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July 15, 2013

RECEIVED

VIA OVERNIGHT MAIL

JUL 15 2013

Ms. Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
PO Box 3265
Harrisburg, PA 17105-3265

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

**RE: Duquesne Light Company Energy Efficiency and Conservation and Demand
Response Plan
Docket No. M-2009-2093217**

Dear Secretary Chiavetta:

Enclosed for filing is Duquesne Light Company's ("Duquesne Light") Quarterly Report to the Pennsylvania Public Utility Commission for the Period of March 1, 2013 through May 31, 2013, Program Year Four, Q4 for its Act 129 of 2008 Energy Efficiency, Conservation and Demand Response Plan.

Duquesne Light is also providing a copy of the report to the Act 129 Statewide Evaluator (GDS Associates, Inc.).

Sincerely,

Tishekia Williams
Senior Counsel, Regulatory

Enclosures

**Quarterly Report to the
Pennsylvania Public Utility Commission
(Preliminary Annual Report)**

**For the Period
March 1, 2013 through May 31, 2013
Program Year 4, Quarter 4**

For Pennsylvania Act 129 of 2008
Energy Efficiency and Conservation Plan

RECEIVED

JUL 15 2013

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

Prepared by Navigant Consulting, Inc

For

Duquesne Light Company

July 15, 2013

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Acronyms

C & I	Commercial and Industrial
CATI	Computer-Aided Telephone Interview
CFL	Compact Fluorescent Lamp
CPITD	Cumulative Program/Portfolio Inception to Date
CPITD-Q	Cumulative Program/Portfolio Inception through Current Quarter
CVR	Conservation Voltage Reduction
CVRf	Conservation Voltage Reduction factor
DLC	Direct Load Control
EDC	Electric Distribution Company
EE&C	Energy Efficiency and Conservation
EM&V	Evaluation, Measurement, and Verification
HVAC	Heating, Ventilating, and Air Conditioning
IQ	Incremental Quarter
kW	Kilowatt
kWh	Kilowatt-hour
LED	Light Emitting Diode
LEEP	Low-Income Energy Efficiency Program
LIURP	Low-Income Usage Reduction Program
M&V	Measurement and Verification
MW	Megawatt
MWh	Megawatt-hour
NTG	Net-to-Gross
PUC	Public Utility Commission
PY1	Program Year 2009
PY2	Program Year 2010
PY3	Program Year 2011
PYTD	Program/Portfolio Year to Date
PY4	Program Year 2012
SEER	Seasonal Energy Efficiency Rating
SWE	Statewide Evaluator
TRC	Total Resource Cost
TRM	Technical Reference Manual

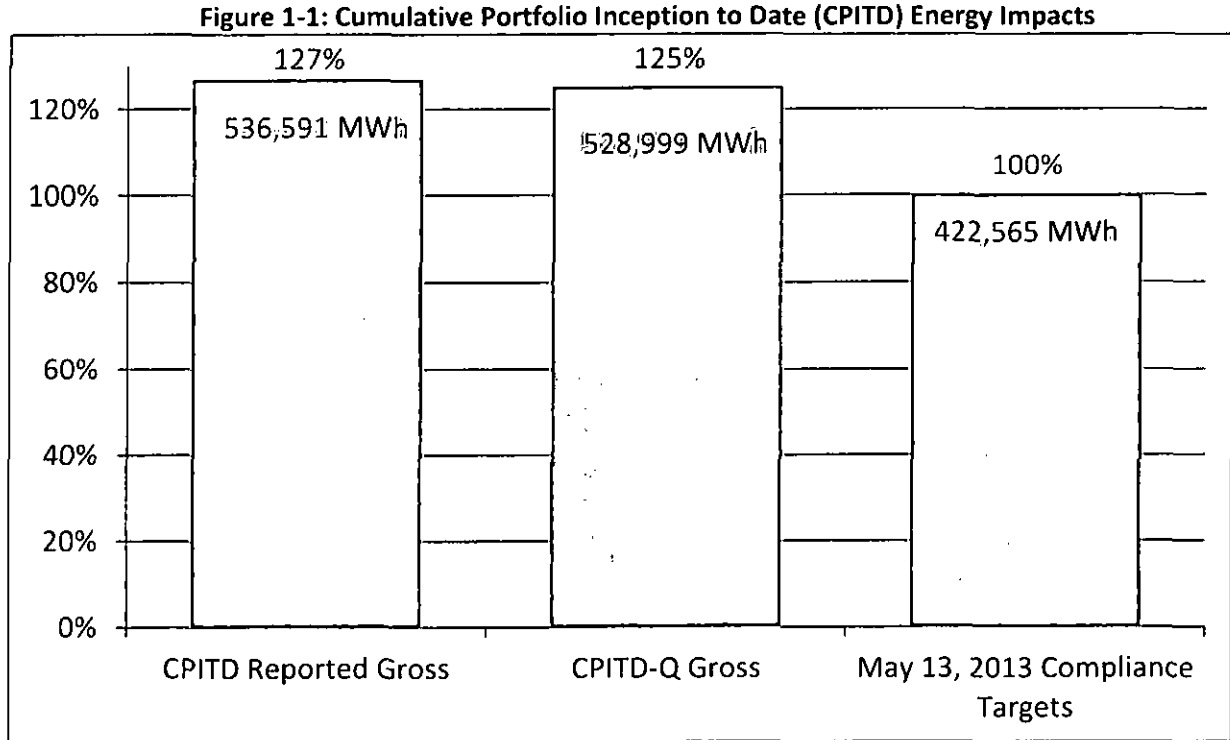
1 Overview of Portfolio

Pennsylvania Act 129 of 2008 signed on October 15, 2008, mandated energy savings and demand reduction goals for the largest electric distribution companies (EDCs) in Pennsylvania. Each EDC submitted energy efficiency and conservation (EE&C) plans—which were approved by the Pennsylvania Public Utility Commission (PUC)—pursuant to these goals. This report documents the progress and effectiveness of the EE&C accomplishments for Duquesne Light Company (Duquesne) in the fourth quarter of Program Year 4 (PY4), defined as March 1, 2013 through May 31, 2013 as well as the cumulative accomplishments of the programs since inception.

Navigant Consulting, Inc. (Navigant) is evaluating the programs, which included measurement and verification of the savings. The verified savings for PY4 will be reported in the annual report, to be filed November 15, 2013.

1.1 Summary of Achievements

Duquesne has achieved 127 percent of the May 31, 2013 energy savings compliance target, based on cumulative program inception to date (CPITD) reported gross energy savings¹, and 125 percent of the energy savings compliance target, based on CPITD gross energy savings achieved through Quarter 4 (CPITD-Q)², as shown in Figure 1-1.

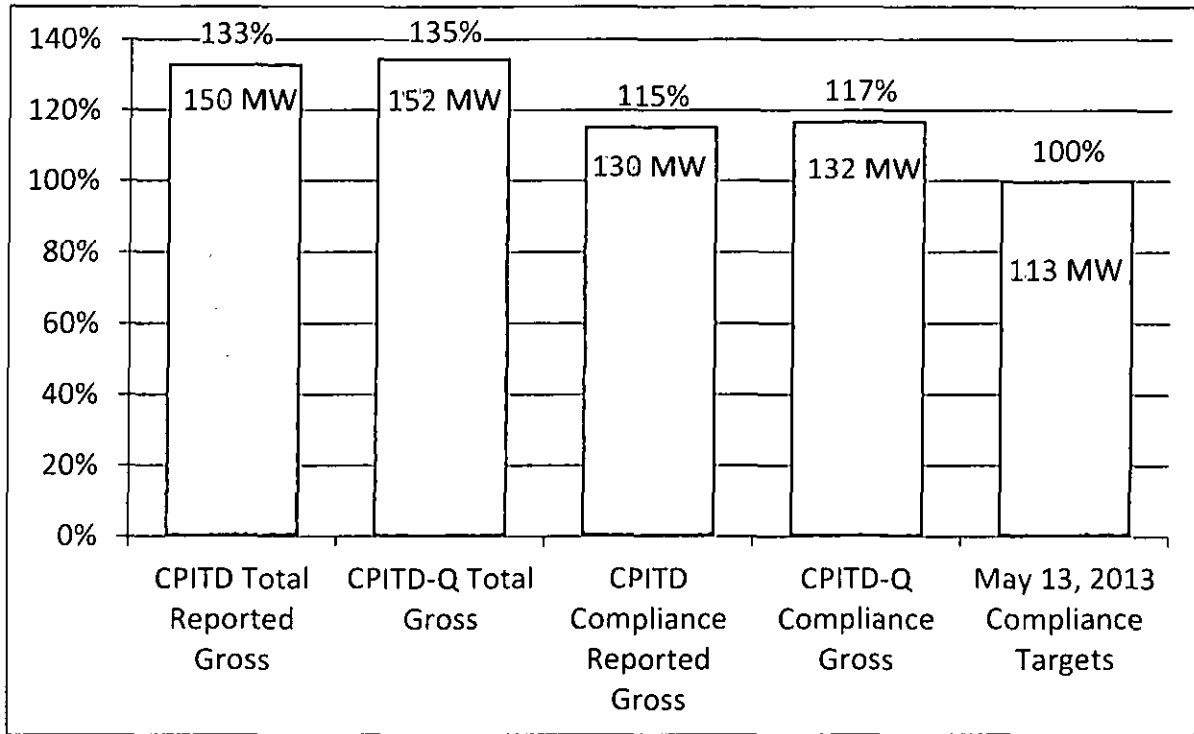


¹ CPITD Reported Gross Savings = CPITD Reported Gross Savings through PY3 + PYTD Reported Gross Savings. All savings reported as CPITD reported gross savings are computed this way.

² CPITD-Q Gross Savings = CPITD Verified Gross Savings through PY3 + PYTD Reported Gross Savings. All savings reported as CPITD-Q gross savings are computed this way. CPITD-Q savings provide the best available estimate of savings achieved through the current quarter. CPITD Verified Gross Savings will be reported in the annual report.

Duquesne has achieved 117% of the May 31, 2013 demand reduction compliance target during the Top 100 Hours of 2012 (based only on installations in place and generating demand reductions during those hours). Including demand reductions occurring after the top 100 hours, Duquesne achieved 135% percent of the demand reduction compliance target based on CPITD gross demand reduction achieved through Quarter 4 (CPITD-Q), as shown in Figure 1-2.

Figure 1-2: CPITD Portfolio Demand Reduction

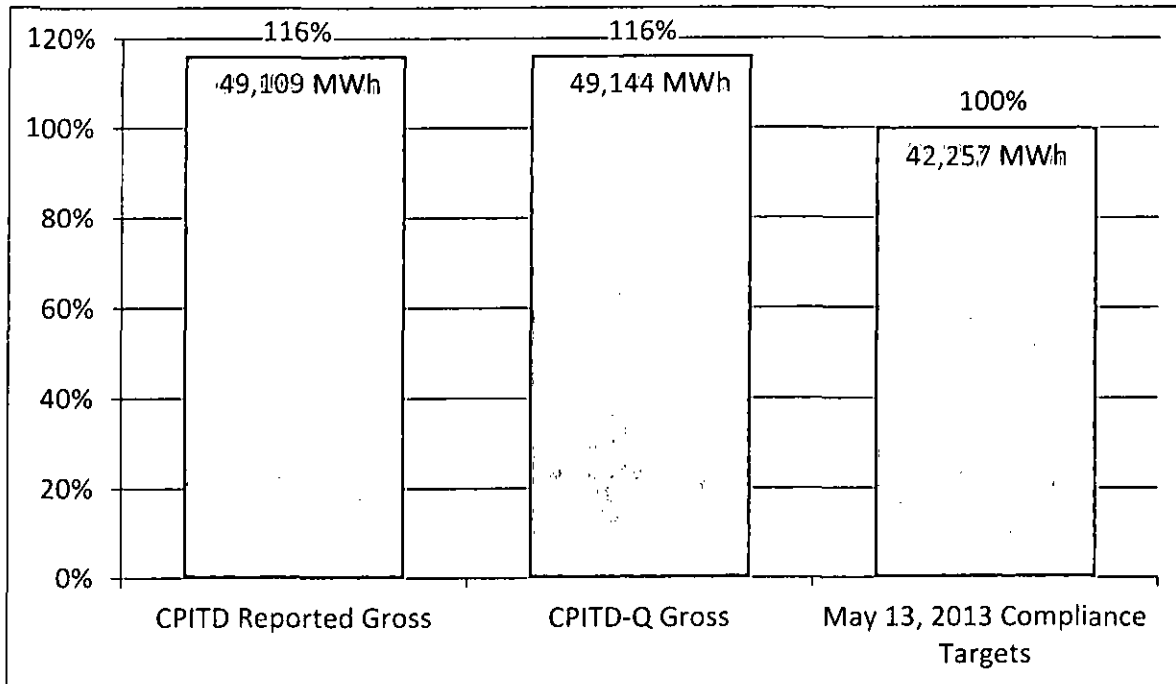


There are 26 measures available to the low-income sector. The measures offered to the low-income sector therefore comprise 38 percent of the total measures offered. As required by Act 129, this exceeds the fraction of the electric consumption of the utility’s low-income households divided by the total electricity consumption in the Duquesne territory (7.88 percent).³ The CPITD reported gross energy savings achieved in the low-income sector is 35,474 MWh/yr; this is 6.6 percent of the CPITD total portfolio reported gross energy savings.

³ Act 129 includes a provision requiring electric distribution companies to offer a number of energy efficiency measures to low-income households that are “proportionate to those households’ share of the total energy usage in the service territory.” 66 Pa.C.S. §2806.1(b)(i)(G). The legislation contains no provisions regarding targets for participation, or energy or demand savings.

Duquesne achieved 116 percent of the May 31, 2013, energy reduction compliance target for government, nonprofit and institutional sector, based on CPITD reported gross energy savings, and 116 percent of the target based on CPITD gross energy savings achieved through Quarter 4⁴, as shown in Figure 1-3.

Figure 1-3: Government, Nonprofit, and Institutional Sectors



1.2 Program Updates and Findings

The primary update regarding the Duquesne Light Act 129 programs for PY4Q4 was the inclusion of results from the Residential Behavior Modification (OPower) program in which customers received regular reports of how their energy consumption compares to that of similar customers. Customers meeting a minimum average monthly consumption criterion were divided into two groups – treatment (program) group and control group. Those in the treatment group were provided with regular feedback regarding how their energy consumption compared to that of similar customers. This feedback was designed to serve as an impetus for the treatment group customers to find ways to reduce their energy consumption. Similar programs in other jurisdictions typically have found program savings in the range of 1-3% of overall consumption. This program will be evaluated and results provided in the final PY4 report due in November 2013.

⁴ CPITD-Q Gross Savings = CPITD Verified Gross Savings through PY3 + PYTD Reported Gross Savings. All savings reported as CPITD-Q gross savings are computed this way. CPITD-Q savings provide the best available estimate of savings achieved through the current quarter. CPITD Verified Gross Savings will be reported in the annual report.

1.3 Evaluation Updates and Findings

In PY4Q4, on-site and telephone verification work were conducted with samples of customers participating in non-residential Act 129 programs from PY4Q1 and PY4Q2, according to the sampling plan submitted to the SWE earlier in the year. On-site impact evaluation survey reports were drafted for each customer visited. Surveys were also conducted with these participants to estimate net-to-gross factors for the sampled projects. A sample of Q3 participants has been selected and prepared for verification and net-to-gross assessment work, expected to occur in late June/early July 2013. No results from this non-residential participant verification and net-to-gross research are included in the current report.

Residential impact verification and net-to-gross surveys were updated and prepared for submission to the SWE and then implemented. These surveys are expected to be completed in late July/August 2013. Also, an analysis of the first year of Duquesne Light's Customer Behavior Modification program will be conducted in summer/early fall 2013, for inclusion of results into the November 2013 final report for PY4.

A special Upstream Lighting Research Study began in PY4Q4. Some initial results from this study have been incorporated in the tables and figures in this report. Additional aspects of the study will be included in the final PY4 report. The study addresses several issues:

- Estimation of the percentage of Upstream Lighting program CFLs that are being installed in non-residential settings. This percentage, based on in-store intercept surveys of customers in the act of purchasing CFLs, interviews with retailers and program implementers and secondary research, will be applied to the CFL sales reported through the program in PY2, PY3 and PY4. This will allow energy savings, demand reduction and costs associated with these bulbs to be correctly attributed to the non-residential sector (through Duquesne Light's Commercial Umbrella program), rather than to the residential sector as they had been in the past. This research is currently underway and results will be presented in the PY4 final report.
- Estimation of the first-year installation rate for CFLs reported through the program in PY2, PY3 and P4, as well as calculation of the impact of projected installations of CFLs not immediately installed during the year in which they were purchased. The first-year installation rate estimation was based on a survey of residential customers who reported having purchased CFLs in the previous three months. Second- and third-year installation rates for CFLs not installed during the first year were based on a California study, which showed that 98% of all CFLs purchased are eventually installed within three years. These updates have been included in the tables and figures presented in this report.
- Estimation of the percentage of Upstream Lighting program CFLs that are installed in low-income households. This percentage was based on results on the survey of residential customers noted above. It is reflected in the various tables included in this report.

A description of the Upstream Lighting Research Study and its preliminary results appears in Appendix A of this document.

Additional modifications were made to reported CFL demand reductions from the Upstream Lighting program. Navigant reviewed available CFL metering studies and applied the most appropriate CFL load shape to Duquesne Light's top 100 hours, to determine the actual coincidence factor for CFLs installed

through the program. Earlier discussions of the statewide Program Evaluation Group had indicated that the CFL coincidence factor appearing in the state's Technical Reference Manual (TRM) might not be appropriate, in that it was not based on the top 100 hours of any utility, and the utilities' Upstream Lighting programs account for a very significant portion of total Act 129 program demand reductions. This made it critical to improve the accuracy of the coincidence factor value used. The value used in the current report (11.9%) may change for the final report if the final top 100 hours for summer 2012 change due to energy efficiency program evaluation realization rate results. However, the current value is the most accurate value available at this time. A description of the calculation of the revised CFL coincidence factor appears in Appendix A of this report.

Finally, as PY4Q3 and PY4Q4 projects were added to the program database, it was noted that several of these projects had been installed and rendered commercially operable prior to summer 2012 or during that summer. Incorporating these projects into the analysis modified the summer 2012 demand reduction compliance results somewhat, and these changes are reflected in the various tables of this report. However, as with the CFL coincidence factor, the final summer 2012 demand reduction compliance results may change if the final Duquesne Light top 100 hours change, due to the remaining evaluation activities that must be performed prior to submission of the final report in November 2013. The current demand reduction compliance estimate appearing above in this report represents the most accurate value available at this time.

2 Summary of Energy Impacts by Program

A summary of the reported energy savings by program is presented in Figure 2-1.

Figure 2-1: CPITD Reported Gross Energy Savings by Program

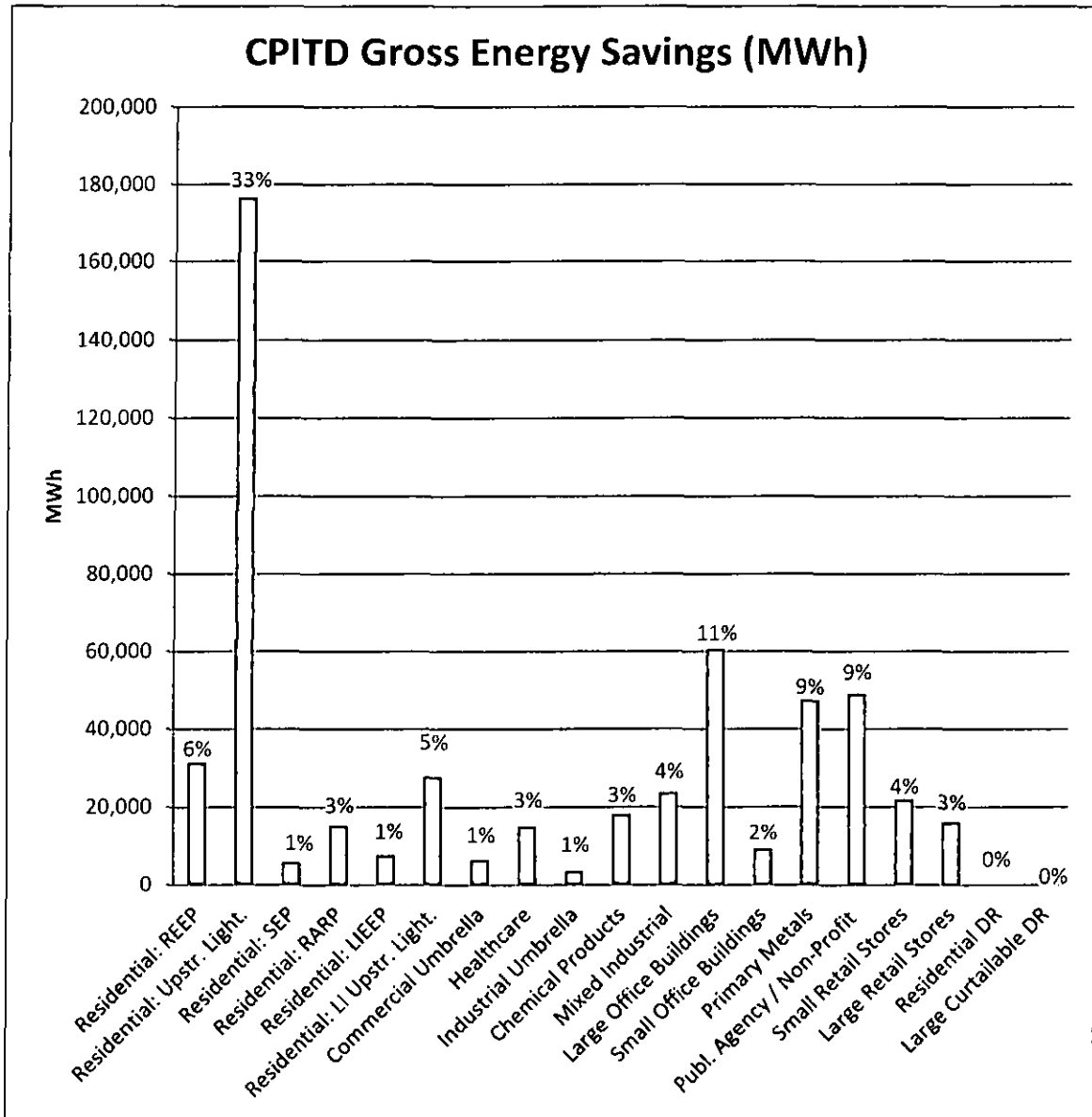
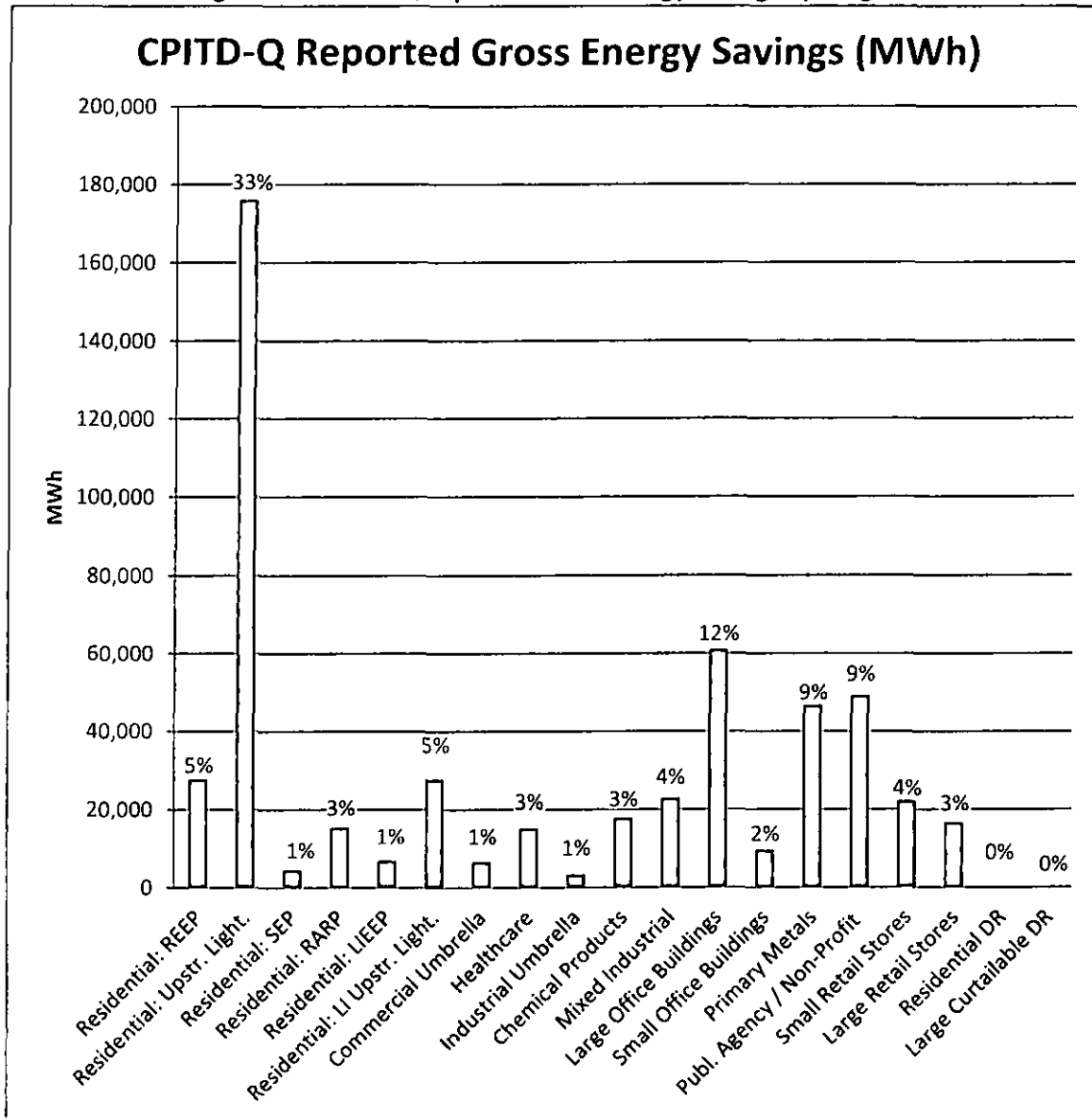


Figure 2-2: CPITD-Q Reported Gross Energy Savings by Program



A summary of energy impacts by program through the PY4Q4 is presented in Table 2-1.

Table 2-1: EDC Reported Participation and Gross Energy Savings by Program

Program	Participants			Reported Gross Impact (MWh/Year)				Preliminary Realization Rate*
	IQ	PYTD	CPITD	IQ	PYTD	CPITD	CPITD-Q	PYTD
Residential: EE Program (REEP): Rebate Program	8,564	29,796	65,729	8,601	17,247	31,450	27,755	-
Residential: EE Program (Upstream Lighting)**	N/A	N/A	N/A	14,185	60,996	176,535	175,972	-
Residential: School Energy Pledge	0	0	14,328	0	0	5,864	4,528	-
Residential: Appliance Recycling	540	3,263	9,889	817	5,090	15,374	15,361	-
Residential: Low Income EE	2,009	6,055	14,052	1,488	3,735	7,686	6,918	-
Residential: Low Income EE (Upstream Lighting)**	N/A	N/A	N/A	2,233	9,601	27,788	27,699	-
Commercial Sector Umbrella EE	17	39	195	834	1,610	6,497	6,612	-
Healthcare EE	19	30	52	4,748	11,251	15,031	15,156	-
Industrial Sector Umbrella EE	2	9	17	79	79	3,581	3,303	-
Chemical Products EE	10	20	31	2,095	2,931	18,249	17,800	-
Mixed Industrial EE	40	74	160	4,236	9,453	23,727	22,870	-
Office Building – Large – EE	66	123	237	8,158	30,989	60,698	61,048	-
Office Building – Small EE	41	124	308	1,211	4,130	9,400	9,554	-
Primary Metals EE	19	33	64	12,342	22,491	47,472	46,565	-
Public Agency / Non-Profit	31	92	336	2,700	18,568	49,109	49,144	-
Retail Stores – Small EE	109	291	801	2,968	9,263	21,898	22,138	-
Retail Stores – Large EE	15	44	132	1,073	6,452	16,234	16,574	-
Residential Demand Response	0	1,474	1,474	0	0	0	0	-
Large Curtailable Demand Response	0	380	380	0	0	0	0	-
TOTAL PORTFOLIO	11,482	41,847	108,185	67,766	213,887	536,591	528,999	-

*Research is being conducted to determine PY4 energy efficiency program realization rates which will be applied in the final report due November 15, 2013.

**The split between residential and non-residential CFL installations is being evaluated and will be included in the final report due November 15, 2013. This split will reduce energy and demand savings associated with the residential and low income upstream lighting programs.

3 Summary of Demand Impacts by Program

A summary of the reported demand reduction attributable to the May 31st, 2013 compliance target (occurring within the Top 100 Hours) by program is presented in Figure 3-1.

Figure 3-1: CPITD Reported Compliance Related Demand Reduction by Program

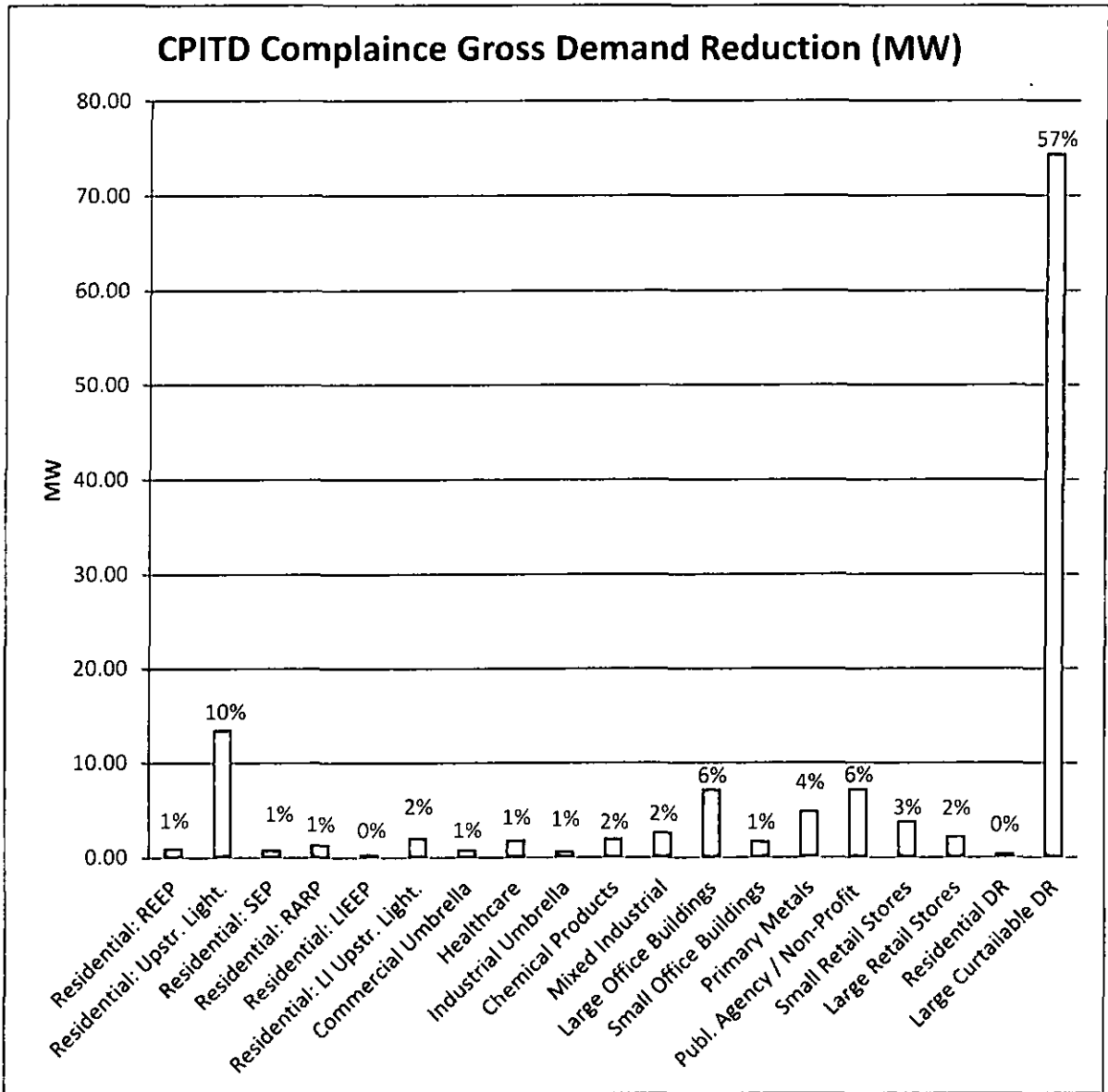
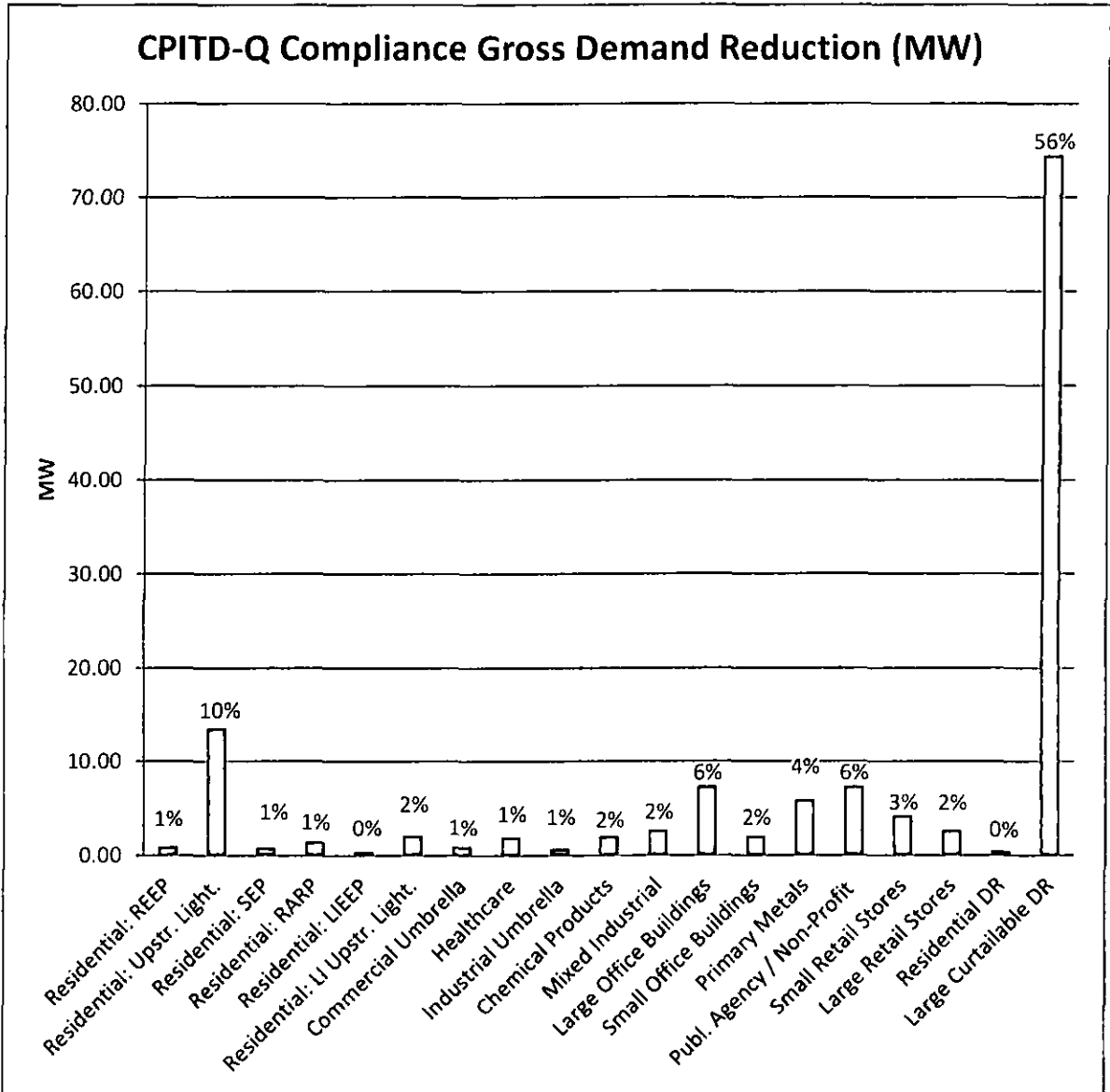


Figure 3-2: CPITD-Q Reported Compliance Related Demand Reduction by Program



A summary of demand reduction impacts attributable to the May 31st, 2013 compliance target (occurring within the Top 100 Hours) by program through the PY4Q4 is presented in Table 3-1: Participation and Reported Compliance Gross Demand Reduction by Program

Table 3-1: Participation and Reported Compliance Gross Demand Reduction by Program

Program	Participants			Reported Gross Impact (MW)				Preliminary Realization Rate*
	IQ	PYTD	CPITD	IQ	PYTD	CPITD	CPITD-Q'	PYTD
Residential: EE Program (REEP): Rebate Program	8,564	29,796	65,729	0.000	0.077	1.056	0.943	-
Residential: EE Program (Upstream Lighting)**	N/A	N/A	N/A	0.000	0.150	13.564	13.563	-
Residential: School Energy Pledge	0	0	14,328	0.000	0.000	0.895	0.821	-
Residential: Appliance Recycling	540	3,263	9,889	0.000	0.064	1.487	1.488	-
Residential: Low Income EE	2,009	6,055	14,052	0.000	0.025	0.429	0.409	-
Residential: Low Income EE (Upstream Lighting)**	N/A	N/A	N/A	0.000	0.024	2.135	2.135	-
Commercial Sector Umbrella EE	17	39	195	0.000	0.036	0.929	0.975	-
Healthcare EE	19	30	52	0.000	1.443	1.909	1.972	-
Industrial Sector Umbrella EE	2	9	17	0.000	0.000	0.757	0.711	-
Chemical Products EE	10	20	31	0.000	0.036	2.075	2.048	-
Mixed Industrial EE	40	74	160	0.000	0.425	2.707	2.656	-
Office Building – Large – EE	66	123	237	0.000	3.074	7.265	7.374	-
Office Building – Small EE	41	124	308	0.000	0.466	1.773	2.042	-
Primary Metals EE	19	33	64	0.000	1.922	4.942	5.854	-
Public Agency / Non-Profit	31	92	336	0.000	3.208	7.343	7.394	-
Retail Stores – Small EE	109	291	801	0.000	1.061	3.911	4.230	-
Retail Stores – Large EE	15	44	132	0.000	0.976	2.321	2.655	-
Residential Demand Response	0	1,474	1,474	0.000	0.465	0.465	0.465	-
Large Curtailable Demand Response	0	380	380	0.000	74.498	74.498	74.498	-
TOTAL PORTFOLIO	11,482	41,847	108,185	0.000	87.951	130.462	132.234	-

* Research is being conducted to determine PY4 energy efficiency program realization rates which will be applied in the final report due November 15, 2013.

**The split between residential and non-residential CFL installations is being evaluated and will be included in the final report due November 15, 2013. This split will reduce energy and demand savings associated with the residential and low income upstream lighting programs.

A summary of the reported demand reduction including demand reductions occurring outside of the Top 100 Hours is presented in Figure 3-3.

Figure 3-3: CPITD Total Reported Demand Reduction by Program

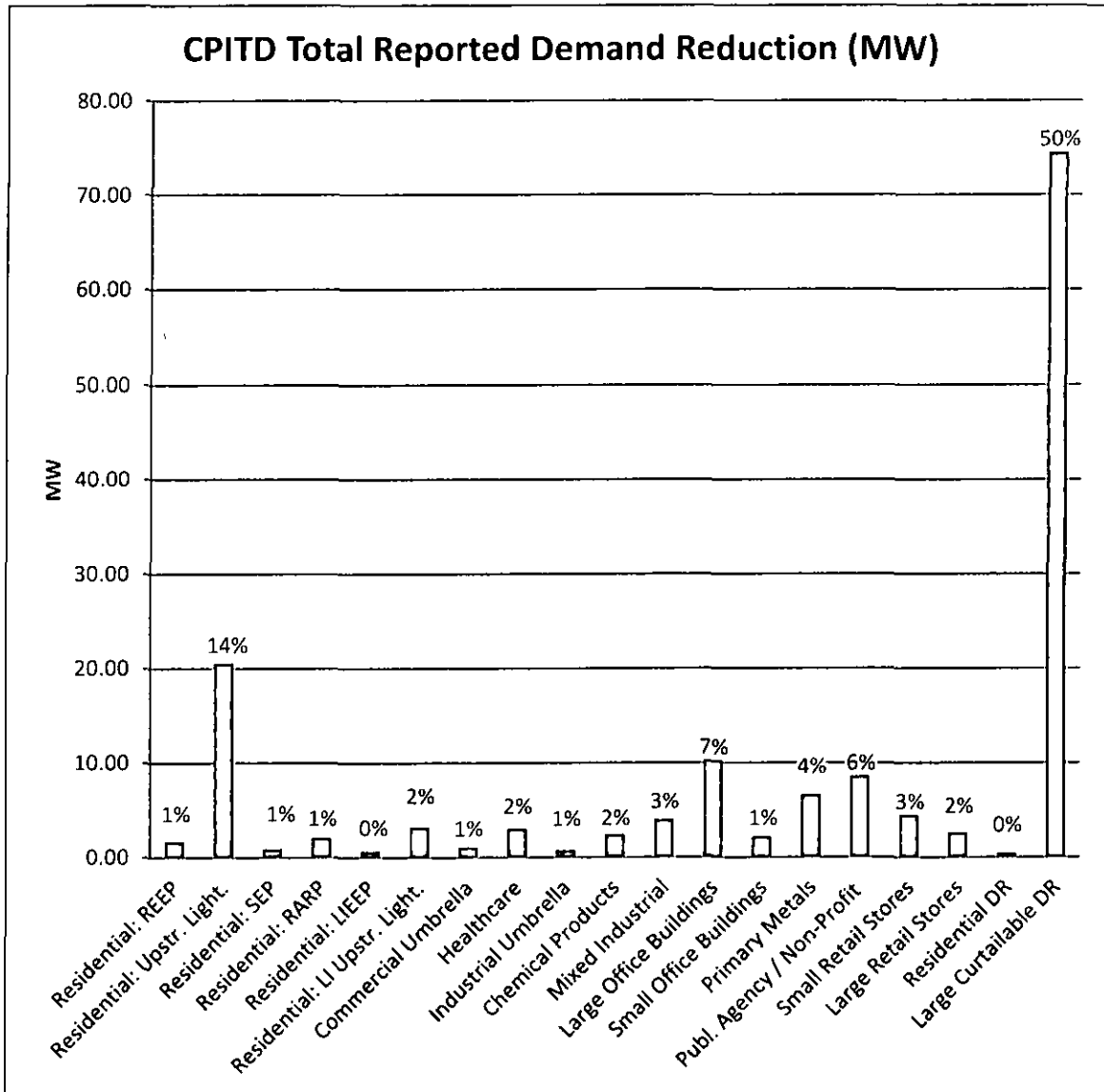
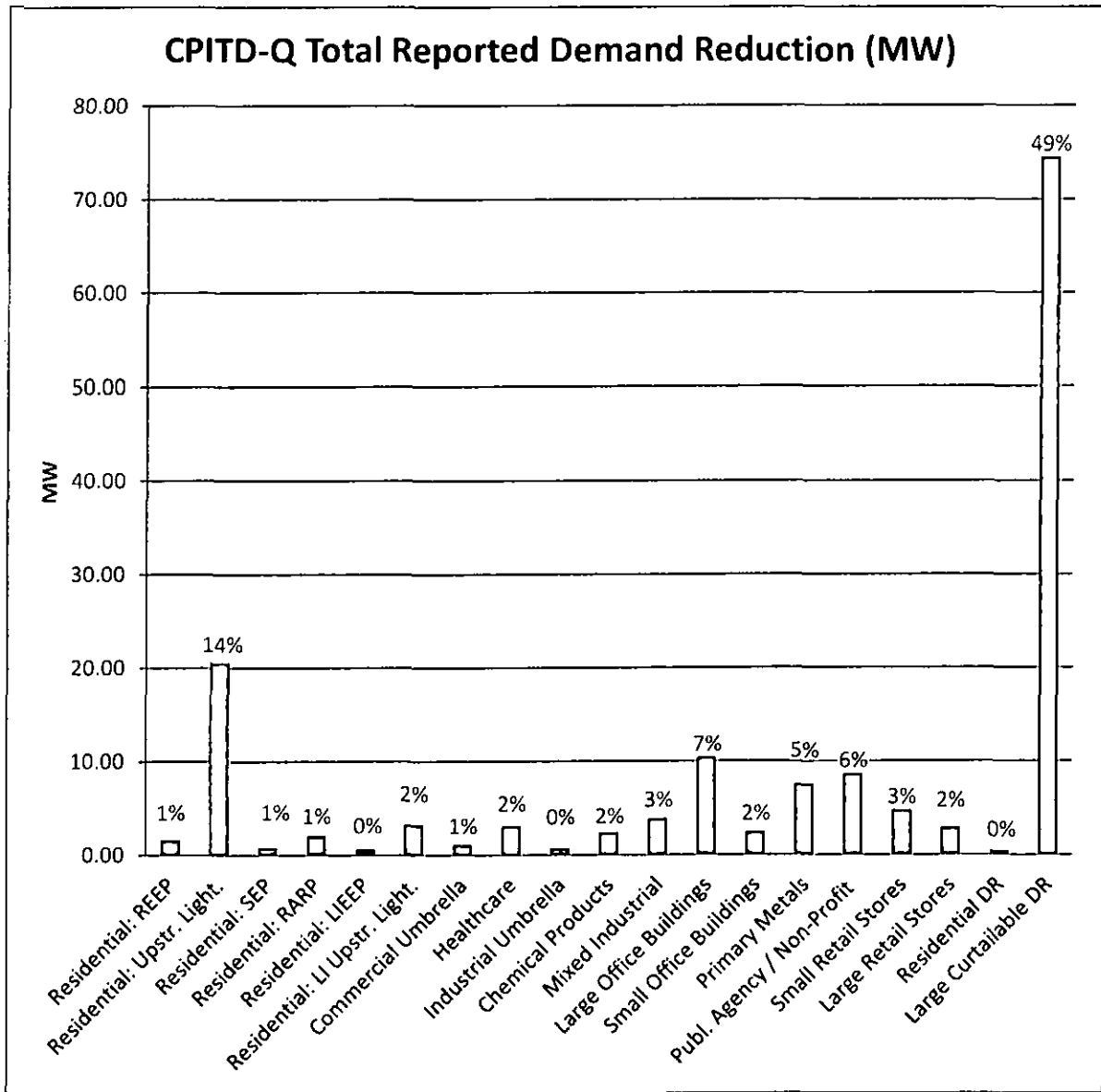


Figure 3-4: CPITD-Q Total Reported Demand Reduction by Program



A summary of total demand reduction impacts by program through the PY4Q4 is presented in Table 3-2.

Table 3-2: Participation and Reported Total Gross Demand Reduction by Program

Program	Participants			Reported Gross Impact (MW)				Preliminary Realization Rate*
	IQ	PYTD	CPITD	IQ	PYTD	CPITD	CPITD-Q	PYTD
Residential: EE Program (REEP): Rebate Program	8,564	29,796	65,729	0.217	0.723	1.702	1.589	-
Residential: EE Program (Upstream Lighting)**	N/A	N/A	N/A	1.633	7.157	20.570	20.570	-
Residential: School Energy Pledge	0	0	14,328	0.000	0.000	0.895	0.821	-
Residential: Appliance Recycling	540	3,263	9,889	0.109	0.684	2.107	2.109	-
Residential: Low Income EE	2,009	6,055	14,052	0.069	0.270	0.674	0.654	-
Residential: Low Income EE (Upstream Lighting)**	N/A	N/A	N/A	0.257	1.127	3.238	3.238	-
Commercial Sector Umbrella EE	17	39	195	0.099	0.215	1.108	1.154	-
Healthcare EE	19	30	52	0.927	2.589	3.054	3.117	-
Industrial Sector Umbrella EE	2	9	17	0.012	0.012	0.769	0.723	-
Chemical Products EE	10	20	31	0.300	0.436	2.475	2.448	-
Mixed Industrial EE	40	74	160	0.843	1.698	3.981	3.930	-
Office Building – Large – EE	66	123	237	1.903	6.104	10.295	10.404	-
Office Building – Small EE	41	124	308	0.345	0.897	2.204	2.473	-
Primary Metals EE	19	33	64	1.504	3.628	6.647	7.560	-
Public Agency / Non-Profit	31	92	336	1.135	4.485	8.620	8.671	-
Retail Stores – Small EE	109	291	801	0.678	1.641	4.492	4.810	-
Retail Stores – Large EE	15	44	132	0.213	1.234	2.579	2.912	-
Residential Demand Response	0	1,474	1,474	0.000	0.465	0.465	0.465	-
Large Curtailable Demand Response	0	380	380	0.000	74.498	74.498	74.498	-
TOTAL PORTFOLIO	11,482	41,847	108,185	10.245	107.862	150.373	152.145	-

* Research is being conducted to determine PY4 energy efficiency program realization rates which will be applied in the final report due November 15, 2013.

**The split between residential and non-residential CFL installations is being evaluated and will be included in the final report due November 15, 2013. This split will reduce energy and demand savings associated with the residential and low income upstream lighting programs.

4 Summary of Finances

4.1 Portfolio Level Expenditures

A breakdown of the portfolio finances is presented in Table 4-1.

Table 4-1: Summary of Portfolio Finances

	PY4 Quarter 4 (\$000)	PYTD (\$000)	CPITD (\$000)
EDC Incentives to Participants	\$1,235	\$8,801	\$23,614
EDC Incentives to Trade Allies	0	0	92
Subtotal EDC Incentive Costs	1,235	8,801	23,706
Design & Development	0	0	3,481
Administration ^[1]	0	0	0
Management ^[2]	3,753	12,795	31,551
Marketing	279	866	2,516
Technical Assistance	0	0	0
Subtotal EDC Implementation Costs	4,032	13,661	37,548
EDC Evaluation Costs	383	1,187	2,516
SWE Audit Costs	226	536	2,178
Total EDC Costs^[3]	5,876	24,185	65,948
Participant Costs ^[4]			
Total TRC Costs			
NOTES			
<i>Per PUC direction, TRC inputs and calculations are required in the Annual Report only and should comply with the 2011 Total Resource Cost Test Order approved July 28, 2011.</i>			
¹ Implementation contractor costs.			
² EDC costs other than those identified explicitly.			
³ Per the 2011 Total Resource Cost Test Order – Total EDC Costs, here, refer to EDC incurred expenses only.			
⁴ Per the 2011 Total Resource Cost Test Order –Net participant costs; in PA, the costs of the end-use customer.			

4.2 Program Level Expenditures

Program-specific finances are shown in the following tables.

Table 4-2: Summary of Program Finances – Residential Energy Efficiency – May 31, 2013

	PY4 Quarter 4 (\$000)	PYTD (\$000)	CPITD (\$000)
EDC Incentives to Participants	\$521	\$2,051	\$5,133
EDC Incentives to Trade Allies	0	0	0
Subtotal EDC Incentive Costs	521	2,051	5,133
EDC Implementation Costs			
Design & Development	0	0	541
Administration ^[1]	0	0	0
Management ^[2]	1,370	4,826	9,931
Marketing	275	632	964
Technical Assistance	0	0	0
Subtotal EDC Implementation Costs	1,645	5,458	11,436
EDC Evaluation Costs			
EDC Evaluation Costs	83	256	562
SWE Audit Costs	49	116	443
Total EDC Costs^[3]	2,298	7,881	17,574
Participant Costs^[4]	0	0	0
Total TRC Costs	0	0	0

NOTES

Per PUC direction, TRC inputs and calculations are required in the Annual Report only and should comply with the 2011 Total Resource Cost Test Order approved July 28, 2011.

¹ Implementation contractor costs.

² EDC costs other than those identified explicitly.

³ Per the 2011 Total Resource Cost Test Order – Total EDC Costs, here, refer to EDC incurred expenses only.

⁴ Per the 2011 Total Resource Cost Test Order –Net participant costs; in PA, the costs of the end-use customer.

Table 4-3. Summary of Program Finances – School Energy Pledge – May 31, 2013

	PY4 Quarter 4 (\$000)	PYTD (\$000)	CPITD (\$000)
EDC Incentives to Participants	\$0	\$0	\$164
EDC Incentives to Trade Allies	0	0	92
Subtotal EDC Incentive Costs	0	0	256
Design & Development			
Design & Development	0	0	372
Administration ^[1]	0	0	0
Management ^[2]	130	309	1,191
Marketing	0	6	51
Technical Assistance	0	0	0
Subtotal EDC Implementation Costs	130	315	1,614
EDC Evaluation Costs			
EDC Evaluation Costs	10	31	74
SWE Audit Costs	6	14	60
Total EDC Costs^[3]	146	360	2,004
Participant Costs^[4]	0	0	0
Total TRC Costs	0	0	0
NOTES			
<i>Per PUC direction, TRC inputs and calculations are required in the Annual Report only and should comply with the 2011 Total Resource Cost Test Order approved July 28, 2011.</i>			
¹ Implementation contractor costs.			
² EDC costs other than those identified explicitly.			
³ Per the 2011 Total Resource Cost Test Order – Total EDC Costs, here, refer to EDC incurred expenses only.			
⁴ Per the 2011 Total Resource Cost Test Order –Net participant costs; in PA, the costs of the end-use customer.			

Table 4-4. Summary of Program Finances – Appliance Recycling – May 31, 2013

	PY4 Quarter 4 (\$000)	PYTD (\$000)	CPITD (\$000)
EDC Incentives to Participants	20	\$120	\$358
EDC Incentives to Trade Allies	0	0	0
Subtotal EDC Incentive Costs	20	120	358
Design & Development			
Design & Development	0	0	97
Administration ^[1]	0	0	0
Management ^[2]	82	561	1,532
Marketing	0	6	47
Technical Assistance	0	0	0
Subtotal EDC Implementation Costs	82	567	1,676
EDC Evaluation Costs			
EDC Evaluation Costs	9	29	66
SWE Audit Costs	6	14	54
Total EDC Costs^[3]	117	730	2,154
Participant Costs^[4]	0	0	0
Total TRC Costs	0	0	0
NOTES			
Per PUC direction, TRC inputs and calculations are required in the Annual Report only and should comply with the 2011 Total Resource Cost Test Order approved July 28, 2011.			
¹ Implementation contractor costs.			
² EDC costs other than those identified explicitly.			
³ Per the 2011 Total Resource Cost Test Order – Total EDC Costs, here, refer to EDC incurred expenses only.			
⁴ Per the 2011 Total Resource Cost Test Order –Net participant costs; in PA, the costs of the end-use customer.			

Table 4-5. Summary of Program Finances – Low Income Energy Efficiency – May 31, 2013

	PY4 Quarter 4 (\$000)	PYTD (\$000)	CPITD (\$000)
EDC Incentives to Participants	\$3	\$256	\$915
EDC Incentives to Trade Allies	0	0	0
Subtotal EDC Incentive Costs	3	256	915
Design & Development			
Design & Development	0	0	153
Administration ^[1]	0	0	0
Management ^[2]	53	266	856
Marketing	0	17	120
Technical Assistance	0	0	0
Subtotal EDC Implementation Costs	53	283	1,119
EDC Evaluation Costs			
EDC Evaluation Costs	24	75	170
SWE Audit Costs	14	34	137
Total EDC Costs^[3]	94	648	2,351
Participant Costs^[4]	0	0	0
Total TRC Costs	0	0	0
NOTES			
Per PUC direction, TRC inputs and calculations are required in the Annual Report only and should comply with the 2011 Total Resource Cost Test Order approved July 28, 2011.			
¹ Implementation contractor costs.			
² EDC costs other than those identified explicitly.			
³ Per the 2011 Total Resource Cost Test Order – Total EDC Costs, here, refer to EDC incurred expenses only.			
⁴ Per the 2011 Total Resource Cost Test Order –Net participant costs; in PA, the costs of the end-use customer.			

Table 4-6. Summary of Program Finances – Residential Demand Response – May 31, 2013

	PY4 Quarter 4 (\$000)	PYTD (\$000)	CPITD (\$000)
EDC Incentives to Participants	\$0	\$54	\$80
EDC Incentives to Trade Allies	0	0	0
Subtotal EDC Incentive Costs	0	54	80
Design & Development			
Design & Development	0	0	0
Administration ^[1]	0	0	0
Management ^[2]	0	22	1,021
Marketing	0	0	0
Technical Assistance	0	0	0
Subtotal EDC Implementation Costs	0	22	1,021
EDC Evaluation Costs			
EDC Evaluation Costs	0	0	0
SWE Audit Costs			
SWE Audit Costs	0	0	0
Total EDC Costs^[3]	0	76	1,101
Participant Costs^[4]	0	0	0
Total TRC Costs	0	0	0
NOTES			
Per PUC direction, TRC inputs and calculations are required in the Annual Report only and should comply with the 2011 Total Resource Cost Test Order approved July 28, 2011.			
¹ Implementation contractor costs.			
² EDC costs other than those identified explicitly.			
³ Per the 2011 Total Resource Cost Test Order – Total EDC Costs, here, refer to EDC incurred expenses only.			
⁴ Per the 2011 Total Resource Cost Test Order –Net participant costs; in PA, the costs of the end-use customer.			

Table 4-7. Summary of Program Finances – Commercial Umbrella – May 31, 2013

	PY4 Quarter 4 (\$000)	PYTD (\$000)	CPITD (\$000)
EDC Incentives to Participants	\$46	\$127	\$557
EDC Incentives to Trade Allies	0	0	0
Subtotal EDC Incentive Costs	46	127	557
Design & Development			
Design & Development	0	0	91
Administration ^[1]	0	0	0
Management ^[2]	25	415	842
Marketing	0	23	73
Technical Assistance	0	0	0
Subtotal EDC Implementation Costs	25	438	1,006
EDC Evaluation Costs			
EDC Evaluation Costs	15	46	83
SWE Audit Costs	9	21	69
Total EDC Costs^[3]	95	632	1,715
Participant Costs^[4]	0	0	0
Total TRC Costs	0	0	0
NOTES			
Per PUC direction, TRC inputs and calculations are required in the Annual Report only and should comply with the 2011 Total Resource Cost Test Order approved July 28, 2011.			
¹ Implementation contractor costs.			
² EDC costs other than those identified explicitly.			
³ Per the 2011 Total Resource Cost Test Order – Total EDC Costs, here, refer to EDC incurred expenses only.			
⁴ Per the 2011 Total Resource Cost Test Order –Net participant costs; in PA, the costs of the end-use customer.			

Table 4-8. Summary of Program Finances – Small Office – May 31, 2013

	PY4 Quarter 4 (\$000)	PYTD (\$000)	CPITD (\$000)
EDC Incentives to Participants	\$11	\$299	\$642
EDC Incentives to Trade Allies	0	0	0
Subtotal EDC Incentive Costs	11	299	642
EDC Implementation Costs			
Design & Development	0	0	180
Administration ⁽¹⁾	0	0	0
Management ⁽²⁾	27	185	583
Marketing	0	14	103
Technical Assistance	0	0	0
Subtotal EDC Implementation Costs	27	199	866
EDC Evaluation Costs			
EDC Evaluation Costs	19	59	130
SWE Audit Costs	11	26	114
Total EDC Costs⁽³⁾	68	583	1,752
Participant Costs⁽⁴⁾	0	0	0
Total TRC Costs	0	0	0
NOTES			
Per PUC direction, TRC inputs and calculations are required in the Annual Report only and should comply with the 2011 Total Resource Cost Test Order approved July 28, 2011.			
¹ Implementation contractor costs.			
² EDC costs other than those identified explicitly.			
³ Per the 2011 Total Resource Cost Test Order – Total EDC Costs, here, refer to EDC incurred expenses only.			
⁴ Per the 2011 Total Resource Cost Test Order –Net participant costs; in PA, the costs of the end-use customer.			

Table 4-9. Summary of Program Finances – Large Office – May 31, 2013

	PY4 Quarter 4 (\$000)	PYTD (\$000)	CPITD (\$000)
EDC Incentives to Participants	\$56	\$1,065	\$2,898
EDC Incentives to Trade Allies	0	0	0
Subtotal EDC Incentive Costs	56	1,065	2,898
EDC Implementation Costs			
Design & Development	0	0	343
Administration ⁽¹⁾	0	0	0
Management ⁽²⁾	304	809	2,016
Marketing	0	29	195
Technical Assistance	0	0	0
Subtotal EDC Implementation Costs	304	838	2,554
EDC Evaluation Costs			
EDC Evaluation Costs	39	121	247
SWE Audit Costs	23	54	218
Total EDC Costs⁽³⁾	422	2,078	5,917
Participant Costs⁽⁴⁾	0	0	0
Total TRC Costs	0	0	0
NOTES			
<i>Per PUC direction, TRC inputs and calculations are required in the Annual Report only and should comply with the 2011 Total Resource Cost Test Order approved July 28, 2011.</i>			
¹ Implementation contractor costs.			
² EDC costs other than those identified explicitly.			
³ Per the 2011 Total Resource Cost Test Order – Total EDC Costs, here, refer to EDC incurred expenses only.			
⁴ Per the 2011 Total Resource Cost Test Order –Net participant costs; in PA, the costs of the end-use customer.			

Table 4-10. Summary of Program Finances – Retail – Large and Small – May 31, 2013

	PY4 Quarter 4 (\$000)	PYTD (\$000)	CPITD (\$000)
EDC Incentives to Participants	\$34	\$657	\$2,245
EDC Incentives to Trade Allies	0	0	0
Subtotal EDC Incentive Costs	34	657	2,245
Design & Development	0	0	210
Administration ^[1]	0	0	0
Management ^[2]	96	388	1,402
Marketing	0	17	117
Technical Assistance	0	0	0
Subtotal EDC Implementation Costs	96	405	1,729
EDC Evaluation Costs	23	72	148
SWE Audit Costs	14	33	132
Total EDC Costs^[3]	167	1,167	4,254
Participant Costs^[4]	0	0	0
Total TRC Costs	0	0	0
NOTES			
Per PUC direction, TRC inputs and calculations are required in the Annual Report only and should comply with the 2011 Total Resource Cost Test Order approved July 28, 2011.			
¹ Implementation contractor costs.			
² EDC costs other than those identified explicitly.			
³ Per the 2011 Total Resource Cost Test Order – Total EDC Costs, here, refer to EDC incurred expenses only.			
⁴ Per the 2011 Total Resource Cost Test Order –Net participant costs; in PA, the costs of the end-use customer.			

Table 4-11. Summary of Program Finances – Public Agency/Non-Profit/Education – May 31, 2013

	PY4 Quarter 4 (\$000)	PYTD (\$000)	CPITD (\$000)
EDC Incentives to Participants	\$351	\$1,423	\$4,613
EDC Incentives to Trade Allies	0	0	0
Subtotal EDC Incentive Costs	351	1,423	4,613
EDC Implementation Costs			
Design & Development	0	0	579
Administration ^[1]	0	0	0
Management ^[2]	322	1,642	3,250
Marketing	1	48	324
Technical Assistance	0	0	0
Subtotal EDC Implementation Costs	323	1,690	4,153
EDC Evaluation Costs			
EDC Evaluation Costs	64	199	408
SWE Audit Costs	38	90	364
Total EDC Costs^[3]	776	3,402	9,538
Participant Costs^[4]	0	0	0
Total TRC Costs	0	0	0
NOTES			
<i>Per PUC direction, TRC inputs and calculations are required in the Annual Report only and should comply with the 2011 Total Resource Cost Test Order approved July 28, 2011.</i>			
¹ Implementation contractor costs.			
² EDC costs other than those identified explicitly.			
³ Per the 2011 Total Resource Cost Test Order – Total EDC Costs, here, refer to EDC incurred expenses only.			
⁴ Per the 2011 Total Resource Cost Test Order –Net participant costs; in PA, the costs of the end-use customer.			

Table 4-12. Summary of Program Finances – Healthcare – May 31, 2013

	PY4 Quarter 4 (\$000)	PYTD (\$000)	CPITD (\$000)
EDC Incentives to Participants	\$187	\$804	\$1,026
EDC Incentives to Trade Allies	0	0	0
Subtotal EDC Incentive Costs	187	804	1,026
Implementation Costs			
Design & Development	0	0	93
Administration ^[1]	0	0	0
Management ^[2]	371	633	1,341
Marketing	0	15	107
Technical Assistance	0	0	0
Subtotal EDC Implementation Costs	371	648	1,541
Evaluation and Audit Costs			
EDC Evaluation Costs	22	67	137
SWE Audit Costs	13	30	122
Total EDC Costs^[3]	593	1,549	2,826
Participant Costs ^[4]	0	0	0
Total TRC Costs	0	0	0
NOTES			
<i>Per PUC direction, TRC inputs and calculations are required in the Annual Report only and should comply with the 2011 Total Resource Cost Test Order approved July 28, 2011.</i>			
¹ Implementation contractor costs.			
² EDC costs other than those identified explicitly.			
³ Per the 2011 Total Resource Cost Test Order – Total EDC Costs, here, refer to EDC incurred expenses only.			
⁴ Per the 2011 Total Resource Cost Test Order –Net participant costs; in PA, the costs of the end-use customer.			

Table 4-13. Summary of Program Finances – Industrial Umbrella – May 31, 2013

	PY4 Quarter 4 (\$000)	PYTD (\$000)	CPITD (\$000)
EDC Incentives to Participants	\$9	\$65	\$312
EDC Incentives to Trade Allies	0	0	0
Subtotal EDC Incentive Costs	9	65	312
Implementation Costs			
Design & Development	0	0	39
Administration ^[1]	0	0	0
Management ^[2]	14	146	241
Marketing	0	4	31
Technical Assistance	0	0	0
Subtotal EDC Implementation Costs	14	150	311
Evaluation and Audit Costs			
EDC Evaluation Costs	6	18	38
SWE Audit Costs	4	9	36
Total EDC Costs^[3]	33	242	697
Participant Costs^[4]	0	0	0
Total TRC Costs	0	0	0
NOTES			
<i>Per PUC direction, TRC inputs and calculations are required in the Annual Report only and should comply with the 2011 Total Resource Cost Test Order approved July 28, 2011.</i>			
¹ Implementation contractor costs.			
² EDC costs other than those identified explicitly.			
³ Per the 2011 Total Resource Cost Test Order – Total EDC Costs, here, refer to EDC incurred expenses only.			
⁴ Per the 2011 Total Resource Cost Test Order –Net participant costs; in PA, the costs of the end-use customer.			

Table 4-14. Summary of Program Finances – Mixed Industrial – May 31, 2013

	PY4 Quarter 4 (\$000)	PYTD (\$000)	CPITD (\$000)
EDC Incentives to Participants	\$139	\$495	\$1,475
EDC Incentives to Trade Allies	0	0	0
Subtotal EDC Incentive Costs	139	495	1,475
EDC Implementation Costs			
Design & Development	0	0	39
Administration ^[1]	0	0	0
Management ^[2]	209	411	1,611
Marketing	0	9	67
Technical Assistance	0	0	0
Subtotal EDC Implementation Costs	209	420	1,717
EDC Evaluation Costs			
EDC Evaluation Costs	13	40	82
SWE Audit Costs	8	18	77
Total EDC Costs^[3]	369	973	3,351
Participant Costs^[4]	0	0	0
Total TRC Costs	0	0	0
NOTES			
Per PUC direction, TRC inputs and calculations are required in the Annual Report only and should comply with the 2011 Total Resource Cost Test Order approved July 28, 2011.			
¹ Implementation contractor costs.			
² EDC costs other than those identified explicitly.			
³ Per the 2011 Total Resource Cost Test Order – Total EDC Costs, here, refer to EDC incurred expenses only.			
⁴ Per the 2011 Total Resource Cost Test Order –Net participant costs; in PA, the costs of the end-use customer.			

Table 4-15. Summary of Program Finances – Chemicals – May 31, 2013

	PY4 Quarter 4 (\$000)	PYTD (\$000)	CPITD (\$000)
EDC Incentives to Participants	\$89	\$149	\$822
EDC Incentives to Trade Allies	0	0	0
Subtotal EDC Incentive Costs	89	149	822
EDC Implementation Costs			
Design & Development	0	0	130
Administration ^[1]	0	0	0
Management ^[2]	136	260	1,353
Marketing	0	10	73
Technical Assistance	0	0	0
Subtotal EDC Implementation Costs	136	270	1,556
EDC Evaluation Costs			
EDC Evaluation Costs	14	44	91
SWE Audit Costs	8	20	81
Total EDC Costs^[3]	247	483	2,550
Participant Costs^[4]	0	0	0
Total TRC Costs	0	0	0
NOTES			
<i>Per PUC direction, TRC inputs and calculations are required in the Annual Report only and should comply with the 2011 Total Resource Cost Test Order approved July 28, 2011.</i>			
¹ Implementation contractor costs.			
² EDC costs other than those identified explicitly.			
³ Per the 2011 Total Resource Cost Test Order – Total EDC Costs, here, refer to EDC incurred expenses only.			
⁴ Per the 2011 Total Resource Cost Test Order –Net participant costs; in PA, the costs of the end-use customer.			

Table 4-16. Summary of Program Finances – Primary Metals – May 31, 2013

	PY4 Quarter 3 (\$000)	PYTD (\$000)	CPITD (\$000)
EDC Incentives to Participants	\$(232)	\$1,233	\$2,311
EDC Incentives to Trade Allies	0	0	0
Subtotal EDC Incentive Costs	(232)	1,233	2,311
EDC Implementation Costs			
Design & Development	0	0	430
Administration ⁽¹⁾	0	0	0
Management ⁽²⁾	613	1,305	3,648
Marketing	1	30	205
Technical Assistance	0	0	0
Subtotal EDC Implementation Costs	614	1,335	4,283
EDC Evaluation Costs			
EDC Evaluation Costs	39	121	249
SWE Audit Costs	22	53	232
Total EDC Costs⁽³⁾	443	2,742	7,075
Participant Costs⁽⁴⁾	0	0	0
Total TRC Costs	0	0	0
NOTES			
Per PUC direction, TRC inputs and calculations are required in the Annual Report only and should comply with the 2011 Total Resource Cost Test Order approved July 28, 2011.			
¹ Implementation contractor costs.			
² EDC costs other than those identified explicitly.			
³ Per the 2011 Total Resource Cost Test Order – Total EDC Costs, here, refer to EDC incurred expenses only.			
⁴ Per the 2011 Total Resource Cost Test Order –Net participant costs; in PA, the costs of the end-use customer.			

Table 4-17. Summary of Program Finances – Large Curtailable Demand Response – May 31, 2013

	PY4 Quarter 4 (\$000)	PYTD (\$000)	CPITD (\$000)
EDC Incentives to Participants	\$0	\$0	\$0
EDC Incentives to Trade Allies	0	0	0
Subtotal EDC Incentive Costs	0	0	0
EDC Implementation Costs			
Design & Development	0	0	0
Administration ⁽¹⁾	0	0	0
Management ⁽²⁾	3	618	727
Marketing	0	2	9
Technical Assistance	0	0	0
Subtotal EDC Implementation Costs	3	620	736
EDC Evaluation Costs			
EDC Evaluation Costs	3	9	16
SWE Audit Costs	2	4	11
Total EDC Costs⁽³⁾	8	633	763
Participant Costs⁽⁴⁾	0	0	0
Total TRC Costs	0	0	0
NOTES			
<i>Per PUC direction, TRC inputs and calculations are required in the Annual Report only and should comply with the 2011 Total Resource Cost Test Order approved July 28, 2011.</i>			
¹ Implementation contractor costs.			
² EDC costs other than those identified explicitly.			
³ Per the 2011 Total Resource Cost Test Order – Total EDC Costs, here, refer to EDC incurred expenses only.			
⁴ Per the 2011 Total Resource Cost Test Order –Net participant costs; in PA, the costs of the end-use customer.			

APPENDIX A: Upstream Lighting Study Methodologies and Results

Early in 2013, it became apparent that gross energy savings and demand reductions being reported for Duquesne Light's Upstream Lighting program were likely being significantly undercounted. Further, it was believed that a portion of the CFLs being purchased through the utility's Upstream Lighting program were being installed in non-residential buildings, but that all savings and costs associated with those CFLs were being reported for the utility's residential customers. To address this situation Navigant conducted four research activities:

- A general population survey in which residential customers who reported purchasing CFLs were asked where they had installed the CFLs they had purchased and where they planned to install those that had not yet been installed, as well as when these installations were likely to take place.
- An in-store customer intercept survey, in which customers were surveyed immediately upon making a decision to purchase CFLs or LED light bulbs, and asked where they planned to install the bulbs and when.⁵
- Secondary research into the findings of other studies exploring the total number of CFLs that are purchased that eventually are installed, as well as the timing of such installations (e.g., first year after purchase, second year after purchase, third year after purchase, etc.)
- An analysis of the coincidence of residential CFL energy consumption with Duquesne Light's top 100 hours of summer 2012. (Only demand reductions occurring during the actual top 100 hours may be counted toward demand reduction compliance targets.)

This research will address the following research questions:

- What percentage of CFLs purchased through the program is installed within the first year, within the second year, and so on, and what percentage are never installed?
- What percentage of CFLs purchased through the program is being installed in low-income households?
- What is the CFL coincidence factor with respect to residential CFLs, when calculated for the top 100 hours of summer 2012?
- What percentage of CFLs purchased through the Upstream Lighting program is being installed in non-residential buildings?

This appendix discusses each of these research activities and the answers they provided to these questions.

General Population Survey

Telephone surveys were conducted with a random sample of 301 Duquesne general population residential customers between June 4th 2013 and June 24th 2013. These surveys included questions to identify all respondents who purchased CFLs in the past three months. The general population survey was designed to collect data to allow estimation of the percentage of Upstream Lighting program CFLs that are installed within the first year, and the percentage of such purchases that are being made by low income households. The survey sample was selected at random from a list of all Duquesne Light customers who had telephone numbers included in their contact information.

⁵ These customers were also asked about their decision-making process so that a net-to-gross factor could be estimated for the program. But such results will not be available and reported until the final PY4 report in November 2013.

In-Store Intercept Surveys

In-store intercept surveys were conducted with 107 customers who purchased qualifying CFLs and LEDs between May 19th, 2013 and June 15th, 2013. A number of stores did not permit the Navigant team to conduct in-store intercept surveys. Interviewers attempted to conduct interviews at 12 stores covering a variety of store sizes based on bulb sales. At two store locations, no one purchased bulbs during the four-hour scheduled intercept survey time and at one store location, no qualifying bulbs were available in store during the scheduled in-store intercepts. As a result, interviews were completed at 9 store locations. These interviews were conducted across weekdays and weekend days. A summary table of store locations where surveys were planned and completed is provided below in Table A1.

Table A1: Targeted and Completed Surveys by Store Size

Store Size (CFL Energy Savings Reported for PY4 Q1 and PY4Q2)	Number of Stores				
	Original Target – Evaluation Plan	Surveys Completed	Store did not give permission for interviews to be completed	No bulbs purchased at time of surveying	No bulbs present in store at time of surveying
Large (>400,000 kWh)	6 (census)	4	2	-	-
Medium (125,000 kWh – 400,000 kWh)	5	3	1	1	-
Small (<125,000)	4	2	-	1	1

The in-store intercept survey was designed to collect data to allow estimation of the percentage of Upstream Lighting program CFLs that are purchased for installation in non-residential, rather than residential settings, as well as to provide a second source of information regarding the percentage of program CFLs that are installed within the first year.

Installation Rate Adjustment

Navigant collected information about in-service or installation rate through both the general population and in-store intercept survey. Through the general population survey, respondents were asked to report how many bulbs had already been installed and how many were planned for installation in the next 12 months. In-store intercept surveys collected information about planned installations over the next 12 months. Since individuals surveyed through the general population survey have already purchased and actually installed at least some of their bulbs, their installation rates and planned installation rates over the next 12 months are believed to be more accurate than planned installation rates reported through in-store intercept surveys. A2 below illustrates that reported installation rates through the general population survey are also more conservative. As such, Navigant incorporated the general population survey’s 85% first-year installation rate into the numbers shown in this report.

Table A2: CFL Installation Rates

	Total Number of CFLs	N of Respondents	% Installed	% Planned Installations over next 12 month	Installation Rate
General Population	1399	178	59%	26%	85%
Intercept Total	844	98	N/A	97%	97%

In addition to installations occurring within the first 12 months, Navigant has accounted for bulbs which are installed in future years. Two recent evaluations^{6,7} have found that 98% of all CFLs purchased are installed within 3 years. The California Evaluation study⁷ found that of the bulbs installed after the first year, 54% were installed in the second year and 46% in the third year. For Duquesne Light, the first year installation rate is 85%. Based on the studies noted above, second and third year installations for Duquesne Light are calculated as follows:

$$\text{Second Year Installation Rate} = 0.54 * (0.98 - 0.85) = 0.07 (7\%)$$

$$\text{Third Year Installation Rate} = 0.46 * (0.98 - 0.85) = 0.06 (6\%)$$

In summary, Navigant determined energy savings and demand reductions estimates account for 85% of all Upstream Lighting program CFLs being installed in the first year after purchase, 7% in the second year after purchase, and 6% in the third year after purchase, for a total 98% installation rate.

Low Income Percentage

In order to determine the percentage of program bulbs being purchased by and installed in low income households, respondents to the general population survey were asked to provide the number of individuals living in their household and their annual household income. The general population survey was used for this purpose since it specifically targeted residential Duquesne Light customers. The tables below shows the official low-income household definitions used by the federal government, as well as how they were slightly modified for implementation in the general population survey.

⁶“New England Residential Lighting Markdown Impact Evaluation”, Nexus Market Research, RLW Analytics and GDS Associates, January 20, 2009.

⁷ California Evaluation Study: “Final Evaluation Report: Upstream Lighting Program, Volume 1”, KEMA Inc., February 2010.

Table A3: Household Federal Government Income Level Definitions (Low Income defined as at or below 150%)

Household Size	100%	133%	150%	200%	300%	400%
1	\$11,490	\$15,282	\$17,235	\$22,980	\$34,470	\$45,960
2	15,510	20,628	23,265	31,020	46,530	62,040
3	19,530	25,975	29,295	39,060	58,590	78,120
4	23,550	31,322	35,325	47,100	70,650	94,200
5	27,570	36,668	41,355	55,140	82,710	110,280
6	31,590	42,015	47,385	63,180	94,770	126,360
7	35,610	47,361	53,415	71,220	106,830	142,440
8	39,630	52,708	59,445	79,260	118,890	158,520
For each additional person, add	\$4,020	\$5,347	\$6,030	\$8,040	\$12,060	\$16,080

Table A4: Low-income Household Definitions Used in General Population Survey

# in HH:	One	Two	Three	Four	Five	Six+	DK/Refused	Total
HH Income:								
Under \$20k								
\$20-\$25k			Low Income					
\$25-\$30k								
\$30-\$35k								
\$35-\$45k								
\$45-\$50k								
More than \$50k (D3=2)								
DK/Refused								
Total								

The survey found that 13.6% of residential bulbs were installed in low-income households. Consequently, 13.6% of all CFL energy savings and demand reductions from Duquesne Light's Upstream Lighting program have been allocated to the Low-income program (LIEEP), with the remainder allocated to the Residential Energy Efficiency Program (REEP).

CFL Coincidence Factor

Previously, demand reduction impacts for residential lighting measures have been calculated using the peak load coincidence factor of 5% in the 2012 Pennsylvania TRM. This value comes from a 2007 report by RLW Analytics.⁸ Navigant proposes that this value be updated to 11.9%, as calculated using the residential lighting load shape developed through the 2009 Northeast residential lighting logger study conducted by Nexus Market Research, RLW Analytics, and GDS Associates (the NMR 2009 study).⁹

Navigant's recommendation to adopt this value comes from a review of lighting logger studies based on sample size, geographic relevance, availability of load shape data for summer peak demand savings calculations, and the date of the study. Specifically, the 2009 Northeast study had a sample size of 657 lighting loggers spread across 157 homes. *Homes were randomly selected from among a large recruitment pool, and loggers were all in place for June, July, and August of 2008, as well as spring and fall months.* It is noteworthy that this is the study that is cited for annual hours of use in the 2013 PA TRM.

Other lighting logger studies Navigant reviewed for the purpose of updating the peak load coincidence factor included:

- EmPOWER Maryland 2010-2011
- 2006-2008 California Upstream Lighting Program
- 2005 California Residential CFL Metering
- 2008 DEER CFL load shape.

The EmPOWER Maryland 2010-2011 study featured fewer loggers than the 2009 Northeast study, with a total of 377 loggers across 131 homes. In the Maryland study, there was not a large pool of recruited homes from which the sample could be selected at random. The Maryland study also yielded a modeled seasonal curve of CF values with a distinctly greater amplitude than that seen in other studies. The 2006-2008 California Upstream Lighting Program study included loggers in over 1200 homes. However, the report does not include an hourly load shape and cannot be adapted for the calculation of demand reduction in the top 100 hours. The 2005 California Residential CFL Metering Study installed meters on 983 CFLs in 375 homes. This study includes a large sample size and excellent study methodology, but the data are comparatively old and from a geographic location further removed from Pennsylvania than the 2009 Northeast study. The 2008 DEER CFL load shape is based on the same data from the 2005 Residential CFL Metering Study, but also incorporates the impact of lighting-HVAC interactive effects on summer peak load shapes. Because these interactive effects are influenced by climate and other considerations, these adjusted load shapes do not represent a best fit for Pennsylvania.

For the foregoing reasons, Navigant asserts that the 2009 NMR study provides the best match to Pennsylvania conditions of the available residential lighting load studies.

Navigant used the NMR 2009 residential lighting load shape to calculate hourly coincidence factors for every hour of the year. The average of these hourly coincidence factors during Duquesne's top 100 hours during the summer

⁸ RLW Analytics, "Development of Common Demand Impacts for Energy Efficiency Measures/Programs for the ISO Forward Capacity Market (FCM)", prepared for the New England State Program Working Group (SPWG), March 25, 2007, p. IV.

⁹ Nexus Market Research, Inc., RLW Analytics, Inc., and GDS Associates, 2009. Residential Lighting Markdown Impact Evaluation. Prepared for Markdown and Buydown Program Sponsors in Connecticut, Massachusetts, Rhode Island, and Vermont. January 20, 2009.

of 2012 – many of which occur after 5:00 pm – is 11.9%. This factor was applied to all CFLs reported as part of Duquesne Light's Upstream Lighting program that were determined to have been installed in residential buildings.

Residential vs. Non-Residential Installations

Navigant plans to estimate the residential and non-residential installation rates based on data from in store intercept surveys, interviews with retailers and manufacturers, interviews with CFL upstream lighting program implementers and secondary research. Some aspects of this research have been completed and other aspects are being currently being conducted. Results of the analysis will be included in the final report to be submitted on November 15, 2013.

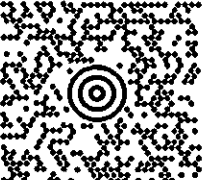



Tishekia Williams, Esquire
Duquesne Light Company
411 Seventh Avenue, 16-1
Pittsburgh, PA 15219

Ms. Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
PO Box 3265
Harrisburg , PA 17105-3265

UPS CampusShip: View/Print Label

1. Ensure there are no other shipping or tracking labels attached to your package. Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.
2. Fold the printed sheet containing the label at the line so that the entire shipping label is visible. Place the label on a single side of the package and cover it completely with clear plastic shipping tape. Do not cover any seams or closures on the package with the label. Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.
3. **GETTING YOUR SHIPMENT TO UPS**
UPS locations include the UPS Store®, UPS drop boxes, UPS customer centers, authorized retail outlets and UPS drivers.
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 Hand the package to any UPS driver in your area.
 Take your package to any location of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliances (Office Depot® or Staples®) or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
Customers with a Daily Pickup
 Your driver will pickup your shipment(s) as usual.

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TISHEKIA WILLIAMS 412-393-1541 DUQUESNE LIGHT 411 SEVENTH AVE PITTSBURGH PA 15219		0.0 LBS LTR	1 OF 1
SHIP TO: SECRETARY ROSEMARY CHIAVETTA PA PUBLIC UTILITY COMMISSION 400 NORTH STREET COMMONWEALTH KEYSTONE BUILDING HARRISBURG PA 17120-0200			
	PA 171 9-20 		
UPS NEXT DAY AIR		1	
TRACKING #: 1Z 00X 095 01 9207 0794			
			
BILLING: P/P			
Cost Center: 006			
<small>CS 15.5.24 WNTLE80 36.0A 01/2013</small>			