usage by allowing customers to dispose of their operable, inefficient secondary refrigerators in an environmentally safe and compliant manner. Customers receive a \$35 incentive and free pick up and disposal services to recycle the secondary refrigerator.

Deviation from Goal

The Refrigerator Recycling program failed to reach both its participant and energy savings goal in 2010. While the goal was not met, participation improved significantly from the program's first year in 2009 due to more targeted communications and outreach.

Changes in 2010

None.

School Education Kits Program

The School Education Kits Program is a turnkey program that combines a set of classroom activities with projects in the home to install energy efficiency and water conservation products. The program is targeted at sixth grade students in our Colorado service territory. Our third-party contractor fully implements the School Education Kits Program, including recruiting and training teachers, providing all materials, and tracking participation by the students and teachers.

Energy savings are based on the number of measures (aerators, showerheads, CFLs, etc) that are installed in the students' homes. We base these savings on installation rates that are received through the parent survey results.

Deviation from Goal

The program met its electric savings goal, but did not meet its gas savings goal due to lower than expected installation rates. The 2009-10 program goals were based on 100% install rates of all measures, which overstated the projected savings from the program. Similar to the 2009 program, the installation rates verified by the student/parent surveys were lower than filed. The results were:

- CFL's: 67%
- Showerheads: 46%
- Faucet Aerators: 44%

A teacher promotion was run in 2010 to help boost installation rates. The promotion incented teachers to discuss installation rates with their students to help incur higher installation rates. There was positive participation in the promotion; however, installation rates were not positively affected.

Changes in 2010

None.

Water Heating Rebates

The Water Heating Rebates program uses rebates to encourage residential customers to purchase energy efficient water heating equipment. Rebates are available for energy efficient storage and tankless water heaters. By providing these incentives, participating customers reduce their natural gas usage and long-term operating costs.

Deviation from Goal

The Water Heating Rebate program exceeded participant and energy savings goals in 2010. The budget was in line with participation and was exceeded to pay the additional rebates. The program exceeded goal primarily due to continued high interest and sales through contractors carrying tankless water heaters. While participation and interest was high, the high proportion of rebates for tankless water heaters had a negative impact on the program's TRC because the incremental energy savings from tank water heaters is small compared to the incremental cost customers have to incur to move from tank to tankless. As a result, the program was very slightly non-cost-effective with a Modified TRC ratio of 0.99.

Changes in 2010

None.

Saver's Switch®

Saver's Switch is an integral part of Xcel Energy's load management efforts. As of the end of 2010, we had more than 131,000 residential Colorado customers enrolled in the program. For 2010, switch installations and program expenditures were both within 1% of targets.

The Residential Saver's Switch program offers bill credits as an incentive for residential customers with central air conditioners to allow the Company to control operation of their air conditioners on hot summer days when the system is approaching its peak. Residential customers receive a \$40 annual discount on their October bill each year they participate.

Control periods for central air conditioners are declared an average of five to fifteen times per year each summer. 2010 was at the low end of the average range with five control days for a total of 20 control hours.

Deviation from Goal

None.

Changes in 2010

None.

Low-Income Segment

The Low-Income Segment consists of the Single-Family Weatherization, Multi-Family Weatherization, Easy Savings Energy Kits, and Non-Profit Energy Efficiency programs. These programs analyze natural gas and electric consumption for low-income customers and provide them with products, services and education designed to assist them in lowering their energy bills.

Table 14a: Segment- Electric Programs (Budget to Actual)

2010	Budget					Actual				
	Electric Participants	Electric Budget	Net Gen. kW	Net Gen. kWh	Modified TRC	Electric Participants	Electric Budget	Net Gen. kW	Net Gen. kWh	Modified TRC
Low-Income Segment										
Easy Savings Energy Kits	22,000	\$ 650,410	180	2,719,334	2.38	21,105	\$ 702,364	391	8,151,880	12.06
Multi-Family Weatherization	556	\$ 125,458	30	347,783	2.19	13	\$ 319,240	151	1,777,602	2.87
Non-Profit Energy Efficiency	350	\$ 92,602	19	219,700	1.92	230	\$ 177,046	225	803,409	1.13
Single-Family Weatherization	2,103	\$ 827,223	188	2,293,929	2.46	1,950	\$ 950,881	178	2,286,041	1.80
Low-Income Segment Total	25,009	\$1,695,693	417	5,580,745	2.38	23,298	\$2,149,531	946	13,018,931	4.89

Table 14b: Segment- Gas Programs (Budget to Actual)

2010	Budget					Actual				
	Gas Participants	Gas Budget	Net Annual Dth Savings	Annual Dth/\$M	Modified TRC	Gas Participants	Gas Budget	Net Annual Dth Savings	Annual Dth/\$M	Modified TRC
Low-Income Segment										
Easy Savings Energy Kits	22,000	\$ 651,246	40,333	61,932	3.61	36,094	\$ 974,146	31,729	\$ 32,571	1.80
Multi-Family Weatherization	556	\$ 353,615	6,760	19,116	1.41	7	\$ 307,962	8,525	\$ 27,681	2.35
Non-Profit Energy Efficiency	350	\$ 494,471	4,417	8,932	1.21	10	\$ 701,818	6,642	\$ 9,464	0.87
Single-Family Weatherization	3,164	\$ 2,295,861	57,515	25,051	1.35	2,699	\$ 2,260,731	28,827	\$ 12,751	1.33
Low-Income Segment Total	26,070	\$3,795,193	109,024	28,727	1.59	38,810	\$4,244,658	75,724	\$ 17,840	1.39

The overall low-income electric portfolio and natural gas portfolio exceeded goal in 2010 with all programs exceeding goal except for the Single-Family Weatherization gas program. This was primarily due to the limited number of measures installed in each customer home, which was addressed in the third quarter of the program year by the Governor's Energy Office. In addition, several process improvements were identified and put into place in late 2010 that should lead to stronger performance in 2011.

The Multi-Family Weatherization program far exceeded both gas and electric goals due to a larger number of qualifying projects identified by our program implementation firm. Funds from the electric component of this program were shifted to the Non-Profit Energy Efficiency Program to complete additional projects within that program.

The Easy Savings Energy Kits program exceeded energy savings goal for both electric and natural gas components. Gas participation goals were exceeded and the electric participation reached 96% of goal. Installation rates were higher than in the 2009 program due to more frequent measurement and verification and subsequent follow up to encourage installation.

The Non-Profit Energy Efficiency Program exceeded its electric and natural gas goals in 2010. The program is very similar to most business energy efficiency programs with respect to the long lead-time to identify and complete a project. As a result of projects approved in late 2009, there were many projects completed in early 2010. We expect participation to increase in 2011 and beyond as more projects are identified and entered into the program pipeline.

Low-Income Programs

Easy Savings Energy Kits

The Easy Savings Energy Kits program provides qualifying low-income customers with a bundle of home energy efficiency measures and educational materials. Customers prove income eligibility by applying for federal Low-Income Home Energy Assistance Program (LIHEAP) funding or other forms of energy assistance, such as that provided by Energy Outreach of Colorado.

Deviation from Goal

The Easy Savings Energy Kits program performed well in 2010, exceeding savings goals. Gas and electric year end budgets were exceeded due to additional shipping costs.

Changes in 2010

The filed kit implementer was the Governor's Energy Office, who was planning to work with the Mile High Youth Corps to distribute kits. To improve the efficiency of the program, we contracted directly with Mile High Youth Corps to create and distribute the kits.

The name of the kit was simplified to Energy Savings Kit to be more recognizable to customers.

Multi-Family Weatherization

The Multi-Family Weatherization Program offers natural gas and electric efficiency measures to low-income multi-family buildings. These buildings have common areas, greater square footage, and more appliances and potential measures than the Single-Family Weatherization Program.

Public Service funds supplement federal weatherization grants to produce incremental, cost-effective gas and electric savings. Each project submitted went through a custom analysis by Public Service efficiency engineers to determine cost-effectiveness.

Deviation from Goal

The Multi-Family Weatherization Program exceeded gas and electric savings goals, while staying under the gas budget. Promotions and applications for the program were managed by the third-party program implementer.

Changes in 2010

None.

Non-Profit Energy Efficiency

The Non-Profit Energy Efficiency program provides funding for energy efficiency retrofit improvements to qualified non-profit organizations within the Company's service territory. The program's focus is on helping organizations that serve low-income individuals, such as shelters, safe houses, and residential treatment centers for those who are on the brink of homelessness.

Public Service contracted with a third party to support the Non-Profit Energy Efficiency initiative. The implementer recruits facilities and manages applications. Each project that was submitted in

2010 went through a custom analysis by Public Service efficiency engineers to determine cost-effectiveness.

Deviation from Goal

The Non-Profit Energy Efficiency program exceeded the electric and gas savings goals and budgets. This was due to greater participation than anticipated. However, despite this strong performance, the gas component did not pass the Modified TRC Test. The reason this program did not pass was due to high rebate costs for projects that had a smaller gas savings than anticipated. The program went over budget in 2010 and therefore saw a decrease in the TRC Test. In 2011, the goals increased and administration costs will be lower to drive the success of the program.

Changes in 2010

None.

Single Family Weatherization

The Single-Family Weatherization Program offers natural gas and electric efficiency measures to low-income single-family households. Depending on the needs of the home, customers will receive one or more of the following services:

- Furnace Efficiency Upgrades
- Wall Insulation
- Attic Insulation
- Refrigerator Replacements
- Compact Fluorescent Bulbs

In addition to these measures, a major focus of the program is customer education on ways to reduce energy use in the home and to make smart energy choices. The auditors provide educational materials, historical energy usage information, and bill analysis to these customers during the weatherization process.

The Single-Family Weatherization Program is run in partnership with the Governor's Energy Office ("GEO"). DSM funds supplement federal weatherization grants to produce incremental, cost-effective gas and electric savings.

Deviation from Goal

Savings goals for the electric measures of this program were met in 2010. Participation and spend exceeded goals due to fewer electric measures installed per home in the beginning of the year. GEO and Public Service implemented program and process improvements to encourage the maximum number of measures installed per home as the year continued.

Savings goals and participation goals for the gas portion of this program were not met. As with the electric measures of this program, fewer gas measures were installed per home in the beginning of the program year. GEO and Public Service worked to encourage maximum number of measures installed per home. In addition, when PSCO modifications were made to the program in 2009, filed goals remained at higher levels than what was available in the filed budget. This has been adjusted for the future program.

Program spending almost reached 100% of goal in 2010. The reason spend was greater than savings achieved was due to enhanced marketing and promotional dollars to drive participation to the program and enhance customer education on the importance of weatherization.

Changes in 2010

None.

Indirect Segment

The Indirect Segment includes programs and services that support the overall Plan. Most of these programs and services do not directly produce energy or demand savings and are not independently evaluated for cost-effectiveness. However, pilot programs that are being evaluated to become direct impact programs and have measured savings do go through a cost-effectiveness evaluation. The costs of the entire indirect segment are included in the overall portfolio cost-effectiveness evaluations. This segment has two program areas: Education/Market Transformation and Planning and Research.

Within the Education/Market Transformation area, the Company in 2010 offered five customer-facing programs, including: Business Energy Analysis, Customer Behavioral Change – Business, Customer Behavioral Change – Residential Residential Home Energy Audits, and In-Home Smart Device Pilot. In August, 2010, a 60-day Notice was submitted to begin work on a new pilot, Energy Feedback Pilot. The new pilot was included in the 2011 DSM Plan that was submitted on 7/1/2010 and the 60-day Notice in August was filed to account for expenditures that would be necessary prior to 2011. The pilots did not measure savings in 2010 and were therefore not evaluated for cost-effectiveness.

Within the Planning and Research area, Public Service operated four internal programs: DSM Market Research, DSM Planning & Administration, DSM Product Development, and Evaluation, Measurement & Verification.

The Indirect Segment does not have energy and demand savings goals. The Segment's budget consists primarily of labor, educational material, and study costs. Most studies are conducted by outside experts, generally selected through a competitive bid.

Table 15a: Indirect Segment – Electric Programs (Budget to Actual)

	2010	Budget		Actual	
		Electric Participants	Electric Budget	Electric Participants	Electric Budget
Indirect Segment					
	Education/Market Transformation				
	Business Energy Analysis	400	\$ 820,467	420	\$ 845,266
	Customer Behavioral Change - Business	1,385	\$ 171,781	1,880	\$ 142,942
	Customer Behavioral Change - Residential	34,000	\$ 1,381,488	67,616	\$ 1,353,648
	Residential Home Energy Audit	7,416	\$ 762,937	15,331	\$ 618,920
	In-Home Smart Device Pilot			3	\$ 237,952
	Energy Feedback Pilot			-	\$ 7,071
	Education/Market Transformation Subtotal	43,201	\$3,136,672	85,250	\$3,205,799
	Planning and Research				
	DSM Market Research		\$ 247,610		\$ 165,350
	DSM Planning & Administration		\$ 298,896		\$ 282,083
	DSM Product Development		\$ 676,030		\$ 376,968
	Evaluation, Measurement & Verification		\$ 621,830		\$ 745,324
	Planning and Research Subtotal		\$1,844,366		\$1,569,725
	Indirect Segment Total	43,201	\$4,981,038	85,250	\$4,775,524

Table 15b: Indirect Segment – Gas Programs (Budget to Actual)

	2010	Budget		Actual	
		Gas Participants	Gas Budget	Gas Participants	Gas Budget
Indirect Segment					
	Education/Market Transformation				
	Business Energy Analysis	100	\$ 156,091	329	\$ 183,693
	Customer Behavioral Change - Business	593	\$ 71,275	806	\$ 152,356
	Customer Behavioral Change - Residential	34,000	\$ 1,418,512	67,616	\$ 1,295,799
	Residential Home Energy Audit	8,034	\$ 820,356	15,623	\$ 660,236
	In-Home Smart Device Pilot			3	\$ 24,035
	Energy Feedback Pilot			-	\$ 5,215
	Education/Market Transformation Subtotal	42,727	\$2,466,234	84,377	\$2,321,334
	Planning and Research				
	DSM Market Research		\$ 247,610		\$ 131,665
	DSM Planning & Administration		\$ 180,100		\$ 97,068
	DSM Product Development		\$ 205,400		\$ 186,359
	Evaluation, Measurement & Verification		\$ 202,370		\$ 164,481
	Planning and Research Subtotal		\$ 835,480		\$ 579,572
	Indirect Segment Total	42,727	\$ 3,301,713	84,377	\$2,900,906

Education/Market Transformation Programs

Energy Analysis

The Energy Analysis program is an indirect impact program that offers analysis services that identify energy saving opportunities, designed for both small business (SB) and large commercial and industrial (C&I) customers. The program's goal is to provide the customer a first step towards energy efficiency by providing them with information on how their business uses energy, and where they can reduce their operating costs.

Public Service offers the following analyses:

- **Online energy assessment** – Online tool that can be used by any size customer at no cost by accessing the tool through www.xcelenergy.com
- **On-site energy assessment** – Small Business customers (<25,000 sq. ft.) pay \$200, Large C&I customers (≥25,000 sq.ft.) pay \$300 up to \$600, depending on the building size.
- **Engineering assistance study** – Xcel Energy will fund up to 75% of the study cost, not to exceed \$25,000, depending upon the energy savings potential

Customers going through the Energy Analysis program will receive a report both in the Online and Onsite Assessment (through Public Service) and the Engineering Assistance Studies (through their study provider), which will include feasible options and rebates available through Public Service (both electric and gas).

Deviation from Goal

In 2010 this program exceeded the participation goal by a significant amount due to effective outreach with communities and interested parties, as well as promotion of the program as the place to start when evaluating energy efficiency opportunities. The program resulted in over 31 GWh of Identified Potential energy efficiency opportunities for 2011. Our Business Solutions Center and Account Management teams will actively pursue these savings for 2011.

Changes in 2010

Coordination efforts within Colorado counties and cities with federal stimulus funds and programs ramped up in Q3 and Q4 of 2010 in some communities and will continue in 2011. Efforts have been in leveraging our existing programs to enhance the county or city with their program initiatives and plans. Additionally, we have coordinated efforts with the City and County of Boulder to provide a hybrid-type assessment for multi-family units, while staying within the scope of work for the Business Energy Analysis program. No other major changes occurred in 2010.

Customer Behavioral Change Programs

Customer Behavior Change- Business

This market transformation program was launched in 2009 and targeted all Colorado natural gas and electric business customers. The initial goal of the program was to improve public knowledge concerning the benefits of energy efficiency and conservation. This is considered an initial phase of a long-term process of creating educated and engaged customers who are prepared to act on energy efficiency opportunities.

Because this segment is made up of a wide range of business types, Public Service employed a variety of resources and communications channels to promote energy efficiency and conservation. The strategy deployed encompassed awareness messaging and customer activities. In the initial implementation of the program, primary emphasis was placed on:

- Community-based events, such as Doors Open Denver;
- Utilizing mass market advertising such as radio, print, and interactive to create awareness in energy efficiency;
- Online messaging through targeted websites;
- Conservation messaging through Public Service's newsletter to business customers;
- Conducting free energy efficiency workshops and distribution of Smart Energy Employee materials

Deviation from Goal

The program far exceeded the goal of 1,978 business participants in 2010. Interactions were made with more than 2,600 customers. Over 1,000 participants occurred through readership of the newsletter to business customers called "Energy Solutions". Additional participation came through all of the other communication channels referenced above.

Changes in 2010

None.

Customer Behavior Change- Residential

The market transformation program targets all Colorado natural gas and electric residential customers. The initial goal of the program was to improve public knowledge concerning the benefits of energy efficiency and conservation. We view this as the initial phase of a long-term process of creating educated and engaged customers who are ready to act on energy efficiency opportunities.

Because the residential segment is demographically varied, Public Service employed a variety of resources and communications channels to communicate energy efficiency and conservation. The strategy deployed encompassed awareness messaging and activities. In the initial implementation of the program, primary emphasis was placed on:

- Community-based events, such as home shows and conservation events;
- Utilizing mass market advertising such as radio, print, and interactive to create awareness in energy efficiency;
- Online messaging through targeted websites;
- Conservation messaging through Public Service's newsletter to residential customers;
- Publication of reference education materials;
- Conducting free energy efficiency workshops;
- Placing watt meters in public library districts; and
- Neighborhood sweeps.

Deviation from Goal

The program reached over 135,000 participants in 2010 compared to the 68,000 participant goal. We interacted with over 60,000 customers just at community-based events we attended, such as the National Western Stock Show, Colorado Home & Garden Show, Cherry Creek Arts Festival, Boulder Creek Festival, Fruita Fall Festival, etc. The events were more effective than planned, which

resulted in exceeding participation goal while spending was close to budget. Additional participation came through all of the other communication channels referenced above.

Changes in 2010

None.

Energy Feedback Pilot

The intent of the pilot program is to quantify how various feedback methods affect customer energy usage. The pilot program is testing energy use feedback options for residential customers to understand how and why, as well as how much, behavior-based energy conservation can be achieved by providing residential customers better feedback on their energy use. The project is testing various forms, frequencies and contents of feedback including paper reports mailed six to seven times per year, and emailed reports sent monthly.

Deviation from Goal

None.

Changes in 2010

60-Day Notice:

A notice was filed in August 2010 and became effective in September 2010 to begin the Energy Feedback Pilot. For 2010, Public Service would begin setting up the rather extensive internal, iterative data extraction process that is required for the pilot project. The set-up process continued through 2010 and is currently still underway. There were no electric and gas savings goals established for 2010.

Home Energy Audit

The Home Energy Audit Program provides energy audits to Public Service natural gas and/or electric customers at a reduced price. This program is designed to improve energy savings in residential homes by influencing customer behavior through conservation education and implementation of conservation efforts in the home.

There are three types of in-home audits offered through this program at a 60% discount to the customer:

- Standard audit for \$60
- Standard audit with blower door test for \$90
- Infrared audit which includes the standard and the blower door test for \$120.

Public Service has a third-party program implementer for this program and Home Performance with ENERGY STAR. The implementer is responsible for conducting the in-home audits and managing the program tracking, administration, and management of the auditor team. They employ their own auditors and subcontractors to complete audits through the Public Service program.

The Online Home Analysis Tool is offered to residential customers in addition to the Home Energy Audit Program. This free online product gives customers an opportunity to enter their home's

energy information (square footage, appliances, energy use habits, number of occupants in the home, etc) into an online tool that then provides the customer with a list of energy saving strategies to lower their homes monthly consumption and tips on ways to change their energy use habits.

Deviation from Goal

Overall the program did well in its second year with a 45% increase over 2009. The participation goal was not met for in-home audits but far exceeded goal for online audits. The program spend was under budget due to the lower number of in-home participants. Throughout the year, Public Service promoted the program through various marketing efforts such as advertising, bill inserts, direct mail, event sponsorship, and call center training to boost participation.

Changes in 2010

None.

In- Home Smart Device Pilot

The In-Home Smart Device Pilot Program is designed to test how residential customers respond to various control strategies and energy consumption information delivered to their homes through in-home energy management devices. We solicited participation from multiple device vendors and required each to meet our established functional and security requirements. Our objective is to be able to test a variety of devices and load control strategies to determine which are most effective. Participants are expected to lower their energy consumption when provided with the tools to monitor and track their energy usage. While the devices may vary somewhat in function and feature sets, most systems will have the following devices:

- A smart controller, usually with an in home display
- One smart thermostat (often wireless), controllable by Xcel Energy
- Two 15 amp smart plugs, controllable by Xcel Energy

Participants must first qualify for the program, with the primary criteria being they must have a functioning central AC unit installed in their home. For their participation, customers receive the in home device system and installation at no cost and are free to keep the devices after the pilot concludes. Participants are required to remain active in the pilot program for a minimum of one year.

Deviation from Goal

The In-Home Smart Device program is a pilot and does not have any energy and demand savings goals. However, the results will be captured, evaluated and reported at the completion of the pilot. Should the results indicate value both to our customers and Public Service, a direct impact program could be offered in the future.

The 2010 target was to install 1,500 systems, with 1,100 systems installed in the SmartGridCity footprint (Boulder) and 400 outside this footprint in the Denver metro area. However, Public Service was unable to certify a workable system from several manufacturers who submitted devices for testing. As a result, we did not install any systems in 2010 and we significantly under spent our budget since the largest portion of the budget was targeted at purchasing and installing devices.

Public Service is re-evaluating our manufacturer/vendor qualification process and may make changes to it for 2011, with the intent of making the pilot program more attractive to vendors and encourage greater participation.

Changes in 2010

None.

Planning and Research Programs

Market Research

DSM Market Research conducts surveys and studies to gauge energy awareness and interest around CIP conservation efforts. These functions are needed to provide overall support for clarifying DSM issues and thoroughly understanding current and potential DSM customers. In 2010, the Company conducted the following General Research projects:

- ESource Consultative Services;
- 2010 Energy Star Awareness - Colorado Augment;
- Dun & Bradstreet Business list refresh – CO;
- Home Energy Audit Tracker;
- Business CIP Attitude, Awareness & Usage (AAU);
- Low Income Non-Energy Benefits Study
- CO Home Use Study

Deviation from Goal

Market Research negotiated costs reductions in several projects including the ESource Consultative Services, the Home Use Study and the Business AAU study, resulting in lower than expected electric and gas budget spend. Additionally, two projects, the Conservation Tracker study and the Contractor Research, were cancelled.

Changes in 2010

None.

DSM Planning & Administration

DSM Planning & Administration is an indirect program with internal staff that manages all energy efficiency-related filings, including the annual status report and DSM plans. This group performs the benefit-cost analyses of all of the energy efficiency and load management programs, provides tracking of the energy and demand savings, and collaborates with the Resource Planning group to develop inputs for the resources plans. The DSM Planning & Administration group also provides management and oversight of all evaluation, measurement and verification planning and policies, hosts the quarterly DSM Roundtable, and works with outside consultants, as needed. These functions are needed to ensure a cohesive and high quality DSM portfolio that meets all legal requirements as well as the expectations of our customers and regulators.

Deviation from Goal

Planning and Administration spending was within 6% of the electric budget for 2010. However, gas spending was about 54% of the gas budget for this area due to much less than expected internal labor and expenses in 2010.

Changes in 2010

None.

DSM Product Development

Product Development identifies, assesses, and develops new conservation and load management products and services. This work enables Public Service to identify and promote promising new conservation and load management opportunities for its customers. The product development process starts with ideas and concepts from customers, regulators, energy professionals, interest groups, and Public Service staff. These ideas are then carefully screened; only ideas with the greatest potential are selected for the development process.

In 2010, as part of the 2009/10 DSM Plan, Product Development developed 9 new products and/or programs. Four were for C&I customers and five were for Residential customers.

New products and measures that were developed for existing programs included the following:

- Prescriptive Rebates for the following business products:
 - LED lighting (interior fixtures & lamps, exterior canopy & soffit lighting, and refrigerated case lighting)
 - Piping insulation
 - Plan “B” Boiler replacement
 - High Efficiency commercial water heaters
- Residential Ground Source Heat Pumps
- Residential Air Source Heat Pump Water Heaters
- High Efficiency Central Air Conditioning Trade-in Program
- Updated Energy Star Retailer Pilot
- Updated Energy Star New Homes Program
- Started an ASD/ VFD pilot study

Product Development also worked on the development of the Emerging Technology Grant Program to help fund the commercialization of new energy efficiency technologies, a study to evaluate a “Whole House” approach to Residential energy efficiency programs, a pilot to revamp the Residential High Efficiency Air Conditioning Program Tune-up measure and began setting up the Residential Energy Feedback Pilot.

Towards the end of 2010, Product Development started looking forward to the next DSM Plan and began development of new products for the 2012/13 DSM Plan.

Deviation from Goal

Product Development did not spend its approved electric or gas budgets due to less than anticipated spend for consulting services and association dues.

Changes in 2010

None.

Evaluation, Measurement & Verification

The Evaluation, Measurement & Verification (“EM&V”) Plan for Public Service was developed to evaluate, measure, and verify all direct savings gas and electric programs on an ongoing basis during each year, as well as on a post-performance year basis in order to ensure that the savings, technical assumptions, and net-to-gross ratios that are reported by Public Service are as accurate as possible.

The robustness of the proposal is balanced with the costs of the plan, being mindful of the objectives of ensuring accurate savings while keeping expenditures prudent and maintaining the cost effectiveness of programs. Program savings are validated through a multi-step process designed to ensure that rebates are correctly processed, rebated measures were installed, and equipment is performing as intended. The EM&V activities also provide opportunities to evaluate customer satisfaction and identify strategies for improving program delivery and effectiveness.

Comprehensive program evaluations are conducted for individual programs and focus on a thorough process and impact analysis. Market Research manages these evaluations which are needed to identify program strengths and opportunities for improvement. In 2010, the Company conducted the following program-specific research:

- Business Recommissioning
- Business and Residential Behavior Change Program (process only)
- Business Motors
- Residential Evaporative Cooling Program

Results of EM&V activities are reported in the separate section entitled “Evaluation, Measurement, and Verification Results for 2010”. Realization rates for a majority of the prescriptive programs were applied to 2010 gross savings while recommendations for changes to process, technical assumptions and net-to-gross ratios will be implemented in 2011.

Deviation from Goal

Electric spending exceeded the originally approved budget by 20%, while gas spending was less than the originally approved budget by about 19%. The primary reason that the electric EM&V spending exceeded by 20% the budget in 2010 was due to increased rigor added to the Residential Evaporative Cooling Program evaluation. The primary reason that the gas EM&V spending was 19% less than budgeted was due to much less internal labor and third party M&V contractor expenses for ongoing M&V during 2010 for gas programs.

Changes in 2010

None.

Evaluation, Measurement, and Verification 2010 Results

Background

An Evaluation, Measurement, and Verification (EM&V) Plan is necessary to help ensure that Public Service's DSM programs are delivering reliable energy and demand savings and to improve overall program design and operation. For its 2009/10 DSM Plan, Public Service developed its EM&V Plan to evaluate, measure, and verify savings for gas and electric DSM programs during and after each performance year, in order to confirm that savings and technical assumptions were accurate. The robustness of any EM&V Plan must be balanced against the cost of performing evaluation, measurement and verification, keeping in mind the objectives of ensuring accurate savings calculations while keeping expenditures prudent and maintaining the cost-effectiveness of programs.

Description of Process

The Company's EM&V approach has three components: rebate application validation, ongoing measurement and verification, and comprehensive program (process and impact) evaluations.

- **Rebate Application Validation** takes place on a daily basis during the program year and involves auditing all rebate applications received by the Company. Our Rebate Operations Department has a two-step process, as described in more detail in the EM&V Plan. The first step entails validating every application for accuracy and completeness as it is received prior to processing. In the second step, all rebates that have been entered into a tracking system are audited each day prior to issuing a rebate. The objective of this validation is to ensure that the rebate forms and the reported gross savings that are entered into the Company's databases are as accurate as possible and that customers are receiving the correct rebates.
- **Ongoing Measurement and Verification's** main objective is to ensure that the gross energy and demand savings reported by the Company are accurate. Ongoing M&V takes place during and just after the performance year.
 - For Prescriptive programs, contractors or program implementers design samples with a target of either 90% confidence interval with $\pm 10\%$ precision or 80% confidence interval with $\pm 20\%$ precision around the realization rates for each program. They then select random samples and perform field inspections on program participants and verify that the measures are installed and operating, and that the critical features of the measures that determine the savings are accurate. If not, the program's reported savings are adjusted using a "realization rate" that reflects the results of these inspections.
 - For Custom programs, the M&V process depends on the size and scope of the project. Projects are typically pre-approved through an engineering analysis performed by a third-party contractor, Nexant (prior to February 2010), or by one of the Company's internal energy efficiency engineers (February through December 2010). Within the initial engineering analysis, the expected project savings and payback are calculated using technical assumptions that specifically fit the measure and application. Depending on the size of the project, these calculations are then reviewed by a second internal energy

- efficiency engineer and/or manager and a random sampling is sent for third-party review. After installation of the efficiency measure, a Public Service employee conducts a field visit or a telephone verification to ensure that the product is installed correctly and within the parameters provided in the pre-approval application. In addition, an internal engineer reviews the efficiency measure invoices to determine if the project remained within $\pm 10\%$ of its original scope. If it did not, then the project is re-modeled. For projects with measure savings equal to or greater than one GWh or 20,000 Dth, pre- and post-installation metering is performed for a minimum of two weeks to measure and verify savings. For all metered projects, the analysis of the metering data is conducted by one of the Company's internal energy efficiency engineers, then reviewed by a team of internal engineers and a manager.
- For Load Management programs, Public Service selected a third-party contractor to monitor air conditioning usage for randomly selected customer sites. The data collected were analyzed by another third-party consultant to determine the available load relief provided by the load management program.
 - **Comprehensive Program Process and Impact Evaluations** are conducted on an individual program basis to assess overall program effectiveness and to determine what improvements or other changes should be implemented in the future. These evaluations do not verify the savings of a specific performance year and are not applied retrospectively to particular performance year activities. These comprehensive studies are not conducted each year, but instead are staggered over several years in order to comprehensively evaluate most of the portfolio of programs. The objectives of the process evaluation include: determining customer satisfaction with the program; identifying the populations that participate in the program and target markets that are potentially receptive, but do not currently participate in the program; identifying areas where the program, processes, or marketing could be improved; quantifying the program's market saturation levels; and suggesting appropriate rebate design. The objectives of the impact evaluation include reviewing and/or measuring the baseline and technical assumptions used to calculate program savings and estimating net program impacts. Net program savings result from taking into account attribution factors, such as free ridership and spillover.

Outline of Requirements

The Commission has provided guidance on the requirements for the Public Service's evaluation, measurement and verification activities in a number of places, including the Gas Rule (4 Code of Colorado Regulations (C.C.R.) 723-4-4755) and the approved Settlement Agreement for the Company's 2009/10 DSM Plan. The Gas Rule contains the following requirements:

4755. Measurement and Verification.

- (a) Each utility shall implement a measurement and verification (M&V) program to evaluate the actual performance of its DSM program. The utility shall present its M&V plan as a part of its DSM plan application, pursuant to rule 4753, and shall include the complete M&V evaluation results with its annual DSM report in those years when the M&V is conducted.
- (b) As a part of its M&V program, the utility shall, at a minimum, design an M&V plan to evaluate the effectiveness of the actual DSM measures and programs implemented by the

utility. The M&V plan shall address: sampling bias; a data gathering process sufficient to yield statistically significant results; and generally accepted methods of data analysis. The M&V plan shall also include an evaluation of free ridership, spillover, and the net-to-gross ratio. The M&V evaluation shall be implemented at least once per DSM plan period. Subsequent DSM plan applications shall reflect the results of all completed M&V evaluations.

- (c) The M&V evaluation shall, at a minimum, include the following:
- (I) An assessment of whether the DSM programs have been implemented as set forth in its Commission approved DSM plan;
 - (II) A measurement of the actual energy savings for each DSM program, in dekatherms per dollar expended and in total dollars, and a comparison to the corresponding utility projections in the approved DSM plan;
 - (III) To the extent feasible, an assessment of the period of time that each DSM measure actually remains in service, and a comparison to the corresponding utility projections in the approved DSM plan;
 - (IV) A summary of the actual benefit/cost ratio for each DSM program within the approved DSM plan;
 - (V) An assessment of the extent to which education and market transformation efforts are achieving the desired results; and
 - (VI) Recommendations for how the utility can improve the market penetration and cost effectiveness of individual DSM programs.

Within the Settlement Agreement to Public Service's 2009/10 DSM Plan, parties agreed that the Company would conduct comprehensive program evaluations on the Evaporative Cooling, Motor & Drive Efficiency, Recommissioning, and Customer Behavioral Change (both Business and Residential) Programs in 2010 (p. 18). Public Service intends to apply recommended changes coming from these comprehensive evaluations in the next calendar year.

In compliance with these requirements, Public Service has applied the following concepts to its EM&V Plan:

- The ongoing M&V Plan will be conducted annually for all programs. As discussed earlier, comprehensive program evaluations will be conducted on a staggered schedule over several years.
- The ongoing M&V Plan results will be reported with each annual DSM status report.
- For programs that use a sampling methodology for M&V, the Plan will address sampling bias, and all samples will be designed to yield statistically significant results.
- For programs that are selected for a comprehensive program evaluation, an evaluation of free ridership, spillover, and the net-to-gross ratio will be included as a study objective.
- Subsequent DSM Plan applications shall reflect the results of ongoing M&V, results of completed comprehensive program evaluations, and results of any other DSM studies that are reviewed.
- The annual M&V evaluation report will include an assessment of whether the DSM programs have been implemented as set forth in the Commission-approved Plan.

Public Service was guided in the development of this Status Report by the comments and requirements provided in the Enhanced Plan Order, the Gas Rules, the 2009/10 DSM Plan

Settlement Agreement, and subsequently issued 60-Day Notices. Within these guidelines, Public Service has implemented its 2010 DSM Plan as filed with and approved by the Commission.

What M&V Occurred in 2010

In 2010, measurement and verification was conducted by a verification contractor (Nexant), a consultant or third-party vendor who ran the program, Public Service's internal energy efficiency engineers, and by the customer or energy services company on behalf of the customer, depending on the program. The following paragraphs provide the M&V activities and results for each of the DSM programs offered by the Company in 2010. All M&V activities followed the processes outlined in the M&V Plan filed with the 2009/10 DSM Plan May 1, 2009 Amendment, except where described below. With its best efforts, the Company achieved portfolio realization rates of 98.2% for electric demand, 97.8% for electric energy, and 88.2% for natural gas energy. Where sampling was used in the M&V process for prescriptive measures, the achieved precision and confidence level is provided.

Business Programs

Boiler Efficiency

For the Boiler Efficiency Program, measurement and verification were performed on a continuous basis throughout the program year. As applications were received, all critical customer information, equipment eligibility, and proper rebates amounts were reviewed, validated, and corrected if inaccurate. The internal Rebate Operations group audited 100% of the rebates applications to ensure that the information was reasonable and correctly entered into the tracking database.

Public Service completed 247 prescriptive measures and one custom measure in the Boiler Efficiency Program in 2010. For the prescriptive projects, Nexant performed 33 field inspections of installed energy efficient equipment at randomly-selected participant locations to verify key savings factors including: the equipment type and size (condensing, non-condensing, MBTUH), model number, thermal/combustion efficiency (minimum of 85% for non-condensing or 92% for condensing), and operating hours per year. The contractor re-calculated the demand and energy savings using the verified factors and the deemed savings formulas and compared the calculation to the reported gross savings. The final energy realization rate for the 2010 Boiler Efficiency prescriptive measures was 110.7% with a confidence interval of 18.5% around the 90% targeted confidence level.

Public Service completed one custom Boiler Efficiency project in 2010. For all custom projects, the M&V process was built into the project approval process. When the customer applied for project pre-approval, the application (all technical assumptions and savings estimates) was first reviewed by an internal energy efficiency engineer. Within the initial engineering analysis, the expected project savings and payback were calculated using technical assumptions that specifically fit the measure and application. If the project had exceeded 20,000 Dth, these calculations would have been reviewed by a second internal energy efficiency engineer and/or manager and pre- and post-metering would have been performed. For all custom programs, a random sampling of projects is sent for third-party review. Upon completion of the project, internal staff reviewed the invoices to verify that the

project scope had not changed. In 2010, there were no projects for which the scope had changed by more than $\pm 10\%$.

Compressed Air Efficiency

For the Compressed Air Efficiency Program, measurement and verification were performed on a continuous basis throughout the program year. As applications were received, all critical customer information, equipment eligibility, and proper rebates amounts were reviewed, validated, and corrected if inaccurate. The internal Rebate Operations group audited 100% of the rebates applications to ensure that the information was reasonable and correctly entered into the tracking database.

Public Service completed 42 prescriptive Compressed Air Efficiency projects in 2010. Of these projects, Nexant performed 21 field inspections of installed energy efficient equipment at randomly-selected participant locations to verify key savings factors. For variable frequency drive compressors of less than 50 HP, the contractor verified the horse power, hours of operation, and make and model number of the equipment. For no-air-loss drain valves, the contractor verified the number of valves that replaced electronic timed drains, or the number of new valves installed. The contractor re-calculated the demand and energy savings using the verified factors and the deemed savings formulas and compared the calculation to the reported gross savings. The final demand and energy realization rates for the 2010 Compressed Air Efficiency prescriptive measures were $100.2\% \pm 0.4\%$ and $100.4\% \pm 0.6\%$, respectively, around the targeted 90% confidence level.

Public Service completed three custom Compressed Air Efficiency projects in 2010. For all custom projects, the M&V process was built into the project approval process. When the customer applied for project pre-approval, the application (all technical assumptions and savings estimates) was first reviewed by an internal energy efficiency engineer. Within the initial engineering analysis, the expected project savings and payback were calculated using technical assumptions that specifically fit the measure and application. Depending on the size of the project, it is given a second review by an internal engineer. For the one project that exceeded savings of 0.5 GWh, the application was given a third review by the internal engineering team lead. Upon completion of the project, internal staff reviewed the invoices to verify that the project scope had not changed. There were no projects for which the scope had changed by more than $\pm 10\%$. In addition, all three projects were field-verified to confirm installation.

Cooling Efficiency

For the Cooling Efficiency Program, measurement and verification were performed on a continuous basis throughout the program year. As applications were received, all critical customer information, equipment eligibility, and proper rebates amounts were reviewed, validated, and corrected if inaccurate. The internal Rebate Operations group audited 100% of the rebates applications to ensure that the information was reasonable and correctly entered into the tracking database.

Public Service completed 165 prescriptive Cooling Efficiency projects in 2010. Of these projects, Nexant performed 35 field inspections of installed energy efficient equipment at randomly-selected participant locations to verify key savings factors, including: product name; model number, equipment capacity, market segment, and climate zone. If the project included variable air valves (VAVs), the VAVs were counted and confirmed to be new. The contractor re-calculated the demand and energy savings using the verified factors and the deemed savings formulas and compared the calculation to the reported gross savings. The final demand and energy savings

realization rates for the 2010 Cooling Efficiency prescriptive measures were $100.1\% \pm 0.0\%$ and $100.1\% \pm 0.0\%$, respectively, around the 90% targeted confidence level.

Public Service completed nine custom Cooling Efficiency projects in 2010. For all custom projects, the M&V process was built into the project approval process. When the customer applied for project pre-approval, the application (all technical assumptions and savings estimates) was first reviewed by an internal energy efficiency engineer. Within the initial engineering analysis, the expected project savings and payback were calculated using technical assumptions that specifically fit the measure and application. Depending on the size of the project, it is given a second review by an internal engineer. Upon completion of the project, internal staff reviewed the invoices to verify that the project scope had not changed. There were four projects where the scope changed by more than $\pm 10\%$. These projects were re-modeled to determine the final savings. In addition, for the one project over 1.0 GWh, a third internal engineering review was conducted and Public Service performed pre- and post-metering to verify savings. The Company reviewed the metering data to determine the final savings for the project. In addition, all projects were either field or phone verified by internal Account Managers.

Custom Efficiency

Public Service completed 49 electric and 28 gas Custom Efficiency projects. For these projects, the M&V process was built into the project approval process. When the customer applied for project pre-approval, the application (all technical assumptions and savings estimates) was first reviewed by an internal energy efficiency engineer. Within the initial engineering analysis, the expected project savings and payback were calculated using technical assumptions that specifically fit the measure and application. Depending on the size of the project, it is given a second review by an internal engineer. For the two projects that exceeded savings of 0.5 GWh, the application was given a third review by the internal engineering team lead. For the project that exceeded savings of 1.0 GWh, the application was given a final review by the engineering group manager. Upon completion of each project, internal staff reviewed the invoices to verify that the project scope had not changed. There were 25 projects for which the scope had changed by more than $\pm 10\%$. These projects were re-modeled to determine the final savings. In addition, for the five projects over 1.0 GWh, Public Service contracted with Nexant to perform pre- and post-metering to verify savings. The Company reviewed the metering data to determine the final savings for each project. Finally, 23 projects were field-verified, and the remainder were phone verified, by internal Account Managers.

Data Center Efficiency

No projects with energy savings were completed in the Data Center Efficiency Program in 2010; however, one study was rebated. Thus, measurement and verification was not conducted. For future projects, the M&V process will be built into the project approval process. When the customer applies for project pre-approval, the application (all technical assumptions and savings estimates) will be reviewed by an internal energy efficiency engineer. Within the initial engineering analysis, the expected project savings and payback were calculated using technical assumptions that specifically fit the measure and application. Depending on the size of the project, it is given a second review by an internal engineer. For projects that are expected to exceed savings of 0.5 GWh, the application will be given a third review by the internal engineering team lead. For projects expected to exceed savings of 1.0 GWh, the application will be given a final review by the engineering group manager. Upon completion of the project, internal staff will review the invoices to verify that the project scope has not changed. If the scope has changed, then the project will be re-modeled. In addition, for projects over 1.0 GWh, Nexant will perform pre- and post-metering to

verify savings. The Company will review all metering data and/or bill histories to determine the final savings for each project.

Energy Management Systems

Public Service completed 52 EMS projects in 2010, of which, 26 were electric-only projects, two were gas-only projects, and 24 were combination electric and gas projects. The M&V process for this program was built into the project approval process. When the customer applied for project pre-approval, the application (all technical assumptions and savings estimates) was first reviewed by an internal energy efficiency engineer. Within the initial engineering analysis, the expected project savings and payback were calculated using technical assumptions that specifically fit the measure and application. Depending on the size of the project, it is given a second review by an internal engineer. For the two projects that exceeded savings of 0.5 GWh, the application was given a third review by the internal engineering team lead. For the project that exceeded savings of 1.0 GWh, the application was given a final review by the engineering group manager. In addition, for projects over 1.0 GWh, Public Service contracted with Nexant to perform pre- and post-metering to verify savings. There were no projects for which the scope had changed by more than $\pm 10\%$. The Company reviewed all metering data and/or bill histories to determine the final savings for each project. Finally, all 52 projects were field-verified by internal Account Managers.

Furnace Efficiency

For the Furnace Efficiency Program, measurement and verification were performed on a continuous basis throughout the program year. As applications were received, all critical customer information, equipment eligibility, and proper rebates amounts were reviewed, validated, and corrected if inaccurate. The internal Rebate Operations group audited 100% of the rebates applications to ensure that the information was reasonable and correctly entered into the tracking database.

Public Service completed 32 prescriptive Furnace Efficiency projects in 2010. Onsite project verification was performed on six installations. Nexant randomly selected samples of customers for ongoing measurement and verification. The contractor verified key savings factors, including: equipment (new or retrofit), size, model number, efficiency rating, operating hours per year, and rebate paid (\$80 or \$120.) The contractor then re-calculated the demand and energy savings using the verified factors and the deemed savings formula and compared the calculation to the reported gross savings. The final energy savings realization rate for the 2010 Furnace Efficiency Program was $100.0\% \pm 0.0\%$ around the 90% targeted confidence level.

Lighting Efficiency

For the Lighting Efficiency Program, measurement and verification were performed on a continuous basis throughout the program year. As applications were received, all critical customer information, equipment eligibility, and proper rebates amounts were reviewed, validated, and corrected if inaccurate. The internal Rebate Operations group audited 100% of the rebates applications to ensure that the information was reasonable and correctly entered into the tracking database.

Public Service completed 1,319 prescriptive Lighting Efficiency projects in 2010. For prescriptive projects (Retrofit and New Construction), Nexant performed 42 field inspections of installed energy efficient equipment at randomly-selected participant locations to verify key savings factors including: watts of bulbs/ballast installed, segment, type of lights, and number of bulbs/fixtures. The contractor re-calculated the demand and energy savings using the verified factors and the deemed

savings formulas and compared the calculation to the reported gross savings. The final demand and energy savings realization rates for the 2010 Lighting Efficiency prescriptive measures were $97.6\% \pm 2.2\%$ and $97.6\% \pm 2.2\%$, respectively, around the targeted 90% confidence level.

Public Service completed 155 custom Lighting Efficiency projects in 2010. The M&V process for these lighting measures was built into the project approval process. When the customer applied for project pre-approval, the application (all technical assumptions and savings estimates) was first reviewed by an internal energy efficiency engineer. Within the initial engineering analysis, the expected project savings and payback were calculated using technical assumptions that specifically fit the measure and application. Depending on the size of the project, it is given a second review by an internal engineer. For the three projects that exceeded savings of 0.5 GWh, the application was given a third review by the internal engineering team lead. For the project that exceeded savings of 1.0 GWh, the application was given a final review by the engineering group manager and Nexant performed pre- and post-metering to verify savings. The Company reviewed all metering data to determine the final savings for the project. There were 17 projects for which the scope had changed by more than $\pm 10\%$. These projects were re-modeled to determine the final savings. In addition, all projects were either field or phone verified by internal Account Managers.

Motor & Drive Efficiency

For the Motor & Drive Efficiency Program, measurement and verification were performed on a continuous basis throughout the program year. As applications were received, all critical customer information, equipment eligibility, and proper rebates amounts were reviewed, validated, and corrected if inaccurate. The internal Rebate Operations group audited 100% of the rebates applications to ensure that the information was reasonable and correctly entered into the tracking database.

Public Service completed 537 prescriptive Motor & Drive Efficiency projects in 2010. From amongst these projects, Nexant randomly selected 41 participants to receive field inspections of installed energy efficient equipment to verify key savings factors including: size of the motor, customer segment, actual motor efficiency, application of the motor, and the number of motors installed. The contractor re-calculated the demand and energy savings using the verified factors and the deemed savings formulas and compared the calculation to the reported gross savings. The final demand and energy savings realization rates for the 2010 Motor & Drive Efficiency prescriptive measures were $100.0\% \pm 0.0\%$ and $100.0\% \pm 0.0\%$, respectively, around the targeted 90% confidence level.

Public Service completed two custom Motor & Drive Efficiency projects in 2010. For these projects, the M&V process for these measures was built into the project approval process. When the customer applied for project pre-approval, the application (all technical assumptions and savings estimates) was first reviewed by an internal energy efficiency engineer. Within the initial engineering analysis, the expected project savings and payback were calculated using technical assumptions that specifically fit the measure and application. Depending on the size of the project, it is given a second review by an internal engineer. If the project exceeded savings of 0.5 GWh, the application was given a third review by the internal engineering team lead. For projects that exceeded savings of 1.0 GWh (none this year), the application was given a final review by the engineering group manager. There were no projects for which the scope had changed by more than $\pm 10\%$. In addition, all projects were either field or phone verified by internal Account Managers.

New Construction

Public Service's New Construction Program includes two components: prescriptive Energy Efficient Buildings and custom Energy Design Assistance. The Company completed six projects under the Energy Efficient Buildings component in 2010. M&V for these projects was performed by Nexant. Public Service completed 21 projects under Energy Design Assistance. Two consulting groups, The Weidt Group and Architectural Engineering Corporation, conducted verification on these projects. Measurement and verification is performed on all New Construction projects, whether prescriptive or custom. All adopted measures received a visual verification. Twelve projects varied by more than $\pm 10\%$ and were therefore remodeled. This information was used in our savings reports and for rebate payment. Since all project savings are calculated based on independent verification, this program has a realization rate of 100%.

Process Efficiency

Public Service completed seven prescriptive electric Process Efficiency projects in 2010: five motors projects, one compressed air, and one lighting project. The Company applied the realization rates determined for the prescriptive end-use programs (Motor & Drive Efficiency, Compressed Air Efficiency, and Lighting Efficiency) to calculate final demand and energy savings for the prescriptive component of the Process Efficiency Program.

Public Service completed four custom Process Efficiency projects in 2010, two in Cooling, one in Motors, and one in Compressed Air. The M&V process for these measures was built into the project approval process. When the customer applied for project pre-approval, the application (all technical assumptions and savings estimates) was first reviewed by an internal energy efficiency engineer. Within the initial engineering analysis, the expected project savings and payback were calculated using technical assumptions that specifically fit the measure and application. Depending on the size of the project, it is given a second review by an internal engineer. If the project exceeded savings of 0.5 GWh, the application was given a third review by the internal engineering team lead. For projects that exceeded savings of 1.0 GWh (none this year), the application was given a final review by the engineering group manager. There were no projects for which the scope had changed by more than $\pm 10\%$. In addition, all projects were either field or phone verified by internal Account Managers.

Recommissioning

Public Service completed 38 electric and three gas Recommissioning projects in 2010. The measurement and verification of these projects was relatively simple because each implemented measure resulted from a previous Recommissioning study completed by an independent party. The customer hired an engineering firm to conduct a study of the building to determine energy savings for each measure; an internal engineer then reviewed and verified 100% of projects for savings calculation accuracy. In turn, each study was thoroughly reviewed and approved by a qualified Public Service engineer. According to the plan, if a measure had savings greater than or equal to one GWh or 20,000 Dth per year, pre- and post metering would be required unless it would be too costly or physically impossible. No measures met this threshold in 2010, so no metering was completed.

Segment Efficiency

Public Service completed six prescriptive projects in 2010, including two motors projects and four lighting projects. The Company used the realization rates determined for the end-use programs

(Motor & Drive Efficiency and Lighting Efficiency) to calculate final demand and energy savings for these prescriptive projects. For the three custom projects, measurement and verification was performed throughout the project. When the customer applied for project pre-approval, the application (all technical assumptions and savings estimates) was first reviewed by an internal energy efficiency engineer. Within the initial engineering analysis, the expected project savings and payback were calculated using technical assumptions that specifically fit the measure and application. Depending on the size of the project, it is given a second review by an internal engineer. Upon completion of the project, internal staff reviewed the invoices to verify that the project scope had not changed. If the scope had changed by more than $\pm 10\%$, then the project would have been re-modeled and the rebate granted on the basis of the revised savings. In addition, all projects were either field or phone verified by internal Account Managers.

Self-Direct

Customers completed ten Self-Direct projects in 2010. In order to participate in the Self-Direct Custom Efficiency Program, customers were required to submit a detailed project application, which included their proposed monitoring plan used to document demand and energy savings. Public Service may request monitoring on any project, regardless of size. All measurement and verification was required to be performed in accordance with the International Performance Measurement and Verification Protocol (IPMVP) guidelines.

Upon approval of the monitoring plan, the customer implemented the project. After project completion, a project completion report was submitted that includes raw metering results and engineering calculations to demonstrate actual energy and demand savings based on pre- and post-monitoring results. All projects were reviewed by the internal energy efficiency engineers and/or managers, depending on their size. The rebate amount was based on these results. A random sample of all pre-approved projects was selected by the Company and sent to an outside engineering firm for measurement and verification.

Small Business Lighting

Public Service completed 239 prescriptive projects in the Small Business Lighting Program in 2010. Measurement and verification were performed on a continuous basis throughout the program year. As applications were received, all critical customer information, equipment eligibility, and proper rebates amounts were reviewed, validated, and corrected if inaccurate. The internal Rebate Operations group audited 100% of the rebates applications to ensure that the information was reasonable and correctly entered into the tracking database.

Additional onsite project verification was performed. Nexant randomly selected samples of customers who received a rebate for on-going M&V. Nexant then performed 37 field inspections of installed energy efficient equipment, and verified the key savings factors that were required in the formula. The savings factors that pertain to this program are: watts of bulbs/ballast, segment, type of lights, and number of bulbs/fixtures. The contractor re-calculates the demand and energy savings using the verified factors and the deemed savings formula and compare to the reported gross savings. The final demand and energy savings realization rates for the 2010 Small Business Lighting prescriptive measures were $98.9\% \pm 1.4\%$ and $98.9\% \pm 1.4\%$, respectively, around a targeted confidence level of 90%.

The Company also completed 29 custom Small Business Lighting projects in 2010. As for all custom projects, the M&V process was built into the project approval process. When the customer

applied for project pre-approval, the application (all technical assumptions and savings estimates) was first reviewed by an internal energy efficiency engineer. Within the initial engineering analysis, the expected project savings and payback were calculated using technical assumptions that specifically fit the measure and application. Depending on the size of the project, it is given a second review by an internal engineer. Upon completion of the project, internal staff reviewed the invoices to verify that the project scope had not changed. In addition, all projects were either field or phone verified by internal Account Managers.

Standard Offer

Public Service completed one Standard Offer project in 2010, which provided both electric and gas savings. Measurement and verification in this program is the responsibility of the customer. The customer was required to provide a measurement and verification plan (M&V plan) in their technical energy audit. The M&V plan must meet sound engineering practices and industry standard references such as the International Performance Measurement & Verification Protocol. The M&V plan must include annual measurement for a minimum of three years after installation. The ESCO or a third-party implemented the M&V plan, and used the collected data to determine the actual conservation for the implemented measures. The Company's internal energy efficiency engineers reviewed all metering data and paid additional rebates for savings above the expected levels. Conversely, the customer must refund a portion of the rebate if savings are not as high as expected.

Residential Programs

Energy Efficient Showerheads

Electric and natural gas water heating customers who received a postcard invitation were eligible to receive a free 1.5gpm showerhead through the Energy Efficient Showerheads Program. In 2010, Public Service provided 62,556 showerheads. CustomerLink performed a phone survey of a random sampling of 400 customers that received a free showerhead. Based on the phone survey results, the installation rate was 57%.

ENERGY STAR New Homes

Public Service's ENERGY STAR New Homes Program was administered by a third-party provider, Residential Science Resources, Inc. (RSR). All homes rebated through this program were subject to verification by a qualified HERS (Home Energy Rating Service) Rater and their associated RESNET (Residential Energy Services Network) Provider. In most cases, the HERS Rater completed three site visits to each home during the construction phase. There are approximately 1,500 points of data collected and submitted for each home, including the duct blaster test results and the final HERS rating. Upon completion, RSR reviewed each home and its HERS rating to confirm the energy savings calculations. Energy saving impacts for each home rebated were calculated based on the actual construction as compared to the reference (baseline) home for that particular area. As a result, the realization rate for this program is one. In 2010, 2,479 homes successfully completed the program requirements.

ENERGY STAR Retailer Incentive Pilot

The ENERGY STAR Retailer Incentive Pilot Program provided an incentive to Best Buy, Sears, Kmart, and Lowe's for their sales of ENERGY STAR appliances (refrigerators, dishwashers, clothes washers, televisions, and window air conditioners). Retailers were required to submit sales data to our third-party administrator, Wisconsin Energy Conservation Corporation (WECC). The sales data was then forwarded to a sub-contractor Eco Rebates (Castenea Labs) for evaluation of the models

and comparison to the Public Service zip code list prior to rebates being paid. For units meeting our rebate criteria, incentives were paid directly to the retailers. Public Service rebated a total of 27,641 ENERGY STAR units in 2010. This program is assumed to have a realization rate of 100%.

Evaporative Cooling Rebate

The Evaporative Cooling Rebate Program provides rebates to customers who purchase efficient evaporative cooling units. In 2010, 3,068 customers purchased qualifying evaporative cooling units. This program was measured and verified in a two-step process. As rebates were received, critical customer information, equipment eligibility and proper rebate amounts were reviewed, validated, and corrected if inaccurate. The Rebate Operations group also audited the rebate applications to ensure that the information from the form was entered correctly into the tracking database.

In addition, a third-party verification contractor (Nexant) conducted field M&V on 43 customers who received rebates. The contractor made appointments with the sample customers to perform field inspections and to verify the installed/rebated equipment. The final demand and energy savings realization rates for the Evaporative Cooling Rebates Program in 2010 were 100.0% \pm 0.0% and 100.0% \pm 0.0%, respectively, around the targeted confidence level of 90%.

Heating System Rebate

For the Heating System Rebates Program, all rebate applications were audited with a two-step process. As rebates were received, critical customer information, equipment eligibility and proper rebate amounts were reviewed, validated and corrected if inaccurate. In the second step, Rebate Operations audits the rebate applications to ensure that the information from the form was entered correctly into the tracking database.

Public Service rebated 9,583 units in 2010. A third-party verification contractor (Nexant) conducted field M&V, randomly selected 44 participants for measurement and verification. The contractor made appointments with the sample customers to perform field inspections and to verify the installed/rebated equipment. The final energy savings realization rate for the Heating System Rebates Program in 2010 was 100% \pm 0.0% around the 90% targeted confidence level.

High Efficiency Air Conditioning

The High Efficiency Air Conditioning Program provides rebates to customers who participate in one or more of four program components: the purchase of high-efficiency equipment, the proper installation of new standard or high efficiency air-conditioning equipment, the tune-up of existing central air conditioning equipment, or the early retirement of old, inefficient equipment followed by the purchase of high-efficiency equipment. Because air conditioners can only be field tested when the ambient outdoor temperature is above 70°F (or 55°F with an FDSI tool), this program maintains a slightly different M&V calendar than Public Service's other programs. Specifically, air conditioners that are installed after October 1 of each year will not be inspected until the following spring, and thus, the M&V calendar year for this program runs from October 1 to September 30 of each year.

The four program components have different M&V processes. M&V for the equipment purchase and quality installation were considered together and performed by Residential Science Resources. The M&V process is designed to verify that the installed equipment matches what was rebated and that the equipment was installed according to quality installation standards, as described by the Air Conditioning Contractors of America. The M&V involves an ongoing random sampling of rebated

projects, following the standard prescriptive program guidelines. To verify a quality installation, the Verification Contractor must confirm that a Manual J calculation was performed and that the participant's refrigeration charge, airflow, and duct leakage are within acceptable ranges. Public Service rebated a total of 857 equipment purchases and quality installations. The final demand and energy savings realization rates for the Equipment component of the program in 2010 were 100.0% ± 0.0% and 100.0% ± 0.0%, respectively, around the targeted confidence level of 90%. The final demand and energy savings realization rates for the quality installation component of the program in 2010 were 74% and 79%, respectively, around the targeted confidence level of 90%.

Public Service rebated 86 residential air conditioning tune-ups in 2010. The Tune-Up portion of the High Efficiency Air Conditioning Program relied on field measurements performed by Field Diagnostic Services, Inc. (FDSI) for its M&V. As part of the M&V process, FDSI collected relevant data on each air conditioning system, including return air dry and wet bulb temperatures, suction and liquid line temperatures, evaporator and condenser saturation temperatures, and suction and discharge pressures, and reported these measurements to Public Service. The final demand and energy savings realization rates for the Tune-Up component of the program in 2010 were 100.0% ± 0.0% and 100.0% ± 0.0%, respectively, around the targeted confidence level of 90%.

M&V for the Early Retirement component of the High Efficiency Air Conditioning Program was performed by Public Service since the original equipment removal was conducted by independent HVAC contractors. For each of the 359 retirements rebated, the contractor was required to report to Public Service the type and age of equipment being removed. Public Service then spot-checked the provided paperwork to confirm that the removed equipment met program requirements. The final demand and energy savings realization rates for the Early Retirement component of the program in 2010 were 100.0% ± 0.0% and 100.0% ± 0.0%, respectively, around the targeted confidence level of 90%.

Home Lighting & Recycling

Nexant performed Public Service's Home Lighting & Recycling Program measurement and verification. The verification process consisted of cross-checking Public Service's program tracking databases with a sample of instant rebate forms from various retailers. These rebate forms directly reduced the cost of certain ENERGY STAR compact fluorescent lamps at "check-out." No customer contact was made for this program. There were 1,273,119 units sold to 254,623 participants in 2010. Nexant examined and verified 502 rebates. Results of this effort showed only minor discrepancies, including three instances of a difference between the model number listed on the rebate form and the number listed in the database, one instance of the customer name not matching that on the rebate form, one rebate form lacking the lamp details, 35 rebate forms lacking a date, and five rebate forms with a different date than that in the database. None of these discrepancies would suggest that the lamps were not actually purchased as reported.

Home Performance with ENERGY STAR

Public Service's third-party program implementer, Lightly Treading, Inc., performed verification of home improvements, including a blower door test to verify the natural air changes per hour, a Combustion Appliance Zone test, and inspections of all work performed. One hundred homes were completed in 2010. Due to the extensive testing performed on each home, this program is assumed to have a realization rate of 100%.

Insulation Rebate

Public Service rebated 8,370 rebates through the Insulation Rebates Program in 2010. All rebate applications are audited with a two-step process. On the front-end, as rebate applications are received, all critical customer information, equipment eligibility and proper rebate amounts are reviewed, validated, and corrected if inaccurate. The second step takes place prior to the rebate being issued where Rebate Operations audits 100% of the rebate applications to ensure that the information from the form was entered correctly into the tracking database.

A third-party verification contractor, Nexant, performed additional M&V for the Insulation Rebates Program. A phone survey was given to a random sample of 15 participants wherein it was confirmed what was installed in the home (attic insulation, wall insulation and air sealing). The final report for the Insulation Rebates Program in 2010 found a gas realization rate of 99.3% \pm 1.2%. The Company applied an electric realization rate of 100%.

Refrigerator Recycling

The Refrigerator Recycling Program provides a rebate to customers who retire their old, inefficient, but operational secondary refrigerators. In 2010, the Company recycled 3,053 refrigerators. To verify these results, Nexant performed phone surveys at year-end. The survey was given to 42 randomly selected participants and confirmed that the old refrigerator was operational and removed from the home as reported. The final report for the Refrigerator Recycling Program in 2010 found a realization rate of 100% \pm 0.0% for both demand and energy savings.

School Education Kits

The School Education Kits Program provides curriculum and educational materials to teachers and school children to teach them more about energy efficiency. In 2010, the Program included 18,318 school children. Program administration, measurement, and verification for the School Education Kits Program were conducted by a third-party vendor, Resource Action Programs (RAP). RAP used parental surveys to determine which measures were installed in the home. These surveys were evaluated and summarized by RAP. The 2010 year-end savings for the program were determined using the installation rates by measure determined by RAP, which were 44% for aerators, 66.1% for CFLs and 46% for showerheads.

Water Heating Rebates

The Water Heating Rebates Program provides rebates to customers who purchase new, energy efficient water heaters. Public Service provided 3,886 such rebates in 2010. All rebate applications were audited with a two-step process. As rebates were received, critical customer information, equipment eligibility and proper rebate amounts were reviewed, validated and corrected if inaccurate. In the second step, Rebate Operations audited the rebate applications to ensure that the information from the form was entered correctly into the tracking database.

A third-party verification contractor, Nexant, conducted field M&V, randomly selecting samples of customers who received a rebate. The contractor visited 18 randomly selected customers to perform field inspections and to verify the installed/rebated equipment. The final report for the Water Heating Rebates Program in 2010 demonstrated a 100.0% \pm 0.0% realization rate.

Saver's Switch

Public Service's load management group selected 100 random customer sites from the Saver's Switch population in Colorado. A third-party, AEC, installed data loggers on these sites to monitor

air conditioning usage during control days and non-control days. The data obtained was analyzed by KEMA. Based on the results of the smart switches, KEMA established a stable forecast estimate of 1.02 customer kW per smart switch of available load relief. This results in a realization rate of 96.4%, when compared to the savings of 1.058 kW per switch originally anticipated in the 09/10 DSM Plan.

Easy Savings Energy Kits

The Easy Savings Energy Kits Program delivered 21,105 electric kits and 25,799 gas kits to a total of 26,268 homes in 2010. This program was implemented by a third-party provider, the Governor's Energy Office (GEO), who identified income-qualified customers to receive kits. CustomerLink performed a phone survey to those customers who received a kit. Installation rates were found to be 65% for aerators, 85% for CFLs, and 65% for showerheads.

Multi-Family Weatherization

Public Service completed 12 Multi-Family Weatherization projects in 2010. The third-party program implementer, Energy Outreach of Colorado (EOC), performed the measurement and verification of the Multi-Family Weatherization Program. Once the energy efficiency improvements were completed, EOC audited each building to confirm that all work was completed correctly. Savings were calculated for each project based on the measures installed. As a result, the realization rate for this program is 100%.

Non-Profit Energy Efficiency

The Non-Profit Energy Efficiency Program had 19 electric and 21 gas projects completed in 2010. Public Service's third-party program implementer, Energy Outreach of Colorado (EOC), performed the measurement and verification of the Non-Profit Energy Efficiency Program. Once the energy efficiency improvements were completed, EOC audited each building to confirm that all work was completed correctly. Savings were calculated for each project based on the measures installed. As a result, the realization rate for this program is 100%.

Single-Family Weatherization

The Single-Family Weatherization Program provided weatherizations on 2,348 electric homes and 1,835 gas homes in 2010. Public Service's third-party program implementer, the Governor's Energy Office (GEO), managed the eight weatherization agencies that performed energy savings measures in each income-qualified single-family home. 100% of homes weatherized were subject to verification from Public Service at any given time. The Company received a signed or electronic form from each customer attesting to the work performed by GEO. Energy savings were calculated on a per measure, per home, basis. Savings were calculated for each project based on the measures installed. As a result, the realization rate for this program is 100%.

Post-Program Year Activities

All measurement and verification activities for the 2010 performance year were completed in 2010 or early in 2011 and all results are included in this report. Public Service intends to complete all future M&V activities annually prior to filing its M&V Report.

Program Process and Impact Evaluations Performed in 2010

Public Service contracted for evaluators to perform process and/or impact evaluations in 2010 of four programs: Motor & Drive Efficiency, Recommissioning, Customer Behavioral Change, and Evaporative Cooling. The following sections provide an overview of the findings of the evaluations, the evaluators' recommendations, and the Company's response to these recommendations.

Motor & Drive Efficiency

Tetra Tech Inc., in partnership with ECONorthwest and Michaels Energy, conducted a comprehensive process and impact evaluation of the Motor & Drive Efficiency Program, which included interviews of Public Service staff, as well as surveys of program participants and non-participants, trade allies, and vendors, a benchmarking study of other utility programs, and onsite measurement and verification of customer sites. While recognizing that the Motor & Drive Efficiency Program has had great successes and maintains high customer satisfaction, the Tetra Tech team made a number of recommendations for both process and impact improvements that may be made to the program. The team suggests:

- Increasing focus on enhanced motors with efficiency levels above NEMA Premium;
- Simplifying the application process for prescriptive measures;
- Reducing the pre-approval time for custom projects, or better managing the turn-around time expectations;
- Increasing outreach to small and mid-sized customers;
- Continuing to leverage trade ally program involvement;
- Considering offering additional program services to increase opportunities for claimed savings;
- Considering an upstream, vendor-driven design to promote enhanced motor projects
- Continuing to use the current coincidence factor of 78%, but conduct additional research on the appropriate peak coincidence factor level beginning in 2012;
- Reducing the expected useful life of motors from 20 years to 15 years (if lower than premium-efficiency motors are rebated);
- Reducing the expected useful life of HVAC-related variable frequency drives from 20 to 15 years and process-related VFDs from 20 to 10 years; and
- Adjusting the net-to-gross ratio to 65%; however, if the percentage of non-managed accounts and enhanced motors projects increases, Tetra Tech recommends increasing the NTG ratio to 70% in 2011.

All of these recommendations are currently being reviewed by Public Service. Any proposed changes to impact assumptions will be publicized through 60-Day Notice prior to implementation.

Recommissioning

Tetra Tech Inc., in partnership with ECONorthwest and Michaels Energy, conducted a comprehensive process and impact evaluation of the Recommissioning Program, which included interviews of Public Service staff, as well as surveys of program participants and non-participants, trade allies, and vendors, a benchmarking study of other utility programs, and onsite measurement and verification of customer sites. While noting that the Recommissioning Program is running well,

and that Public Service staff have implemented progressive measures in 2010, the Tetra Tech team made a number of recommendations for both process and impact improvements that may be made to the program. The team suggests:

- Educating providers about recent program changes, such as the study checklist;
- Continuing to support and develop the savings calculator tool;
- Maintaining internal staffing levels to ensure timely study review and application approval;
- Considering development of an attenuated study checklist for facilities under 50,000 square feet;
- Creating sector-specific direct mail marketing materials that include education about the concept of Recommissioning;
- Continuing to leverage the existing provider infrastructure to assist with program marketing;
- Recommending no changes in the technical or baseline assumptions used in savings calculations or in the savings calculator tool; and
- Applying a net-to-gross ratio of 90% to the program as a whole.

All of these recommendations are currently being reviewed by Public Service. Any proposed changes to impact assumptions will be publicized through 60-Day Notice prior to implementation.

Customer Behavioral Change

The Cadmus Group Inc., along with Integrative Growth, Inc. and Population Research Systems, conducted a process evaluation of the Customer Behavioral Change Program in 2010. The recommendations coming from this study were informed by surveys of current and former program staff, advertising and communication staff, contractors, and residential and business program participants. In addition, a benchmarking analysis of other utility behavior change programs was conducted. All of the following recommendations are currently being considered by Public Service. The team suggests:

- Continuing to build awareness of the benefits of energy efficiency and conservation by:
 - Creating a customer-facing program identity (increase customer recognition, create link between behavior change outreach and marketing efforts);
 - Using social media (connect with customers, reinforce messaging, follow-up);
 - Ensuring language used in bill inserts is clear and compelling;
 - Creating marketing specific to certain segments;
 - Enhancing Responsible by Nature website;
 - Considering expansion of the distribution of the newsletter to promote it with as many businesses as possible; and
 - Expanding business workshops by publicizing them to a greater number of businesses and partnering with community groups when appropriate;
- Providing additional education in order to overcome the barrier of low awareness in the form of:
 - Compelling tools or resources (online) that describe the financial benefit to behavior change along with information about rebates and other financial assistance;
 - Case studies;
 - Promotion of high impact measures and behaviors that have lower awareness;
 - Messaging that will motivate customers to persist in energy-saving behaviors; and

- Cross-promotions between CBC and prescriptive programs;
- Focusing the program on getting customers to take that first step by:
 - Expanding program offerings and targeting tactics to specific customer types;
 - Asking customers for a commitment request and providing feedback on progress; and
 - Adding a prescribed follow up element to the CBC program could move engaged customers to action.

Evaporative Cooling Rebates

The Cadmus Group Inc., in partnership with Integrative Growth, Inc. and Population Research Systems, conducted a comprehensive process and impact evaluation of the Evaporative Cooling Rebates Program in 2010. Collectively, the team conducted program staff interviews, surveys of program participants, surveys of customers who chose central air conditioning over evaporative cooling, in-home metering of evaporative coolers, and surveys of HVAC contractors, retailers, distributors, manufacturers, and builders. As a result of this research, the team suggests:

- Enhancing market efforts, including:
 - Focusing messaging on the non-energy benefits of evaporative cooling to offset key barriers identified by non-participants;
 - Communicating explicit cost benefits for installing, operating, and maintaining an evaporative cooler;
 - Considering the use of a variety of media tactics to raise program and rebate awareness; and
 - Addressing barriers to Tier 3 participation, including providing information on the incremental cost savings for builders, partnering with a large production builder, and developing outreach to home owners' associations;
- Continuing trade ally outreach and support through training, education, and incentives to motivate evaporative cooler sales;
- Adjusting program incentives to reduce free-ridership by:
 - Exploring the use of higher rebate amounts for first-time evaporative cooling purchasers; and
 - Further incenting Tier 2 participation through enhanced rebate amounts or tighter participation requirements;
- Improving program processes, including:
 - Simplifying rebate processing;
 - Initiating quality control processes on data tracking and documentation;
 - Considering expansion of evaporative cooling rebates to business customers; and
 - Continuing to monitor changes in evaporative cooling penetration rate through the Home Use Survey in successive years;
- Updating technical assumptions, including:
 - Considering climate as a component of calculating savings achieved through evaporative cooling;
 - Updating the operating hours with information provided in the in-home metering portion of this study;
 - Using one 1.5-ton room air conditioner as the baseline for a Tier 1 evaporative cooler, and two 1.5-ton room air conditioners as the baseline for a Tier 2 evaporative cooler when calculating demand and energy savings;

- Updating the horsepower of the motors in both Tier 1 and Tier 2 evaporative coolers to 0.52 HP for Tier 1 and 1.02 HP for Tiers 2 and 3;
- Accounting for pump motor energy use;
- Adjusting the coincidence factor to 70%;
- Adjusting the product lifetime to 15 years; and
- Reducing the net-to-gross ratios to 52% for Tier 1 and 59% for Tier 2 evaporative coolers.

All of these recommendations are currently being reviewed by Public Service. Any proposed changes to impact assumptions will be publicized through 60-Day Notice prior to implementation.

M&V Results

The following pages provide Tables 16a and 16b, which describe the installation rates and realization rates used to calculate net, verified savings by program component. The columns of the table are defined in the following bullets:

- **2010 Program** – The DSM program offered by Public Service in 2010.
- **End-Use Measure Type** – Whether the program was prescriptive or custom, or the program components, if the M&V process differed for different projects within a single program.
- **Installation Rate** – The percent of measures that were installed, as opposed to purchased.
- **Demand (kW) Realization Rate** – The ratio of gross electric demand savings measured in the M&V process to the electric demand savings claimed in the rebate application, expressed as a percentage.
- **Energy (kWh) Realization Rate** – The ratio of gross electric energy savings measured in the M&V process to the electric energy savings claimed in the rebate application, expressed as a percentage.
- **Energy (Dth) Realization Rate** – The ratio of gross natural gas energy savings measured in the M&V process to the gas energy savings claimed in the rebate application, expressed as a percentage.
- **Year-End Net Gen kW** – The final, net pre-verified electric demand savings for 2010.
- **Verified Net Gen kW** – The final, net measured and verified electric demand savings for 2010.
- **Year-End Net Gen kWh** – The final, net pre-verified electric energy savings for 2010.
- **Verified Net Gen kWh** – The net final, measured and verified electric energy savings for 2010.
- **Year-End Net Dth** – The final, net pre-verified natural gas energy savings for 2010.
- **Verified Net Dth** – The net final, measured and verified natural gas energy savings for 2010.

Net, verified savings were calculated by multiplying the net savings by the installation rate and the appropriate realization rate, as follows:

$$\text{Net, Verified Savings} = \text{Net Savings} \times \text{Installation Rate} \times \text{Realization Rate}$$

Table 16a: Business Segment Installation Rates, Realization Rates, and Final Net, Verified Savings by Program Component

2010 Program	End-Use/Measure Type	Installation Rate	Demand (kW) Realization Rate	Energy (kWh) Realization Rate	Energy (Dth) Realization Rate	Year-End Net Gen kW	Verified Net Gen kW	Year-End Net Gen kWh
Business Segment								
Boiler Efficiency	Prescriptive	100.0%	N/A	N/A	110.7%	N/A	N/A	N/A
	Custom	100.0%	N/A	N/A	100.0%	N/A	N/A	N/A
Compressed Air Efficiency	Prescriptive	100.0%	100.2%	100.4%	N/A	291	291	1,530,725
	Custom	100.0%	100.0%	100.0%	N/A	247	247	1,605,352
Cooling Efficiency	Prescriptive	100.0%	100.1%	100.1%	N/A	1,629	1,631	2,769,186
	Custom	100.0%	100.0%	100.0%	N/A	901	901	2,168,034
Custom Efficiency	Custom	100.0%	100.0%	100.0%	100.0%	864	864	7,404,169
Data Center Efficiency	Custom	N/A	N/A	N/A	N/A	0	0	0
Energy Management Systems	Custom	100.0%	100.0%	100.0%	100.0%	212	212	7,576,706
Furnace Efficiency	Prescriptive	100.0%	N/A	N/A	100.0%	N/A	N/A	N/A
Lighting Efficiency	Prescriptive	100.0%	97.6%	97.6%	N/A	11,798	11,517	47,541,085
	Custom	100.0%	100.0%	100.0%	N/A	1,990	1,990	16,552,232
Motor & Drive Efficiency	Prescriptive	100.0%	100.0%	100.0%	N/A	4,680	4,680	28,382,302
	Custom	100.0%	100.0%	100.0%	N/A	150	150	1,245,940
New Construction	Prescriptive	100.0%	100.0%	100.0%	100.0%	244	244	426,360
	Custom	100.0%	100.0%	100.0%	100.0%	3,988	3,988	16,328,922
Process Efficiency	Prescriptive Lighting	100.0%	97.6%	97.6%	N/A	29	28	177,941
	Prescriptive Compressed Air	100.0%	100.2%	100.4%	N/A	16	16	125,768
	Prescriptive Motors	100.0%	100.0%	100.0%	N/A	46	46	1,107,005
	Custom	100.0%	100.0%	100.0%	100.0%	3	3	1,234,579
Recommissioning	Custom	100.0%	100.0%	100.0%	100.0%	422	422	6,137,691
Segment Efficiency	Prescriptive Lighting	100.0%	97.6%	97.6%	N/A	22	22	82,694
	Prescriptive Motors	100.0%	100.0%	100.0%	N/A	3	3	8,205
	Custom Custom	100.0%	100.0%	100.0%	100.0%	66	66	1,069,572
Self-Direct	Custom	100.0%	100.0%	100.0%	N/A	1,955	1,955	8,965,180
Small Business Lighting	Prescriptive	100.0%	98.9%	98.9%	N/A	1,491	1,475	5,370,756
	Custom	100.0%	100.0%	100.0%	N/A	517	517	2,009,651
Standard Offer	Custom	100.0%	100.0%	100.0%	100.0%	88	88	1,410,848
	Energy Efficiency Subtotal					31,652	31,356	161,230,904
Business Segment Total						31,652	31,356	161,230,904

Table 16b: Residential Segment and Low-Income Segment Installation Rates, Realization Rates, and Final Net, Verified Savings by Program Component

2010 Program	End-Use/Measure Type	Installation Rate	Demand (kW) Realization Rate	Energy (kWh) Realization Rate	Energy (Dth) Realization Rate	Year-End Net Gen kW	Verified Net Gen kW	Year-End Net Gen kWh	Verified Net Gen kWh	Year-End Net Dth	Verified Net Dth
Residential Segment											
Energy Efficient Showerheads		57.0%	100.0%	100.0%	100.0%	0	0	2,546,432	1,451,466	69,656	39,704
ENERGY STAR New Homes		100.0%	100.0%	100.0%	100.0%	-2	-2	1,186,483	1,186,483	40,184	40,184
ENERGY STAR Retailer Incentive		100.0%	100.0%	100.0%	100.0%	501	501	4,362,944	4,362,944	2,376	2,376
Evaporative Cooling Rebate		100.0%	100.0%	100.0%	N/A	2,863	2,863	1,404,552	1,404,552	N/A	N/A
Heating System Rebate		100.0%	N/A	N/A	100.0%	N/A	N/A	N/A	N/A	79,045	79,045
High Efficiency Air Conditioning	Equipment Rebates	100.0%	100.0%	100.0%	N/A	154	154	152,234	152,234	N/A	N/A
	Quality Installation	100.0%	84.0%	84.0%	N/A	319	268	201,854	169,558	N/A	N/A
	Tune-Ups	100.0%	100.0%	100.0%	N/A	76	76	68,223	68,223	N/A	N/A
	Early Retirement	100.0%	100.0%	100.0%	N/A	376	376	283,775	283,775	N/A	N/A
Home Lighting & Recycling		100.0%	100.0%	100.0%	N/A	7,664	7,664	64,020,459	64,020,459	N/A	N/A
Home Performance w/ ENERGY STAR		100.0%	100.0%	100.0%	100.0%	10	10	87,894	87,894	2,773	2,773
Insulation Rebate		100.0%	100.0%	100.0%	99.3%	1,571	1,571	1,545,537	1,545,537	112,645	111,857
Refrigerator Recycling		100.0%	100.0%	100.0%	N/A	279	279	2,131,872	2,131,872	N/A	N/A
School Education Kits	Aerator	44.0%	100.0%	100.0%	100.0%	0	0	390,584	171,857	10,744	4,727
	CFL	66.1%	100.0%	100.0%	N/A	153	101	2,311,548	1,527,170	N/A	N/A
	Showerhead	46.0%	100.0%	100.0%	100.0%	0	0	745,661	343,004	20,397	9,383
Water Heating Rebate		100.0%	N/A	N/A	100.0%	N/A	N/A	N/A	N/A	8,599	8,599
	Energy Efficiency Subtotal					13,965	13,862	81,440,052	78,907,028	346,418	298,647
Saver's Switch		100.0%	96.4%	100.0%	N/A	22,002	21,209	44,917	44,917	N/A	N/A
	Load Management Subtotal					22,002	21,209	44,917	44,917	N/A	N/A
Residential Segment Total (w/o Low-Income)						35,966	35,072	81,484,969	78,951,945	346,418	298,647
Low-Income Segment											
Easy Savings Energy Kits	Aerator	65.0%	100.0%	100.0%	100.0%	0	0	1,220,481	793,313	28,705	18,658
	CFL	85.0%	100.0%	100.0%	N/A	461	391	8,000,172	6,800,146	N/A	N/A
	Showerhead	65.0%	100.0%	100.0%	100.0%	0	0	859,109	558,421	20,109	13,071
Multi-Family Weatherization		100.0%	100.0%	100.0%	100.0%	151	151	1,777,602	1,777,602	8,525	8,525
Non-Profit Energy Efficiency		100.0%	100.0%	100.0%	100.0%	225	225	803,409	803,409	6,642	6,642
Single-Family Weatherization		100.0%	100.0%	100.0%	100.0%	178	178	2,286,041	2,286,041	28,827	28,827
Low-Income Segment Total						1,015	946	14,946,814	13,018,931	92,809	75,724
2010 TOTAL						68,633	67,373	257,662,687	252,014,417	514,901	454,238

Cost-Effectiveness

Cost-effectiveness (“benefit-cost”) analyses represent the ratio of a program’s benefits to its costs. By varying which benefits and costs are included in the calculation, the ratio can show how beneficial a DSM portfolio, program, or measure might be from a number of different perspectives (the Participant, Utility, Rate Impact, or Total Resource Cost). In Colorado, the Commission calls for utilities to use the Modified Total Resource Cost (MTRC) Test for its cost-effectiveness analyses. The MTRC Test takes into account system and other benefits, utility and participant costs, as well as environmental adders to calculate the benefit-cost ratio. These analyses are performed in a multi-step process that takes into account, among others, the:

- Savings achieved by the program;
- Participant and Utility Spending on the program, by budget category;
- Avoided costs for the program (discussed in more detail in the next section of this document);
- Incremental O&M and Capital Spending and Savings of the program;
- Lifetime, operating hours, coincidence of savings with summer peak, net-to-gross, transmission loss factors, and realization rates for the program.

The benefit-cost ratio is first determined at the measure-level; individual measures are then combined to produce the program-level analysis. All of the programs in the portfolio (gas or electric) are then combined to create the portfolio-level benefit-cost analyses, as provided in Tables 18 and 19.

Public Service is reporting 2010 electric and gas portfolio MTRC Test results of 3.34 and 1.37, respectively. These results are shown in Tables 17 and 18. The portfolio results are based upon electric net benefits of \$256 million and gas net benefits of \$14.9 million. Pursuant to the DSM Rules and Statutes, Public Service has provided the cost-effectiveness results (MTRC Test ratios) for each of the programs in its electric and gas portfolios in Tables 3 and 4 in the Executive Summary section of this document. The full benefit-cost analyses for all programs are being provided as workpapers to this Status Report.

Table 17: Public Service's 2010 Electric DSM Portfolio Benefit-Cost Analysis

DSM PORTFOLIO-ELECTRIC					2010 ELECTRIC			ACTUAL
2010 Electric Benefit-Cost Analysis					Input Summary and Totals			
	Participant	Utility	Rate	Modified Total			GOAL	ACTUAL
	Test	Test	Impact	Resource	Program Inputs per Customer kW			
	(\$)	(\$)	Test	Test				
			(\$)	(\$)				
<i>System Benefits (Avoided Costs)</i>								
Generation Capacity		\$92,575,367	\$92,575,367	\$92,575,367	Lifetime (Weighted on Generator kWh)	A	15 years	14 years
Transmission & Distribution Capacity		\$18,978,409	\$18,978,409	\$18,978,409	Annual Hours	B	8760	8760
Marginal Energy		\$149,848,656	\$149,848,656	\$149,848,656	Gross Customer kW	C	1 kW	1 kW
Avoided Emissions (CO2, SOx)		\$38,530,130	\$38,530,130	\$38,530,130	Generator Peak Coincidence Factor	D	39.28%	30.54%
Subtotal		\$299,932,562	\$299,932,562	\$299,932,562	Gross Load Factor at Customer	E	16.31%	13.25%
Non-Energy Benefits Adder (0%)				\$30,046,384	Net-to-Gross (Energy)	F	88.9%	87.8%
Subtotal		\$299,932,562	\$299,932,562	\$329,978,946	Net-to-Gross (Demand)	G	91.1%	88.7%
<i>Other Benefits</i>								
Participant Rebates and Incentives	\$25,648,809			\$25,648,809	Transmission Loss Factor (Energy)	H	6.62%	6.64%
Vendor Incentives				\$0	Transmission Loss Factor (Demand)	I	6.75%	6.76%
Incremental Capital Savings	\$0			\$0	Realization Rate (Energy)	J	100.00%	97.81%
Incremental O&M Savings	\$11,405,921			\$9,806,164	Realization Rate (Demand)	K	100.00%	98.16%
Subtotal	\$37,054,730			\$35,454,972	MTRC Net Benefit (Cost)	L	\$1,494	\$1,083
<i>Reduction in Sales Revenue</i>								
Electric	\$181,994,526			\$158,503,322	MTRC Non-Energy Benefit Adder	M	\$176	\$127
Subtotal	\$181,994,526			\$158,503,322	Net coincident kW Saved at Generator	(G x C x K) x D / (1 - I)	0.3836 kW	0.2853 kW
<i>Utility Program Costs</i>								
Program Planning & Design		\$853,573	\$853,573	\$853,573	Gross Annual kWh Saved at Customer	(B x E x C)	1,429 kWh	1,161 kWh
Administration & Program Delivery		\$19,417,796	\$19,417,796	\$19,417,796	Net Annual kWh Saved at Customer	(F x (B x E x C x J))	1,271 kWh	996 kWh
Advertising/Promotion/Customer Ed		\$7,241,913	\$7,241,913	\$7,241,913	Net Annual kWh Saved at Generator	(F x (B x E x C x J)) / (1 - H)	1,361 kWh	1,067 kWh
Participant Rebates and Incentives		\$25,648,809	\$25,648,809	\$25,648,809	Program Summary per Participant			
Equipment & Installation		\$0	\$0	\$0	Gross kW Saved at Customer	P	0.41 kW	0.54 kW
Measurement and Verification		\$1,507,170	\$1,507,170	\$1,507,170	Net coincident kW Saved at Generator	(G x P x K) x D / (1 - I)	0.16 kW	0.15 kW
Miscellaneous		\$0	\$0	\$0	Gross Annual kWh Saved at Customer	(B x E x P)	586 kWh	624 kWh
Subtotal		\$54,669,260	\$54,669,260	\$54,669,260	Net Annual kWh Saved at Customer	(F x (B x E x P x J))	521 kWh	535 kWh
<i>Participant Costs</i>								
Incremental Capital Costs	\$63,216,564			\$54,986,670	Net Annual kWh Saved at Generator	(F x (B x E x P x J)) / (1 - H)	559 kWh	574 kWh
Incremental O&M Costs	\$0			\$0	Program Summary All Participants			
Subtotal	\$63,216,564			\$54,986,670	Total Participants	Q	425,622	439,481
Total Benefits	\$219,049,256	\$299,932,562	\$299,932,562	\$365,433,918	Total Budget	R	\$60,322,147	\$54,669,260
Total Costs	\$63,216,564	\$54,669,260	\$213,172,582	\$109,655,930	Gross kW Saved at Customer	(Q x P)	174,314 kW	236,167 kW
Net Benefit (Cost)	\$155,832,692	\$245,263,302	\$86,759,980	\$255,777,988	Net coincident kW Saved at Generator	((G x P x K) x D / (1 - I)) x Q	66,949 kW	67,373 kW
Benefit/Cost Ratio	3.47	5.49	1.41	3.33	Gross Annual kWh Saved at Customer	(B x E x P) x Q	249,321,043 kWh	274,080,699 kWh
Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.								
					Gross Installed and Realized Annual kWh Saved	(B x E x P x J) x Q	249,321,043 kWh	268,072,527 kWh
					Net Annual kWh Saved at Customer	(F x (B x E x P x J)) x Q	221,755,998 kWh	235,287,027 kWh
					Net Annual kWh Saved at Generator	((F x (B x E x P x J)) / (1 - H)) x Q	237,464,961 kWh	252,014,416 kWh
					TRC Net Benefits with Adder	(Q x P x L)	\$260,758,844	\$255,777,988
					TRC Net Benefits without Adder	(Q x P x (L - M))	\$230,091,657	\$225,731,604
					Utility Program Cost per kWh Lifetime		\$0.0172	\$0.0159
					Utility Program Cost per kW at Gen		\$901	\$811
					Participant Payback with Rebate		2.0 years	2.8 years
					Participant Payback without Rebate		4.4 years	4.7 years

Table 18: Public Service’s 2010 Gas DSM Portfolio Benefit-Cost Analysis

DSM PORTFOLIO-GAS					2010	GAS	ACTUAL
Gas Benefit-Cost Analysis					Input Summary and Totals		
	Participant	Utility	Rate	Modified Total	Program Assumptions:		
	Test	Test	Impact	Resource			
	(\$)	(\$)	(\$)	(\$)			
<i>System Benefits (Avoided Costs)</i>							
Commodity Cost Reduction		\$40,178,438	\$40,178,438	\$40,178,438	Lifetime (Weighted on Dth)	A	13.41 years
Variable O&M Savings		\$206,818	\$206,818	\$206,818	Net-to-Gross (Weighted on Dth)	B	87.80%
Demand Savings		\$2,349,872	\$2,349,872	\$2,349,872	Net-to-Gross (Weighted on Incremental Capital)	C	85.76%
Subtotal		\$42,735,128	\$42,735,128	\$42,735,128	Program Totals:		
Emissions and Non-Energy Benefits Adder (5%)				\$2,136,756	Participants	D	224,851
Subtotal		\$42,735,128	\$42,735,128	\$44,871,884	Average Net Dth/Yr Saved	E	2.3
<i>Other Benefits</i>					Realization Rate (Weighted on Dth)	F	88.2%
Participant Rebates and Incentives	\$8,704,207			\$8,704,207	Total Dth/Yr Saved	G	454,238
Vendor Incentives				\$0	Utility Costs per Net Dth/Yr	H	\$37.27
Incremental Capital Savings	\$0			\$0	Net Benefit (Cost) per Gross Dth/Yr	I	\$37.32
Incremental O&M Savings	\$2,309,604			\$2,027,799	Non-Energy Benefits Adder per Gross Dth/Yr	J	\$5.36
Subtotal	\$11,013,811			\$10,732,006	Annual Dth/\$M	($\$1M / H$)	26,830
<i>Reduction in Sales Revenue</i>					Total Utility Budget	($H \times G$)	\$16,930,026
Gas	\$51,605,672		\$39,780,657		Total MTRC Net Benefits with Adder	($G \times I$)	\$14,885,427
Subtotal	\$51,605,672		\$39,780,657		Total MTRC Net Benefits without Adder	($I - J$) $\times G$	\$12,748,671
<i>Utility Program Costs</i>					Utility Program Cost per Net Dth Lifetime (G / A) \$2.78		
Program Planning & Design		\$178,270	\$178,270	\$178,270	Participant Payback with Rebate		3.5 years
Administration & Program Delivery		\$4,264,927	\$4,264,927	\$4,264,927	Participant Payback without Rebate		5.1 years
Advertising/Promotion/Customer Ed		\$2,096,780	\$2,096,780	\$2,096,780			
Participant Rebates and Incentives		\$8,703,857	\$8,703,857	\$8,703,857			
Equipment & Installation		\$0	\$0	\$0			
Measurement & Verification		\$1,686,192	\$1,686,192	\$1,686,192			
Miscellaneous		\$0	\$0	\$0			
Subtotal		\$16,930,026	\$16,930,026	\$16,930,026			
<i>Participant Costs</i>							
Incremental Capital Costs	\$27,738,134			\$23,788,436			
Incremental O&M Costs	\$0			\$0			
Subtotal	\$27,738,134			\$23,788,436			
Total Benefits	\$62,619,483	\$42,735,128	\$42,735,128	\$55,603,890			
Total Costs	\$27,738,134	\$16,930,026	\$56,710,682	\$40,718,462			
Net Benefit (Cost)	\$34,881,350	\$25,805,102	-\$13,975,555	\$14,885,427			
Benefit/Cost Ratio	2.26	2.52	0.75	1.37			

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

Avoided Cost Assumptions

The following avoided cost data estimates have been updated and included with this status report as ordered in decision no. C08-0769, paragraph 58 for docket no. 07A-420E. The order states:

“58. ...Also, we find that the avoided cost data shall be updated with each annual report so that the degree of change can be assessed and this issue incorporated into the overall review of DSM incentives in 2010. We will thereby consider whether avoided costs should be updated more frequently.”

These avoided cost estimates are our current estimates as of the date of this filing and are further described in a preface to each table. These estimates are also compared to the estimates used in the PSCo 2009-2010 DSM Plan over the 2009-2028 time period analyzed in this status report. The original avoided cost estimates from this Plan are used in the cost-benefit analyses included in this status report.

In general, these updated estimates tend to be lower than the estimates used in the Plan. Due to various lifetimes of the DSM measures and the effect of discounting future avoided costs, it is difficult to assess the impact on the cost-effectiveness of the DSM programs and portfolio. The impacts of these updates have not yet been quantified.

Electric Programs

1. Estimated Annual Avoided Generation Capacity Costs (Source: Public Service Resource Planning)

The current assumptions for avoided capacity costs match those as filed in the Company's 2011 Demand-Side Management Plan. They reflect generic capacity cost estimates used to model and evaluate 2009 All-Source Solicitation bids noted in the August 2009 compliance filing (120-Day Report) for the company's 2007 Resource Plan (docket no. 07A-447E) and also in the Clean Air-Clean Jobs docket (docket no. 10M-245E) completed in 2010. These costs reflect an increase of 16.3% to include an appropriate estimate of planning reserves. The current assumption \$/kW-yr costs are higher in the early year than the 2009/2010 DSM Plan \$/kW-yr but are lower in the future due primarily to lower assumed expected capital expenditure escalation rates.

Year	2009/2010 DSM Plan \$/kW-yr	Current Assumption \$/kW-yr	Increase (Decrease) \$/kW-yr	Percentage Increase (Decrease) %/kW-yr
2009	\$125	\$127	\$2	1.5%
2010	\$131	\$151	\$20	14.9%
2011	\$138	\$155	\$16	11.9%
2012	\$145	\$159	\$13	8.9%
2013	\$153	\$162	\$9	6.1%
2014	\$159	\$167	\$8	5.1%
2015	\$164	\$171	\$7	4.0%
2016	\$170	\$175	\$5	3.0%
2017	\$176	\$179	\$4	2.0%
2018	\$182	\$184	\$2	1.1%
2019	\$188	\$188	\$0	0.1%
2020	\$195	\$193	(\$2)	(0.9%)
2021	\$202	\$198	(\$4)	(1.8%)
2022	\$209	\$203	(\$6)	(2.8%)
2023	\$216	\$208	(\$8)	(3.7%)
2024	\$224	\$213	(\$10)	(4.7%)
2025	\$231	\$218	(\$13)	(5.6%)
2026	\$240	\$224	(\$16)	(6.5%)
2027	\$248	\$230	(\$18)	(7.4%)
2028	\$257	\$235	(\$21)	(8.3%)
2029	\$266	\$241	(\$24)	(9.2%)
2030	\$275	\$247	(\$28)	(10.1%)
2031	\$284	\$253	(\$31)	(10.9%)
2032	\$294	\$260	(\$35)	(11.8%)
2033	\$305	\$266	(\$39)	(12.6%)
2034	\$315	\$273	(\$43)	(13.5%)
2035	\$326	\$280	(\$47)	(14.3%)
2036	\$338	\$287	(\$51)	(15.1%)
2037	\$350	\$294	(\$56)	(16.0%)
2038	\$362	\$301	(\$61)	(16.8%)

2. Estimated Annual Avoided Transmission and Distribution Capacity Costs (Source: Public Service Resource Planning)

These values did not change from the estimates originally filed in the 2009/10 DSM Plan.

Year	2009/2010 DSM Plan \$/kW-yr	Current Assumption \$/kW-yr	Increase (Decrease) \$/kW-yr	Percentage Increase (Decrease) %/kW-yr
2009-2038	\$30.60	\$30.60	\$0.00	0.0%

3. Estimated Annual Avoided Marginal Energy Costs (Source: Public Service Resource Planning and Quantitative Risk Services)

The following updated marginal energy costs show a reduction in annual average cost reflecting a reduction in natural gas costs. The increase in maximum costs in 2028 is largely reflecting new assumptions of generating resources that will be used to serve forecast peak loads.

Year	2009/2010 DSM Plan Avg \$/kWh	2009/2010 DSM Plan Max \$/kWh	Current Assumption Avg \$/kWh	Current Assumption Max \$/kWh	Increase (Decrease) Avg \$/kWh	Increase (Decrease) Max \$/kWh	Percentage Increase (Decrease)	Percentage Increase (Decrease)
2009	\$0.067	\$0.161	\$0.030	\$0.100	(\$0.037)	(\$0.061)	(55.6%)	(37.9%)
2010	\$0.053	\$0.128	\$0.031	\$0.070	(\$0.022)	(\$0.058)	(41.8%)	(45.2%)
2011	\$0.057	\$0.127	\$0.028	\$0.077	(\$0.029)	(\$0.050)	(50.9%)	(39.1%)
2012	\$0.055	\$0.124	\$0.027	\$0.117	(\$0.027)	(\$0.007)	(50.0%)	(5.8%)
2013	\$0.058	\$0.125	\$0.031	\$0.093	(\$0.027)	(\$0.032)	(46.4%)	(25.8%)
2014	\$0.057	\$0.122	\$0.035	\$0.104	(\$0.022)	(\$0.018)	(38.0%)	(15.1%)
2015	\$0.057	\$0.124	\$0.043	\$0.115	(\$0.014)	(\$0.008)	(24.0%)	(6.6%)
2016	\$0.056	\$0.124	\$0.044	\$0.118	(\$0.012)	(\$0.006)	(22.1%)	(4.5%)
2017	\$0.063	\$0.150	\$0.049	\$0.113	(\$0.014)	(\$0.037)	(21.9%)	(24.7%)
2018	\$0.065	\$0.138	\$0.059	\$0.125	(\$0.006)	(\$0.013)	(9.1%)	(9.4%)
2019	\$0.070	\$0.155	\$0.059	\$0.128	(\$0.012)	(\$0.027)	(16.7%)	(17.4%)
2020	\$0.074	\$0.150	\$0.062	\$0.127	(\$0.012)	(\$0.022)	(15.6%)	(15.0%)
2021	\$0.078	\$0.167	\$0.065	\$0.141	(\$0.014)	(\$0.026)	(17.3%)	(15.5%)
2022	\$0.083	\$0.156	\$0.069	\$0.140	(\$0.014)	(\$0.016)	(17.0%)	(10.2%)
2023	\$0.088	\$0.153	\$0.067	\$0.130	(\$0.021)	(\$0.023)	(24.1%)	(14.9%)
2024	\$0.094	\$0.160	\$0.063	\$0.125	(\$0.030)	(\$0.035)	(32.6%)	(22.0%)
2025	\$0.098	\$0.160	\$0.066	\$0.138	(\$0.033)	(\$0.022)	(33.3%)	(13.8%)
2026	\$0.102	\$0.177	\$0.070	\$0.140	(\$0.032)	(\$0.038)	(31.3%)	(21.2%)
2027	\$0.109	\$0.173	\$0.073	\$0.141	(\$0.037)	(\$0.031)	(33.5%)	(18.2%)
2028	\$0.114	\$0.179	\$0.071	\$0.484	(\$0.043)	\$0.306	(37.8%)	170.8%
2029+	Escalated at 4.67% based on 2014-2028 average		Escalated at 5.94% based on 2014-2028 average					

4. Estimated Annual Avoided Emissions Costs (includes CO₂, SO_x) (Source: Public Service Resource Planning)

The updated avoided emissions costs below reflect the latest avoided emissions assumptions based on the company's Strategist resource planning model. The difference in costs shown in the table below are mainly a result of a change in the assumption of CO₂. It is now assumed that this cost will begin in 2018 at a rate of \$20/ton escalating at 7% per year, as opposed to the original assumption

of \$20/ton beginning in 2010. The \$/MWh values are also impacted by the Clean Air-Clean Jobs commission approved plan which requires that 900 MW of coal be retired by the end of 2017 and replaced by lower CO₂ emitting gas-fired resources.

Year	2009/2010 DSM Plan Avg \$/MWh	Current Assumption Avg \$/MWh	Increase (Decrease)	Percentage Increase (Decrease)
2009	\$0.11	\$0.00	(\$0.11)	(100.0%)
2010	\$14.67	\$0.00	(\$14.67)	(100.0%)
2011	\$14.83	\$0.00	(\$14.83)	(100.0%)
2012	\$16.44	\$0.00	(\$16.44)	(100.0%)
2013	\$15.92	\$0.00	(\$15.92)	(100.0%)
2014	\$16.74	\$0.00	(\$16.74)	(100.0%)
2015	\$17.97	\$0.00	(\$17.97)	(100.0%)
2016	\$19.66	\$0.00	(\$19.66)	(100.0%)
2017	\$20.48	\$0.00	(\$20.48)	(100.0%)
2018	\$22.40	\$13.88	(\$8.52)	(38.0%)
2019	\$23.72	\$14.22	(\$9.50)	(40.1%)
2020	\$25.16	\$15.63	(\$9.53)	(37.9%)
2021	\$26.82	\$16.41	(\$10.41)	(38.8%)
2022	\$30.55	\$17.33	(\$13.22)	(43.3%)
2023	\$33.65	\$18.19	(\$15.46)	(46.0%)
2024	\$33.97	\$19.34	(\$14.63)	(43.1%)
2025	\$33.64	\$20.44	(\$13.20)	(39.2%)
2026	\$34.95	\$21.52	(\$13.43)	(38.4%)
2027	\$37.98	\$23.10	(\$14.88)	(39.2%)
2028	\$41.23	\$23.76	(\$17.48)	(42.4%)
2029	\$41.71	\$24.89	(\$16.82)	(40.3%)
2030	\$42.85	\$26.48	(\$16.37)	(38.2%)
2031	\$44.27	\$27.34	(\$16.94)	(38.3%)
2032	\$44.59	\$26.76	(\$17.82)	(40.0%)
2033	\$44.04	\$26.86	(\$17.17)	(39.0%)
2034	\$46.72	\$26.41	(\$20.31)	(43.5%)
2035	\$51.37	\$25.23	(\$26.15)	(50.9%)
2036	\$54.35	\$24.34	(\$30.00)	(55.2%)
2037	\$51.96	\$25.46	(\$26.51)	(51.0%)
2038	\$52.08	\$27.24	(\$24.83)	(47.7%)

Gas Programs

1. Estimated Commodity Cost of Gas (Source: Public Service Gas Resource Planning)

The following updated commodity cost of gas shows a reduction in cost primarily driven by a reduction in forecast natural gas prices.

Year	2009/2010 DSM Plan \$/Dth	Current Assumption \$/Dth	Increase (Decrease) \$/Dth	Percentage Increase (Decrease) %
2009	\$10.28	\$3.41	(\$6.87)	(66.8%)
2010	\$9.53	\$4.33	(\$5.21)	(54.6%)
2011	\$8.83	\$3.96	(\$4.86)	(55.1%)
2012	\$8.66	\$4.52	(\$4.13)	(47.7%)
2013	\$8.76	\$5.04	(\$3.72)	(42.5%)
2014	\$8.69	\$5.65	(\$3.04)	(35.0%)
2015	\$9.00	\$6.43	(\$2.58)	(28.6%)
2016	\$9.34	\$6.83	(\$2.51)	(26.9%)
2017	\$9.82	\$7.03	(\$2.79)	(28.4%)
2018	\$10.06	\$7.22	(\$2.84)	(28.2%)
2019	\$10.44	\$7.53	(\$2.91)	(27.9%)
2020	\$10.70	\$7.89	(\$2.82)	(26.3%)
2021	\$10.47	\$8.29	(\$2.18)	(20.8%)
2022	\$10.81	\$8.73	(\$2.08)	(19.3%)
2023	\$11.16	\$9.00	(\$2.16)	(19.3%)
2024	\$11.55	\$8.99	(\$2.56)	(22.2%)
2025	\$11.70	\$9.39	(\$2.31)	(19.7%)
2026	\$11.92	\$9.68	(\$2.24)	(18.8%)
2027	\$12.26	\$9.94	(\$2.31)	(18.9%)
2028	\$12.58	\$10.26	(\$2.32)	(18.5%)
2029	\$12.90	\$10.58	(\$2.32)	(18.0%)
2030	\$13.11	\$10.95	(\$2.16)	(16.5%)
2031	\$13.41	\$11.20	(\$2.21)	(16.5%)
2032	\$13.71	\$11.41	(\$2.30)	(16.8%)
2033	\$14.02	\$11.67	(\$2.36)	(16.8%)
2034	\$14.34	\$11.88	(\$2.46)	(17.1%)
2035	\$14.67	\$12.18	(\$2.48)	(16.9%)
2036	\$15.00	\$12.49	(\$2.51)	(16.7%)
2037	\$15.34	\$12.81	(\$2.53)	(16.5%)
2038	\$15.69	\$13.13	(\$2.56)	(16.3%)

2. Estimated Avoided Variable O&M Costs (Source: Public Service Pricing and Planning)

These values did not change from the estimates originally filed in the 2009/10 DSM Plan.

Year	2009/2010 DSM Plan \$/Dth	Current Assumption \$/Dth	Increase (Decrease) \$/Dth	Percentage Increase (Decrease) %
2009-2038	\$0.05	\$0.05	\$0.00	0.0%

3. Estimated Annual Avoided Reservation Costs (used to estimate capacity savings – Peak Day Dth savings estimated as 1% of annual Dth savings) (Source: Public Service Gas Resource Planning)

The reduction to the forecast annual reservation cost reflects a decrease in the CIG firm transportation rate used to estimate the type and cost of service to transport incremental gas supplies to the metropolitan Denver area.

Year	2009/2010 DSM Plan \$/Dth	Current Assumption \$/Dth	Increase (Decrease) \$/Dth	Percentage Increase (Decrease) \$/Dth
2009-2038	\$57.70	\$56.37	(\$1.33)	(2.3%)