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October 17, 2011

**VIA OVERNIGHT MAIL**

Rosemary A. Chiavetta, Secretary  
Pennsylvania Public Utility Commission  
Commonwealth Keystone Building, 2<sup>nd</sup> Floor  
400 North Street  
Harrisburg, PA 17120

**Re: Energy Efficiency and Conservation Program  
Docket No. M-2008-2069887**

Dear Secretary Chiavetta:

Enclosed for filing please find an original and three (3) copies of Duquesne Light Company's quarterly report for the period June 1, 2011 to August 31, 2011 for its Energy Efficiency and Conservation and Demand Response Plan.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'G. Jack', written over a circular stamp or seal.

Gary A. Jack  
Assistant General Counsel

Enclosures

c:

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OCT 17 2011

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

# **Quarterly Report to the Pennsylvania Public Utility Commission**

**For the period  
June 1, 2011 to August 31, 2011  
1<sup>st</sup> Quarter for Program Year 3**

**For Act 129 of 2008  
Energy Efficiency and Conservation Program**

Prepared by Navigant Consulting, Inc.

For

Duquesne Light Company

October 17, 2011

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PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

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## Abbreviations

CAR	Clerical Adjustment Rate
CFL	Compact Fluorescent Lamp
CPITD	Cumulative Program/Portfolio Inception to Date
CSP	Conservation Service Provider
DLC	Duquesne Light Company
EDC	Electric Distribution Company
EE&C	Energy Efficiency & Conservation
EM&V	Evaluation Measurement and Verification
IQ	Incremental Quarter
IR	Installation Rate
kW	Kilowatt
kWh	Kilowatt-hour
LIEEP	Residential Low-Income Energy Efficiency Program
M&V	Measurement and Verification
MW	Megawatt
MWh	Megawatt-hour
NTG	Net-to-Gross
PA	Pennsylvania
PMRS	Program Management and Reporting System
PQ	Program-Qualifier Rate
PUC	Public Utility Commission
PY	Program/Portfolio Year
PY3	Program Year 3 (July 2011 to June 2012)
PYTD	Program/Portfolio Year to Date
REEP	Residential Energy Efficiency Rebate Program
RR	Realization Rate
RARP	Residential Appliance Recycling Program
SEP	Residential School Energy Pledge
SWE	Statewide Evaluator
TRC	Total Resource Cost
TRM	Technical Reference Manual
UES	Unit Energy Savings
VR	Verification Rate

## 1 Overview of Portfolio

Act 129, signed October 15<sup>th</sup>, 2008, mandated energy savings and demand reduction goals for the largest electric distribution companies (EDC) in Pennsylvania. Pursuant to their goals, energy efficiency and conservation (EE&C) plans were submitted by each EDC and approved by the Pennsylvania Public Utility Commission (PUC). This quarterly report documents the progress and effectiveness of the EE&C accomplishments for Duquesne Light through the end of Quarter 1 of Program Year 3.

### Compliance goal progress as of the end of the reporting period:

#### Cumulative Portfolio Energy Impacts

- The CPITD reported gross energy savings are 186,836 MWh<sup>1</sup>.
- The CPITD verified energy savings are 31,576 MWh<sup>2</sup>.
- The CPITD unverified energy savings are 155,260 MWh<sup>3</sup>.
- The CPITD committed energy savings are 193,946 MWh<sup>4</sup>.
- The CPITD committed and achieved energy savings represent 45.9% of the 422,565 MWh May 31<sup>st</sup>, 2013 energy savings compliance target<sup>5</sup>.
- The preliminary realization rate for energy savings (cumulative program inception through the end of PY2Q2) is estimated to be 97.4%.

#### Cumulative Portfolio Demand Reductions

- The CPITD reported gross demand reductions are 19.79 MW.
- The CPITD verified demand reductions are 2.62 MW<sup>6</sup>.
- The CPITD unverified demand reductions are 17.17 MW<sup>7</sup>.
- The CPITD committed demand reductions are 20.82 MW<sup>8</sup>.
- The CPITD committed and achieved demand reductions represent 18.4% of the 113 MW May 31<sup>st</sup>, 2013 demand reductions compliance target<sup>9</sup>.
- The preliminary realization rate for demand reductions (cumulative program inception through the end of PY2Q2) is estimated to be 93.7%.

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<sup>1</sup> CPITD energy savings does not yet reflect corrections being made to Program Year 2 values (e.g., with respect to Refrigerator Recycling Program savings)

<sup>2</sup> CPITD energy savings are verified through PY2 Q2.

<sup>3</sup> CPITD unverified energy savings are net of verified savings.

<sup>4</sup> CPITD committed energy savings include PY3 Q1 projects in progress (7,110 MWh).

<sup>5</sup> Energy savings compliance target as communicated in EM&V plan, section 1.1.2, page 3.

<sup>6</sup> CPITD demand reductions are verified through PY2 Q2.

<sup>7</sup> CPITD unverified demand reductions are net of verified savings.

<sup>8</sup> CPITD committed demand reductions include PY3 Q1 projects in progress (1.03 MW).

<sup>9</sup> Demand reductions compliance targets as communicated in EM&V plan, section 1.1.2, page 3.

### Low Income Sector

- The CPITD reported gross energy savings for low-income are 16,630 MWh (including both the low-income portion of the upstream lighting and the low-income programs).
- The CPITD reported gross energy savings from low-income upstream lighting are 14,573 MWh, the remaining low-income programs savings are 2,057 MWh.
- The CPITD verified energy savings for low-income sector programs are 786 MWh.<sup>10</sup> In addition, the low income portion of the upstream lighting program, which is not subject to further verification requirements, resulted in energy savings of 14,573 MWh.
- The CPITD unverified energy savings for low income sector programs are 1,271 MWh.<sup>11</sup>
- The preliminary realization rate for energy savings (cumulative program inception through the end of PY2Q2) for low income sector programs is estimated to be 99.6%.

### Government and Non-Profit Sector

- The CPITD reported gross energy savings for government and non-profit sector programs are 27,842 MWh.
- The CPITD verified energy savings for government and non-profit sector programs are 565 MWh<sup>12</sup>.
- The CPITD unverified energy savings for government and non-profit sector programs are 27,277 MWh<sup>13</sup>.
- The CPITD committed energy savings for government and non-profit sector programs are 27,843 MWh<sup>14</sup>.
- The CPITD committed and achieved energy savings for government and non-profit sector programs represent 65.9% of the 42,257 MWh May 31<sup>st</sup>, 2013 energy savings compliance target.
- The preliminary realization rate for energy savings (cumulative program inception through the end of PY2Q2) for government and non-profit sector programs is estimated to be 91.9%.

### Program Year portfolio highlights as of the end of the reporting period:

- The PYTD reported gross energy savings are 12,730 MWh.
- The PYTD verified energy savings are 0 MWh<sup>15</sup>.
- The PYTD unverified energy savings are 12,730 MWh<sup>16</sup>.
- The PYTD committed energy savings are 19,840 MWh<sup>17</sup>.
- The preliminary realization rate for energy savings (total program year through the end of PY2Q2) is estimated to be 97.4%.
- The PYTD reported gross demand reductions are 0.80 MW.

<sup>10</sup> CPITD energy savings are verified through PY2 Q2.

<sup>11</sup> CPITD unverified energy savings are net of verified savings, not including upstream lighting.

<sup>12</sup> CPITD energy savings are verified through PY2 Q2.

<sup>13</sup> CPITD unverified energy savings are net of verified savings.

<sup>14</sup> CPITD committed energy savings include PY3 Q1 projects in progress (1 MWh).

<sup>15</sup> PYTD energy savings have not been verified as of PY3 Q1.

<sup>16</sup> PYTD unverified energy savings are PY3 Q1 reported gross values.

<sup>17</sup> PYTD committed energy savings include PY3 Q1 projects in progress (7,110 MWh).

- The PYTD verified demand reductions are 0 MW<sup>18</sup>.
- The PYTD unverified demand reductions are 0.80 MW<sup>19</sup>.
- The PYTD committed demand reductions are 1.83 MW<sup>20</sup>.
- The PYTD reported participation is 7,924 participants<sup>21</sup>.
- The preliminary realization rate for demand reductions (total program year through the end of PY2Q2) is estimated to be 93.5%.

Duquesne Light filed its EE&C Plan on July 1, 2009 and received Commission conditional approval on October 22, 2009. Many programs were launched on or about December 1, 2009. Duquesne Light's EE&C program accomplishments have been increasing while the ramp-up activities of those programs have been subsiding.

Business process teams have continued to review their processes and make mid course changes while working within the context of the PA PUC approved Plan.

Meetings are held at a minimum monthly with the contracted CSPs for the Large Office and Primary Metals segments, the Small Office and Retail segments and the *Mixed Industrial and Chemical* segments. Events have been attended to continue the recognition of Watt Choices.

For savings impact evaluation purposes, on October 9, 2011 an evaluation dataset was downloaded directly from PMRS that contained records of all customer actions taken to implement energy efficiency measures termed "projects" completed by Duquesne Light's EE&C Programs during Quarter 1 of PY 3. The program activity for PY3 Q1 is summarized in Table 1-1.

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<sup>18</sup> PYTD demand reductions have not been verified as of PY3 Q1.

<sup>19</sup> PYTD unverified demand reductions are PY3 Q1 reported gross values.

<sup>20</sup> PYTD committed demand reductions include PY3 Q1 projects in progress (1.03 MW).

<sup>21</sup> Upstream CFL program participants are reported separately and not included in these program participant numbers.

**Table 1-1: PY3 Q1 Program Activity (Gross Reported)**

<b>Program</b>	<b>Participants</b>	<b>Reported Total Energy Savings (kWh)</b>	<b>Reported Total Demand Reduction (kW)</b>
Residential: EE Program (REEP): Rebate Program	6,807	2,626,901	171
Residential: School Energy Pledge	0	0	0
Residential: Appliance Recycling	540	790,476	98
Residential: Low Income EE	546	231,045	16
Commercial Sector Umbrella EE	13	32,204	6
Healthcare EE	1	199,308	27
Industrial Sector Umbrella EE	0	0	0
Chemical Products EE	0	0	0
Mixed Industrial EE	1	86,643	13
Office Building – Large – EE	1	2,514	0
Office Building – Small EE	2	29,946	10
Primary Metals EE	0	0	0
Public Agency / Non-Profit	6	152,006	46
Retail Stores – Small EE	6	147,094	22
Retail Stores – Large EE	1	26,303	3
<b>Subtotal</b>	<b>7,924</b>	<b>4,324,440</b>	<b>412</b>
	(CFLs)		
Residential: EE Program (Upstream Lighting)	173,359	8,405,730	385
Residential: Low Income EE (Upstream Lighting)	0	0	0
<b>PY3-Q1 Program Activity (Gross Reported)</b>		<b>12,730,170</b>	<b>797</b>

Results of PY3 Q1 EM&V will be reported in subsequent quarterly reports.



## 1.1 Summary of Portfolio Impacts

A summary of the portfolio reported impacts is presented in Table 1-2.

**Table 1-2: EDC Reported Portfolio Impacts through the End of the Reporting Period**

Impact Type	Total Energy Savings (MWh)	Total Demand Reduction (MW)
Reported Gross Impact: Incremental Quarterly	12,730	0.797
Reported Gross Impact: Program Year to Date	12,730	0.797
Reported Gross Impact: Cumulative Portfolio Inception to Date	186,836	19.793
Unverified Ex Post Savings	0	0.000
Estimated Impact: PYTD Total Committed	12,730	0.797
Preliminary PYTD Verified Impact <sup>1</sup>	-	-
Preliminary PYTD Net Impact <sup>1</sup>	0	0.000
Verified Savings: Cumulative Portfolio Inception to Date <sup>2</sup>	31,576	2.622
<b>NOTES:</b> <sup>1</sup> Verification has not begun for PY3Q1 <sup>2</sup> Values provided are as of PY2 Q2.		

Table 1-3 below is a placeholder for summarizing the total resource summary benefits and costs.

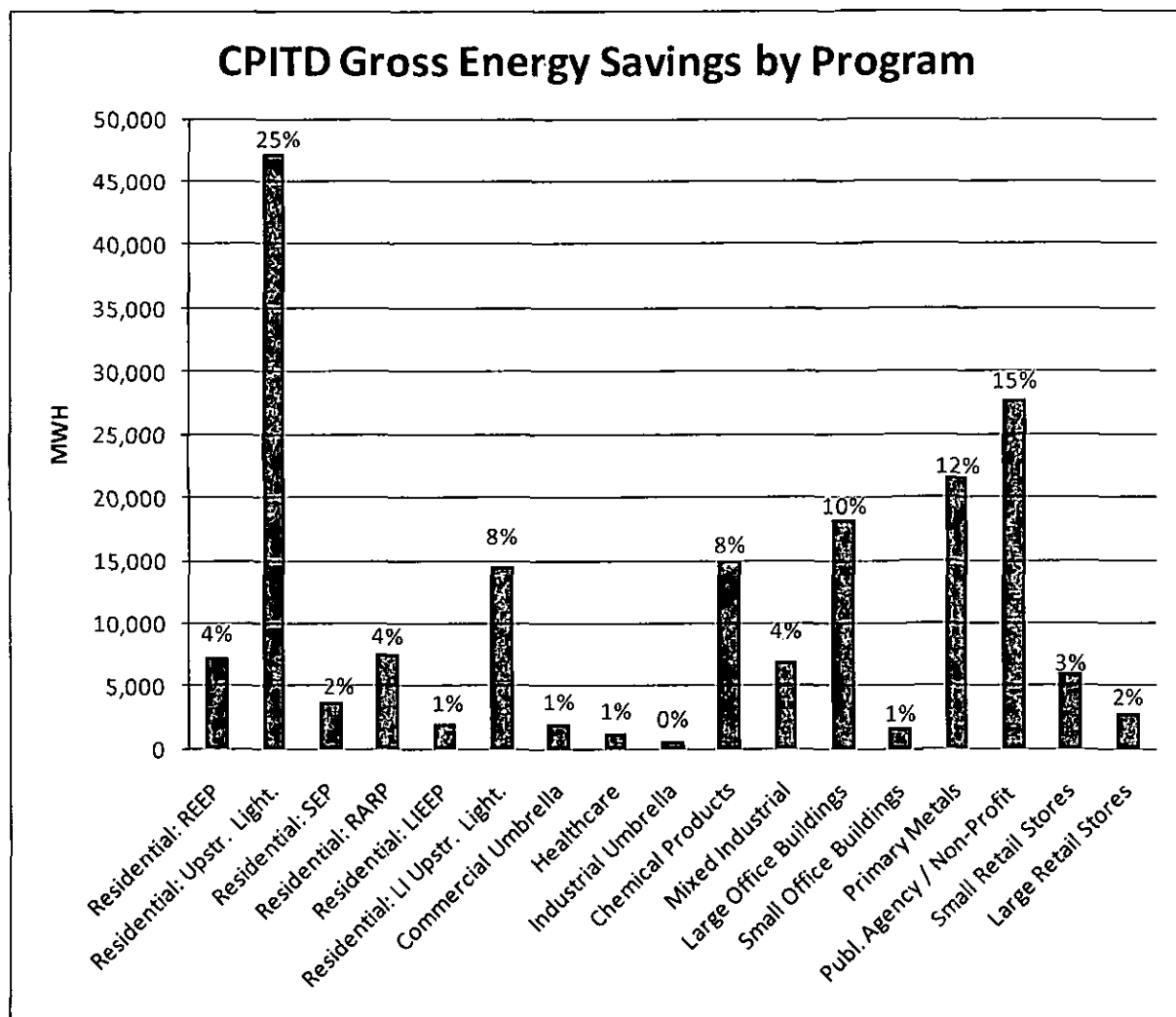
**Table 1-3: Verified Preliminary Portfolio Total Evaluation Adjusted Impacts through the End of the Reporting Period**

TRC Category	IQ	PYTD	CPITD
TRC Benefits (\$)	N/A	N/A	N/A
TRC Costs (\$)	N/A	N/A	N/A
TRC Benefit-Cost Ratio			N/A
<b>NOTES:</b> Per direction from the SWE on 9/13/2010, no TRC values are provided for this report.			

## 1.2 Summary of Energy Impacts by Program

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

Figure 1-1: CPITD Reported Gross Energy Savings by Program through the End of the Reporting Period



A summary of energy impacts by program through the current quarter of Program Year 3 is presented in Table 1-4 and Table 1-5.

**Table 1-4: EDC Reported Participation and Gross Energy Savings by Program through the End of the Reporting Period<sup>22</sup>**

Program	Participants			Reported Gross Impact (MWh)		
	IQ	PYTD	CPITD	IQ	PYTD	CPITD
Residential: EE Program (REEP): Rebate Program	6,807	6,807	19,930	2,627	2,627	7,269
Residential: EE Program (Upstream Lighting)	N/A	N/A	N/A	8,406	8,406	47,214
Residential: School Energy Pledge	0	0	9,096	0	0	3,698
Residential: Appliance Recycling	540	540	4,394	790	790	7,687
Residential: Low Income EE	546	546	3,809	231	231	2,057
Residential: Low Income EE (Upstream Lighting)	N/A	N/A	N/A	0	0	14,573
Commercial Sector Umbrella EE	13	13	86	32	32	2,110
Healthcare EE	1	1	10	199	199	1,229
Industrial Sector Umbrella EE	0	0	4	0	0	603
Chemical Products EE	0	0	8	0	0	14,998
Mixed Industrial EE	1	1	39	87	87	6,986
Office Building – Large – EE	1	1	66	3	3	18,284
Office Building – Small EE	2	2	61	30	30	1,784
Primary Metals EE	0	0	19	0	0	21,635
Public Agency / Non-Profit	6	6	153	152	152	27,842
Retail Stores – Small EE	6	6	201	147	147	6,014
Retail Stores – Large EE	1	1	45	26	26	2,853
<b>TOTAL PORTFOLIO</b>	<b>7,924</b>	<b>7,924</b>	<b>37,921</b>	<b>12,730</b>	<b>12,730</b>	<b>186,836</b>

<sup>22</sup> The CPITD savings values were updated to include four Program Year 2 projects that had previously not been counted in the Program Year 2 preliminary report, as well as a savings correction made to an existing project included in that report. However, the CPITD values shown do not include final adjustments yet to be made to Program Year 2 savings (e.g., for the Refrigerator Recycling program).

**Table 1-5: EDC Reported Gross Energy Savings by Program through the End of the Reporting Period**

Program	Unverified Ex Post Savings (MWh)	Projects in Progress (MWh)	PYTD Total Committed (MWh)	EE&C Plan Estimate for Program Year (MWh)	Percent of Estimate Committed (%)
Residential: EE Program (includes upstream lighting) <sup>1</sup>			11,033	32,318	34%
Residential: School Energy Pledge			0	1,350	0%
Residential: Appliance Recycling			790	3,334	24%
Residential: Low Income EE (includes upstream lighting) <sup>1</sup>			231	8,587	3%
Commercial Sector Umbrella EE		161	194	5,363	4%
Healthcare EE			199	11,395	2%
Industrial Sector Umbrella EE			0	2,515	0%
Chemical Products EE		264	264	6,229	4%
Mixed Industrial EE		3,056	3,143	5,557	57%
Office Building – Large – EE			3	20,400	0%
Office Building – Small EE		208	238	10,635	2%
Primary Metals EE		901	901	17,139	5%
Public Agency / Non-Profit		1	153	24,985	1%
Retail Stores – Small EE		1,591	1,738	3,636	48%
Retail Stores – Large EE		929	955	8,765	11%
<b>TOTAL PORTFOLIO</b>	0	7,110	19,840	162,208	12%
<b>NOTES:</b>					
<sup>1</sup> Upstream lighting is separated into the REEP and low-income segments.					

A summary of evaluation verified energy impacts by program is presented in Table 1-6.

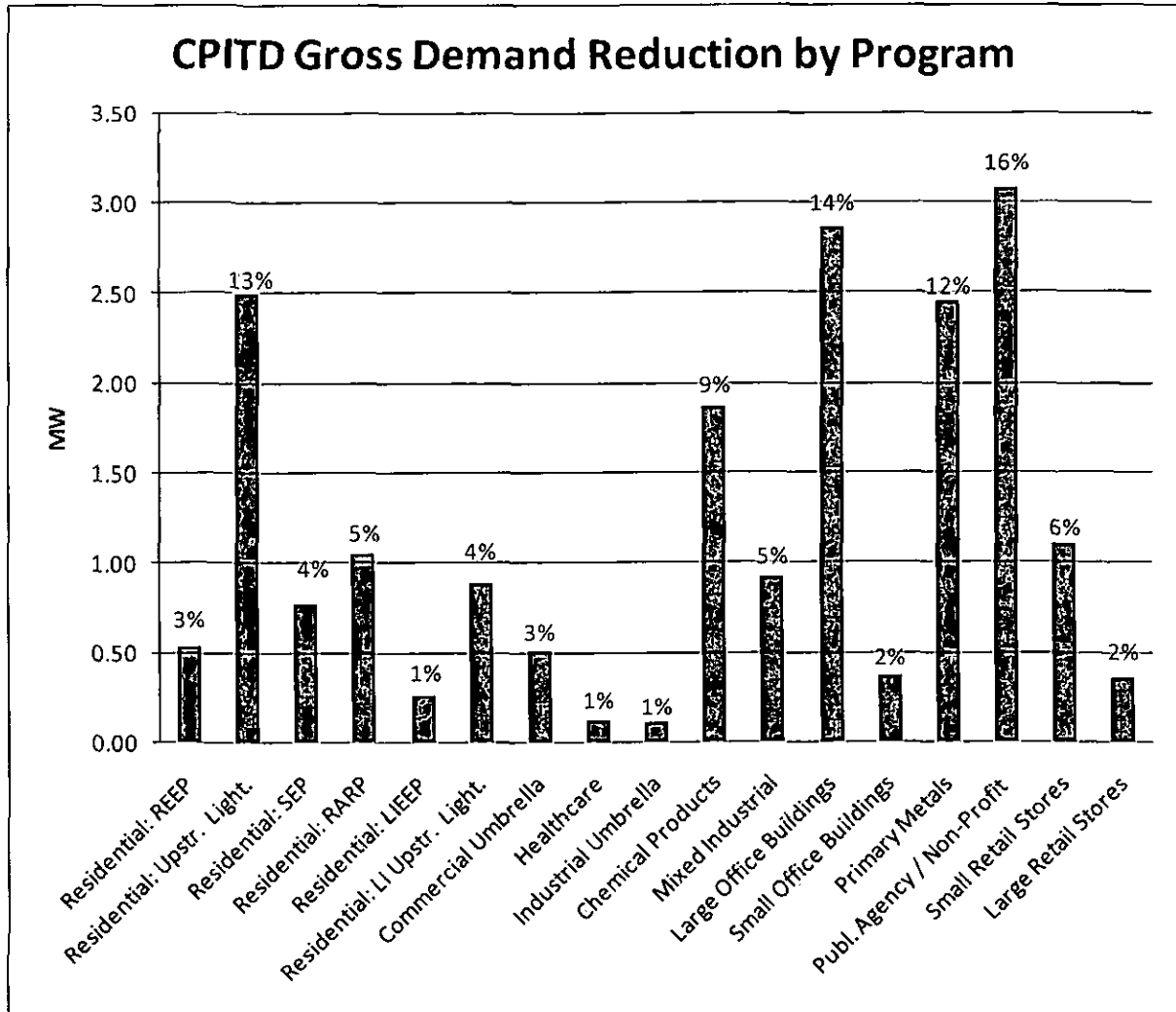
**Table 1-6: Verified Energy Savings by Program through the End of the Reporting Period**

Program	PYTD Reported Gross Impact (MWh)	Preliminary Realization Rate	Preliminary PYTD Verified Impact (MWh) <sup>1</sup>	Net-to-Gross Ratio	PYTD Net Impact (MWh) <sup>1</sup>
Residential: EE Program (REEP): Rebate Program	2,627	-	-	N/A	-
Residential: EE Program (Upstream Lighting)	8,406	-	-	N/A	-
Residential: School Energy Pledge	0	-	-	N/A	-
Residential: Appliance Recycling	790	-	-	N/A	-
Residential: Low Income EE	231	-	-	N/A	-
Residential: Low Income EE (Upstream Lighting)	0	-	-	N/A	-
Commercial Sector Umbrella EE	32	-	-	N/A	-
Healthcare EE	199	-	-	N/A	-
Industrial Sector Umbrella EE	0	-	-	N/A	-
Chemical Products EE	0	-	-	N/A	-
Mixed Industrial EE	87	-	-	N/A	-
Office Building – Large – EE	3	-	-	N/A	-
Office Building – Small EE	30	-	-	N/A	-
Primary Metals EE	0	-	-	N/A	-
Public Agency / Non-Profit	152	-	-	N/A	-
Retail Stores – Small EE	147	-	-	N/A	-
Retail Stores – Large EE	26	-	-	N/A	-
<b>TOTAL PORTFOLIO</b>	<b>12,730</b>	<b>-</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
<b>NOTES:</b>					
<sup>1</sup> Verification has not begun for PY3Q1					

### 1.3 Summary of Demand Impacts by Program

A summary of the reported demand reduction by program is presented in Figure 1-2.

Figure 1-2: Reported Demand Reduction by Program through the End of the Reporting Period



A summary of demand reduction impacts by program through the current quarter of Program Year 3 is presented in Table 1-7 and Table 1-8.

**Table 1-7: Participation and Reported Gross Demand Reduction by Program through the End of the Reporting Period<sup>23</sup>**

Program	Participants			Reported Gross Impact (MW)		
	IQ	PYTD	CPITD	IQ	PYTD	CPITD
Residential: EE Program (REEP): Rebate Program	6,807	6,807	19,930	0.171	0.171	0.536
Residential: EE Program (Upstream Lighting)	N/A	N/A	N/A	0.385	0.385	2.496
Residential: School Energy Pledge	0	0	9,096	0.000	0.000	0.774
Residential: Appliance Recycling	540	540	4,394	0.098	0.098	1.046
Residential: Low Income EE	546	546	3,809	0.016	0.016	0.267
Residential: Low Income EE (Upstream Lighting)	N/A	N/A	N/A	0.000	0.000	0.889
Commercial Sector Umbrella EE	13	13	86	0.006	0.006	0.514
Healthcare EE	1	1	10	0.027	0.027	0.124
Industrial Sector Umbrella EE	0	0	4	0.000	0.000	0.109
Chemical Products EE	0	0	8	0.000	0.000	1.870
Mixed Industrial EE	1	1	39	0.013	0.013	0.923
Office Building – Large – EE	1	1	66	0.000	0.000	2.866
Office Building – Small EE	2	2	61	0.010	0.010	0.374
Primary Metals EE	0	0	19	0.000	0.000	2.455
Public Agency / Non-Profit	6	6	153	0.046	0.046	3.084
Retail Stores – Small EE	6	6	201	0.022	0.022	1.105
Retail Stores – Large EE	1	1	45	0.003	0.003	0.362
<b>TOTAL PORTFOLIO</b>	<b>7,924</b>	<b>7,924</b>	<b>37,921</b>	<b>0.797</b>	<b>0.797</b>	<b>19.793</b>

<sup>23</sup> The CPITD savings values were updated to include four Program Year 2 projects that had previously not been counted in the Program Year 2 preliminary report, as well as a savings correction made to an existing project included in that report. However, the CPITD values shown do not include final adjustments yet to be made to Program Year 2 savings (e.g., for the Refrigerator Recycling program).

**Table 1-8: Reported Gross Demand Reduction by Program through the End of the Reporting Period**

Program	Unverified Ex Post Savings (MW)	Projects in progress (MWh)	PYTD Total Committed (MW)	EE&C Plan Estimate for Program Year (MW)	Percent of Estimate Committed (%)
Residential: EE Program (includes upstream lighting) <sup>1</sup>			0.556	15.965	3%
Residential: School Energy Pledge			0.000	1.215	0%
Residential: Appliance Recycling			0.098	0.831	12%
Residential: Low Income EE (includes upstream lighting) <sup>1</sup>			0.016	3.501	0%
Commercial Sector Umbrella EE		0.029	0.034	1.150	3%
Healthcare EE			0.027	2.445	1%
Industrial Sector Umbrella EE			0.000	0.389	0%
Chemical Products EE		0.030	0.030	0.962	3%
Mixed Industrial EE		0.366	0.379	0.858	44%
Office Building – Large – EE			0.000	4.400	0%
Office Building – Small EE		0.056	0.066	1.940	3%
Primary Metals EE		0.103	0.103	2.647	4%
Public Agency / Non-Profit		0.000	0.046	7.278	1%
Retail Stores – Small EE		0.254	0.276	0.780	35%
Retail Stores – Large EE		0.191	0.194	1.881	10%
<b>TOTAL PORTFOLIO</b>	0.000	1.028	1.825	46.242	4%
<b>NOTES:</b>					
<sup>1</sup> Upstream lighting is separated into the REEP and low-income segments.					



A summary of evaluation adjusted demand impacts by program is presented in Table 1-9.

**Table 1-9: Verified Demand Reduction by Program through the End of the Reporting Period**

Program	PYTD Reported Gross Impact (MW)	Preliminary Realization Rate	Preliminary PYTD Verified Impact (MW) <sup>1</sup>	Net-to-Gross Ratio	PYTD Net Impact (MW) <sup>1</sup>
Residential: EE Program (REEP): Rebate Program	0.171	-	-	N/A	-
Residential: EE Program (Upstream Lighting)	0.385	-	-	N/A	-
Residential: School Energy Pledge	0.000	-	-	N/A	-
Residential: Appliance Recycling	0.098	-	-	N/A	-
Residential: Low Income EE	0.016	-	-	N/A	-
Residential: Low Income EE (Upstream Lighting)	0.000	-	-	N/A	-
Commercial Sector Umbrella EE	0.006	-	-	N/A	-
Healthcare EE	0.027	-	-	N/A	-
Industrial Sector Umbrella EE	0.000	-	-	N/A	-
Chemical Products EE	0.000	-	-	N/A	-
Mixed Industrial EE	0.013	-	-	N/A	-
Office Building – Large – EE	0.000	-	-	N/A	-
Office Building – Small EE	0.010	-	-	N/A	-
Primary Metals EE	0.000	-	-	N/A	-
Public Agency / Non-Profit	0.046	-	-	N/A	-
Retail Stores – Small EE	0.022	-	-	N/A	-
Retail Stores – Large EE	0.003	-	-	N/A	-
<b>TOTAL PORTFOLIO</b>	<b>0.797</b>	<b>-</b>	<b>-</b>	<b>N/A</b>	<b>0.000</b>

## 1.4 Summary of Evaluation

Realization rates are calculated to adjust reported savings based on statistically significant verified savings measured by independent evaluators. The realization rate is defined as the percentage of reported savings that is achieved, as determined through the independent evaluation review. A realization rate of 1 or 100% indicates no difference between the reported and achieved savings. Realization rates are determined by certain attributes relative to one of three protocol types. Fully deemed TRM measure realization rates are driven by differences in the number of installed measures. Partially deemed TRM measure<sup>24</sup> realization rates are driven by (1) differences in the number of installed measures and (2) differences in the variables. Custom measure realization rates are driven by differences in the energy savings as estimated at time of installation and savings as determined by the measurement and verification process.

Quarterly reports may not include realization rates reflecting full program-to-date activities due to ongoing M&V activity. The realization rates for the full program year will be reported in the Program Year 3 final report.

### 1.4.1 Impact Evaluation

#### 1.4.1.1 Evaluation Groups

Per the utility's EM&V Plan<sup>25</sup>, for the purpose of conducting cost-effective EM&V, certain industrial and commercial programs are grouped based on shared characteristics. Commercial sector retail, health care, large and small office and public agency partnership programs are similar enough in structure to be treated as one evaluation group<sup>26</sup>. All industrial programs function in a similar enough manner that they are treated as one evaluation group. Because of their unique program features, each residential program is evaluated independently. This program level EM&V organization results in seven distinct Evaluation Groups<sup>27</sup>, as shown in Table 1-10 below. Note that program theory and logic models have been developed for all of the program groups except for the Upstream Lighting Program.<sup>28</sup>

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<sup>24</sup> TRM measures with stipulated values and variables.

<sup>25</sup> Evaluation Measurement and Verification Plan, 2010-2012 Energy Efficiency & Conservation Programs, July 15, 2010 (EM&V Plan), sections 1.2.6 Program Level EM&V Organization, page 12.

<sup>26</sup> Note that in cases where the programs must be consolidated for practical M&V purposes, the sample data can be used to provide an unbiased estimate of the average savings per project for the program group. While average savings per project can be broken out for each program in the group, the precision will be lower due to the smaller sample sizes.

<sup>27</sup> EM&V Plan Table 1-7: Evaluation Groups, page 13.

<sup>28</sup> A common model has been developed for the commercial and industrial program groups.

**Table 1-10: Evaluation Groups**

Evaluation Groups	Included Sub Programs
Residential: Appliance Recycling Program (RARP)	Single program group
Residential: Low Income Energy Efficiency Program (LIEEPP)	Single program group
Residential :Energy Efficiency Rebate Program (REEP)	Single program group
Residential: School Energy Pledge Program (SEP)	Single program group
Upstream Lighting Program	Single program group
Commercial	Umbrella, Small Office, Large Office, Health Care and Retail, Public Agency Partnerships/Education
Industrial	Umbrella, Primary Metals, Chemical Products and Mixed Industrials

In this section, for the residential, commercial and industrial programs, we describe the sample designs and methods used to produce ex post estimates of energy and demand impacts.

**Residential**

Below, we describe the approach used to produce ex post estimates of gross savings for the four residential programs.

**Estimation Approach**

For deemed measures, the total ex ante gross kWh (or kW) impact for a given PMRS record is defined as the claimed units installed multiplied by the unit energy savings (UES). With the Verification approach for deemed measures, there are two sub-levels of rigor, basic and enhanced. The level of rigor depends on the size of the savings. The basic level of rigor will be used for measures for which the rebate is less than \$2,000. The enhanced level of rigor is reserved for measures for which the rebate is equal to or greater than \$2,000. Basic level of rigor involves verification by telephone survey, and enhanced level of rigor involves on-site verification.

The basic level of verification rigor methods for TRM deemed measures involves two basic steps:

1. Survey a random sample of participants to verify installations and estimate verification rates.
2. The claimed ex ante gross kWh and kW impacts for each PMRS record in the population from which the sample was drawn are then multiplied by this verification rate.

The verification used for TRM deemed measures consists of a six-step process:

**Step 1.** The verification checklist for deemed savings measures includes data downloaded from PMRS and/or taken from hardcopy documentation for each participant installation or can be obtained by telephone or on-site visit. The verification checklist for deemed savings measures includes:

1. Participant has valid utility account number
2. Measure(s) is on approved list and all parameters necessary for calculating savings are present.

3. Proof of purchase identifies qualifying measure and is dated within the period being verified.
4. Rebate payment date is in the current program period being verified.
5. Unit kWh and kW are correct for each listed measure.
6. Measure was actually installed at the customer site (telephone survey for basic level of rigor).

**Step 2.** A simple random sample of participants is selected from the PMRS database.

**Step 3.** Relevant documentation for items #1 through #5 from PMRS or other hardcopy documentation is then obtained for each sampled PMRS record.

**Step 4.** Next, with respect to the sixth criterion: (a) for basic verification, telephone interviews are conducted with each sampled customer to confirm that they participated in the program, received the rebate, and purchased and installed the efficient measure(s); and (b) for the enhanced rigor sample, on-site inspections and interviews are completed with each sampled customer to confirm that they participated in the program, received the rebate, and purchased and installed the efficient measure(s).

**Step 5.** Using the data collected from program files and surveys, a verification rate (VR) is calculated. The VR is a function of three separate parameters:

1. sample-based program-qualifier rate (PQ),
2. a clerical adjustment rate (CAR), and
3. an installation rate (IR).

The **PQ** is a function of whether the first four criteria were all met. If a sampled participant record did not meet all four criteria, the PQ would be set to zero. If a sampled participant record met all four criteria, the PQ would be set to one.

Per the fifth criterion, for each sampled case, the unit kWh and kW for each PMRS measure are reviewed to make sure that they are consistent with agreed-upon deemed values. A CAR, which is simply the ratio of verified deemed values to PMRS deemed values, is then calculated. Note in the original EM&V plan, the CAR was referred to as the realization rate (RR). MCR Performance Solutions choose to use CAR rather than RR since the level of EM&V rigor associated with the CAR is far less than that typically associated with a realization rate.

Per the sixth criterion, telephone interviews are conducted to verify that the measure was in fact installed. The results of the telephone interviews are used to calculate the installation rate (**IR**), which is the ratio of the telephone-verified installations to the PMRS installations.

For each sampled record, the verification rate (**VR**) is then calculated as: **PQ x CAR x IR**. The VR is the ratio of ex post verified savings to the ex ante savings. Expectations regarding this ratio form the basis of the sample design.

Finally, across all sampled records, two **weighted average VRs** are calculated. One average VR is weighted by total gross ex ante kWh impacts for each record. The second VR is weighted by the total gross ex ante kW impacts for each record. For a given sampled PMRS record, the total ex ante gross kWh and kW impacts are simply the unit energy savings (UES) multiplied by the units installed.

**Step 6.** The final step involves multiplying the total gross ex ante kWh and kW impacts for each record in the PMRS population from which the sample was drawn by the kWh-weighted average VR and the kW-weighted average VR, respectively.

#### ***1.4.1.2 Sample Design: LIEEP, REEP, RARP and SEP***

All residential programs use the simple ratio estimator. The reasons for moving to a simple ratio estimator were that the vast majority of the measures installed in these four residential programs are expected to be TRM deemed. This means that the savings are subjected to the basic level of rigor that involved only the verification of installations. The only changes to the estimated gross savings in PMRS would be due to clerical errors and installation rates, which were expected to be minor. Neither the installation rates nor the rate of clerical errors were expected to vary by measure/end use making stratification unnecessary. The resulting verification rate (the ratio of the ex post savings to the ex ante savings) was therefore expected to be very high with a very low variance.

#### ***1.4.1.3 Commercial Program Group Sample Design***

The sample design for the Commercial Program Group uses the stratified ratio estimator. As described in the 2010-2012 Energy Efficiency & Conservation Program (EM&V Plan), a stratified ratio estimator is used to adjust the ex ante savings contained in PMRS. The approach is similar to that used for the REEP, RARP and LIEEP Programs except that the sample is stratified rather than a simple random sample. That is, the stratified ratio estimation method combines a stratified sample design with a ratio estimator. Both stratification and ratio estimation take advantage of information that is reported in the PMRS tracking system for each project in the program. The two key parameters in the stratified ratio estimate are a) the ratio between ex post (denoted as the "Y" variable) and ex ante (denoted as the "X" variable) and b) the error ratio. The ratio between ex post and ex ante, which is sometimes referred to as the realization rate, measures the accuracy of the tracking estimates from project to project across the sample of projects. The error ratio is a measure of the variability in the relationship between the ex post and ex ante estimates. Both ratios help to define the relationship between the tracking estimates of savings and the actual project savings.

Ratios are calculated within each stratum and strata weights are applied to arrive at a program-level ratio. A stratum is a subset of the projects in the population that are grouped together based on ex ante savings that are known information. In other words, a stratification of the population into strata is a classification of all units in the population into mutually exclusive strata that span the population. Under this design, each stratum is sampled according to simple random sampling protocols and the weighted estimates of parameters can be extrapolated to the entire population.

Per the utility's EM&V Plan<sup>29</sup>, for measures with rebates less than \$2,000, the basic level of verification rigor was employed. The enhanced level of rigor verification was applied when measure rebates were equal to or greater than \$2,000.

**Basic Level of Rigor Verification:** For Commercial programs, the basic level of verification rigor includes data downloaded from PMRS, and obtaining and analyzing hardcopy and electronic documentation for each participant installation. Interviews are conducted with designated customer contacts, as well as facility managers, program implementers, equipment suppliers and installation contractors. Where

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<sup>29</sup> Evaluation Measurement and Verification Plan, 2010-2012 Energy Efficiency & Conservation Programs, July 15, 2010 (EM&V Plan), sections 2.5 and 2.5.1, pages 21 and 22.

documentation is inadequate, secondary research is conducted to ascertain required pre- and post equipment definition as well as operating conditions. Project planning documentation is compared with applicable TRM deemed and partially deemed measure values and algorithm inputs. Based upon the review of the aforementioned, reported ex ante savings are assessed, corroborated or revised to reflect assessment findings.

Enhanced Level of Rigor Verification: Enhanced rigor verification includes an analysis of utility tracking system data, an analysis of project file hardcopy and electronic documentation and site verification of installed equipment. Sample sites are selected for the commercial and industrial sector evaluation groups as described above and in Section 4 Portfolio Results by Program. Where required, equipment is verified on-site by sampling to achieve 90% confidence/20% precision consistent with guidelines prescribed in Audit Plan and Evaluation Framework for PA Act 129 Energy Efficiency and Conservation Programs (Audit Plan)<sup>30</sup>. Interviews are conducted with designated customer contacts, as well as facility managers, program implementers, equipment suppliers and installation contractors. Building configuration and business operations are researched to confirm key savings determinants such as operating hours and the presence or absence of space cooling or refrigeration. Where documentation is inadequate, secondary research is conducted to ascertain required pre- and post equipment definition as well as operating conditions.

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<sup>30</sup> GDS Associates, Inc., Nextant, & Mondre Energy, Audit Plan and Evaluation Framework for Pennsylvania Act 129 Energy Efficiency and Conservation Programs. December 1, 2009.

**1.4.1.4 Industrial Program Group Sample Design**

The industrial sample design is divided into two components, custom and deemed. The sample unit is the measure. The level of verification rigor and estimation of realization rates is the same as for the commercial program group.

**1.4.1.5 Achieved Confidence and Precision**

For the plan year up to and including the second quarter, sample sizes, realization rates and achieved precision at the 90% level of confidence for each program are presented in Table 1-11 below:

**Table 1-11: Summary of Realization Rates and Confidence Intervals for kWh and kW<sup>31</sup>**

Program	PYTD Sample Participants	Program Year Sample Participant Target	Preliminary Realization Rate for kWh	Confidence and Precision for kWh	Preliminary Realization Rate for kW	Confidence and Precision for kW
Residential: EE Rebate	0	65	0.90	90% /± 0.117%	0.98	90% /± 0.030%
Residential: School Energy Pledge	0	55	0.97	90% /± 4.700%	0.97	90% /± 4.700%
Residential: Appliance Recycling	0	55	1.00	N/A	1.00	N/A
Residential: Low Income EE	0	55	1.00	N/A	1.00	N/A
Commercial Program	0	64	0.86	90% /± 0.026%	0.74	90% /± 0.082%
Industrial Program: Deemed	0	9	1.00	N/A	1.00	N/A
Industrial Program: Custom	0	17	0.90	N/A	0.90	N/A
TOTAL PORTFOLIO	0	320				

**1.4.2 Process Evaluation**

A process evaluation was not conducted for the PY 3 Q1 report.

<sup>31</sup> Summary of Realization Rates and Confidence Intervals through PY2 Q2. No sampling has been done yet in PY3.

### 1.5 Summary of Finances

The TRC test demonstrates the cost-effectiveness of a program by comparing the total economic benefits to the total costs. A breakdown of the portfolio finances is presented in Table 1-12.

**Table 1-12: Summary of Portfolio Finances: TRC Test<sup>32</sup>**

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$2,773,723	\$2,773,723	\$8,612,467
A.2	EDC Incentives to Trade Allies	0	0	91,877
A	<b>Subtotal EDC Incentive Costs</b>	<b>2,773,723</b>	<b>2,773,723</b>	<b>8,704,344</b>
B.1	Design & Development	0	0	3,481,106
B.2	Administration	0	0	0
B.3	Management	2,891,312	2,891,312	9,458,515
B.4	Marketing	241,513	241,513	965,874
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	<b>3,132,825</b>	<b>3,132,825</b>	<b>13,905,495</b>
C	<b>EDC Evaluation Costs</b>	<b>264,636</b>	<b>264,636</b>	<b>719,852</b>
D	<b>SWE Audit Costs</b>	<b>250,000</b>	<b>250,000</b>	<b>1,041,879</b>
E	<b>Participant Costs</b>	<b>0</b>	<b>0</b>	<b>0</b>
	<b>Total Costs</b>	<b>6,421,184</b>	<b>6,421,184</b>	<b>24,371,570</b>
F	<b>Annualized Avoided Supply Costs*</b>	<b>0</b>	<b>0</b>	<b>0</b>
G	<b>Lifetime Avoided Supply Costs*</b>	<b>0</b>	<b>0</b>	<b>0</b>
	<b>Total Lifetime Economic Benefits*</b>	<b>0</b>	<b>0</b>	<b>0</b>
	<b>Portfolio Benefit-to-Cost Ratio*</b>	<b>0</b>	<b>0</b>	<b>0</b>
NOTES:				
Per Secretarial letter dated 5-25-2011, TRC costs will be reported on the final report to be submitted 11-15-2012				

<sup>32</sup> Definitions for terms in following table are subject to TRC Order. Various cost and benefit categories are subject to change pending the outcome of TRC Technical Working Group discussions.



The TRC for each program is presented in Table 1-13.

**Table 1-13: Summary of Portfolio Budget by Program**

<b>Program</b>	<b>TRC Benefits (\$)</b>	<b>TRC Costs (\$)</b>	<b>TRC Benefit-Cost Ratio</b>
Residential: EE Rebate*			
Residential: School Energy Pledge*			
Residential: Refrigerator Recycling*			
Residential: Low Income EE*			
Commercial Sector Umbrella EE*			
Office Building – Small EE*			
Retail Stores EE*			
<b>Portfolio</b>			
<b>NOTES:</b>			

*\*Per direction from the SWE on 9-13-2010, no TRC values are provided for the PY3 Q1 report.*

## 2 Portfolio Results by Sector

The EE&C Implementation Order issued on January 15<sup>th</sup>, 2009 states requirements for specific sectors on page 11. In order to comply with these requirements, each program has been categorized into one of the following sectors:

1. Residential EE (excluding Low-Income)
2. Residential Low-Income EE
3. Small Commercial & Industrial EE
4. Large Commercial & Industrial EE
5. Government & Non-Profit EE

A summary of portfolio gross energy savings and gross demand reduction by sector is presented in Figure 2-1 and Figure 2-2.

Figure 2-1: PYTD Reported Gross Energy Savings by Sector

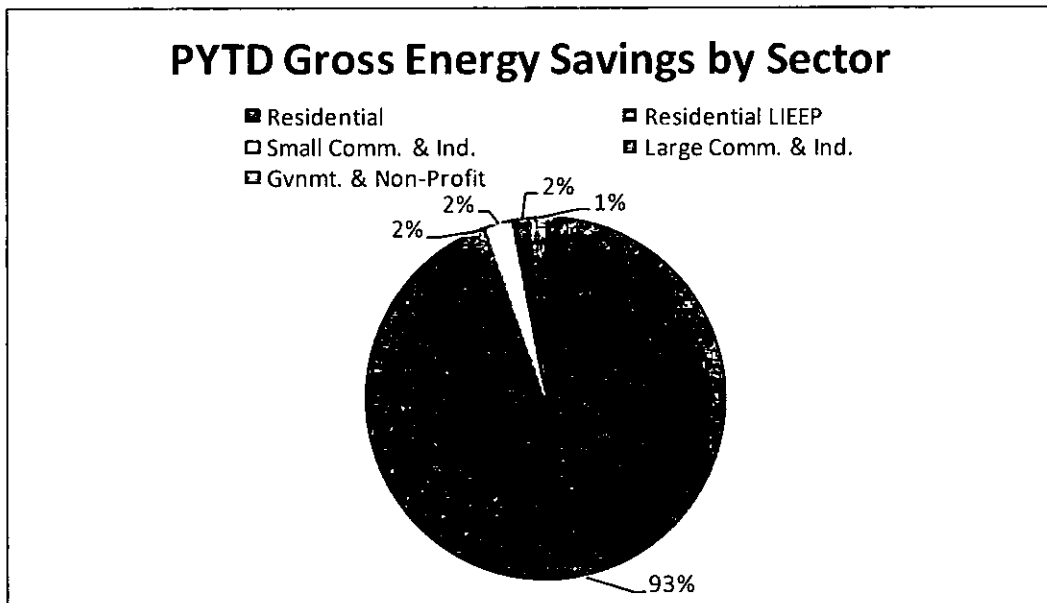
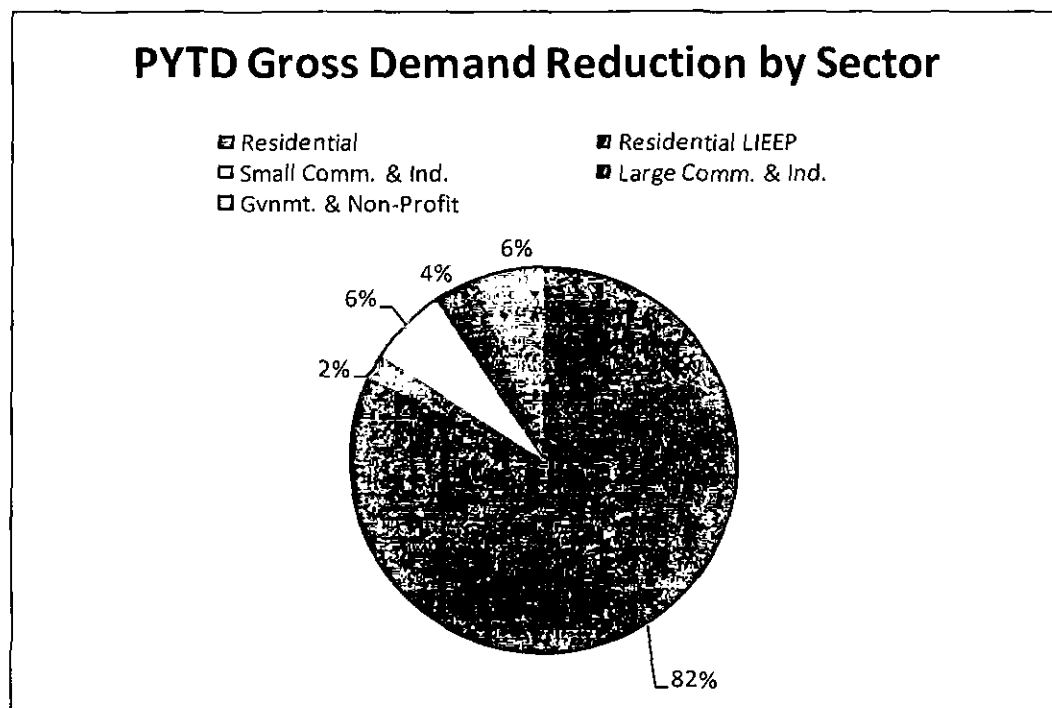


Figure 2-2: PYTD Reported Gross Demand Reduction by Sector



Energy savings by sector are presented in Table 2-1.

**Table 2-1: Reported Gross Energy Savings by Sector through the End of the Reporting Period**

Market Sector	Reported Gross Impact (MWh)			Projects in Progress	Total Committed	Unverified Ex Post Savings <sup>1</sup>
	IQ	PYTD	CPITD			
Residential EE	11,823	11,823	65,868	0	65,868	0
Residential Low-Income EE	231	231	16,630	0	16,630	0
Small Commercial & Industrial EE	296	296	17,496	5,016	22,512	0
Large Commercial & Industrial EE	228	228	59,000	2,093	61,093	0
Government & Non-Profit EE	152	152	27,842	1	27,843	0
<b>TOTAL PORTFOLIO</b>	<b>12,730</b>	<b>12,730</b>	<b>186,836</b>	<b>7,110</b>	<b>193,946</b>	<b>0</b>
<b>NOTES:</b>						
<sup>1</sup> Unverified Ex Post Savings are unverified savings pending approval of a TRM or Custom Measure Protocol by the Commission.						

Demand reductions by sector are presented in Table 2-2.

**Table 2-2: Reported Gross Demand Reduction by Sector through the End of the Reporting Period**

Market Sector	Reported Gross Impact (MW)			Projects in Progress	Total Committed	Unverified Ex Post Savings <sup>1</sup>
	IQ	PYTD	CPITD			
Residential EE	0.654	0.654	4.851	0.000	4.851	0.000
Residential Low-Income EE	0.016	0.016	1.156	0.000	1.156	0.000
Small Commercial & Industrial EE	0.051	0.051	3.025	0.704	3.729	0.000
Large Commercial & Industrial EE	0.030	0.030	7.677	0.324	8.001	0.000
Government & Non-Profit EE	0.046	0.046	3.084	0.000	3.084	0.000
<b>TOTAL PORTFOLIO</b>	<b>0.797</b>	<b>0.797</b>	<b>19.793</b>	<b>1.028</b>	<b>20.821</b>	<b>0.000</b>
<b>NOTES:</b>						
<sup>1</sup> Unverified Ex Post Savings are unverified savings pending approval of a TRM or Custom Measure Protocol by the Commission.						

## 2.1 Residential EE Sector

The annual sector target for Plan Year 3 energy savings is 37,002 MWh and the sector target for annual peak demand reduction is 18.0 MW.

A sector summary of results by program is presented in Table 2-3 and Table 2-4.

**Table 2-3: Summary of Residential EE Sector Incremental Impacts by Program through the End of the Reporting Period**

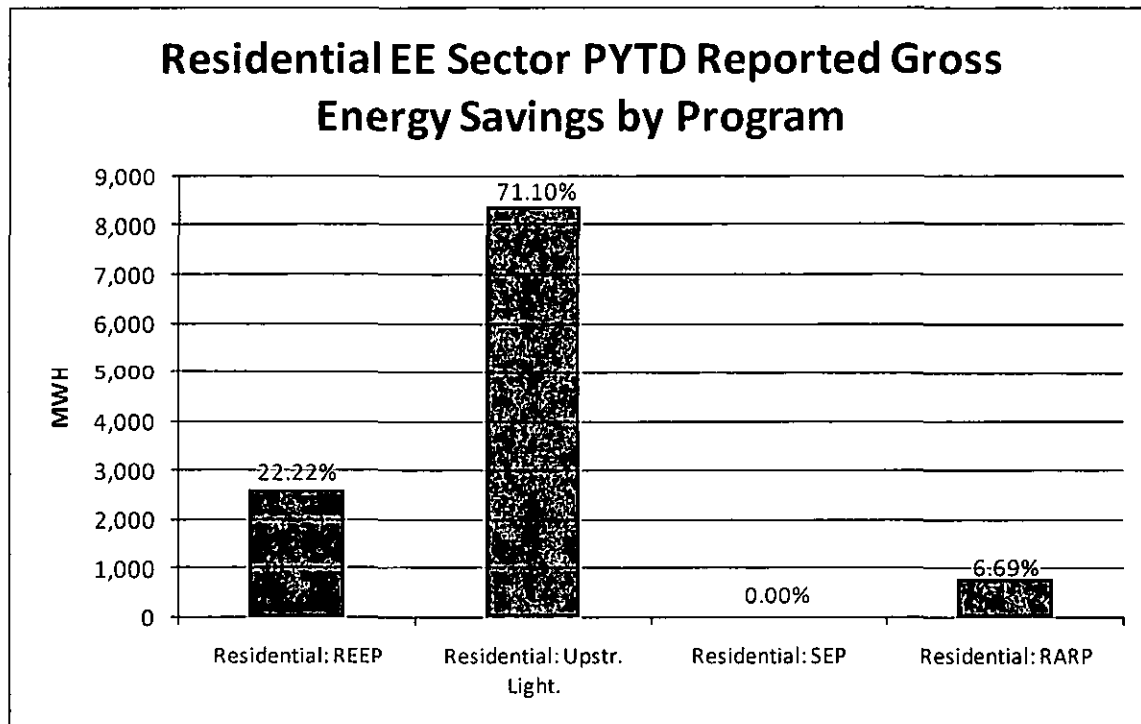
Residential EE Sector	IQ Participants	IQ Reported Gross Energy Savings (MWh)	IQ Reported Gross Demand Reduction (MW)
Residential: EE Program (REEP): Rebate Program	6,807	2,627	0.171
Residential: EE Program (Upstream Lighting)	N/A	8,406	0.385
Residential: School Energy Pledge	0	0	0.000
Residential: Appliance Recycling	540	790	0.098
<b>Sector Total</b>	<b>7,347</b>	<b>11,823</b>	<b>0.654</b>
<b>NOTES:</b>			
173,359 CFLs were distributed under the upstream lighting program in PY3 Q1.			

**Table 2-4: Summary of Residential EE Sector PYTD Impacts by Program through the End of the Reporting Period**

Residential EE Sector	PYTD Participants	PYTD Reported Gross Energy Savings (MWh)	PYTD Reported Gross Demand Reduction (MW)
Residential: EE Program (REEP): Rebate Program	6,807	2,627	0.171
Residential: EE Program (Upstream Lighting)	N/A	8,406	0.385
Residential: School Energy Pledge	0	0	0.000
Residential: Appliance Recycling	540	790	0.098
<b>Sector Total</b>	<b>7,347</b>	<b>11,823</b>	<b>0.654</b>

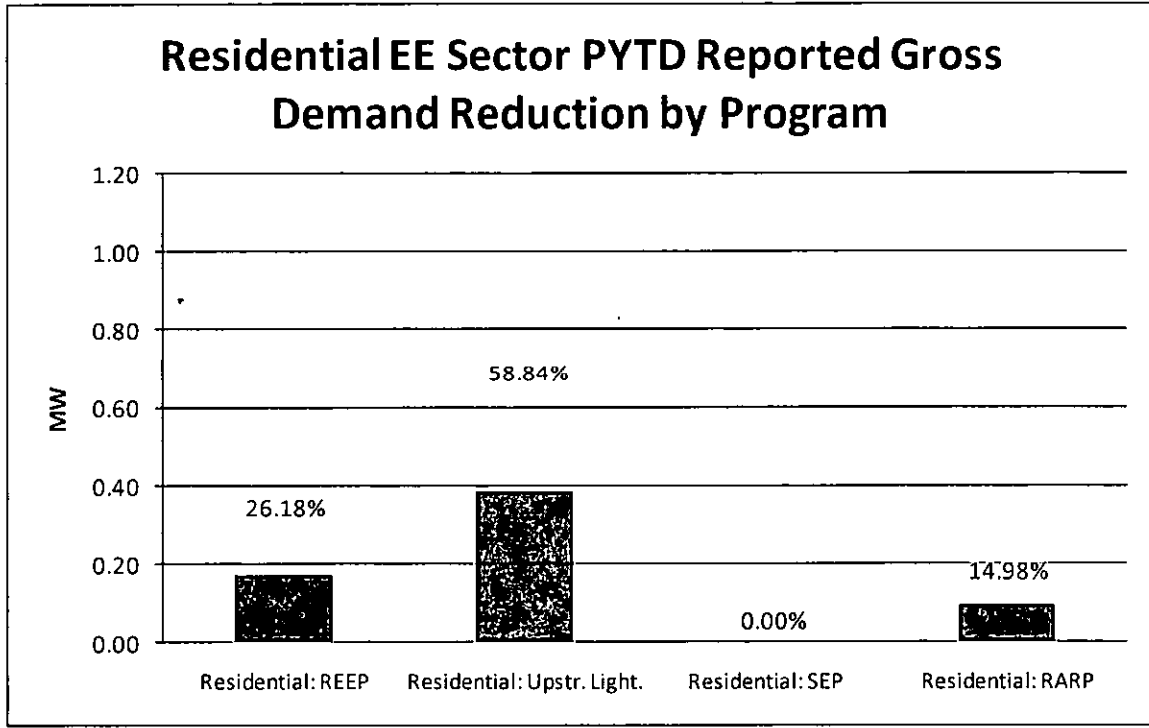
A summary of the sector energy savings by program is presented in Figure 2-3.

Figure 2-3: Summary of Residential EE Sector PYTD Reported Gross Energy Savings by Program



A summary of the sector demand reduction by program is presented in Figure 2-4.

Figure 2-4: Summary of Residential EE Sector PYTD Reported Demand Reduction by Program



## 2.2 Residential Low-Income EE Sector

The annual sector target for Plan Year 3 energy savings is 8,587 MWh and the sector target for annual peak demand reduction is 3.5 MW.

A sector summary of results by program is presented in Table 2-5 and Table 2-6.

**Table 2-5: Summary of Residential Low-Income EE Sector Incremental Impacts by Program through the End of the Reporting Period**

Residential Low-Income EE Sector	IQ Participants	IQ Reported Gross Energy Savings (MWh)	IQ Reported Gross Demand Reduction (MW)
Residential: Low Income EE	546	231	0.016
Residential: Low Income EE (Upstream Lighting)	N/A	0	0.000
<b>Sector Total</b>	<b>546</b>	<b>231</b>	<b>0.016</b>
NOTES			

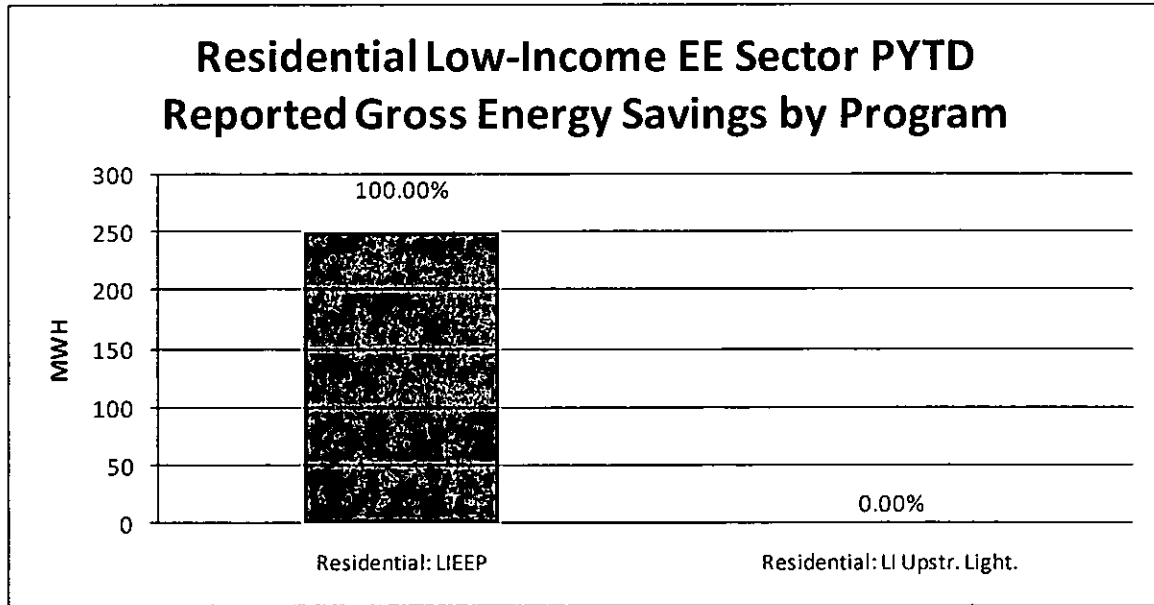
**Table 2-6: Summary of Residential Low-Income EE Sector Low-Income PYTD Impacts by Program through the End of the Reporting Period**

Residential Low-Income EE Sector	PYTD Participants	PYTD Reported Gross Energy Savings (MWh)	PYTD Reported Gross Demand Reduction (MW)
Residential: Low Income EE	546	231	0.016
Residential: Low Income EE (Upstream Lighting)	N/A	0	0.000
<b>Sector Total</b>	<b>546</b>	<b>231</b>	<b>0.016</b>
NOTES			



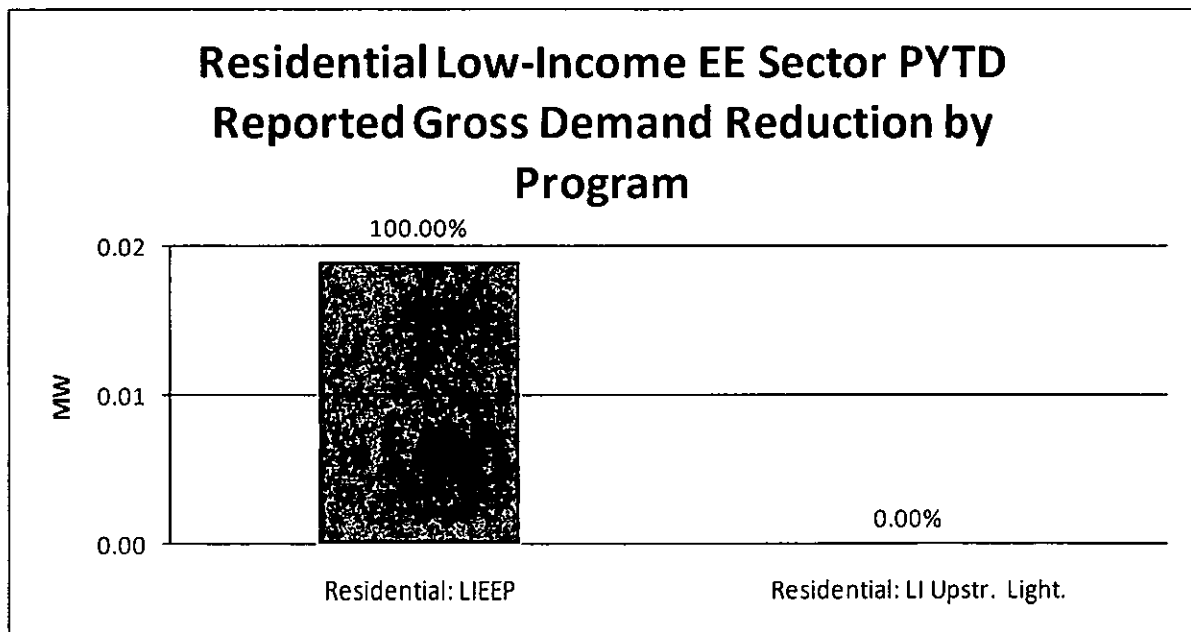
A summary of the sector energy savings by program is presented in Figure 2-5.

**Figure 2-5: Summary of Residential Low-Income EE Sector PYTD Reported Gross Energy Savings by Program**



A summary of the sector demand reduction by program is presented in Figure 2-6.

**Figure 2-6: Summary of Residential Low-Income EE Sector PYTD Reported Demand Reduction by Program**



### 2.3 Small Commercial & Industrial EE Sector

The annual sector target for Plan Year 3 energy savings is 27,705 MWh and the sector target for annual peak demand reduction is 5.1 MW.

A sector summary of results by program is presented in Table 2-7 and Table 2-8.

**Table 2-7: Summary of Small Commercial & Industrial EE Sector Incremental Impacts by Program through the End of the Reporting Period**

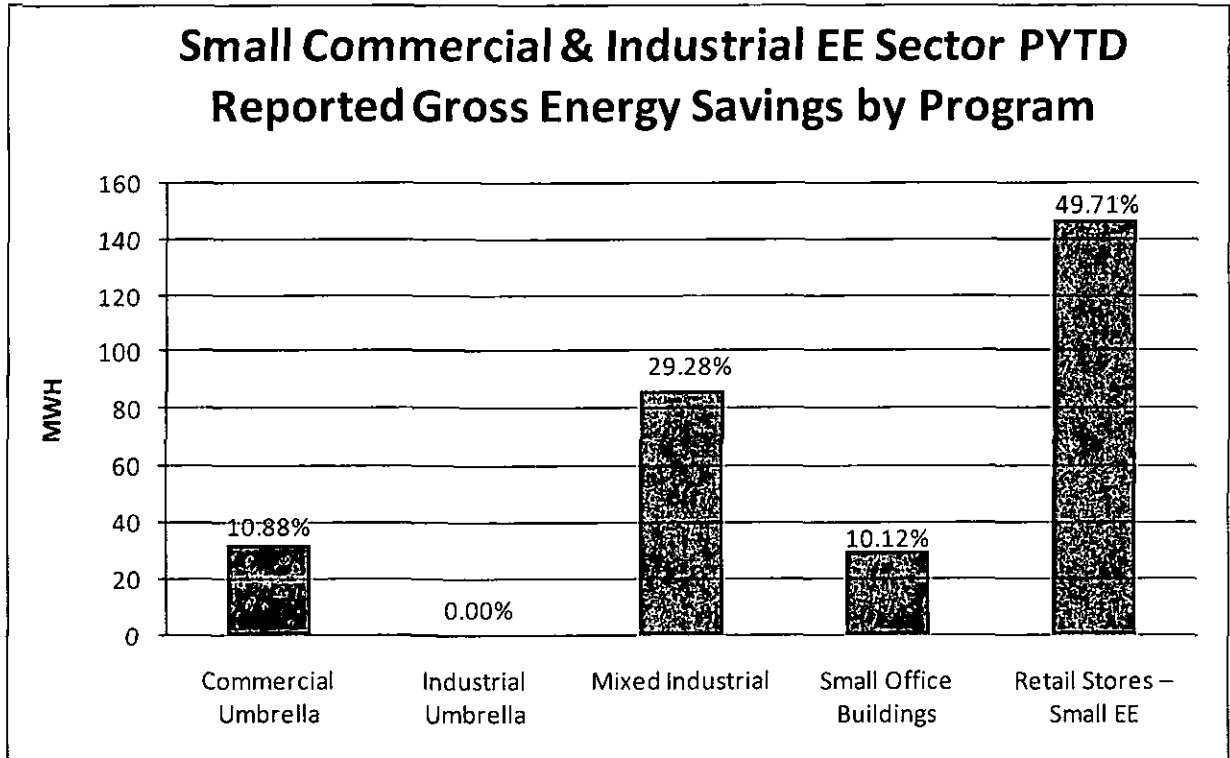
Small Commercial & Industrial Sector	IQ Participants	IQ Reported Gross Energy Savings (MWh)	IQ Reported Gross Demand Reduction (MW)
Commercial Sector Umbrella EE	13	32	0.006
Industrial Sector Umbrella EE	0	0	0.000
Mixed Industrial EE	1	87	0.013
Office Building – Small EE	2	30	0.010
Retail Stores – Small EE	6	147	0.022
<b>Sector Total</b>	<b>22</b>	<b>296</b>	<b>0.051</b>

**Table 2-8: Summary of Small Commercial & Industrial EE Sector PYTD Impacts by Program through the End of the Reporting Period**

Small Commercial & Industrial EE Sector	PYTD Participants	PYTD Reported Gross Energy Savings (MWh)	PYTD Reported Gross Demand Reduction (MW)
Commercial Sector Umbrella EE	13	32	0.006
Industrial Sector Umbrella EE	0	0	0.000
Mixed Industrial EE	1	87	0.013
Office Building – Small EE	2	30	0.010
Retail Stores – Small EE	6	147	0.022
<b>Sector Total</b>	<b>22</b>	<b>296</b>	<b>0.051</b>

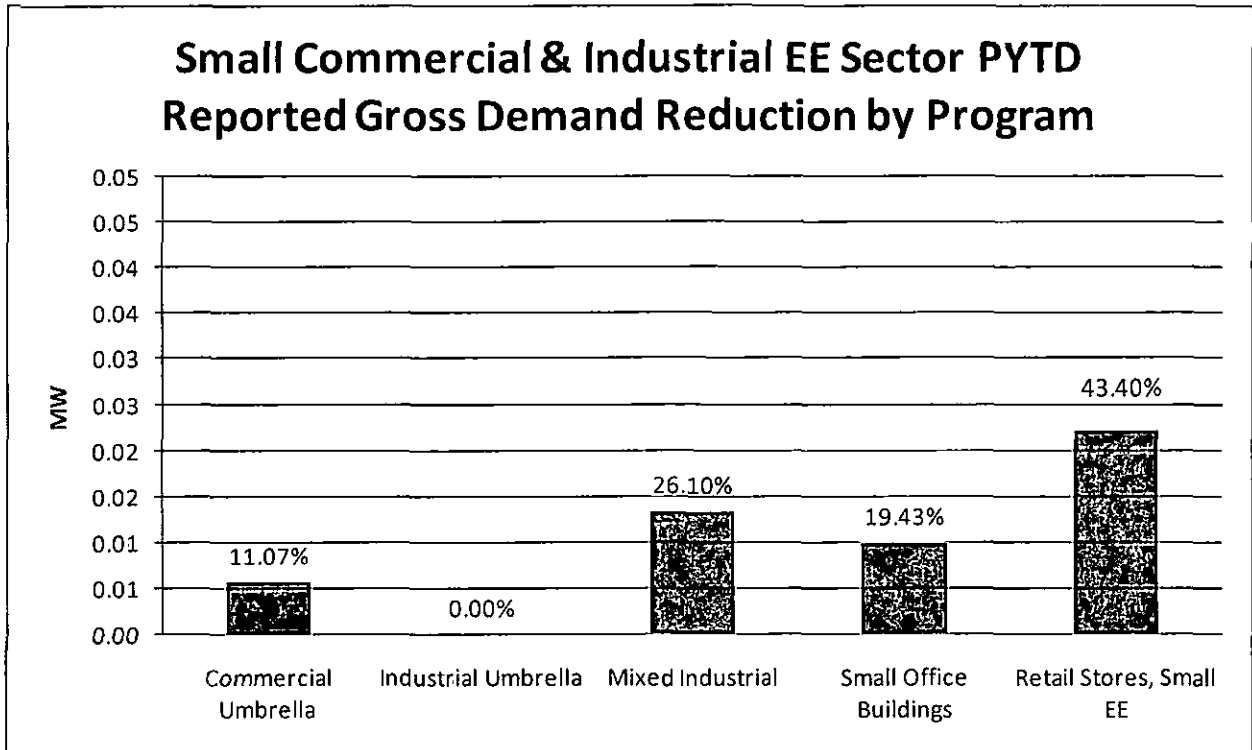
A summary of the sector energy savings by program is presented in Figure 2-5.

Figure 2-5: Summary of Small Commercial & Industrial EE Sector PYTD Reported Gross Energy Savings by Program



A summary of the sector demand reduction by program is presented in Figure 2-6.

Figure 2-6: Summary of Small Commercial & Industrial EE Sector PYTD Reported Demand Reduction by Program



## 2.4 Large Commercial & Industrial EE Sector

The annual sector target for Plan Year 3 energy savings is 63,928 MWh and the sector target for annual peak demand reduction is 12.3 MW.

A sector summary of results by program is presented in Table 2-9 and Table 2-10.

**Table 2-9: Summary of Large Commercial & Industrial EE Sector Incremental Impacts by Program through the End of the Reporting Period**

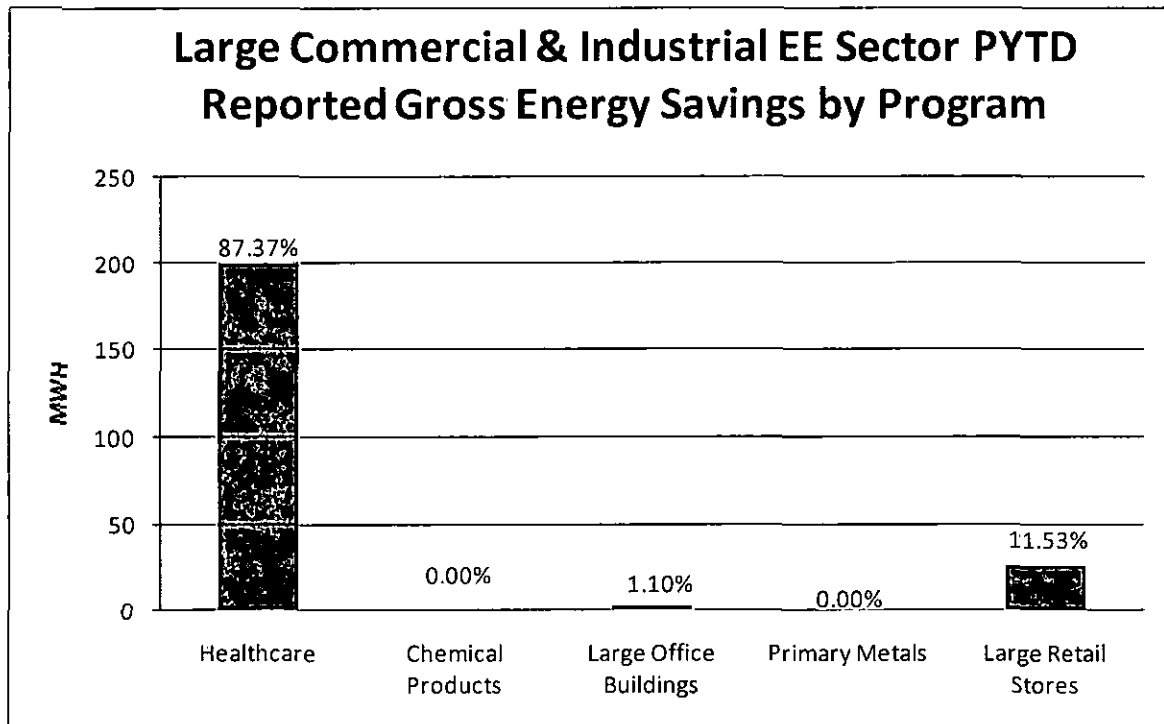
Large Commercial & Industrial Sector	IQ Participants	IQ Reported Gross Energy Savings (MWh)	IQ Reported Gross Demand Reduction (MW)
Healthcare EE	1	199	0.027
Chemical Products EE	0	0	0.000
Office Building – Large – EE	1	3	0.000
Primary Metals EE	0	0	0.000
Retail Stores – Large EE	1	26	0.003
<b>Sector Total</b>	<b>3</b>	<b>228</b>	<b>0.030</b>

**Table 2-10: Summary of Large Commercial & Industrial EE Sector PYTD Impacts by Program through the End of the Reporting Period**

Large Commercial & Industrial Sector	PYTD Participants	PYTD Reported Gross Energy Savings (MWh)	IQ Reported Gross Demand Reduction (MW)
Healthcare EE	1	199	0.027
Chemical Products EE	0	0	0.000
Office Building – Large – EE	1	3	0.000
Primary Metals EE	0	0	0.000
Retail Stores – Large EE	1	26	0.003
<b>Sector Total</b>	<b>3</b>	<b>228</b>	<b>0.030</b>

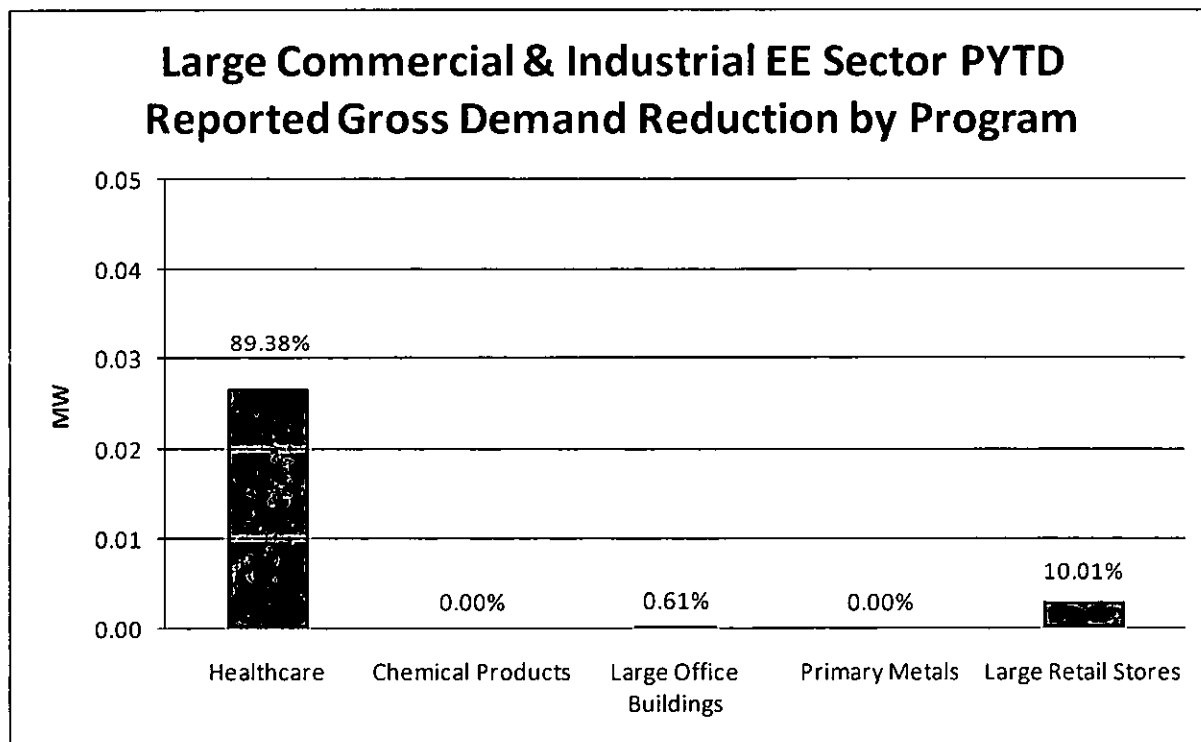
A summary of the sector energy savings by program is presented in Figure 2-7.

**Figure 2-7: Summary of Large Commercial & Industrial EE Sector PYTD Reported Gross Energy Savings by Program**



A summary of the sector demand reduction by program is presented in Figure 2-8.

**Figure 2-8: Summary of Large Commercial & Industrial EE Sector PYTD Reported Demand Reduction by Program**



The large commercial and industrial sector includes an overall umbrella program structure and specialized programs designed to promote specific technologies or target specific market segments while incorporating the umbrella program savings impacts and incentive levels.

The large commercial and industrial programs are designed to provide a comprehensive approach to energy savings and permanent demand reduction, and address a full range of efficiency opportunities (from low cost improvements to entire system upgrades) with Duquesne Light customers. Each sub-program provides the following services:

1. Targeted and comprehensive on-site walk-through assessments and professional grade audits to identify energy savings opportunities.
2. Efficiency studies/reports that detail process and equipment upgrades that present the greatest potential for energy/cost savings.
3. Support to access rebates and incentives available across electric measures designed to help defray upfront costs of installing the equipment.
4. Coordination with local chapters of key industry associations to promote energy efficiency improvements through trusted sources and encourage market-transforming practices among equipment vendors and purchasers.

Duquesne Light has chosen the following Conservation Service Providers (CSPs) to implement large commercial and industrial sector programs:

1. Primary Metals and Large Offices: Roth Bros, Inc. and Enerlogics Networks, Inc.
2. Chemical Products: Global Energy Partners, LLC
3. Mixed Industrial: Global Energy Partners, LLC
4. Large Retail: All Facilities Energy Group



## 2.5 Government & Non-Profit EE Sector

The annual sector target for Plan Year 3 energy savings is 24,985 MWh and the sector target for annual peak demand reduction is 7.3 MW.

A sector summary of results by program is presented in Table 2-11 and Table 2-12.

**Table 2-11: Summary of Government & Non-Profit EE Sector Incremental Impacts by Program through the End of the Reporting Period**

Governmental/Non-Profit EE Sector	IQ Participants	IQ Reported Gross Energy Savings (MWh)	IQ Reported Gross Demand Reduction (MW)
Public Agency / Non-Profit	6	152	0.046
<b>Sector Total</b>	<b>6</b>	<b>152</b>	<b>0.046</b>

**Table 2-12: Summary of Government & Non-Profit EE Sector PYTD Impacts by Program through the End of the Reporting Period**

Governmental/Non-Profit EE Sector	PYTD Participants	PYTD Reported Gross Energy Savings (MWh)	PYTD Reported Gross Demand Reduction (MW)
Public Agency / Non-Profit	6	152	0.046
<b>Sector Total</b>	<b>6</b>	<b>152</b>	<b>0.046</b>

A visual summary chart of the sector energy savings and demand reduction by program is not warranted because only one program exists within the sector.

The Public Agency Partnerships program targets federal, state and local governments, including municipalities, school districts, institutions of higher education and nonprofits (per Act 129).

Local Government Partnerships were established through execution of a memorandum of understanding (MOU) by and between Duquesne and selected local governmental agencies. The MOU established working groups comprised of Duquesne and agency representatives and: identifies project areas within agency departments (and jurisdictional agencies); defines project scopes of service; and establishes project agreements to co-fund agreed-to projects. Partnership agreements have been structured with Allegheny County and the City of Pittsburgh.

Bi-monthly meetings have been occurring with the officials from Allegheny County and Duquesne Light which have partnered to provide over 100 municipalities the opportunity to have audits performed in their county facilities and provide opportunities to take action to save energy, money and the environment by participating in Watt Choices.

In addition, several institutions of higher education have executed MOUs and have been involved in discussions and currently there are dozens of projects being evaluated as a result of these types of partnerships.

### **3 Demand Response**

On May 9, 2011, Duquesne filed a petition asking that the Commission approve a proposed change to eliminate the residential and small/mid-sized commercial and industrial ("C&I") air conditioning cycling demand response ("DR") programs as they are not cost effective. On August 26, 2011, intervenors along with the Company filed a joint settlement petition to resolve all issues with regard to the petition of Duquesne that was filed on May 9, 2011. The administrative law judge will issue a recommended decision, which will then need to be approved by the Commission.

## **4 Portfolio Results by Program**

Duquesne Light prepared a comprehensive Evaluation Measurement and Verification Plan for its 2010-2012 Energy Efficiency & Conservation Programs (EM&V Plan). This EM&V Plan was reviewed by the Statewide Evaluator (SWE) and serves as the basis for EM&V performed of its Act 129 Programs. Additionally, Duquesne Light prepared a PY 2009 EM&V Report that was submitted and reviewed by the SWE. Both the EM&V Plan and PY 2009 EM&V Report went through a comment process with the SWE, whereby final comments were received and incorporated on August 31, 2010. These SWE reviewed and approved documents serve as the basis for EM&V activity performed and are referred to in the following sections.

### **4.1 Residential: Energy Efficiency Rebate Program**

The Residential Energy Efficiency Rebate Program (REEP) is designed to encourage customers to make an energy efficient choice when purchasing and installing household appliance and equipment measures by offering customers educational materials on energy efficiency options and rebate incentive offerings. Program educational materials and rebates are provided in conjunction with an on-line survey. REEP also provides energy efficiency measures in the form of energy efficiency kits provided free of charge to Duquesne Light customers attending targeted community outreach events.

An upstream/midstream CFL program was initiated July 2010 with several targeted area retail establishments. This program provides point of purchase discounts for customers as well as an incentive for participation by the retail store. This is a more streamlined approach to discounting and is more readily engaged by customers because no rebate forms are necessary and processing costs for those forms are non-existent. In addition, events are held monthly within some of the stores to educate consumers on energy efficiency products as well as providing a platform to more broadly educate on other programs within the Watt Choices offerings. As summarized in Table 4.1, fifteen retailers with 137 stores are participating in the program.

**Table 4-1: Participants in ECOS Upstream/Midstream Program**

<b>Retailer</b>	<b>Total Stores</b>	<b>Status</b>
ACE	2	Active
Cardello	2	Active
Costco	2	Active
Do It Best	8	Active
Dollar General	28	Active
Dollar Tree	16	Active
Family Dollar	37	Active
Goodwill Industries	7	Active
Independent Hardware Store	6	Active
Lowe's	7	Active
Sam's Club	3	Active
Techni-Art Online	1	Active
The Home Depot	9	Active
True Value	4	Active
Wal-Mart	5	Active
<b>Total Active</b>	<b>137</b>	
CVS	29	Non-Active
Giant Eagle	29	Non-Active
Walgreens	19	Non-Active
<b>Total Non-Active</b>	<b>77</b>	
<b>Grand Total</b>	<b>214</b>	

**4.1.1 Program Logic**

Program Theories, Logic Models & Performance Indicators are provided in the EM&V Plan at Section 1.2.5. Program logic diagrams are provided in EM&V Plan Appendix E, Figure E-2 for the Residential Energy Efficiency Rebate Program.

**4.1.2 Program M&V Methodology**

The program's M&V approach is laid out in section 1.3 above. Program verification results will be provided in the fourth quarter (annual) report.

Consistent with Duquesne Light's EM&V Plan Sections 2.5 and 2.5.1, the basic level of verification rigor will be used for TRM deemed savings measures and measures with rebates less than \$2,000 consisting of the six-step process identified in Section 1.3. REEP program specific variances from section 1.3 and program specific information are outlined below.

**Step 1 – Verification Checklist:** No variances from Section 1.3.

**Step 2 – Random Sampling:** This section will be updated with program specific information in later quarterly reports.

**Step 3 – Measure/Project Qualification:** This section will be updated with program specific information in later quarterly reports.

**Step 4 – Deemed Savings Verification:** No variances from Section 1.3.

**Step 5 – Participation and Installation Verification:** Telephone interviews of each sampled customer confirm participation in the program, receipt of a rebate or EE Kit, and installation of the energy saving measure(s). If the TRM includes deemed savings values and/or protocols incorporating in-service rates (ISR), verification surveys confirm program participation and participant purchase or otherwise receipt of subject energy efficiency products (i.e., in the case of EE kits provided participants at no cost). Telephone surveys are tailored to the product promotion and include questions designed to verify participants obtained and installed the EE products.

**Step 6 – Program Realization Rate:** This section will be updated with program specific information in the fourth quarter (annual) report.

#### **4.1.3 Program Sampling**

Program sampling is described above in Section 1.3.1.1 Sampling Plan.

#### **4.1.4 Process Evaluation**

A process evaluation was not conducted for the PY 3 Q1 report.

#### **4.1.5 Program Partners and Trade Allies**

Duquesne Light continued to work through local government partnerships with the City of Pittsburgh as well as Allegheny and Beaver Counties to coordinate delivery of its Act 129 program services.

Ecos is the implementation contractor for the upstream/midstream program and has enrolled 15 retailers with 164 store locations into the program.

#### **4.1.6 Program Finances**

A summary of the project finances are presented in Table 4-2.

**Table 4-2: Summary of Program Finances: TRC Test (REEP)<sup>33</sup>**

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$210,650	\$210,650	\$1,247,812
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	210,650	210,650	1,247,812
B.1	Design & Development	0	0	540,966
B.2	Administration	0	0	0
B.3	Management	673,532	673,532	2,285,365
B.4	Marketing	43,039	43,039	175,294
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	716,571	716,571	3,001,625
C	<b>EDC Evaluation Costs</b>	47,160	47,160	163,982
D	<b>SWE Audit Costs</b>	44,551	44,551	187,299
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	1,018,932	1,018,932	4,600,718
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\* Per direction from the SWE, no TRC values are provided for the PY3 Q1 report.*

<sup>33</sup> Definitions for terms in following table are subject to TRC Order.

## 4.2 Residential: School Energy Pledge Program

The School Energy Pledge (SEP) program is designed to teach students about energy efficiency, have them participate in a school fundraising drive, and help their families to implement energy-saving measures at home. Energy efficiency impacts take place in student homes when families adopt energy efficiency measures that students learn about at school. Through the SEP, families complete a pledge form wherein they commit to install energy efficiency measures provided in an SEP Energy Efficiency Tool Kit (SEP EE Kit) provided free of charge. In return for a family's commitment to install, the participating school receives an incentive of \$25.

### 4.2.1 Program Logic

Program Theories, Logic Models & Performance Indicators are provided in the EM&V Plan at Section 1.2.5. Program logic diagrams are provided in EM&V Plan Appendix E, Figure E-3 for the Residential School Energy Pledge Program.

### 4.2.2 Program M&V Methodology

The program's M&V approach is laid out above in section 1.3.1.1 Sampling Plan. Program verification results will be provided in the fourth quarter (annual) report.

Consistent with Duquesne Light's EM&V Plan Sections 2.5 and 2.5.1, the basic level of verification rigor will be used for TRM deemed savings measures and measures with rebates less than \$2,000 consisting of the six-step process identified in Section 1.3. SEP program specific variances from section 1.3 and program specific information are outlined below.

**Step 1 – Verification Checklist:** No variances from Section 1.3.

**Step 2 – Random Sampling:** This section will be updated with program specific information in later quarterly reports.

**Step 3 – Measure/Project Qualification:** This section will be updated with program specific information in later quarterly reports.

**Step 4 – Deemed Savings Verification:** No variances from Section 1.3.

**Step 5 – Participation and Installation Verification:** Telephone interviews of each sampled customer confirmed participation in the program, receipt of the SEP EE Kit, and installation of the energy saving measures. Telephone surveys are tailored to the product promotion and include questions designed to verify participants obtained the EE products.

**Step 6 – Program Realization Rate:** This section will be updated with program specific information in later quarterly reports.

#### 4.2.3 Program Sampling

Program sampling is described above in Section 1.3.1.1 Sampling Plan.

#### 4.2.4 Process Evaluation

A process evaluation was not conducted for the PY 3 Q1 report.

#### 4.2.5 Program Partners and Trade Allies

The School Energy Pledge Program was implemented as a partnership between Duquesne Light and regional elementary schools. Duquesne Light also partnered with participating student families that “pledged” to install energy efficient products in return for a \$25 donation to their child’s school.

#### 4.2.6 Program Finances

A summary of the project finances are presented in Table 4-3.

**Table 4-3: Summary of Program Finances: TRC Test (SEP)<sup>34</sup>**

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$0	\$0	\$163,750
A.2	EDC Incentives to Trade Allies	0	0	91,877
A	<b>Subtotal EDC Incentive Costs</b>	0	0	255,627
B.1	Design & Development	0	0	372,464
B.2	Administration	0	0	0
B.3	Management	24,491	24,491	555,411
B.4	Marketing	6,284	6,284	27,632
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	30,775	30,775	955,507
C	<b>EDC Evaluation Costs</b>	6,886	6,886	26,399
D	<b>SWE Audit Costs</b>	6,505	6,505	30,835
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	44,166	44,166	1,268,368
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

\* Per direction from the SWE, no TRC values are provided for the PY3 Q1 report.

<sup>34</sup> Definitions for terms in following table are subject to TRC Order.



### 4.3 Residential: Appliance Recycling Program

The Residential Appliance Recycling Program (RARP) seeks to produce cost-effective, long-term, coincident peak demand reduction and annual energy savings in residential market sector by removing operable, inefficient, primary and secondary refrigerators and freezers from the power grid in an environmentally safe manner.

To stimulate participation, RARP offers incentives for eligible refrigerators (\$35) and freezers (\$35). In addition, the program collaborates with other utility programs such Low Income Energy Efficiency Program, the Public Agency Partnership Program and is implemented in a manner consistent with appliance recycling programs across Pennsylvania by using a common implementation contractor (JACO).

#### 4.3.1 Program Logic

Program Theories, Logic Models & Performance Indicators are provided in the EM&V Plan at Section 1.2.5. Program logic diagrams are provided in EM&V Plan Appendix E.

#### 4.3.2 Program M&V Methodology

The program's M&V approach is laid out above in section 1.3.1.1 Sampling Plan. Program verification results will be provided in the fourth quarter (annual) report.

Consistent with Duquesne Light's EM&V Plan Sections 2.5 and 2.5.1, the basic level of verification rigor used for TRM deemed savings measures and measures with rebates less than \$2,000 consists of a six-step process identified in Section 1.3. RARP program specific variances from Section 1.3 and program specific information are outlined below.

**Step 1 – Verification Checklist:** No variances from Section 1.3.

**Step 2 – Random Sampling:** In EM&V Plan Table 2-10, the annual sample size for the RARP Program is 55, with a targeted level of confidence and precision of 9.9%.

**Step 3 – Measure/Project Qualification:** This section will be updated with program specific information in the fourth quarter (annual) report.

**Step 4 - Deemed Savings Verification:** All energy efficiency measures delivered by the RARP have deemed savings specified in the current TRM. Beginning June 1, 2011, the Commission approved new refrigerator/freezer protocols as described in the 2011 TRM. These provide a value of 1,659 kWh for refrigerators/freezers that have been retired and a value of 1,205 kWh for refrigerators/freezers that have been retired and replaced with ENERGY STAR appliances.<sup>35</sup> The fifth checklist criterion described under Step 1 in Section 1.3 is addressed through comparison of PMRS tracking system unit kWh and kW with TRM or interim TRM update deemed savings values. Under the TRM Refrigerator/Freezer Retirement is treated as the one measure where the number of units is multiplied by specified savings per unit, depending on the type of replacement appliance, if any. Unit savings are defined as below:

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<sup>35</sup> See pages 91-95 of the 2011 Technical Reference Manual at Commission Docket No. M-00051865, entered February 28, 2011.

**Table 4-4: Refrigerator/Freezer Recycling – References**

Component	kWh Savings	kW Savings	Coincidence Factor
Retirement	1,659	0.2057	0.62
Replaced with Energy Star	1,205	0.1494	0.62
Replaced with Non-Energy Star	1,091	0.1353	0.62

The change in measure savings occurred after the measures were entered into the PMRS database for PY3 Q1. In order to account for the revised savings, Navigant had to create an adjusted savings per unit for each RARP measure. Based on data collected by JACO at the time of appliance pickup, Navigant found the distribution of primary and secondary units, as well as the number of appliances replaced or retired. For primary units, it is assumed that every unit is replaced (100%). For secondary units, Navigant used an average of replacement rates reported in the JACO database and those reported in Program Year 2 Quarters 3 and 4 telephone verification surveys (35% replacement and 65% retirement). Data from the telephone verification surveys were also used to find the percentage of participants who replaced their refrigerator or freezer with an Energy Star model (87%). Table 4-5 shows these distributions, as well as the total average energy and demand savings to be used for the PY3 Q1 RARP measures: 1,407 kWh energy savings and 0.1744 kW demand savings.

**Table 4-5: Refrigerator/Freezer Recycling – References**

Unit	Action	Replacement Type	Total %*	kWh Savings per unit	kW Savings per Unit
Primary Unit (29%)	Replace (100%)	Energy Star (87%)	25%	1,205	0.1494
		Standard (13%)	4%	1,091	0.1353
Secondary Unit (71%)	Replace (35%)	Energy Star (87%)	22%	1,205	0.1494
		Standard (13%)	3%	1,091	0.1353
	Retire (65%)		46%	1,659	0.2057
			100%	1,407	0.1744

\*Total % = (Unit %) x (Action %) x (Replacement Type %)

Because the secondary replacement rates are based on an average of JACO database records and telephone survey responses, the 1,407 kWh savings could range between 1348 kWh and 1464 kWh. Similarly, demand savings range from 0.1669 kW to 0.1814 kW.

**Step 5 – Participation and Installation Verification:** Telephone surveys are employed for impact verification of measures receiving basic level of rigor verification (i.e., deemed savings measures with rebates less than \$2000). RARP telephone interview surveys will be performed for of each sampled customer to confirm participation in the program. Participation verification includes confirmation the

unit was picked up for recycling and the unit was tested to ensure it is in operating condition prior to removal

**Step 6 – Program Verification Rate:** This section will be updated with program specific information in later quarterly reports.

#### **4.3.3 Program Sampling**

Program sampling is described above in Section 1.3.1.1 Sampling Plan.

#### **4.3.4 Process Evaluation**

A process evaluation was not conducted for the PY 3 Q1 report.

#### **4.3.5 Program Partners and Trade Allies**

The program implementer (JACO) is implementing similar programs for the other Pennsylvania EDCs, promoting consistent regional treatment, increasing efficiencies and reducing customer confusion.

**4.3.6 Program Finances**

A summary of the project finances are presented in Table 4-5.

**Table 4-6: Summary of Program Finances: TRC Test (RARP)<sup>36</sup>**

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$19,670	\$19,670	\$159,355
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	19,670	19,670	159,355
B.1	Design & Development	0	0	97,413
B.2	Administration	0	0	0
B.3	Management	142,369	142,369	541,259
B.4	Marketing	5,928	5,928	24,148
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	148,297	148,297	662,820
C	<b>EDC Evaluation Costs</b>	6,495	6,495	22,263
D	<b>SWE Audit Costs</b>	6,136	6,136	25,191
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	180,598	180,598	869,629
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\*Per direction from the SWE, no TRC values are provided for the PY3 Q1 report.*

<sup>36</sup> Definitions for terms in following table are subject to TRC Order.

## 4.4 Residential: Low Income Energy Efficiency Program

The Low-Income Energy Efficiency Program (LIEEP) is designed as an income-qualified program providing services to assist low-income households to conserve energy and reduce electricity costs. The objective of this program is to increase qualifying customers' comfort while reducing their energy consumption, costs, and economic burden.

In PY 2010 the LIEEP savings by income qualifying customers were delivered by the Residential Energy Efficiency Program (REEP) and the Residential Refrigerator/Freezer Recycling Program (RARP).

### 4.4.1 Program Logic

Program Theories, Logic Models & Performance Indicators are provided in the EM&V Plan at Section 1.2.5. Program logic diagrams are provided in EM&V Plan Appendix E, Figure E-1 for the Residential Low Income Program.

### 4.4.2 Program M&V Methodology

The program's M&V approach is laid out above in section 1.3.1.1 Sampling Plan. Program verification results will be provided in the fourth quarter (annual) report.

Consistent with Duquesne Light's EM&V Plan Sections 2.5 and 2.5.1, the basic level of verification rigor will be used for TRM deemed savings measures and measures with rebates less than \$2,000 consisting of the six-step process identified in Section 1.3. LIEEP Program specific variances from Section 1.3 and program specific information are outlined below.

**Step 1 – Verification Checklist:** No variances from Section 1.3.

**Step 2 – Random Sampling:** In EM&V Plan Table 2-10, the annual sample size for the LIEEP Program is 55, with a targeted level of confidence and precision of 10.0%.

**Step 3 – Measure/Project Qualification:** This section will be updated with program specific information in later quarterly reports.

**Step 4 - Deemed Savings Verification:** This section will be updated with program specific information in later quarterly reports.

**Step 5 – Participation and Installation Verification:** This section will be updated with program specific information in later quarterly reports.

**Step 6 – Program Verification Rate:** This section will be updated with program specific information in later quarterly reports.

#### 4.4.3 Program Sampling

Program sampling is described above in Section 1.3.1.1 Sampling Plan.

#### 4.4.4 Process Evaluation

A process evaluation was not conducted for the PY 3 Q1 report.

#### 4.4.5 Program Partners and Trade Allies

Consistent with its filed program plan, LIEEP will be delivered through Public Agency Partnership arrangements whereby Duquesne Light partners with local government (cities and counties and their jurisdictional agencies) to deliver program services. This program design leverages program resources and enables it to reach a greater number of participants while retaining its status as a cost-effective resource program.

#### 4.4.6 Program Finances

A summary of the project finances are presented in Table 4-6.

**Table 4-7: Summary of Program Finances (LIEEP Program)**

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$1,981	\$1,981	\$469,389
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	1,981	1,981	469,389
B.1	Design & Development	0	0	152,764
B.2	Administration	0	0	0
B.3	Management	31,796	31,796	271,145
B.4	Marketing	15,201	15,201	60,006
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	46,997	46,997	483,915
C	<b>EDC Evaluation Costs</b>	16,656	16,656	57,613
D	<b>SWE Audit Costs</b>	15,735	15,735	65,281
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	81,369	81,369	1,076,198
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

\*Per direction from the SWE, no TRC values are provided for the PY3 Q1 report.

## 4.5 Commercial Sector Programs

### 4.5.1 Commercial Overview

The Commercial Sector includes an overall umbrella program structure and four specialized programs that address the following market segments: Small Office, Large Office, Public Agency, Retail, and Healthcare. Under the overarching umbrella program, the specialized programs promote specific technologies or target specific market segments while incorporating the umbrella program savings impacts and incentive levels.

The commercial programs are designed to help commercial customers assess the potential for energy-efficiency project implementation, cost and energy savings, and, for appropriate customers, provide follow-through by installing measures and verifying savings. The following program services are provided in each sub-program:

- Auditing of building energy use
- Provision of targeted financing and incentives
- Project management and installation of retrofit measures
- Training, and technical assistance

The following organizations are responsible for implementing the commercial sector programs:

- Large Office: Roth Bros, Inc. and Enerlogics Networks, Inc.
- Small Office: AllFacilities Energy Group
- Retail: AllFacilities Energy Group
- Healthcare: Duquesne Light
- Governmental and Non-Profit Programs: Duquesne Light and Governmental Partners including: Allegheny County, Allegheny County Economic Development, Allegheny County Housing Authority, City of Pittsburgh and Beaver County Housing Authority

### 4.5.2 Program Logic

Program Theories, Logic Models & Performance Indicators are provided in the EM&V Plan at Section 1.2.5. Program logic diagrams are provided in EM&V Plan Appendix E.

### 4.5.3 Program EM&V Methodology

The program's M&V approach is laid out above in section 1.3.1.1 Sampling Plan. Program verification results will be provided in later quarterly reports.

### 4.5.4 Commercial Sector Evaluation Group Impact Evaluation

Per the utility's EM&V Plan, for the purpose of conducting cost-effective EM&V, certain industrial and commercial programs were grouped based on shared characteristics. Commercial sector retail, healthcare, large and small office and public agency partnership programs were similar enough in structure to be treated as one evaluation group. In PY2-Q1, the Commercial Sector Evaluation Group program activity subject to EM&V is summarized by program in Section 1.3.1.1

### 4.5.5 Process Evaluation

A process evaluation was not conducted for the PY 3 Q1 report.

#### 4.5.6 Program Partners and Trade Allies

In addition to the implementation contractors noted above, Duquesne Light continues to work through local government partnerships with the City of Pittsburgh, Allegheny and Beaver Counties as well as major universities and healthcare providers to coordinate delivery of its Act 129 program services.

#### 4.5.7 Program Finances

A summary of the project finances are presented in Tables 4-7 through 4-12.

**Table 4-8: Summary of Program Finances: TRC Test (Commercial Umbrella, Small and Large)**

	Category	1Q	PYTD	CPITD
A.1	EDC Incentives to Participants	\$11,734	\$11,734	\$252,061
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	11,734	11,734	252,061
B.1	Design & Development	0	0	90,956
B.2	Administration	0	0	0
B.3	Management	37,423	37,423	154,185
B.4	Marketing	6,480	6,480	26,129
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	43,903	43,903	271,270
C	EDC Evaluation Costs	7,102	7,102	16,998
D	SWE Audit Costs	6,708	6,708	27,572
E	Participant Costs	0	0	0
	<b>Total Costs</b>	69,447	69,447	567,901
F	Annualized Avoided Supply Costs*	0	0	0
G	Lifetime Avoided Supply Costs*	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\*Per direction from the SWE, no TRC values are provided for the PY3 Q1 report.*



**Table 4-9: Summary of Program Finances: TRC Test (Office- Small)**

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$61,937	\$61,937	\$128,315
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	61,937	61,937	128,315
B.1	Design & Development	0	0	180,345
B.2	Administration	0	0	0
B.3	Management	41,527	41,527	236,449
B.4	Marketing	11,888	11,888	48,568
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	53,415	53,415	465,362
C	<b>EDC Evaluation Costs</b>	13,028	13,028	31,535
D	<b>SWE Audit Costs</b>	12,306	12,306	52,696
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	140,686	140,686	677,908
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\*Per direction from the SWE, no TRC values are provided for the PY3 Q1 report.*

**Table 4-10: Summary of Program Finances: TRC Test (Office - Large)**

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$434,118	\$434,118	\$1,062,228
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	434,118	434,118	1,062,228
B.1	Design & Development	0	0	342,546
B.2	Administration	0	0	0
B.3	Management	386,875	386,875	804,638
B.4	Marketing	24,475	24,475	96,652
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	411,350	411,350	1,243,836
C	EDC Evaluation Costs	26,817	26,817	64,170
D	SWE Audit Costs	25,335	25,335	103,980
E	Participant Costs	0	0	0
	<b>Total Costs</b>	897,620	897,620	2,474,214
F	Annualized Avoided Supply Costs*	0	0	0
G	Lifetime Avoided Supply Costs*	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\*Per direction from the SWE, no TRC values are provided for the PY3 Q1 report.*

**Table 4-11: Summary of Program Finances: TRC Test (Retail)**

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$352,241	\$352,241	\$543,720
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	352,241	352,241	543,720
B.1	Design & Development	0	0	210,296
B.2	Administration	0	0	0
B.3	Management	119,643	119,643	610,848
B.4	Marketing	14,666	14,666	58,860
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	134,309	134,309	880,004
C	<b>EDC Evaluation Costs</b>	16,071	16,071	38,586
D	<b>SWE Audit Costs</b>	15,182	15,182	63,098
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	517,803	517,803	1,525,408
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\*Per direction from the SWE, no TRC values are provided for the PY3 Q1 report.*

**Table 4-12: Summary of Program Finances: TRC Test (Government/Non-Profit)**

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$975,386	\$975,386	\$2,434,007
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	975,386	975,386	2,434,007
B.1	Design & Development	0	0	579,197
B.2	Administration	0	0	0
B.3	Management	223,675	223,675	458,351
B.4	Marketing	40,425	40,425	161,448
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	264,100	264,100	1,198,996
C	<b>EDC Evaluation Costs</b>	44,294	44,294	106,338
D	<b>SWE Audit Costs</b>	41,845	41,845	173,845
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	1,325,625	1,325,625	3,913,186
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\*Per direction from the SWE, no TRC values are provided for the PY3 Q1 report.*

**Table 4-13: Summary of Program Finances: TRC Test (Healthcare)**

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$33,940	\$33,940	\$67,413
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	33,940	33,940	67,413
B.1	Design & Development	0	0	93,248
B.2	Administration	0	0	0
B.3	Management	38,027	38,027	202,365
B.4	Marketing	13,543	13,543	54,003
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	51,570	51,570	349,616
C	<b>EDC Evaluation Costs</b>	14,840	14,840	35,606
D	<b>SWE Audit Costs</b>	14,019	14,019	58,118
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	114,369	114,369	510,753
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\*Per direction from the SWE, no TRC values are provided for the PY3 Q1 report.*

## **4.6 Industrial Sector Programs**

### **4.6.1 Industrial Sector Overview**

The Industrial Sector includes an overall umbrella program structure and three specialized programs that address the following market segments: primary metals, chemical products and mixed industrials. Under the overarching umbrella program, specialized programs are designed to promote specific technologies or target specific market segments while incorporating the umbrella program savings impacts and incentive levels. In this manner, all industrial programs present a consistent and common offering.

The industrial programs are intended to provide a comprehensive approach to energy savings and permanent demand reduction, and address a full range of efficiency opportunities from low cost improvements to entire system upgrades. Each program provides the following services:

- Targeted and comprehensive on-site walk-through assessments and professional grade audits to identify energy savings opportunities.
- Efficiency studies/reports that detail process and equipment upgrades that present the greatest potential for energy/cost savings.
- Support to access rebates and incentives available across electric measures designed to help defray upfront costs of installing the equipment.
- Coordination with local chapters of key industry associations to promote energy efficiency improvements through trusted sources and encourage market-transforming practices among equipment vendors and purchasers

Duquesne Light has chosen the following Conservation Service Providers (CSPs) to implement industrial sector programs:

- Primary Metals Program: Roth Bros, Inc. and Enerlogics Networks, Inc.
- Chemical Products: Global Energy Partners, LLC
- Mixed Industrial: Global Energy Partners, LLC

### **4.6.2 Program Logic**

Program Theories, Logic Models & Performance Indicators are provided in the EM&V Plan at Section 1.2.5. Program logic diagrams are provided in EM&V Plan Appendix E.

### **4.6.3 Program EM&V Methodology**

The program's M&V approach is laid out above in section 1.3.1.1 Sampling Plan. Program verification results will be provided in later quarterly reports.

### **4.6.4 Industrial Sector Evaluation Group Impact Evaluation**

As related in the previous section, per the utility's EM&V Plan, for the purpose of conducting cost-effective EM&V, certain industrial and commercial programs are grouped based on shared characteristics. Industrial sector umbrella, primary metals, chemical products and mixed industrial product energy efficiency programs are similar enough in structure to be treated as one evaluation group.

### **4.6.5 Process Evaluation**

A process evaluation was not conducted for the PY 3 Q1 report.

#### 4.6.6 Program Partners and Trade Allies

Duquesne Light continues to work through local government partnerships with the City of Pittsburgh, Allegheny and Beaver Counties as well as major universities and healthcare providers to coordinate delivery of its Act 129 program services.

#### 4.6.7 Program Finances

A summary of the project finances is presented in Tables 4-13 to 4-16.

**Table 4-14: Summary of Program Finances: TRC Test (Industrial Umbrella, Small and Large))**

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$0	\$0	\$45,162
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	0	0	45,162
B.1	Design & Development	0	0	38,548
B.2	Administration	0	0	0
B.3	Management	13,103	13,103	52,710
B.4	Marketing	3,784	3,784	16,551
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	16,887	16,887	107,809
C	<b>EDC Evaluation Costs</b>	4,146	4,146	10,184
D	<b>SWE Audit Costs</b>	3,917	3,917	17,663
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	24,950	24,950	180,818
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\*Per direction from the SWE, no TRC values are provided for the PY3 Q1 report.*

**Table 4-15: Summary of Program Finances: TRC Test (Mixed Industrials)**

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$263,785	\$263,785	\$429,774
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	263,785	263,785	429,774
B.1	Design & Development	0	0	39,333
B.2	Administration	0	0	0
B.3	Management	299,668	299,668	604,279
B.4	Marketing	8,065	8,065	34,830
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	307,733	307,733	678,442
C	<b>EDC Evaluation Costs</b>	8,837	8,837	21,830
D	<b>SWE Audit Costs</b>	8,349	8,349	38,415
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	588,704	588,704	1,168,461
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\*Per direction from the SWE, no TRC values are provided for the PY3 Q1 report.*



**Table 4-16: Summary of Program Finances: TRC Test (Chemical Products)**

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$115,916	\$115,916	\$656,147
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	115,916	115,916	656,147
B.1	Design & Development	0	0	130,281
B.2	Administration	0	0	0
B.3	Management	153,364	153,364	1,016,225
B.4	Marketing	9,039	9,039	36,149
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	162,403	162,403	1,182,655
C	<b>EDC Evaluation Costs</b>	9,904	9,904	23,796
D	<b>SWE Audit Costs</b>	9,356	9,356	38,992
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	297,579	297,579	1,901,590
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\*Per direction from the SWE, no TRC values are provided for the PY3 Q1 report.*

**Table 4-17: Summary of Program Finances: TRC Test (Primary Metals)**

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$292,366	\$292,366	\$892,942
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	292,366	292,366	892,942
B.1	Design & Development	0	0	429,684
B.2	Administration	0	0	0
B.3	Management	677,088	677,088	1,632,340
B.4	Marketing	24,522	24,522	105,937
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	701,610	701,610	2,167,961
C	<b>EDC Evaluation Costs</b>	26,869	26,869	66,534
D	<b>SWE Audit Costs</b>	25,384	25,384	117,746
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	1,046,229	1,046,229	3,245,183
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\*Per direction from the SWE, no TRC values are provided for the PY 3 Q1 report.*

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