



Duquesne Light
Our Energy...Your Power

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September 15, 2010

VIA OVERNIGHT MAIL

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120

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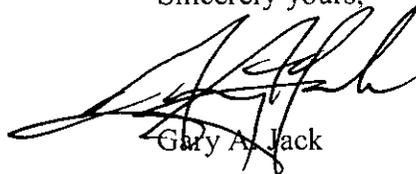
**Re: Petition of Duquesne Light Company for Approval of its
Energy Efficiency and Conservation and Demand Response Plan
Docket No. M-2009-2093217**

Dear Secretary Chiavetta:

Please find enclosed for filing the original and three copies of Duquesne Light Company's ("Duquesne") annual report for its Energy Efficiency and Conservation and Demand Response Plan ("Plan" or "EE&C Plan").

Additionally, Duquesne respectfully submits for Commission review and approval two modifications to its Plan which involve the proposed addition of new measures within its Residential program. Per the Commission's Secretarial Letter issued September 1, 2010 regarding format for presentation of proposed changes to EE&C plans, Duquesne submits Attachment A describing the proposed changes. One original black-lined version of Duquesne's Plan is attached.

Sincerely yours,



Gary A. Jack

Enclosures

cc: All Parties listed
on the Certificate of Service

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of Duquesne Light Company's September 15, 2010 Annual Report and proposed EE&C Plan modifications have been served upon the following persons, in the manner indicated, in accordance with the requirements of § 1.54 (relating to service by a participant):

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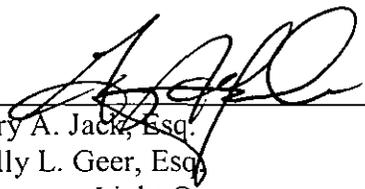
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Dated September 15, 2010

Executive Summary

Proposed Changes to Duquesne Light Company's EE&C Plan

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(a) Brief Description of Proposed Changes

First proposed change:

1. Residential: Refrigerator Recycling Program (RRRP):

The RRRP is patterned after exemplary appliance recycling programs¹ to encourage residential customers in Duquesne Light's service territory to turn in their older operating refrigerators to be recycled. Removing an older, operating refrigerator can result in an energy savings of more than 1,728 kWh and reduce 0.24 peak kW.² To encourage participation in this program, this program provides a \$35 check for the removal of the old refrigerator. The program is implemented by JACO Environmental that operates similar programs across the country and for other Pennsylvania EDCs.

Based on recommendations by JACO Environmental and requests from Duquesne's customers, Duquesne Light is requesting to expand the program by adding "Freezers" to the program offer. The PA TRM documents the identical deemed savings for freezers under Section 4.5 "Refrigerator/Freezer Retirement" as for refrigerators. Similarly, recycling costs are identical. Duquesne Light proposes to change the title of the program to the Residential: Refrigerator/Freezer Recycling Program to improve customer service and promote greater program savings.

Adding freezers to the program does not affect budgeting dollars already allocated to this program.

Second Proposed Change:

2. PA Technical Reference Manual (TRM) Deemed Savings Measure Additions:

Extensive collaborative work by the Bureau of Conservation, Economics & Energy Planning (CEEP), the Statewide Evaluation Team (SWE) and the EDC stakeholders in the TRM Technical Working Group (TWG) has resulted in the addition of many new deemed savings measures to the PA Technical Reference Manual. The TRM is updated annually through the development of Interim Protocols for the TRM. The updating process refines and improves deemed savings assumptions, adding new measures and streamlining program implementation processes. The collaborative process provides an opportunity for peer review of program measures under the guidance and oversight of the CEEP and SWE.

¹ Based on the Pacific Gas & Electric 2008 ACEEE Exemplary Appliance Recycling Program (<http://aceee.org/pubs/u081/res-light-app.pdf>).

² PA TRM Section 4.5 Refrigerator/Freezer Retirement, Table 4-5

Measures proposed to be added to Duquesne Light's approved EE&C Plan are shown below:

New Measure	Effected Program
Furnace Whistle	REEP
Night light (LED)	REEP
Night light (limelight)	REEP
Heat Pump Water Heater (EF 2.0 - 2.3)	REEP
Electric Water Heaters (EF .93 - .95)	REEP
Refrigerator/Freezer Replacement*	LIEEP
Smart Strips	REEP

*This program is different than the recycling program noted in Change 1 above and involves complete replacement for low-income customers.

Adding these new TRM approved measures offers our customers additional energy efficient products. All of the incentives in the Program are in the form of a rebate. The total incentive budget for the Residential Energy Efficiency Rebate Program (REEP) is \$10.4 M and the incentive budget for LIEEP is \$3.8 M for 2009-2013. Rebates on these products are offered on a first-come, first-serve basis. All rebates are tracked on a monthly basis against the total budget. To date, nothing has occurred to indicate oversubscription of rebates for a particular measure or rebate. In the event that certain measure rebates appear to becoming over-subscribed in relation to their derived benefit, Duquesne will seek Commission approval to limit or remove the measure from its Plan.

(b) Where Each Proposal can be Found in the Revised Plan

Changes to the Residential Refrigerator Recycling Program based on adding freezer recycling occur at EE&C Plan Section 3.2-c., changing the program name to the Residential: Refrigerator/Freezer Recycling and revised descriptive narrative to incorporate freezer recycling into the program. See pages 30-33 of the Plan.

Measures proposed to be added resulting from updates to the TRM affect the REEP and Low Income Energy Efficiency Program (LIEEP). Measures added to REEP are identified in EE&C Plan Section 3.2-a. Figure 11: Residential Energy Efficiency Rebate Program Residential Sector Measure Incentives. See page 26 of the Plan.

(c) Whether (and if so, how) each proposed change affects any other Part(s) of the plan

The proposed changes do not affect any other parts of Duquesne Light's EE&C Plan.

Template for Pennsylvania EDC Energy Efficiency and Conservation Plans

To be submitted by EDCs by July 1, 2009

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Note:

If any of your answers require you to disclose what you believe to be privileged or confidential information, not otherwise available to the public, you should designate at each point in the EE&C Plan that the answer requires you to disclose privileged and confidential information. Explain briefly why the information should be treated as confidential. You should then submit the information on documents stamped "CONFIDENTIAL" at the top in clear and conspicuous letters and submit one copy of the information under seal to the Secretary's Office along with the EE&C Plan. In addition, an expunged copy of the filing should also be included with the EE&C Plan. If someone requests to examine the information, or if Commission staff believes that the proprietary claim is frivolous or otherwise not justified, the Secretary's Bureau will issue a Secretarial Letter directing that the EDC file a petition for protective order pursuant to 52 Pa. Code § 5.423.

Energy Efficiency and Conservation Plan

A. Transmittal Letter - with reference to statutory and regulatory requirements and Electric Distribution Company (EDC) contact that PA PUC should contact for more information.

B. Table of Contents - including lists of tables and figures.

1. Overview of Plan (~10 pages)

(The objective of this section is to provide an overview of the entire plan)

- 1.1. Summary description of plan, plan objectives, and overall strategy to achieve energy efficiency and conservation goals.

Pursuant to Act 129 of 2008 (“Act 129”) the Pennsylvania General Assembly charged the Pennsylvania Public Utility Commission (“PUC” or “Commission”) with establishing an energy efficiency and conservation program. The energy efficiency and conservation program requires each electric distribution company (“EDC”) with at least 100,000 customers to adopt a plan to reduce energy demand and consumption within its service territory. In response to Act 129, on January 16, 2009, the Commission entered an Implementation Order at Docket No. M-2008-2069887.

On March 26, 2009, the PUC identified specific energy consumption and peak demand reductions that EDCs must achieve under the requirements of Act 129. Under Act 129, the EDCs must reduce electricity consumption by 1 percent by May 31, 2011, and by 3 percent by May 31, 2013. Duquesne Light Company’s (“Duquesne Light” or “Duquesne” or the “Company”), energy consumption reductions total 140,855 MWh and 422,565 MWh, respectively. The Act also requires a 4.5 percent reduction in peak demand by May 31, 2013. The Company’s peak demand reductions are 113 MW.

In compliance with the requirements of Act 129 and PUC Orders, Duquesne has used the energy consumption and peak demand reductions established by the Commission to develop its energy efficiency and conservation plan, which is submitted herewith.

In addition to internal resources within Duquesne Light, the Company retained MCR Performance Solutions, LLC (“MCR”) to assist in developing a compliance strategy and plan required by the energy efficiency and conservation and demand side response (“EEC & DR”) initiatives mandated by Act 129. To support these objectives, MCR and Duquesne worked to develop and implement a phased project approach resulting in the enclosed EEC & DR Plan (“Plan”), pre-filed supporting testimony and required filing supporting testimony and the EEC & DR Study (“Study”). Material provided in this document includes primary and secondary research, analytical processes, findings and program plans required to support the Plan filing.

The resulting Plan combines both energy efficiency and conservation (“EEC” or “EE&C”) measures with demand response (“DR”) measures. Current Pennsylvania regulations prohibit EDCs from counting DR program contracted capacity toward mandated demand reductions. Given uncertainty over how DR programs would be permitted to contribute toward achieving the mandated reductions, the Company primarily focused planning efforts and resources on developing EEC programs, which can be reliably credited to achieving mandated reductions. Nonetheless, certain DR

planning was included for each customer class, both to comply with the requirements of Act 129 and to incorporate DR features into the overall planning effort. Duquesne will consider whether it may be able to avail itself to PJM's Reliability Pricing Model program.

To support EEC program planning, the Company and MCR assessed the EEC potential in the Duquesne Light service territory for a cross-section of customer segments comprising the major rate classes. Once the EEC potential had been ascertained, particular measures were selected for each customer segment based on numerous factors, as described in the detailed sections of the Plan that follow this summary. In essence, this planning process made extensive use of benchmarking data and drew heavily on the experience gained by other energy service providers that have initiated EEC measures over the last several decades throughout the nation. The valuable lessons learned about what has been effective elsewhere were applied to the specific information relative to Duquesne Light's customers. The Company then made decisions to include or exclude particular EEC measures within its plan to achieve the mandated reductions in cost-effective ways that are consistent with customer interests.

1.2. Summary description of process used to develop the EE&C plan and key assumptions¹ used in preparing the plan.

In support of EE&C program planning, MCR assessed the EE&C potential in Duquesne's service territory for a cross-section of customer segments comprising the major rate classes. The EEC potential forecast is comprised of the analytical tasks necessary to create a regional "inventory" of program opportunities from an engineering perspective (technical potential). Cost-benefit analysis is applied to the technical potential to determine the economic potential, and, finally, achievable potential is forecast based on documented customer acceptance behavior. The EEC potential forecast identifies *where* the potential exists to achieve the mandated reductions. Benchmarking analysis identifies *how* to best deliver services to the targeted sectors. As with the potential forecast, benchmarking focuses on *retrofit* (versus new construction) program options where more than 90 percent of efficiency gain potential resides.² In addition to program elements described under program plans, program benchmarking provides reference points for program cost allocation between rebates (or incentives) and program administration. In addition to defining the portion of program budgets allocated to incentives versus program administration, program planning requires setting incentive levels. Energy efficiency incentives function to offset the incrementally higher cost of energy efficiency measures in an effort to make the customer indifferent to the higher cost of high-efficiency products. Incentive levels are stated in terms of percentage of a measure's incremental cost. Key assumptions used in preparing the plan are referenced throughout the Study. The key assumptions were: Duquesne Light customer base information, end-use saturation information, customer retail rates, utility avoided costs, regional generation output, emission rates, baseline budget allocation and incentive levels.³

¹ Whenever assumptions are used, provide the basis for using that assumption.

² Potential for Energy Efficiency, Demand Response, and Onsite Solar Energy in Pennsylvania, Table 4, page 15, 90% of residential sector efficiency gain potential is in existing buildings and 95% of commercial sector efficiency gain is in existing building stock, ACEEE April 2009.

- 1.3. Summary tables of portfolio savings goals, budget and cost-effectiveness (see Tables 1, 2 and 3).³
- 1.4. Summary of program implementation schedule over four year plan period (see Chart 1 Notes).

Residential Sector: Pursuant to discussions held at Stakeholder Meetings, Duquesne Light developed plans to launch four programs targeting the residential sector: A low income program, a residential rebate program, a residential and schools educational program and a refrigerator recycling program. The low income program will leverage the public agency program operated through local government partnerships developed earlier this year (described below). The residential and schools program will be implemented by a Conservation Service Provider (“CSP”). The refrigerator recycling program is under discussion as a joint program using a single recycling contractor. Program design and advanced efforts will enable Duquesne Light to initiate program launch concurrent with the Commission’s approval of this plan, no later than December 1, 2009, as reflected in the Gantt Chart in Section 12, Chart 1 Residential Portfolio Program. Duquesne Light will plan to meet with stakeholders as needed to discuss the status of the program and issues, no less than semi-annually, until May 31, 2013, unless otherwise ordered by the Commission.

Small and Large Commercial/Industrial Programs

Commercial Sector: Duquesne Light began working directly with major healthcare system operators shortly after the Act 129 Stakeholder meetings to tailor EEC & DR program to meet segment specific needs. Subsequently Duquesne Light initiated implementation of its largest commercial sector program, the large office building program, by issuing an implementation RFP on May 15, 2009. The bids were received on June 19, 2009, and the implementation contract will be awarded by August 12, 2009. Following the RFP process for the large office building program, Duquesne Light will utilize the RFP format, process and lessons learned to guide issuance of two more RFPs soliciting contractor proposals for the small office building and retail store segment programs. Duquesne Light will complete contract negotiations with those CSPs. All programs are expected to be launched by December 1, 2009 as reflected in the Gantt chart for Commercial and Industrial Programs in Section 12, Charts 2 and 3. The programs will be operated to render savings impacts and achieve mandated reductions through May 31, 2013. Duquesne Light will plan to meet with stakeholders as needed to discuss the status of the program and issues, no less than semi-annually, until May 31, 2013, unless otherwise ordered by the Commission.

Industrial Sector: Similar to the residential sector pursuant to discussions held at Stakeholder Meetings, Duquesne Light developed program plans. Following the RFP process for the large office building program (described above), Duquesne Light will utilize the RFP format, process and lessons learned to guide issuance of three more RFPs soliciting contractor proposals to implement programs targeting the industrial primary metals and chemical products manufacturing market segments. The third industrial sector program will provide EEC & DR services to a mixture of smaller

³ Tables (and Chart) referenced in the template outline are located in the separate master spreadsheet.

industrial segments. Duquesne Light will complete contract negotiations with those CSPs. All programs are expected to be launched by December 1, 2009, as reflected in the Gantt chart for Commercial and Industrial Programs in Section 12, Charts 2 and 3. The programs will be operated to render savings impacts and achieve mandated reductions through May 31, 2013. Duquesne Light will plan to meet with stakeholders as needed to discuss the status of the program and issues, no less than semi-annually, until May 31, 2013, unless otherwise ordered by the Commission.

Governmental/Non-Profit Sector Programs: Duquesne Light began working directly with regional local governments shortly after the Act 129 Stakeholder meetings in an effort to tailor EEC & DR programs to meet segment specific needs. In preparation for program launch, Duquesne Light executed memoranda of understanding with several key local public agencies and identified project areas for EEC & DR services. Project work will begin concurrent with the Commission's approval of this plan. Programs will be launched to later than December 1, 2009, as shown in the Gantt chart for Governmental/non-profit Sector Programs in Section 12, Chart 4. Duquesne Light will plan to meet with stakeholders as needed to discuss the status of the program and issues, no less than semi-annually, until May 31, 2013, unless otherwise ordered by the Commission.

1.5. Summary description of the EDC implementation strategy to manage EE&C portfolios and engage customers and trade allies.

The delivery organization size and function will be driven by the portfolio of programs fielded. The portfolio proposed by Duquesne Light is structured under three broad "umbrella" programs: residential, commercial and industrial.

The umbrella programs provide incentives for a full range of measures to assist residential, commercial and industrial energy customers of all sizes and in all key market segments to overcome barriers to adopting energy efficiency measures. The umbrella programs put in place a baseline program design, with set incentive levels and measure content. The umbrella programs are designed as an overarching programmatic structure, with calculated incentives for customized projects or itemized incentives for standard measures. Under the overarching umbrella programs, specialized sub-programs can promote specific technologies or target specific market segments while incorporating the umbrella program savings impacts and incentive levels. In this manner, sub-programs present a consistent and common offering. The umbrella programs comprise the operational structure for the implementation of all programs to be offered.

Duquesne Light will implement programs in an effective and economical manner by balancing utility resources with contracted resources. More specifically, contractors and subcontractors with expertise and experience in program implementation and operations will be deployed under agreements with Duquesne Light. Management responsibility for meeting goals will still rest with Duquesne Light, working in concert with contractors and subcontractors as outline in the table below.

Figure 1: Program Implementation Responsibility

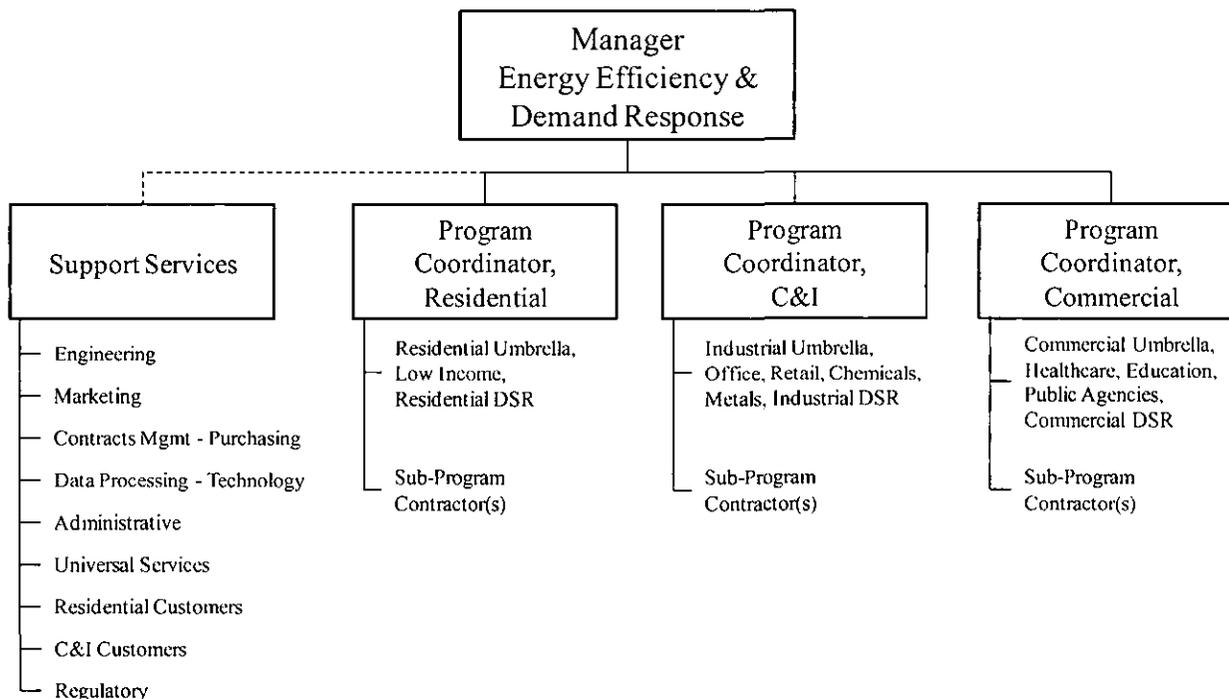
EE Sector	Program	Implementation
Residential	Residential Rebate	Core Team (or Contractor)
	Residential School Energy Pledge	Sub-program Contractor
	Refrigerator Recycling	Sub-program Contractor
	Low-Income Weatherization	Sub-program Contractor
Commercial	Commercial Rebates (umbrella)	Core Team (or Contractor)
	Office Buildings	Sub-program Contractor
	Healthcare	Core Team (or Contractor)
	Retail Stores & Restaurants	Sub-program Contractor
	Education	Core Team (or Contractor)
	Governmental / Non-Profit	Core Team (or Contractor)
Industrial	Industrial Rebates (umbrella)	Core Team (or Contractor)
	Primary Metals	Sub-program Contractor
	Chemicals	Sub-program Contractor
	Industrial Rebates (Mixed)	Sub-program Contractor
Demand Response Programs	Utility Interface	Core Team (or Contractor)
	Residential DR	Sub-program Contractor
	Small/Mid Commercial DR	Sub-program Contractor
	Large C/I Curtailable Load	Sub-program Contractor

Program implementation requires significant planning and operations management functions. In addition to initiating the contracting process, each contractor will be managed and integrated into an organized, cohesive operation. Program procedural guidelines will be developed and followed. Documentation will be maintained and electronic data structures will be developed and managed.

Customers will be engaged through at least three channels. First, Duquesne Light will promote the programs to its customers, through such marketing approaches as mass media advertising, direct marketing, events, conferences, account representatives and electronic media. Second, the Duquesne Light contractors and subcontractors will have similar responsibilities, with specific focus on securing commitments for customers to participate in the programs. Third, trade allies, such as builders, architects, engineers, vendors, equipment installation contractors, retailers and others, will be informed of the Duquesne Light programs, with the objective of securing their willingness to participate and secure their customers and clients to participate. Trade allies also will be engaged, primarily through direct marketing, events, conferences and account representatives.

The implementation organization for Duquesne Light will be housed within the customer service function. The size and structure will reflect the use of contractors and subcontractors. The organization will be headed by one manager responsible for the energy efficiency and conservation program plan. The manager will be supported by several sector or segment specific program coordinators. There also will be support staff for such functions as engineering, marketing, data processing, regulatory and contract management. The organizational chart pictured below represents a preliminary structure to plan and implement the energy efficiency and conservation plan, including demand response.

Figure 2: Organization Chart



1.6. Summary description of EDC’s data management, quality assurance and evaluation processes; include how EE&C plan, portfolios, and programs will be updated and refined, based on evaluation results.

Respecting the decision to administer evaluation, measurement and verification (EM&V) studies centrally under the Commission’s oversight, Duquesne Light focused its efforts on incorporating EM&V elements within its program planning elements to ensure “verification” was not an afterthought. Duquesne Light’s plan development incorporates EM&V consideration within the planning process, during implementation (for mid-course correction) and following each program period to inform the next planning cycle and make adjustments, as warranted. This is accomplished by incorporating the following elements:

EM&V Logic Diagrams: Including EM&V logic diagrams within energy efficiency program planning is a practice adopted by measurement and verification technical boards and subsequently required by regulation in key states, such as California and New York. Evaluation contractors successful in obtaining contracts to evaluate Pennsylvania’s energy efficiency programs will be familiar with logic diagrams and will recognize the effort taken as appropriate due diligence by informed program planners. More important, the exercise of formulating the diagrams and attendant performance indicators linked to the logic diagram, bring visibility to program planning elements that might otherwise be overlooked. EM&V Logic Diagrams and performance indicators for Duquesne Light umbrella and sub-programs can be reviewed in the Study.

Program Management and Reporting System (PMRS): From an EM&V perspective, Duquesne Light's PMRS records individual measure savings impacts, expenditures and customer contact events. The records describe the equipment installed, model and serial numbers and location for site verification. Files contain all data elements in a customer commitment and installation process, including customer contact information, customer activities - including installations, rebating, and educational or information services, i.e., energy survey. Data recording and updating are performed on a regular basis, and integrated into program operations, so that the progression from a sales contact to an installation and inspection of a project is fully documented. PMRS data supports stratified random sampling and provides a record of causality regarding the customer's decision to implement recommended energy efficiency measures. PMRS data content, file structures and high-level operational processes can be viewed in Section 5 of the Plan. Per the Opinion and Order entered October 27, 2009 in Docket No. M-2009-2093217, Duquesne will track low income participation in all residential programs, including residential programs not specifically directed toward low-income customers. Duquesne will include such collected information in its annual energy efficiency report to the Commission. Duquesne will also track appropriate data, in coordination with the Statewide Evaluator, including at least (1) type of appliance or equipment being replaced; (2) the availability of natural gas at the customer's location or immediate area; and (3) whether electric appliances or equipment were installed in areas where natural gas is available.

If Duquesne finds that shifting of funds between programs or customer classes would be beneficial to the program, Duquesne will file a petition with the Commission requesting such a modification, per the Opinion and Order entered October 27, 2009.

1.7. Summary description of cost recovery mechanism.

The Act allows all EDCs to recover on a full and current basis from customers, through a reconcilable adjustment clause under 66 Pa. C.S. § 1307, all reasonable and prudent costs incurred in the provision or management of its plan. The Act also requires that each EDC's plan include a proposed cost-recovery tariff mechanism, in accordance with 66 Pa. C.S. § 1307, to fund all measures and to ensure full and current recovery of prudent and reasonable costs, including administrative costs, as approved by the Commission. To that end, Duquesne Light has designed a surcharge and reconciliation mechanism for all customer segments. The surcharge has been designed in a manner that recovers costs of the programs from the customers who have an opportunity to participate in those programs designs.

The Company proposes to implement five surcharges. The Residential surcharge is designed to recover costs on a cents per kilowatt-hour basis with an annual reconciliation with the charges included in the overall distribution kWh rate. . The Small and Medium Commercial and Industrial surcharges are designed to recover costs on a cents per kilowatt-hour basis with an annual reconciliation. The large Commercial and Industrial surcharges are designed to recover costs through a combination of a fixed monthly surcharge and a demand-based surcharge with an annual reconciliation . All of the commercial and industrial customers will have a separate line item delineation of these charges on the bill.

2. Energy Efficiency Portfolio/Program Summary Tables and Charts

(The objective of this section is to provide a quantitative overview of the entire plan for the four-year period. The audience will be those who want to see the “numbers”, but not all the details.)

- 2.1. Residential, Commercial/Industrial Small, Commercial/Industrial Large and Governmental/Non-profit Portfolio Summaries (see Table 4).⁴
- 2.2. Plan data: Costs, Cost-effectiveness and Savings by program, sector and portfolio (see Tables 1-4).
- 2.3. Budget and Parity Analysis – (see Table 5).

All tables are provided in Section 11.

3. Program Descriptions (2 to 3 pages per program)

(The objective of this section is to provide detailed descriptions of each proposed program and the background on why particular programs were selected and how they form balanced/integrated portfolios.)

- 3.1. Discussion of criteria and process used for selection of programs:

Program development was initiated by first completing an energy efficiency potential forecast. The development of effective energy efficiency and conservation programs requires detailed knowledge about utility customer populations, building stock and regional energy use. Through the energy efficiency potential forecast, a regional inventory of program opportunities (technical potential) was established. Starting with this “universe” of potential efficiency technology applications, prioritization was performed by employing cost-benefit analyses (economic potential). Given a subset of energy efficiency opportunities feasible from an engineering perspective and cost-effective from an economic perspective, program participation was forecast based on documented customer acceptance behavior (achievable potential).

Best practices for efficiency programs include conducting a “potential study” prior to starting programs, outlining what can be accomplished at what cost. Duquesne’s energy efficiency potential forecast provides information about target markets and technology applications capable of producing cost-effective impacts at customer properties located throughout Duquesne Light’s service territory.

⁴ A *project* is an activity or course of action involving one or multiple energy efficiency measures, at a single facility or site. A *program* is a group of projects, with similar characteristics and installed in similar applications. Individual programs include those that involve encouraging and/or incenting the installation of equipment or practices associated with new-construction and retrofit solar energy and energy efficiency projects. The *portfolio* consists of all the programs in the residential, commercial/industrial small, commercial/industrial large, or governmental/non-profit sectors. Residential sector programs include low-income, single-family and multi-family housing projects. Commercial/Industrial Small sector programs include small commercial, industrial, agricultural, and public sector facility projects. Commercial/Industrial Large sector programs include large commercial, industrial, agricultural, and public sector facility projects. Governmental/Non-Profit includes Federal, State, Municipal, and Local Governments; as well as school districts, institutions of higher learning, and non-profit entities.

The energy efficiency forecast described in the Study addresses technologies at the discrete, individual measure level. This is required to affect cost-effectiveness screening using the Total Resource Cost test ratio (TRC), to forecast market penetration based on customer probabilities for acceptance and to set individual measure incentive levels. This level of rigor is required to support program planning; not possible through a topical discussion of energy efficiency potential.

With an understanding about specific building stock technology applications capable of rendering the targeted reductions, the project team identified optimal delivery channels through benchmarking as well as extensive experience planning and implementing programs in diverse geographic and demographic settings. Detailed descriptions of the analytical processes, inputs, assumptions and findings are provided in the Study.⁵

- 3.1.1. Describe portfolio objectives and metrics that define program success (e.g., energy and demand savings, customers served, number of units installed).

As described above, the project team identified key target markets for efficiency gain potential and proven approaches to program delivery. Given this foundation, the planning process imposed program budget limits consistent with the Act (Act 129 Annual Budget: \$19,545,952). Available funding was first allocated to each major rate class in proportions approximating annual energy consumption. Act 129 mandates regarding low income sector and governmental/non-profit sector reduction targets caused changes to program funding allocations.

Figure 3: Budget

	2011 Forecast Annual Energy Use (kWh)	% Use	4-Year Program Funding	% Funding
Residential	4,276,840,291	30%	\$25,735,926	33%
Commercial	6,852,783,429	49%	\$37,280,984	48%
Industrial	<u>2,914,124,575</u>	<u>21%</u>	<u>\$15,166,895</u>	<u>19%</u>
Total	14,043,748,296	100%	\$78,183,806	100%

The Act requires certain amounts of the mandated reductions be achieved through programs serving low income customers. Working with the governmental/non-profit sector, programs were designed and funded to meet

⁵ For analytical processes please see Study Sections: Energy Efficiency Potential Forecast, Summary of Analytical Steps, Application of Forecast Energy Efficiency Potential in Program Planning and Energy Efficiency Program Benchmarking. For inputs and assumptions please see Study Sections: Energy Efficiency Potential Forecast, Summary of Analytical Steps, Step 1 – Develop Key Energy Efficiency Potential Forecast Inputs and Assumptions. For findings please see Study Sections: Energy Efficiency Potential Forecast, Energy Efficiency Potential Forecast Findings and Program Planning to Achieve Mandated Reductions.

these requirements. In addition to mandated programs, a portfolio of programs was assembled to penetrate key markets. The table below shows the structure of the portfolio to meet these objectives:

Figure 4: Portfolio Objectives

Cumulative Energy (kWh) and Demand (kW) Savings		Program Years Ending			
		May 31, 2011 (kWh)	May 31, 2013 (kWh)	May 31, 2013 (kW)	
	Program Name				
Residential	Energy Efficiency	49,102,713	113,738,471	56,044	
	Residential/Schools	2,025,000	4,725,000	4,253	
	Refrigerator Recycling	5,000,503	11,667,840	2,908	
	Low-Income Energy Efficiency	12,880,759	30,055,105	12,254	
Commercial	Umbrella Program Rebates	8,043,808	18,768,885	4,027	
	Office Buildings	46,251,895	108,521,087	22,189	
	Healthcare	17,093,091	39,883,880	8,557	
	Retail Stores & Restaurants	18,601,305	43,403,046	9,312	
	Education	10,557,498	24,634,161	5,285	
	Governmental / Non-Profit	26,920,191	62,813,778	20,187	
	Industrial	Industrial Rebates (umbrella)	3,772,833	8,803,277	1,360
		Primary Metals	25,708,810	59,987,224	9,265
Chemicals		9,343,007	21,800,349	3,367	
Industrial Rebates (Mixed)		8,335,770	19,450,130	3,004	
Demand Response(DR)					
	Residential DR	229,965	1,388,748	18,595	
	Small/Mid Commercial DR	111,974	671,846	7,776	
	Large C/I Curtable Load	172,800	1,036,800	10,800	
Total EEC & DR Programs (incremental)		244,151,922	571,349,629	199,182	
Mandated Reductions		140,885,117	422,565,351	113,000	

Projected program measure penetration for each portfolio is provided in the Study. Specifically, energy efficiency supply curves for the residential, commercial and industrial portfolios detail the amount of savings that will be achieved at each level of cost, built up across individual measures. An example of program measure content in the residential portfolio is provided below. The measure detail for the commercial and industrial is provided in the Study.

Figure 5: Residential Energy Efficiency Rebate Program

Measure Description	Levelized Cost \$/kWh	Annual Program Savings ' kWh	Total Annual Savings kWh	Homes
Programmable Thermostat (ASHP Heating)	\$0.0047	3,238,694	3,238,694	1,775
Pipe Wrap	\$0.0049	208,038	3,446,732	4,728
Linear Fluorescent T5/T8	\$0.0059	453,309	3,900,041	8,599
Faucet Aerators	\$0.0065	824,220	4,724,261	2,971
Duct Repair (ASHP Heating)	\$0.0070	4,986,060	9,710,321	1,306
High Efficiency Pool Pump and Motor	\$0.0102	33,112	9,743,433	24
Low Flow Showerhead	\$0.0124	333,414	10,076,847	1,755
ES Outdoor Fixture	\$0.0126	4,504,707	14,581,554	19,326
Occupancy sensor based controls	\$0.0135	1,326,287	15,907,841	1,973
Solar Water Heat	\$0.0161	979,854	16,887,695	402
Programmable Thermostat (CAC HP Cooling)	\$0.0178	954,975	17,842,670	1,974
26-50W CFL Screw-in	\$0.0183	72,058	17,914,727	548
Refridgerator Recycling	\$0.0183	3,333,669	21,248,396	3,508
EnergyStar Fridges	\$0.0185	8,253	21,256,649	96
Ceiling Insulation R38 (ASHP Heating)	\$0.0192	1,258,604	22,515,253	593
Wall Insulation R19 (ASHP Heating)	\$0.0197	3,439	22,518,691	1
Whole House Fans (CAC HP Cooling)	\$0.0198	995,821	23,514,513	1,145
Ceiling Insulation R30 (ASHP Heating)	\$0.0201	1,304,406	24,818,919	646
Duct Insulation (ASHP Heating)	\$0.0202	897,906	25,716,825	808
18-22W CFL Screw-in	\$0.0222	144,036	25,860,861	1,083
13-17W CFL Screw-in	\$0.0234	3,179,219	29,040,080	5,904
23-26W CFL Screw-in	\$0.0252	998,313	30,038,393	2,680
ES Indoor Fixture	\$0.0281	94,472	30,132,865	1,192
EnergyStar Freezers	\$0.0314	1,309	30,134,174	23
EnergyStar Room Air Conditioners	\$0.0336	1,515	30,135,689	22
EnergyStar Dehumidifiers	\$0.0383	1,365	30,137,054	6
Cooling Equipment (CAC - SEER 15)	\$0.0391	355	30,137,409	3
Duct Repair (CAC HP Cooling)	\$0.0395	5,188	30,142,597	12
ES Torchieres	\$0.0416	1,305,546	31,448,143	12,434
High Efficiency Fan - Heating	\$0.0440	4,202,756	35,650,898	11,697
26-50W CFL Hard-Wire	\$0.0542	649	35,651,548	44

- 3.1.2. Describe how programs were constructed for each portfolio to provide market coverage sufficient to reach overall energy and demand savings goals. Describe analyses and/or research that were performed (e.g., market, best-practices, market modeling).

Program Portfolio Structures:

As described under Section 3.1 and 3.1.1, energy efficiency potential is forecast based on customer building stock and technology applications within that building stock. This approach is functional and consistent with industry standard practices. Programs described herein are planned according to a customer market segmentation approach. Programs are designed to (1) target identified efficiency gain potential (energy and demand), and (2) address market segment specific needs and barriers. This approach assigns priority to how customers use energy which may not necessarily align with utility tariff categories. The following chart shows customer sector building stock categories observed in the development of the energy efficiency programs described herein:

Figure 6: Customer Sector Building Stock Categories

Residential Building Stock	Commercial Building Stock	Industrial Building Stock
Single Family	Colleges	Food Processing
Multifamily	Food Stores	Textiles / Apparel
Manufactured Housing (mobile homes)	Healthcare	Lumber / Furniture
	Lodging	Paper & Allied Products
	Offices - Large	Printing
	Offices - Small	Chemical Products
	Refrigerated Warehouses	Petroleum / Coal
	Retail Stores	Rubber / Plastics
	Restaurants	Stone / Clay / Glass
	Schools	Primary Metals
	Warehouses	Fabricated Metals
		Industrial Machinery
		Electronics
		Transportation Equipment
		Instruments

Structuring programs according to Small Commercial/Industrial and Large Commercial/Industrial does not provide for programs designed around how customers use energy, their specific needs and programmatic barriers. As an example, there would be very little in common between programs designed to serve large hospitals and large steel production plants. Further, programs targeting food refrigeration could provide services to both large grocery stores and small convenience stores.

The programs described in the following sections are developed to address specific market segments. It will be noted where this approach does not align with the Commission’s prescribed EE&C Plan template, Section 3.3 Small Commercial/Industrial and Section 3.4 Large Commercial/Industrial Sectors.

Programs designed to service both large and small customers only will be described in one section. To support EE&C Plan template accounting, costs and benefits are allocated to EE&C Plan template sectors proportional to anticipated participation by each sector in the subject program.

Residential Revenue Class

Duquesne Light's project team analyzed residential sector summary actual data for 2007–2008 as well as 2009-2013 forecast data for customer count, energy, and demand statistics. Dwelling type and vintage definition was developed by analyzing 2006 American Community Survey data for Allegheny and Beaver counties, representative of housing characteristics in Duquesne Light's service area. The analysis supported a proportional allocation of percentages of regional housing stock into single-family, multi-family and mobile home dwelling types. Housing stock was further disaggregated into vintage groups built 30 years ago or newer and more than 30 years ago. For the purposes of establishing prototypical housing stock characteristics, the team evaluated available saturation studies, analyzed Pennsylvania building construction codes & standards, interviewed weatherization contractors active in the area⁶ and performed secondary research.⁷ The following table provides Duquesne Light housing stock projections for 2011:

Figure 7: Duquesne Light Housing Stock Projections (2011)

Residential Housing Stock	2011	
	<u>Dwellings</u>	<u>Percent</u>
Single Family Post-1978	58,411	10.9%
Single Family Pre-1978	329,561	61.7%
Multifamily Post-1978	20,984	3.9%
Multifamily Pre-1978	118,393	22.2%
Mobile Homes Post-1978	996	0.2%
Mobile Homes Pre-1978	<u>5,622</u>	<u>1.1%</u>
	533,968	100.0%
Total Post-1978	80,391	15.1%
Total Pre-1978	<u>453,577</u>	<u>84.9%</u>
	533,968	100.0%

Residential EEC&DR program planning incorporates energy and demand savings associated with implementing 57 lighting, appliance, heating ventilation

⁶ Phone interviews with representatives from Action Housing Pittsburgh, Affordable Comfort, Inc., Conservation Consultants, Inc., and the Beaver County Weatherization Program.

⁷ Secondary research sources include: Middle Atlantic Household Electricity Consumption Report Table D2; Building America Research Benchmark Definition Updated December 19, 2008 table 17; U.S. DOE EIA Mid-Atlantic Household Electricity Report and Residential Energy Consumption Survey; U.S. DOE ORNL Insulation calculator for zip code starting 152

and air conditioning, building shell, water heating, and other energy efficiency measures. Residential sector measures and their energy and demand savings estimates are consistent with the Pennsylvania Technical Reference Manual (TRM).⁸ Where the TRM fails to address measures important to residential sector programs, measure content was expanded.⁹

Where appropriate, especially for weather sensitive measures, measure savings impacts were modeled applying prototypical housing stock definitions using building performance modeling software with weather inputs appropriate for the Pittsburgh area.¹⁰ Prototypical housing stock type and size definitions for single-family (SF), multi-family (MF) and mobile homes (MB) are summarized below:

Figure 8: Prototypical Housing Stock Type and Size

Modeled Housing Stock Sizes	Ft ²
Single Family Post-1978	1,643
Single Family Pre-1978	2,123
Multifamily Post-1978	724
Multifamily Pre-1978	936
Mobile Homes Post-1978	855
Mobile Homes Pre-1978	1,105

Heating ventilation and air conditioning (HVAC) measure efficiencies were adjusted to align with new federal efficiency standards.¹¹ A listing of forecast measures by dwelling type and vintage are provided in the Study Attachment 1. Additional information sources are provided in the Study Attachment 2.

Commercial Revenue Class

Duquesne Light's project team analyzed commercial sector summary actual data for 2007–2008 as well as 2009–2013 forecast data for customer count, energy and demand statistics. The project team utilized Standard Industrial Classification (SIC) codes available for Duquesne Light's larger commercial customers identifying market segments (building types) for commercial customer accounts amounting to approximately 75% of commercial sector consumption. The team reviewed more than 61,000 commercial and industrial

⁸ The Pennsylvania Alternative Energy Portfolio Standard Technical Reference Manual (TRM) Revisions to September 2005 TRM January 2009

⁹ "Assessment of Achievable Potential from Energy Efficiency and Demand Response Programs in the U.S." (2010–2030) EPRI 1016987 Technical Report, January 2009, and; California Energy Efficiency Potential Study, Itron, May 2006.

¹⁰ Energy-10 Residential and commercial building performance modeling software (developed under a partnership between US DOE National Renewable Energy Laboratory Center for Building and Thermal Systems, the Sustainable Buildings Industry Council (SBIC) and Lawrence Berkeley National Laboratory

¹¹ 10 CFR 430.32 Residential Air Conditioners and Heat Pumps and 10 CFR 431.97 Commercial Minimum Cooling and Heating Efficiency Standards

account records and assigned SIC codes to expand the amount of classified commercial sector consumption to more than 99% of sector consumption.

2006 County Business Pattern data (business establishments with paid employees) were applied to annual energy consumption by building type¹² and energy consumption percentages by building type calculated. Proportional energy consumption for building types was compared with SIC coded Duquesne Light commercial customer data. Any significant variation noted. Sector consumption for retail stores and restaurants were adjusted upward as a result of *this analysis. This treatment is justified due to the age of available segment data and high “churn” rates for these customer segments.* Overall, the customer data was corroborated by the exercise and found to present a reasonable and stable basis for energy efficiency program planning.

Energy intensity (kWh per ft²) by building type was established using U.S. DOE EIA Commercial Building Energy Consumption Survey information and by using building type building performance modeling using the U.S. DOE Building Energy Simulation Modeling Program DOE-2.1.E (DOE-2). Energy intensities were applied to building type annual consumption data to calculate building stock ft² as shown in the table below:

¹² U.S. DOE EIA 2006 Commercial Building Energy Survey, average annual energy consumption by building type.

Figure 9: Building Stock Square Feet

Commercial Building Stock	2011 Forecast	
	Energy (kWh)	Percentage
Colleges	479,694,840	7.0%
Food Stores	205,583,503	3.0%
Health Care	1,164,973,183	17.0%
Lodging	68,527,834	1.0%
Offices - Large	2,055,835,029	30.0%
Offices - Small	1,096,445,349	16.0%
Misc	342,639,171	5.0%
Refrigerated Warehouses	6,852,783	0.1%
Retail Stores	719,542,260	10.5%
Restaurants	342,639,171	5.0%
Schools	239,847,420	3.5%
Warehouses	<u>130,202,885</u>	<u>1.9%</u>
Total	6,852,783,429	100.0%

Sub-Program Segments	Percentage
Office Buildings	46.0%
Health Care	17.0%
Retail Stores & Restaurants	18.5%
Education (Colleges & Schools)	<u>10.5%</u>
Total	92.0%

Commercial sector EE&C programs for office buildings, health care, retail stores and education provide specialized EE&C services for customers consuming 92% of the commercial sector energy. All commercial sector customers can receive EE&C incentives under the Commercial Sector Umbrella Energy Efficiency Program.

Commercial sector energy efficiency potential is driven by building type floor space (ft²), where equipment density is expressed in terms of units (hp, lamps, fixtures, tons, etc) per ft². Equipment densities are based on building type architectural features, internal loads, lighting power density, equipment density, occupant density and air supply requirements. A listing of forecast measures by building type is provided in EEC & DR Study Attachment 3. Equipment densities are provided in Study Attachment 4.

Industrial Revenue Class

Duquesne Light's project team analyzed industrial sector summary actual data for 2007–2008 as well as 2009–2013 forecast data for customer count, energy and demand statistics. The project team utilized Standard Industrial

Classification (SIC) codes available for Duquesne Light's larger industrial customers, identifying market segments for industrial customer accounts amounting to approximately 50% of industrial sector consumption. The team examined more than 61,000 commercial and industrial account records and assigned SIC codes to expand the amount of classified industrial sector consumption to more than 85% of sector consumption. This was considered the optimal level of information available given the unique characteristics of Duquesne Light's industrial customer base. The following table shows industrial market segment energy consumption:

Figure 10: Industrial Market Segment Energy Consumption

Industrial Market Segments	2011 Forecast	
	Energy (kWh)	Percentage
Food Processing	83,021,048	2.8%
Textiles / Apparel	886,599	0.0%
Lumber/Furniture	4,686,239	0.2%
Paper & Allied Products	462,822	0.0%
Printing	38,469,324	1.3%
Chemicals Products	577,320,680	19.8%
Petroleum / Coal	4,790,976	0.2%
Rubber / Plastics	46,538,528	1.6%
Stone / Clay / Glass	214,176,577	7.3%
Primary Metals	1,588,592,204	54.5%
Fabricated Metals	112,223,274	3.9%
Industrial Machinery	77,479,766	2.7%
Electronics	113,514,590	3.9%
Transportation Equipment	24,618,855	0.8%
Instruments	5,350,047	0.2%
Misc Mfg	<u>21,993,046</u>	<u>0.8%</u>
Total	2,914,124,575	100.0%

Sub-Program Segments	Percentage
Primary Metals	54.5%
Chemicals	19.8%
Mixed Segments	<u>17.9%</u>
Total	92.3%

Industrial sector EE&C programs provide specialized services for the primary metals, chemical products and the mixed segments, which comprise 92% of the industrial sector energy. All industrial sector customers can receive EE&C incentives under the Industrial Sector Umbrella Energy Efficiency Program.

As described in the Study, industrial sector energy efficiency potential was driven by market segment annual energy consumption by end use category and

historical energy savings potential for each category (compressed air, fan and pumping systems, process heating and cooling, HVAC and lighting). Industrial sector measure data were provided by Lawrence Berkeley National Laboratories, as presented in the referenced industrial sector energy efficiency potential forecast.¹³ Assumed energy use by end use category for forecast industrial market segments is provided in the Study Attachment 5.¹⁴ Energy savings for each end-use category is provided in Study Attachment 6.¹⁵

Saturation studies are used in determining technology applications by building type and current levels of efficiency. Saturation studies need to be updated periodically (i.e., every two years) for use by organizations planning and implementing energy efficiency programs. Very little equipment saturation information was available for the region. The project team defined residential dwelling type characteristics through the use of primary and secondary research described previously. Applicability, incomplete and feasibility factors (market factors) for the residential sector are provided in the Study Attachment 1.

End-Use Market Factor

Energy efficiency potential is derived herein by applying three factors common to residential, commercial and industrial customer segments.

1. **Applicability Factor:** The fraction of dwelling units (residential), floor space (commercial) or energy consumption (industrial) applicable for the efficient technology in a given market segment.
2. **Incomplete Factor:** The fraction of dwelling units (residential), floor space (commercial) or energy consumption (industrial) that is not yet converted to the efficient measure (essentially the inverse of EE technology market saturation).
3. **Feasibility Factor:** The fraction of dwelling units (residential), floor space (commercial) or energy consumption (industrial) that is technically feasible for conversion to the efficient technology from an engineering perspective.

Program planning described herein applies known commercial and industrial energy use characteristics of other regions to commercial and industrial activities located in Duquesne Light's service area. This is reasonable for like activities (commercial building types and industrial market segments) where energy use is driven by comparable operational requirements with minimal weather sensitivity.¹⁶ Weather sensitive measure savings estimates have been

¹³ PGE0252.01 California Industrial Existing Construction Energy Efficiency Potential Study, KEMA, May 2006

¹⁴ Industrial market segment energy use by end-use category is taken from the U.S. DOE EIA Manufacturing Energy Consumption Survey (MECS)

¹⁵ See market factor references below for potential energy savings by end-use category.

¹⁶ Sources for commercial and industrial sector energy use characteristics:

- "Assessment of Achievable Potential from Energy Efficiency and Demand Response Programs in the U.S." (2010–2030) EPRI 1016987 Technical Report, January 2009.

adjusted to reflect Pittsburgh area climate using either TRM data or modeled using building performance modeling software.¹⁷

Commercial and industrial sector market factors applied in this forecast are provided in the following EEC & DR Study Attachments:

Study Attachment 7 – Commercial Building Type Applicability Factors

Study Attachment 8 – Commercial Building Type Incomplete Factors

Study Attachment 9 – Commercial Building Type Feasibility Factors

Study Attachment 10 – Industrial Market Segment Applicability Factors

Study Attachment 11 – Industrial Market Segment Incomplete Factors

Study Attachment 12 – Industrial Market Segment Feasibility Factors

- 3.1.3. Describe how energy efficiency, conservation, solar, solar photovoltaic systems, geothermal heating, and other measures are included in the portfolio of programs as applicable.

The project team performed extensive research described above to document the cost and impacts of EEC & DR measures. Residential measures are described in EEC & DR Study Attachment 1 and include providing incentives associated with solar water heating technologies. Duquesne Light's Solar Photovoltaic Incentives Program provides energy efficiency incentives to promote adoption of solar photovoltaic technologies. This program was removed per the Opinion and Order entered October 27, 2009 in Docket No. M-2009-2093217 and will not be offered.

- 3.2. Residential Sector (as defined by EDC Tariff) Programs include formatted descriptions of each program organized under the following headings:

- Program title and program years during which program will be implemented¹⁸
- Objective(s)
- Target market

-
- Kansas City Power and Light, C&I Energy Efficiency Measures Potential Study, Summit Blue Consulting, LLC, September 2007
 - Potential for Energy Efficiency, Demand Response and Onsite Renewable Energy to Meet Texas's Growing Electricity Needs, ACEEE, March 2007
 - Energy Efficiency and Renewable Energy Resource Development Potential in New York State, New York State Energy Research and Development Authority (NYSERDA), August 2003
 - California Industrial Existing Construction Energy Efficiency Potential Study, KEMA, Inc., May 2006
 - California Energy Efficiency Potential Study, Itron, May 2006

¹⁷ Energy-10 Residential and commercial building performance modeling software (developed under a partnership between US DOE National Renewable Energy Laboratory Center for Building and Thermal Systems, the Sustainable Buildings Industry Council (SBIC) and Lawrence Berkeley National Laboratory.

¹⁸ It is assumed that there are four program years, each starting June 1 and ending May 31st. The first program year (PY) is Program Year 2009 (although it is expected that programs will not start before late 2009 or early 2010), and the last program year is Program Year 2012.

- Program description
- Implementation strategy (including expected changes that may occur in different program years)
- Program issues and risks and risk management strategy
- Anticipated costs to participating customers
- Ramp up strategy
- Marketing strategy
- Eligible measures and incentive strategy, include tables for each year of program, as appropriate, showing financial incentives & rebate levels (e.g., \$ per measure, \$ per kWh or MW saved)
- Program start date with key schedule milestones
- Assumed Evaluation, Measurement, and Verification (EM&V) requirements required to document savings by the Commission's statewide EE&C Plan Evaluator
- Administrative requirements – include internal and external staffing levels
- Estimated participation – includes tables indicating metric(s) with target value(s) per year
- Estimated program budget (total) by year – include table with budget per year
- Savings targets – include tables with total MWh and MW goals per year and cumulative tables that document key assumptions of savings per measure or project
- Cost-effectiveness – include TRC for each program
- Other information deemed appropriate

3.2-a. Residential Energy Efficiency Rebate Program

Title: The Residential Energy Efficiency Rebate Program (“REEP”) will be implemented during program years 2009 through 2012.

Objectives: The REEP program is designed to mitigate primary cost and awareness barriers to residential customer adoption of energy efficiency measures and practices. To affect this outcome, REEP provides access to both printed and Internet based educational materials, as well as financial incentives in the form of energy efficient product rebates.

Target Market: This program is made available to Duquesne Light residential customers.

Program Description: The REEP encourages customers to make an energy efficient choice when purchasing and installing household appliance and equipment measures by offering educational materials on energy efficiency options and rebate incentives. Program educational materials and rebates will be provided in conjunction with the Duquesne Light on-line home energy audit. The on-line home energy audit will allow customers to obtain instant results by answering questions regarding their home energy use. A menu of approved measures and rebate amounts simplifies the audit process for

the customer and provides a "per-wadget" rebate to reduce the cost of replacing outdated and inefficient equipment. A more comprehensive home energy audit will be available for customers. This more comprehensive audit features an on-site assessment of home energy use conducted by Duquesne Light residential program technicians. Additionally, a no-cost home energy audit is available to low-income customers through Duquesne's Low Income Usage Reduction Program ("LIURP"). This program has been modified per the Opinion and Order entered October 27, 2009 at Docket No. M-2009-2093217 to include high efficiency furnace fans. This inclusion is referenced in Figure 5, page 15 of this Plan.

Implementation Strategy: The REEP will be implemented with assistance by a qualified CSP that will serve as program manager. Members of Duquesne Light's core team will support on-going planning activities, contract management, assist with program outreach and marketing as well as internal tracking and reporting. The CSP program coordinator will perform marketing, rebate processing, verification and calculation of overall savings. It is anticipated customers will submit rebate applications via phone, fax, Internet, or mail.

Duquesne Light will work with regional stakeholders to assess the viability, and potentially incorporate within REEP, upstream and mid-stream incentives (incentives provided manufacturers and retail distributors) to support point-of-purchase instant rebates. A web-based home energy efficiency survey application will be provided via linkage to Duquesne Light's website during the first year of program operation.

Program Risk and Risk Management Strategy: All portfolios and programs are operated through Duquesne Light's PMRS. The system provides comprehensive oversight of program budgets and impacts and provides early warning regarding program under- or over-subscription. Provisions in CSP contract language provide for fund shifting from under-performing programs. Anticipated Cost to Participating Customers: The REEP program is designed to offset approximately one-third of energy efficiency measure incremental cost. The cost to the participant is approximately two-thirds the incremental cost for choosing to purchase identified energy efficiency equipment.

Ramp-up Strategy: It is anticipated the earliest program launch could be November 1, 2009. Given the need to develop business systems and processes, assemble collateral program materials and conduct training, it is unlikely the program will be enrolling participant before January 1, 2010. This provides for approximately five months of operation in program year 2009. Program "ramp-up" is initiated in 2009. The 2010 program year is planned to be fully-funded and fully operational, as reflected in EEC Plan projected budgets and savings impacts. During the 2009 "ramp-up" period, based on the aforementioned five months of likely program operation, it is anticipated the amount of incentive payments provided customers will be approximately 50% of the amount that would be provided during a full year of program operation. Even through the 2009 ramp-up year will be shorter than a full year of operation, the plan has allowed for an amount of administrative costs equivalent to what would be required for a full year of program operation. This is based on greater costs anticipated to initiate program operation, such as tracking and reporting system development, collateral material development, conducting RFPs and training.

Marketing Strategy: Duquesne Light will assist the CSP to coordinate marketing activities with local entities and outreach channels (e.g., local governments, community, faith-based and ethnic-based organizations, business associations, chambers of commerce, customer trade associations, etc). Duquesne Light will also support the program by marketing program services to its customers and through existing channel partners such as large commercial, institutional and local government customers. Duquesne Light will work with its CSP contractor to develop a marketing plan that may incorporate direct mail, web-based, circulated print media as well as radio and television advertising options.

Eligible Measures and Incentives: REEP program incentives are designed to offset one-third of measure incremental costs. Incentives offered under this program are provided in the following table:

Figure 11: Residential Energy Efficiency Rebate Program

Measure Description	Incentive per Unit	Unit	Plan Changes
13-17W CFL Screw-in	\$1.65	Lamp	
18-22W CFL Screw-in	\$2.15	Lamp	
23-26W CFL Screw-in	\$2.75	Lamp	
26-50W CFL Hard-wire	\$10.30	Lamp	
26-50W CFL Screw-in	\$3.50	Lamp	
Ceiling Insulation R38	\$0.40	ft ²	
Central HVAC Cooling Equipment (SEER 15)	\$32.50	Ton	
Duct Insulation	\$0.12	Linear ft	
Duct Repair	\$0.13	Linear ft	
Electric Water Heater (EF .93 - .95)	\$25.00	Water Heater	New Measure
EnergyStar Dehumidifiers	\$50.00	Dehumidifier	
EnergyStar Freezers	\$11.00	Freezer	
EnergyStar Refrigerators	\$10.00	Refrigerator	
EnergyStar Room Air Conditioners	\$10.00	Air Conditioner	
ES Indoor Lighting Fixture	\$1.50	Fixture	
ES Outdoor Lighting Fixture	\$13.00	Fixture	
ES Torchiere	\$18.40	Torchiere	
Furnace Whistle	\$1.69	Whistle	New Measure
Faucet Aerators	\$3.50	Aerator	
Heat Pump Water Heater (EF 2.0 - 2.3)	\$300.00	Water Heater	New Measure
High Efficiency Pool Pump and Motor	\$60.00	Pump	
Linear Fluorescent T5/T8	\$1.25	Lamp	
Low Flow Showerhead	\$10.00	Showerhead	
Night light (LED)	\$3.67	Night Light	New Measure
Night light (limelight)	\$4.78	Night Light	New Measure
Occupancy sensor based controls	\$12.00	Sensor	
Pipe Wrap	\$1.65	Linear ft	
Programmable Thermostat	\$65.00	Thermostat	
Solar Water Heat	\$300.00	System	
Smart Strips	\$10.00	Smart Strip	New Measure
Wall Insulation R19	\$0.40	ft ²	
Whole House Fans	\$130.00	Fan	

Program Start Date and Key Milestones: Refer to Section 12 Chart 1, Residential Portfolio Program.

Assumed EM&V requirements to document savings by the Commission's statewide EE&C Evaluator: Detailed evaluation, measurement and verification activities are identified in EEC & DR Study, EM&V Related Program Content section where there is

a complete listing of the information that will be provided the Commission’s statewide EE&C Evaluator.

Administrative Requirements: Program administrative budgets are based on benchmarking of similar programs, with administrative costs approximately 20% of program budgets, as shown in the Projected Program Budget table below. Organization planning includes provision for one full-time project coordinator as well as part-time support by engineering, marketing, purchasing, regulatory, data processing and clerical staff, in addition to contracted CSP services.

Estimated Participation: The primary metrics for program participation will be processing incentive payments for the purchase and installation of energy efficiency equipment rendering deemed savings estimates reflected in the Projected Program Impacts table below:

Figure 12: Residential Energy Efficiency Rebate Program

Projected Program Budget

Program Year	2009	2010	2011	2012	Total
Incentives	\$1,609,038	\$3,098,075	\$3,098,075	\$3,098,075	\$10,903,264
Admin	\$774,519	\$774,519	\$774,519	\$774,519	\$3,098,076

Projected Program Impacts

Program Year	2009	2010	2011	2012	Total
On-Peak Demand Reduction (kW)	8,149	15,965	15,965	15,965	56,044
Energy Savings (kWh)	16,784,834	32,317,879	32,317,879	32,317,879	113,738,471

Cost Effectiveness: TRC 3.0

3.2-b. Schools Energy Pledge Program

Title: Residential/Schools Energy Pledge Program (“SEP”) will be implemented during the program years 2009 through 2012.

Objectives: Residential markets represent substantial aggregate savings potential but small per-unit (household) savings, coupled with geographic dispersion, results in high program transaction costs. This creates stranded opportunities and what the energy efficiency industry terms “hard-to-reach” markets. SEP engages the schools market segment as a means to channel energy efficiency services into hard-to-reach residential populations. The energy efficiency impacts projected are based on engaging 20 schools per year and achieving a 50% participation rate among student bodies. Actual participation rates in other regions of the country are closer to 70 percent. SEP pledge forms can be customized to include linkage to other energy efficiency programs, such as refrigerator recycling, weatherization, on-line home energy audits or other energy efficiency programs.

Target Market: Demographics indicate there are approximately 0.34 school age children per household in Allegheny and Beaver counties. When applied to Duquesne Light’s residential population, this equates to 175,000 school age children. The SEP program targets primary grades (K-5), or approximately 73,000 primary school students. An average of 450 students per primary school¹⁹ extrapolates to approximately 162 primary schools in Duquesne Light’s service territory.

Program Description: Schools Energy Pledge program energy efficiency impacts take place in student homes when families adopt energy efficiency measures students learn about at school. Through the SEP program, students learn about energy efficiency, participate in a school fundraising drive, and help their families to implement energy-saving measures at home. Major Program elements include:

- **Launch:** Schools announce the program with a short, energizing video for students during a kick-off assembly.
- **Learn:** Students engage in hands-on lessons linking scientific concepts with practical applications.
- **Pledge:** Families sign a pledge to install energy efficiency measures contained in an energy saving toolkit.
- **Track:** A graphic display at school shows the number of pledge forms returned to school by students and progress toward school fundraising, energy savings and greenhouse gas reduction goals.
- **Reward:** Schools receive energy efficiency incentive funds for the pledges returned.

Implementation Strategy: SEP is an energy efficiency program co-developed through a partnership between MCR and Strategic Energy Innovations. SEP implementation is performed “turnkey” by a specialized team of professionals with extensive energy efficiency and education industry experience. Implementation includes all program materials, standardized forms, lesson plans, site coordinator training, tracking and reporting. Energy saving toolkits are customized for each utility and provided by mail directly to participating households.

Program Risk and Risk Management Strategy: SEP is implemented under a fixed price, fixed term contract. Program implementation cycles are approximately four months.

¹⁹ State of Pennsylvania statistics provided by the National Center for Educational Statistics

SEP is a very low risk educational schools program with quantifiable impacts in the residential sector.

Anticipated Cost to Participating Customers: The SEP program is provided at no cost to participating customers.

Ramp-up Strategy: Given the Commission's regulatory schedules for final approval of Duquesne Light EE&C programs the earliest program launch would be November 1, 2009. However, this would place the program out-of-phase with school holiday, and testing schedules. Duquesne Light could elect to launch the program in advance of the Commission's final decision, regarding its EE&C portfolio. This is an option for Duquesne because the SEP program has been prepared in advance and can be implemented given short notice by a specialized team. If Duquesne elects to move forward prior to the Commission's final decision, the SEP program could be implemented in the 2009 fall season. If Duquesne elects to wait for the Commission's formal decision the SEP program would be launched in the spring of (March-April) 2010. The SEP is budgeted for reduced/preparatory pilot program and outreach during 2009.

Marketing Strategy: The SEP will work with Duquesne management and field service organization to identify pilot schools, and then conduct outreach meetings and conference calls to prepare memoranda of understanding between the Duquesne Light and participating schools districts or individual schools. This approach is a part of defined SEP implementation activities.

Eligible Measures and Incentives: The SEP is tailored to specific regional needs. Classroom lesson plans are linked to state curriculum standards for science and mathematics. The school energy efficiency toolkit includes a quantity of six CFLs in addition to faucet aerators, night lights and educational materials.

Program Start Date and Key Milestones: Refer to Section 12 Chart 1, Residential Portfolio Program.

Assumed EM&V requirements to document savings by the Commission's statewide EE&C Evaluator: Detailed evaluation, measurement and verification activities are identified in EEC & DR Study and EM&V Related Program Content section, where there is a complete listing of the information that will be provided the Commission's statewide EE&C Evaluator.

Administrative Requirements: The SEP is provided as a turnkey program administered by CSP staff and requires little formal involvement by Duquesne Light. The SEP CSP implementation team is comprised of 10 specialized staff working on both a full, and part-time basis for four months per season.

Estimated Participation: The baseline program targets 20 schools with approximately 9,000 students. Historically, this type of program achieves not less than 50% participation by students and families. The estimated number of homes retrofitted is 4,500.

Figure 13: Schools Sector Budget and Impacts

Projected Program Budget

Program Year	2009	2010	2011	2012	Total
Incentives	\$90,000	\$180,000	\$180,000	\$180,000	\$630,000
Admin	\$342,667	\$342,667	\$342,667	\$342,667	\$1,370,667

Projected Program Impacts

Program Year	2009	2010	2011	2012	Total
On-Peak Demand Reduction (kW)	608	1,215	1,215	1,215	4,253
Energy Savings (kWh)	675,000	1,350,000	1,350,000	1,350,000	4,725,000

Cost Effectiveness: TRC 3.5

3.2-c. Refrigerator and Freezer Recycling Program

Title: The Residential Refrigerator and Freezer Recycling Program (“RRP”) will be implemented during program years 2009 through 2012.

Objectives: Assist customers to become more energy efficient by educating them about the amount of energy consumed and the costs associated with operating inefficient refrigerators and freezers. Provide access to an easy-to-use service to remove and recycle the operational inefficient refrigerators. Customer motivation will be increased by providing a cash incentive for program participation.

Target Market: Duquesne Light’s energy efficiency potential forecast estimates that of the 533,000 households served, approximately 42,000 households operate more than one refrigerator or freezer.

Program Description: The Refrigerator and Freezer Recycling Program encourages residential customers in Duquesne Light’s service territory to turn in their older operating refrigerators and freezers to be recycled. Removing an older, operating refrigerator or freezer can result in an energy savings of ~~more than~~ 1,728,950 kWh²⁰ per year. To encourage participation in this program, this program provides a \$35 check for the removal of the old refrigerator or freezer. The program will consist of Duquesne

²⁰ PA TRM annual energy savings value

Light hiring a contractor to administer the program that would consist of the following services:

- Vendor to handle questions and to set up recycling appointments
- Website (program details, reservation requests)
- On-site verification of unit working condition
- Unit collection/transportation
- Recycling processing (including CFC-11 (foam) incineration or recycling)
- Rebate check & rebate processing
- Reporting

The recycling portion of this program is based on the Pacific Gas & Electric 2008 ACEEE Exemplary Appliance Recycling Program (<http://aceee.org/pubs/u081/res-light-app.pdf>).

Implementation Strategy: Contractor proposals will be evaluated based upon inclusion of a proposed marketing and outreach plan, to include elements such as the following:

- Customer Marketing
- Bill Insert & Direct Mail Document Development
- Radio (& television) Advertisement Development
- Trade Show & Store Display Development
- Rebate Processing & Verification
- Customer Enrollment: Customer contacts vendor call center to schedule to have their older, functioning refrigerator or freezer removed. Once the refrigerator or freezer has been determined to be functional, it will be removed without any cost to the customer.

Program Risk and Risk Management Strategy: All portfolios and programs are operated through Duquesne Light's PMRS. The system provides comprehensive oversight of program budgets and impacts and provides early warning regarding program under- or over-subscription. Provisions in CSP contract language provides for fund shifting from under-performing programs.

Anticipated Cost to Participating Customers: There is no cost to participating customers.

Ramp-up Strategy: It is anticipated the earliest program launch could be November 1, 2009. Given the need to develop business systems and processes, assemble collateral program materials and conduct training, it is unlikely the program will be enrolling participant before January 1, 2010. This provides for approximately five months of operation in program year 2009. Program "ramp-up" is initiated in 2009. The 2010 program year is planned to be fully-funded and fully operational, as reflected in EEC Plan projected budgets and savings impacts. During the 2009 "ramp-up" period, based

on the aforementioned five months of likely program operation, it is anticipated the amount of incentive payments provided customers will be approximately 50% of the amount that would be provided during a full year of program operation. Even through the 2009 ramp-up year will be shorter than a full year of operation, the plan has allowed for an amount of administrative costs equivalent to what would be required for a full year of program operation. This is based on greater costs anticipated to initiate program operation, such as tracking and reporting system development, collateral material development, conducting RFPs and training.

Marketing Strategy: Duquesne Light will work with a selected CSP to develop a marketing plan that may incorporate direct mail, web-based, circulated print media as well as radio and television advertising options. The vendor CSP will handle questions, set up recycling appointments and provide website based systems to provide program details and make reservation requests.

Eligible Measures and Incentives: Based on the experience of other utilities attempting to operate appliance recycling programs that include room air conditioners ~~and freezers~~, Duquesne Light has limited program scope to refrigerators and freezers. A \$35 check will be given to the customer once the following conditions have been met:

- Customers would be required to have the functioning refrigerator or freezer at their billing address at the time of the removal.
- The refrigerator or freezer must be a consumer model between 10-30 cubic feet.

Program Start Date and Key Milestones: Refer to Section 12 Chart 1, Residential Portfolio Program.

Assumed EM&V requirements to document savings by the Commission's statewide EE&C Evaluator:

Detailed evaluation, measurement and verification activities are identified in EEC&DR Study, and the EM&V Related Program Content section where there is a complete listing of the information that will be provided the Commission's statewide EE&C Evaluator.

Administrative Requirements: Program administrative budgets are based on benchmarking of similar programs, with administrative costs approximately 20% of program budgets, as shown in the Projected Program Budget table below. Organization planning assumes administrative duties will be performed by the Duquesne Light residential sector program coordinator, as well as part-time support by engineering, marketing, purchasing, regulatory, data processing and clerical staff, in addition to contracted CSP services.

Estimated Participation: Duquesne projects an annual capture rate reflected in the following table:

Figure 14: Duquesne Annual Capture Rate

Program Year	Total Customers	Participating Customers	Participation Rate
2009	529,440	2,120	.4%
2010	531,699	3,635	.7%
2011	533,968	3,665	.7%
2012	536,247	2,395	.7%

Figure 15: Refrigerator and Freezer Recycling Sector Budget and Impacts

Projected Program Budget

Program Year	2009	2010	2011	2012	Total
Incentives	\$209,056	\$418,112	\$418,112	\$418,112	\$1,463,391
Admin	\$104,528	\$104,528	\$104,528	\$104,528	\$418,112

Projected Program Impacts

Program Year	2009	2010	2011	2012	Total
On-Peak Demand Reduction (kW)	415	831	831	831	2,908
Energy Savings (kWh)	1,666,834	3,333,669	3,333,669	3,333,669	11,667,840

Cost Effectiveness: TRC 3.1

3.2-d. Air Conditioner Cycling Program

Title: Air Conditioner Cycling Program (“ACCP”) will be operated in program years 2010, 2011 and 2012.

Objectives: The program will achieve the benefits of demand response by cycling off central air conditioners and electric water heaters for residential customers.

Target Market: Target customers will include owner-occupied single-family homes with central air conditioners, including detached residences as well as attached homes such as town-homes and patio homes. Renter occupied homes, apartments and condominium developments will not be eligible due to ownership considerations and the presence of central air conditioning units that are typically smaller than those found in single-family homes.

Program Description: The program will install load cycling switch technology on the air conditioner condensing units and, where applicable, on electric water heaters. A total of 48 hours of cycling will be conducted during the summer season. The program will be delivered under contract by a third party experienced in implementing air conditioner cycling programs.

Implementation Strategy: The program will be delivered under contract by a CSP experienced in implementing air conditioner cycling programs. The contractor is responsible for such activities as: acquiring and inventorying equipment for installation; hiring and training of installation and service technicians; arranging equipment installation; communicating with equipment during cycling events, and; handling customer service issues.

Program Risk and Risk Management Strategy: All portfolios and programs are operated through Duquesne Light’s PMRS. The system provides comprehensive oversight of program budgets and impacts and provides early warning regarding program under- or over-subscription. Provisions in CSP contract language provides for fund shifting from under-performing programs.

Anticipated Cost to Participating Customers: There will be no cost to participating customers.

Ramp-up Strategy: The program will incur some administrative expense in 2009 and will not operate in a cycling mode until 2010. Projected participation ramps up to approximately 5,000 units per year through 2012.

Marketing Strategy: The program will be promoted through a variety of strategies, including:

- Direct marketing techniques, including direct mail, telemarketing, and door to door sales
- Existing utility resources, including bill inserts, websites, customer service call center representatives
- Literature will be prepared for use in direct mail, door hangers, public meetings, and response to customer inquiries
- Media events for radio, television and newspapers
- Presentations at public meetings such as civic clubs, church groups, and neighborhood associations

Eligible Measures and Incentives: Measures: Load cycling switch technology on the air conditioner condensing units and, where applicable, on electric water heaters.
 Incentives: Participating customers will receive bill credits of \$32 per summer season for air conditioning and an additional \$10 per summer season for water heating.

Program Start Date and Key Milestones: Refer to Section 12 Chart 1, Residential Portfolio Program.

Assumed EM&V requirements to document savings by the Commission’s statewide EE&C Evaluator:

Detailed evaluation, measurement and verification activities are identified in the EEC & DR Study and the EM&V Related Program Content section where there is a complete listing of the information that will be provided to the Commission’s statewide EE&C Evaluator.

Administrative Requirements: Program administrative budgets are based on benchmarking of similar programs with administrative costs approximately 20% of program budgets, as shown in the Projected Program Budget table below. Organization planning assumes administrative duties will be performed by the Duquesne Light residential sector program coordinator as well as part-time support by engineering, marketing, purchasing, data processing and clerical staff, in addition to contracted CSP services.

Estimated Participation: Projected participation rates for years 2009 through 2012 are shown below:

Figure 17: Air Conditioner Cycling Program Participation

	2009	2010	2011	2012
Installed Annually	0	4,991	5,039	5,088
Operating Cumulative	0	4,991	10,030	15,118

Figure 18: Air Conditioner Cycling Budget and Impacts***Projected Program Budget***

Program Year	2009	2010	2011	2012	Total
Incentives	\$0	\$164,688	\$330,977	\$498,881	\$994,546
Admin	\$88,000	\$461,277	\$614,678	\$769,569	\$1,933,524

Projected Program Impacts

Program Year	2009	2010	2011	2012	Total
On-Peak Demand Reduction (kW)	0	6,138	12,336	18,595	18,595
Energy Savings (kWh)	0	229,965	462,164	696,619	1,388,748

Cost Effectiveness: TRC 1.0 – 1.5 per Section 11, Table 7A

- 3.2.1. Low-Income Sector (as defined by 66 Pa. C.S. § 2806.1) Programs include formatted descriptions of each program organized under the same headings as listed above for residential programs. As well, provide and detail all plans for achieving compliance with 66 Pa. C.S. § 2806.1.

Title: The Low Income Energy Efficiency Program (LIEEP) will be implemented during program years 2009 through 2012.

Objectives: The objective of LIEEP is to increase qualifying customers' comfort while reducing their energy consumption, costs, and economic burden.

Target Market: The LIEEP provides energy efficiency services to households located in single-family and multifamily dwellings that are at or below 150% of the federal poverty guidelines.

Program Description: LIEEP is an income-qualified program providing services designed to assist low-income households to conserve energy and reduce electricity costs. This program adopts the local government energy efficiency partnership strategy described in the EEC & DR Study benchmarking section for this program plan. Partnership agencies serve as the governing bodies for housing authorities. The project agreements between Duquesne and partnership agencies contain the terms to leverage local agency staff to reach, pre-screen and enroll program participants. The utility and the agency split specified program costs. The Partnership Memorandum of Understanding (“MOU”) puts in place dedicated contacts and a working group structure to identify and evaluate energy efficiency project opportunities within all governmental departments and sub-agencies. A sample Public Agency MOU is provided in Study Attachment 14 of the EEC & DR Study.

Implementation Strategy: Key elements of the implementation process follow. (1) Duquesne executes a Partnership MOU with the Public Agency (2) Duquesne Light facilitates working group meetings with the public agency and jurisdictional housing authority agencies (3) The working group collaborates on the development proposed project concept papers (4) Public agency working group members obtain feedback on the proposed projects and the working group makes necessary adjustments to the concept paper (5) Duquesne prepares a project agreement and resolution for approval by the public agency governing body (6) Duquesne and the public agency implement the project plan consistent with the terms of the project agreement.

Patterned after successful programs operating in other parts of the country, a key element of the LIEEP is co-funding by Duquesne Light and the Partnership agency of energy efficiency audits and measure implementation. LIEEP will utilize local contractors and/or other survey and installation entities based on availability, cost, and quality of service. Whenever possible, LIEEP will utilize non-profit, community based organizations to perform the energy efficiency surveys and measure installation. A sample resolution, project agreement and concept paper are provided in the Study Attachment 15.

Program Risk and Risk Management Strategy: All portfolios and programs are operated through Duquesne Light’s PMRS. The system provides comprehensive oversight of program budgets and impacts and provides early warning regarding program under- or over-subscription. Provisions in CSP contract language provides for fund shifting from under-performing programs.

Anticipated Cost to Participating Customers: There will be no cost to low income household residents.

Ramp-up Strategy: It is anticipated the earliest program launch could be November 1, 2009. Given the need to develop business systems and processes, assemble collateral program materials and conduct training, it is unlikely the program will be enrolling participant before January 1, 2010. This provides for approximately five months of operation in program year 2009. Program funding provides for incentive funding at 50% of full year operation. To support ramp-up activities, program funding provides for administrative costs at 100% of full year operation.

Marketing Strategy: Local government agencies are engaged directly by Duquesne Light under the local government partnership model. Each partnering agency assists in communicating with all governmental departments and jurisdictional agencies.

Eligible Measures and Incentives: All measures identified in the Study Attachment 1 will be provided, as specified in the project agreements described previously. The projects implemented under this program are provided at no cost to participants. The cost to identify and implement measures shall be co-funded by parties to the Partnership as specified in project agreements.

Program Start Date and Key Milestones: Refer to Section 12 Chart 1, Residential Portfolio Program.

Assumed EM&V requirements to document savings by the Commission's statewide EE&C Evaluator:

Detailed evaluation, measurement and *verification* activities are identified in the EEC & DR Study and the EM&V Related Program Content section, where there is a complete listing of the information that will be provided to the Commission's statewide EE&C Evaluator. Duquesne will monitor and where possible, coordinate its planned whole house energy audits, especially in regard to LIEEP, with any statewide whole house programs that would benefit its customers.

Administrative Requirements: Program administrative budgets are based on benchmarking of similar programs with administrative costs approximately 20% of program budgets, as shown in the Projected Program Budget table below. Organization planning includes provision for one full-time project coordinator as well as part-time support by engineering, marketing, purchasing, regulatory, data processing and clerical staff, in addition to contracted CSP services.

Estimated Participation: Determination of low-income segment mandated reductions requires interpretation of the following Act 129 language:

Act 129 (House Bill No., 2200 Session of 2008) Section 2. Title 66: § 2806.1 Energy Efficiency and Conservation Program. (A)(11)(1)(G): "The plan shall include specific energy efficiency measures for households at or below 150% of the federal poverty income guidelines. The number of measures shall be proportionate to those households' share of the total energy usage in the service territory."

Low income program goals presented in this plan are adjusted to reflect the percentage of Act 129 mandated reductions equivalent to the low income segment energy use percentage of Duquesne Light's total territory energy use. This treatment of low income program energy savings impact goals conforms to the Office of Consumer Advocate's interpretation of the referenced Act 129 language.

Figure 19: Low Income Territory Energy Use

Annual Period - Year Ending May 31, 2011

Allocation Basis	Territory Energy Use
Forecast 2011 Territory Energy Use (kWh)	14,043,748,296
Residential Energy Use	4,276,840,291
Residential Accounts	533,968
Average Residential Energy Use (kWh)	8,010
Low-Income Accounts	106,794
Estimated Low-Income Energy Use (kWh)	855,368,058
Low Income % Territory Use	6.1%
May 31, 2011 Reduction Target (kWh)	140,855,117
Low-Income Proportional Savings (kWh)	8,579,118

Based on the required annual reductions described above, projected participating households is 8,500 for each full year of program operation.

Figure 20: Low-Income Sector Budget and Impacts

Projected Program Budget

Program Year	2009	2010	2011	2012	Total
Incentives	\$547,150	\$1,094,299	\$1,094,299	\$1,094,299	\$3,830,048
Admin	\$273,575	\$273,575	\$273,575	\$273,575	\$1,094,299

Projected Program Impacts

Program Year	2009	2010	2011	2012	Total
On-Peak Demand Reduction (kW)	1,751	3,501	3,501	3,501	12,254
Energy Savings (kWh)	4,293,586	8,587,173	8,587,173	8,587,173	30,055,105

Cost Effectiveness: TRC 2.3

- 3.3. Small Commercial/Industrial Sector (as defined by EDC Tariff) Programs include formatted descriptions of each program organized under the same headings as listed previously for residential programs.

Definition of Terms:

Sector Umbrella Programs: Umbrella Programs described in Sections 3.3 and 3.4 provide a level of service (incentives only) to all sector customers and establish the terms, conditions and incentive levels for all Sector Sub-Programs. Umbrella programs define prescriptive incentives (\$ per lamp, fixture, ton, square foot of insulation, etc) and custom incentives provide \$ per kWh saved for all Sector Sub-Programs.

Sector Sub-Programs: Sub-sector programs described in Sections 3.3 and 3.4 are designed to mitigate segment specific barriers to program participation by providing segment specific energy efficiency audits and incentives. The manner of program delivery is aligned to segment characteristics and needs. Incentive levels for all Sector Sub-Programs are defined by Sector Umbrella Programs.

3.3.1. Commercial Sector Umbrella Energy Efficiency Program Plan

Title: The Commercial Sector Umbrella Energy Efficiency Program Plan will be implemented during program years 2009 through 2012.

Objectives: The Commercial Sector Umbrella Program (“CSUP”) provides for the payment of incentives to offset the higher cost of high-efficiency equipment when compared to standard efficiency equipment. Importantly, the CSUP establishes the terms, conditions, and incentive levels for all Sub-Programs. This has two key functions: (1) Changes to incentive levels occur once at the CSUP, thereafter referenced by all other programs, and; (2) all program incentive offers are consistent, eliminating confusion and gaming (customers and/or contractors can participate in any program within the portfolio and receive exactly the same incentive). Incentive program tracking, reporting and processing are performed under the structures and procedures established under the CSUP.

Additionally, Sub-Programs are structured to provide specialized services to customers consuming 92% of the sector energy use. The CSUP provides access to energy efficiency incentives by customers not served by the Sub-Programs.

Target Market: The CSUP is primarily an operations activity facilitating operation of the Sector Sub-Programs. The CSUP can serve to provide cash incentives to customers that lack service under one of the Sector Sub-Programs.

Program Description: The CSUP establishes the terms, conditions, and incentive levels for all Sub-Programs. Incentive program tracking, reporting and processing are performed under the structures and procedures established under the CSUP. The CSUP provides incentives to offset the higher cost of high-efficiency equipment when compared to standard efficiency equipment. Rebate

applications allow customers to reserve funds for their projects via phone, fax, Internet, or mail.

Implementation Strategy: The CSUP is operated by the Duquesne Light core team or a designated CSP. Procedural guidelines for the CSUP define the processes for all incentive reservation and redemption as well as program activity and impact reporting.

Program Risk and Risk Management Strategy: All portfolios and programs are operated through Duquesne Light's PMRS. The system provides comprehensive oversight of program budgets and impacts and provides early warning regarding program under- or over-subscription. Provisions in CSP contract language provides for fund shifting from under-performing programs.

Anticipated Cost to Participating Customers: Incentive payments offset a portion of the incrementally greater cost of high-efficiency equipment. Incentive "levels" refer to the percentage of incremental measure cost off-set by program incentives. Participating customers pay the remaining amounts. The following table summarizes incentive levels for commercial programs:

Figure 21: Commercial Program Incentive Levels

Lighting	32.6%
HVAC	45.8%
Refrigeration	60.9%
Office Equipment	50.0%

Ramp-up Strategy: It is anticipated the earliest program launch could be November 1, 2009. Given the need to develop business systems and processes, assemble collateral program materials and conduct training, it is unlikely the program will be enrolling participants before January 1, 2010. This provides for approximately five months of operation in program year 2009. Program funding provides for incentive funding at 50% of full year operation. To support ramp-up activities, program funding provide for administrative costs at 100% of full year operation.

Marketing Strategy: The CSUP is primarily an operational program. Customers will have access to CSUP incentive applications through a link on Duquesne Light's Act 129 website.

Eligible Measures and Incentives: Prescriptive measures and associated rebate amounts are provided in Study Attachment 13. Where custom or calculated incentive amounts are appropriate (as described in program terms and conditions), the program will pay \$0.14 per kWh.

Program Start Date and Key Milestones: Refer to Section Chart 2, Small Commercial/Industrial Portfolio Program.

Assumed EM&V requirements to document savings by the Commission's statewide EE&C Evaluator: Detailed evaluation, measurement and verification activities are identified in the Study and the EM&V Related Program Content

section, where there is a complete listing of the information that will be provided the Commission's statewide EE&C Evaluator.

Administrative Requirements: Program administrative costs are shown in the following Projected Program Budget table. Organization planning includes provision for one full-time project coordinator for Duquesne Light C&I Programs as well as part-time support by engineering, marketing, purchasing, regulatory data processing and clerical staff, in addition to contracted CSP services.

Estimated Participation (Small C&I): The primary metrics for program participation will be processing incentive payments for the purchase and installation of energy efficiency equipment rendering deemed savings estimates reflected in the Projected Program Impacts table below:

Figure 22: Small Commercial & Industrial Sector Budget and Impacts

Projected Program Budget

Program Year	2009	2010	2011	2012	Total
Incentives	\$67,159	\$134,318	\$134,318	\$134,318	\$470,114
Admin	\$33,580	\$33,580	\$33,580	\$33,580	\$134,318

Projected Program Impacts

Program Year	2009	2010	2011	2012	Total
On-Peak Demand Reduction (kW)	169	337	337	337	1,181
Energy Savings (kWh)	786,115	1,572,229	1,572,229	1,572,229	5,502,802

Cost Effectiveness: TRC 2.6

3.3.2. Commercial Sector Sub-Program: Office Buildings

Title: The Commercial Sector Sub-program: Office Buildings program will be implemented during program years 2009 through 2012

Objectives: The office buildings segment program is tailored to assist the segment to overcome unique, segment specific barriers to energy efficiency program participation.

Target Market: Office building owners and operators of small to large buildings.

Program Description: The Office Buildings Program helps commercial customers to assess the potential for energy-efficiency project implementation, cost and energy savings, and, for appropriate customers, provides follow-through by installing measures and verifying savings. Program components include auditing of energy use, provision of targeted financing and incentives, project management and installation of retrofit measures, training, and technical assistance. Incentive amounts for this program are consistent with the Commercial Sector Umbrella Program.

Energy audits provide business customers a readily available, reliable source of information about their energy use and outline ways to save energy that, when implemented, will result in energy savings, reduced operating costs, lowered carbon emissions, and improved air quality. Training and technical assistance is provided to facility managers on how to select vendors and retrofit strategies, and how to operate and maintain the energy efficiency equipment, upon installation.

Implementation Strategy: The Office Building program will be delivered by one or more CSPs. It is anticipated separate RFPs will be issued for a large office building program and a small office building program. Characteristics of the two segments vary significantly requiring different kinds of services traditionally provided by different types of CSPs. RFPs will solicit innovative approaches to providing the basic services described above. Programs implemented under contract to CSPs will conform to the Commercial Umbrella Program incentives structures, terms, conditions and operating procedures.

Note: An RFP soliciting proposals from qualified CSPs to implement the Large Office Buildings programs was issued May 15, 2009, with bids received by June 19, 2009. The contract is anticipated to be awarded by August 12, 2009, see the Study Attachment 16.

Program Risk and Risk Management Strategy: All portfolios and programs are operated through Duquesne Light's PMRS. The system provides comprehensive oversight of program budgets and impacts and provides early warning regarding program under- or over-subscription. Provisions in CSP contract language provides for fund shifting from under-performing programs.

Anticipated Cost to Participating Customers: Program incentive payments will offset a portion of the incrementally greater cost of recommended high-efficiency equipment. The incentive levels, or the percentage of incremental measure cost, offset by program incentives, is established under the Commercial Sector Umbrella Program. Participating customers pay the remaining amounts.

Ramp-up Strategy: It is anticipated the earliest program launch could be November 1, 2009. Given the need to develop business systems and processes, assemble collateral program materials and conduct training, it is unlikely the program will be enrolling participant before January 1, 2010. This provides for approximately five months of operation in program year 2009. Program “ramp-up” is initiated in 2009. The 2010 program year is planned to be fully-funded and fully operational, as reflected in EEC Plan projected budgets and savings impacts. During the 2009 “ramp-up” period, based on the aforementioned five months of likely program operation, it is anticipated the amount of incentive payments provided customers will be approximately 50% of the amount that would be provided during a full year of program operation. Even through the 2009 ramp-up year will be shorter than a full year of operation, the plan has allowed for an amount of administrative costs equivalent to what would be required for a full year of program operation. This is based on greater costs anticipated to initiate program operation, such as tracking and reporting system development, collateral material development, conducting RFPs and training.

Marketing Strategy: A marketing plan is part of prospective CSP proposals to implement programs for this market segment. The successful contractor will raise target market awareness of program and service offerings to the commercial office building sector through strategies such as hosting and sponsoring of Webinars, and the development and dissemination of general and specific collateral marketing materials via direct mail, email and the Internet. Additionally, CSP’s can conduct outreach through participation and membership in selected key trade associations, attendance at key trade shows and sponsorship of training events. CSPs will be expected to use their unique market segment expertise to craft compelling program participation messages for key customer decision makers.

Eligible Measures and Incentives: Eligible measures and incentives are defined under the Section 3.3.1 Commercial Sector Umbrella Program.

Program Start Date and Key Milestones: Refer to Section Chart 2, Small Commercial/Industrial Portfolio Program.

Assumed EM&V requirements to document savings by the Commission’s statewide EE&C Evaluator: Detailed evaluation, measurement and verification activities are identified in the EEC & DR Study and the EM&V Related Program Content section where there is a complete listing of the information that will be provided to the Commission’s statewide EE&C Evaluator.

Administrative Requirements: Program administrative budgets are based on benchmarking of similar programs with administrative costs approximately 20% of program budgets as shown in the Projected Program Budget table below. Organization planning includes provision for one full-time project coordinator for sub-contracted C&I programs as well as part-time support by engineering, marketing, purchasing, regulatory, data processing and clerical staff, in addition to contracted CSP services.

Estimated Participation (Small C&I): The primary metrics for program participation will be processing incentive payments for the purchase and

installation of energy efficiency equipment rendering deemed savings estimates reflected in the Projected Program Impacts table below:

Figure 23: Office Buildings Budget and Impacts

Projected Program Budget

Program Year	2009	2010	2011	2012	Total
Incentives	\$430,126	\$859,251	\$845,251	\$834,251	\$2,968,880
Admin	\$251,563	\$214,563	\$211,563	\$207,563	\$885,251

Projected Program Impacts

Program Year	2009	2010	2011	2012	Total
On-Peak Demand Reduction (kW)	970	1,940	1,940	1,940	6,789
Energy Savings (kWh)	5,317,298	10,634,596	10,634,596	10,634,596	37,221,087

Cost Effectiveness: TRC 2.6

3.3.3. Commercial Sector Sub-Program: Retail Stores

Title: The Commercial Sector Sub-program: Retail Stores program will be implemented during program years 2009 and 2012.

Objectives: The retail stores segment program is tailored to assist the segment to overcome unique, segment specific, barriers to energy efficiency program participation.

Target Market: Retail Stores, grocery stores and restaurants

Program Description: The Retail Stores Program helps commercial customers to assess the potential for energy-efficiency project implementation, cost and energy savings, and, for appropriate customers, provides follow-through by

installing measures and verifying savings. Program components include auditing of energy use, provision of targeted financing and incentives, project management and installation of retrofit measures, training, and technical assistance. Incentive amounts for this program are consistent with the Commercial Sector Umbrella Program.

Energy audits provide business customers a readily available, reliable, source of information about their energy use and outline ways to save energy that, when implemented, will result in customers achieving energy savings, reduced operating costs, lowered carbon emissions, and improved air quality. Training and technical assistance is provided to facility managers on how to select vendors and retrofit strategies, and how to operate and maintain the energy efficiency equipment upon installation.

Implementation Strategy: The Retail Stores Program will be delivered by one or more CSPs. It is anticipated separate RFPs will be issued for a retail stores, grocery stores and restaurants. Characteristics of the segments vary significantly, requiring different kinds of services traditionally provided by different types of CSPs. RFPs will solicit innovative approaches to providing the basic services described above. Programs implemented under contract to CSPs will conform to the Commercial Umbrella Program incentives structures, terms, conditions and operating procedures.

Program Risk and Risk Management Strategy: All portfolios and programs are operated through Duquesne Light's Program Management and Reporting System (PMRS). The system provides comprehensive oversight of program budgets and impacts and provides early warning regarding program under- or over-subscription. Provisions in CSP contract language provides for fund shifting from under-performing programs.

Anticipated Cost to Participating Customers: Program incentive payments will offset a portion of the incrementally greater cost of recommended high-efficiency equipment. The incentive levels, or the percentage of incremental measure cost, off-set by program incentives is establish under the Commercial Sector Umbrella Program. Participating customers pay the remaining amounts.

Ramp-up Strategy: It is anticipated the earliest program launch could be November 1, 2009. Given the need to develop business systems and processes, assemble collateral program materials and conduct training, it is unlikely the program will be enrolling participant before January 1, 2010. This provides for approximately five months of operation in program year 2009. Program "ramp-up" is initiated in 2009. The 2010 program year is planned to be fully-funded and fully operational, as reflected in EEC Plan projected budgets and savings impacts. During the 2009 "ramp-up" period, based on the aforementioned five months of likely program operation, it is anticipated the amount of incentive payments provided customers will be approximately 50% of the amount that would be provided during a full year of program operation. Even through the 2009 ramp-up year will be shorter than a full year of operation, the plan has allowed for an amount of administrative costs equivalent to what would be required for a full year of program operation. This is based on greater costs anticipated to initiate program operation, such as tracking and reporting system development, collateral material development, conducting RFPs and training.

Marketing Strategy: A marketing plan is part of prospective CSP proposals to implement programs for this market segment. The successful contractor will raise target market awareness of program and service offerings to the retail stores sector through strategies such as hosting and sponsoring of Webinars, and the development and dissemination of general and specific collateral marketing materials via direct mail, email and the Internet. Additionally, CSP's can conduct outreach through participation and membership in selected key trade associations, attendance at key trade shows and sponsorship of training events. CSPs will be expected to use their unique market segment expertise to craft compelling program participation messages for key customer decision makers.

Eligible Measures and Incentives: Eligible measures and incentives are defined under the Section 3.3.1 Commercial Sector Umbrella Program.

Program Start Date and Key Milestones: Refer to Section Chart 2, Small Commercial/Industrial Portfolio Program.

Assumed EM&V requirements to document savings by the Commission's statewide EE&C Evaluator: Detailed evaluation, measurement and verification activities are identified in the EEC & DR Study and the EM&V Related Program Content section where there is a complete listing of the information that will be provided to the Commission's statewide EE&C Evaluator.

Administrative Requirements: Program administrative budgets are based on benchmarking of similar programs with administrative costs approximately 20% of program budgets as shown in the Projected Program Budget table below. Organization planning includes provision for one full-time project coordinator for sub-contracted C&I programs as well as part-time support by engineering, marketing, purchasing, regulatory, data processing and clerical staff, in addition to contracted CSP services.

Estimated Participation (Small C&I): The primary metrics for program participation will be processing incentive payments for the purchase and installation of energy efficiency equipment rendering deemed savings estimates reflected in the Projected Program Impacts table below:

Figure 24: Retail Stores Budget and Impacts***Projected Program Budget***

Program Year	2009	2010	2011	2012	Total
Incentives	\$155,305	\$310,611	\$310,611	\$310,611	\$1,087,138
Admin	\$77,653	\$77,653	\$77,653	\$77,653	\$310,611

Projected Program Impacts

Program Year	2009	2010	2011	2012	Total
On-Peak Demand Reduction (kW)	390	780	780	780	2,730
Energy Savings (kWh)	1,817,890	3,635,780	3,635,780	3,635,780	12,725,231

Cost Effectiveness: TRC 2.6

3.3.4. Commercial Sector Sub-Program: Education Segment

Title: The Commercial Sector Education Segment Sub-program will be implemented during program years 2009 and 2012.

Objectives: The education segment program is tailored to help overcome unique, segment specific, barriers to energy efficiency program participation.

Target Market: Education sector energy efficiency programs are divided into two primary areas of focus: Higher Education (universities and community colleges) and Primary Schools (K-12).

Program Description: The Education Segment Program helps colleges and Primary Schools to assess the potential for energy-efficiency project implementation, cost and energy savings, and for appropriate customers, provides follow-through by installing measures and verifying savings. Program

components include auditing of energy use, provision of targeted financing and incentives, project management and installation of retrofit measures, training, and technical assistance. *Incentive amounts for this program are consistent with the Commercial Sector Umbrella Program.*

Energy audits provide customers a readily available, reliable, source of information about their energy use and outline ways to save energy that, when implemented, will result in energy savings, reduced operating costs, lowered carbon emissions, and improved air quality. Training and technical assistance is provided to facility managers on how to select vendors and retrofit strategies, and how to operate and maintain the energy efficiency equipment, upon installation.

Implementation Strategy: The Education Segment Program will be delivered by one or more CSPs. Separate RFPs may be issued for colleges and Primary Schools. Characteristics of the segments very significantly requiring different kinds of services traditionally provided by different types of CSPs. RFPs will solicit innovative approaches to providing the basic services described above. Programs implemented under contract to CSPs will conform to the Commercial Umbrella Program incentives structures, terms, conditions and operating procedures.

Program Risk and Risk Management Strategy: All portfolios and programs are operated through Duquesne Light's PMRS. The system provides comprehensive oversight of program budgets and impacts and provides early warning regarding program under- or over-subscription. Provisions in CSP contract language provides for fund shifting from under-performing programs.

Anticipated Cost to Participating Customers: Program incentive payments will offset a portion of the incrementally greater cost of recommended high-efficiency equipment. The incentive levels, or the percentage of incremental measure cost, offset by program incentives, is established under the Commercial Sector Umbrella Program. Participating customers pay the remaining amounts.

Ramp-up Strategy: It is anticipated the earliest program launch could be November 1, 2009. Given the need to develop business systems and processes, assemble collateral program materials and conduct training, it is unlikely the program will be enrolling participant before January 1, 2010. This provides for approximately five months of operation in program year 2009. Program "ramp-up" is initiated in 2009. The 2010 program year is planned to be fully-funded and fully operational, as reflected in EEC Plan projected budgets and savings impacts. During the 2009 "ramp-up" period, based on the aforementioned five months of likely program operation, it is anticipated the amount of incentive payments provided customers will be approximately 50% of the amount that would be provided during a full year of program operation. Even through the 2009 ramp-up year will be shorter than a full year of operation, the plan has allowed for an amount of administrative costs equivalent to what would be required for a full year of program operation. This is based on greater costs anticipated to initiate program operation, such as tracking and reporting system development, collateral material development, conducting RFPs and training.

Marketing Strategy: A marketing plan is part of prospective CSP proposals to implement programs for this market segment. The successful contractor will raise target market awareness of program and service offerings to the retail stores sector through strategies such as hosting and sponsoring of Webinars, and the development and dissemination of general and specific collateral marketing materials via direct mail, email and the Internet. Additionally, CSP's can conduct outreach through participation and membership in selected key trade associations, attendance at key trade shows and sponsorship of training events. CSPs will be expected to use their unique market segment expertise to craft compelling program participation messages for key customer decision makers.

Eligible Measures and Incentives: Eligible measures and incentives are defined under the Section 3.3.1 Commercial Sector Umbrella Program.

Program Start Date and Key Milestones: Refer to Section Chart 2, Small Commercial/Industrial Portfolio Program.

Assumed EM&V requirements to document savings by the Commission's statewide EE&C Evaluator: Detailed evaluation, measurement and verification activities are identified in the EEC & DR Study and the EM&V Related Program Content section where there is a complete listing of the information that will be provided to the Commission's statewide EE&C Evaluator.

Administrative Requirements: Program administrative budgets are based on benchmarking of similar programs with administrative costs approximately 20% of program budgets as shown in the Projected Program Budget table below. Organization planning includes provision for one full-time project coordinator for sub-contracted C&I programs as well as part-time support by engineering, marketing, purchasing, regulatory, data processing and clerical staff, in addition to contracted CSP services.

Estimated Participation (Small C&I): The primary metrics for program participation will be processing incentive payments for the purchase and installation of energy efficiency equipment rendering deemed savings estimates reflected in the following Projected Program Impacts table.

Figure 25: Education Segment Budget and Impacts***Projected Program Budget***

Program Year	2009	2010	2011	2012	Total
Incentives	\$88,146	\$176,293	\$176,293	\$176,293	\$617,024
Admin	\$44,073	\$44,073	\$44,073	\$44,073	\$176,293

Projected Program Impacts

Program Year	2009	2010	2011	2012	Total
On-Peak Demand Reduction (kW)	221	443	443	443	1,550
Energy Savings (kWh)	1,031,775	2,063,551	2,063,551	2,063,551	7,222,428

Cost Effectiveness: TRC 2.6

3.3.5. Industrial Sector Umbrella Program (Program description Section 3.4)

(See Section 3.4.6. for full program description)

Estimated Participation (Small C&I): The primary metrics for program participation will be processing incentive payments for the purchase and installation of energy efficiency equipment rendering deemed savings estimates reflected in the Projected Program Impacts table below:

Figure 26: Industrial Sector Budget and Impacts***Projected Program Budget***

Program Year	2009	2010	2011	2012	Total
Incentives	\$33,124	\$43,399	\$43,399	\$43,399	\$163,320
Admin	\$36,827	\$48,251	\$48,251	\$48,251	\$181,580

Projected Program Impacts

Program Year	2009	2010	2011	2012	Total
On-Peak Demand Reduction (kW)	57	114	114	114	399
Energy Savings (kWh)	368,716	737,432	737,432	737,432	2,581,011

3.3.6. Industrial Sector Sub-Program: Mixed Segments

Title: The Industrial Sector Mixed Segments Sub-program will be implemented during program years 2009 and 2012.

Objectives This program was developed through information provided to Duquesne at Act 129 Stakeholder Meetings wherein participants expressed interest in specialized programs for the chemicals and primary metals markets, which comprise 75% of Duquesne's industrial energy use. The industrial sector mixed segment program is tailored to assist smaller industrial customers in overcoming unique, segment specific barriers to energy efficiency program participation.

Target Market: The program provides energy audits and incentives to multiple industrial segments, including, but not limited to, food processing, rubber & plastics, stone/clay/glass, fabricated metals and electronics.

Program Description: The program is delivered by a single contractor that provides program outreach and energy audits to multiple industrial segments. The Industrial Sector Mixed Segment Program helps smaller manufacturing entities to assess the potential for energy-efficiency project implementation, cost and energy savings, and, for appropriate customers, provides follow-through by installing measures and verifying savings. Program components include auditing of energy use, provision of targeted financing and incentives, project management and installation of retrofit measures, training, and technical assistance. Incentive amounts for this program are consistent with the Industrial Sector Umbrella Program.

Energy audits provide customers a readily available, reliable, source of information about their energy use and outline ways to save energy that, when implemented, will result in energy savings, reduced operating costs, lowered carbon emissions, and improved air quality. Training and technical assistance is provided to facility managers on how to select vendors and retrofit strategies, and how to operate and maintain the energy efficiency equipment upon installation.

Implementation Strategy: The Industrial Sector Mixed Segment Program will be delivered by a single CSP specializing in serving this diverse market. The RFP will solicit innovative approaches to providing the basic services described above. Programs implemented under contract to a CSP will conform to the Industrial Sector Umbrella Program incentives structures, terms, conditions and operating procedures.

Program Risk and Risk Management Strategy: All portfolios and programs are operated through Duquesne Light's PMRS. The system provides comprehensive oversight of program budgets and impacts and provides early warning regarding program under- or over-subscription. Provisions in CSP contract language provides for fund shifting from under-performing programs.

Anticipated Cost to Participating Customers: Program incentive payments will offset a portion of the incrementally greater cost of recommended high-efficiency equipment. The incentive levels, or the percentage of incremental measure cost, offset by program incentives, is established under the Industrial Sector Umbrella Program. Participating customers pay the remaining amounts.

Ramp-up Strategy: It is anticipated the earliest program launch could be November 1, 2009. Given the need to develop business systems and processes, assemble collateral program materials and conduct training it is unlikely the program will be enrolling participant before January 1, 2010. This provides for approximately five months of operation in program year 2009. Program "ramp-up" is initiated in 2009. The 2010 program year is planned to be fully-funded and fully operational, as reflected in EEC Plan projected budgets and savings impacts. During the 2009 "ramp-up" period, based on the aforementioned five months of likely program operation, it is anticipated the amount of incentive payments provided customers will be approximately 50% of the amount that would be provided during a full year of program operation. Even through the 2009 ramp-up year will be shorter than a full year of operation, the plan has allowed for an amount of administrative costs equivalent to what would be required for a full year of program operation. This is based on greater costs

anticipated to initiate program operation, such as tracking and reporting system development, collateral material development, conducting RFPs and training.

Marketing Strategy: A marketing plan is part of a prospective CSP's proposal to implement a program for this market segment. The successful contractor will raise market awareness of program and service offerings to the multiple industrial sector segments through strategies such as hosting and sponsoring of Webinars, and the development and dissemination of general and specific collateral marketing materials via direct mail, email and the Internet. Additionally, CSP's can conduct outreach through participation and membership in selected key trade associations, attendance at key trade shows and sponsorship of training events. CSPs will be expected to use their unique market segment expertise to craft compelling program participation messages for key customer decision makers

Eligible Measures and Incentives: Eligible measures and incentives are defined under the Section 3.4.6 Industrial Sector Umbrella Program.

Program Start Date and Key Milestones: Refer to Section Chart 2, Small Commercial/Industrial Portfolio Program.

Assumed EM&V requirements to document savings by the Commission's statewide EE&C Evaluator: Detailed evaluation, measurement and verification activities are identified in the EEC & DR Study and the EM&V Related Program Content section, where there is a complete listing of the information that will be provided to the Commission's statewide EE&C Evaluator.

Administrative Requirements: Program administrative budgets are based on benchmarking of similar programs with administrative costs approximately 20% of program budgets as shown in the Projected Program Budget table below. Organization planning includes provision for one full-time project coordinator for sub-contracted C&I programs as well as part-time support by engineering, marketing, purchasing, regulatory, data processing and clerical staff, in addition to contracted CSP services.

Estimated Participation (Small C&I): The primary metrics for program participation will be processing incentive payments for the purchase and installation of energy efficiency equipment rendering deemed savings estimates reflected in the following Projected Program Impacts table.

Figure 27: Mixed Segments Budget and Impacts***Projected Program Budget***

Program Year	2009	2010	2011	2012	Total
Incentives	\$249,615	\$327,048	\$327,048	\$327,048	\$1,230,759
Admin	\$277,522	\$363,613	\$363,613	\$363,613	\$1,368,360

Projected Program Impacts

Program Year	2009	2010	2011	2012	Total
On-Peak Demand Reduction (kW)	429	858	858	858	3,004
Energy Savings (kWh)	2,778,590	5,557,180	5,557,180	5,557,180	19,450,130

Cost Effectiveness: TRC 3.8

3.3.7. Demand Response: Small & Midsized Commercial

Title: The Air Conditioner Cycling Program for Small and Mid-Size Facilities will be implemented during program years 2010 through 2012.

Objectives: The program will achieve the benefits of demand response by cycling off central air conditioners for small and medium sized commercial and industrial facilities.

Target Market: The program will target approximately 54,000 small and mid-sized customers. Small facilities have demands less than 25 kW per month and consume less than 1,000 kWh per month. Mid-sized facilities are between 25 kW and 300 kW.

Program Description: The program will install a load cycling switch technology, similar to that used currently in the residential program by Duquesne Light. However, the switch will be configured to achieve more cost-effective load reductions through the use of an adaptive algorithm during cycling events. The advantage of the adaptive algorithm is to adjust the air conditioner operation tailored to the amount of electricity use by each individual participant at the

time of the cycling event. A total of 48 hours of cycling will be conducted during the average summer season over the four months of June, July, August and September. This is based on the following estimates: 12 cycling events per season on average; 4 hours per event on average. With permission of the participants, the switch will be installed on the air conditioner condensing unit. Communications to the switches will be accomplished through wireless media.

Implementation Strategy: The program will be delivered under contract with a third party experienced in implementing air conditioner cycling programs. The contractor will be responsible for such activities as acquiring and inventorying equipment for installation; hiring and training of installation and service technicians; arranging equipment installation; communicating with equipment during cycling events, and, handling customer service issues. The contractor may also be engaged more broadly, such as direct marketing; managing call centers for customer inquiries, installation and service; operating cycling events when called by the utility, and monitoring and verifying performance.

Program Risk and Risk Management Strategy: All portfolios and programs are operated through Duquesne Light's PMRS. The system provides comprehensive oversight of program budgets and impacts and provides early warning regarding program under- or over-subscription. Provisions in CSP contract language provides for fund shifting from under-performing programs.

Anticipated Cost to Participating Customers: Participants will receive the load cycling unit at no charge and no charge for installation.

Ramp-up Strategy: The program will not operate in 2009. Some administrative costs will be incurred preparing program launch in 2010. Program projected participation is 540 participants per year, 2010 through 2012.

Marketing Strategy: The program will be promoted through a variety of strategies, including direct mail, telemarketing, door to door sales, bill inserts, websites, and customer service call center representatives. Literature will be prepared for use in direct mail, door hangers, public meetings, and response to customer inquiries. Media events will be held for radio, television and newspapers, and presentations at public meetings.

Eligible Measures and Incentives: Participants will receive the load cycling unit at no charge and no charge for installation. Customers will receive credits on their monthly electric bill for participation amounting to \$32 per summer season. This is based on an incentive of \$8/month for each of the four summer months.

Program Start Date and Key Milestones: Refer to Section Chart 2, Small Commercial/Industrial Portfolio Program.

Assumed EM&V requirements to document savings by the Commission's statewide EE&C Evaluator: Detailed evaluation, measurement and verification activities are identified in the EEC & DR Study and the EM&V Related Program Content section where there is a complete listing of the information that will be provided to the Commission's statewide EE&C Evaluator.

Administrative Requirements: Program administrative budgets are based on benchmarking of similar programs, administrative and incentive costs are shown in the Projected Program Budget table below. Organization planning assumes administrative duties will be performed by the Duquesne Light program manager for the C&I sub-contract programs as well as part-time support by engineering, marketing, purchasing, data processing and clerical staff, in addition to contracted CSP services.

Estimated Participation: Projected participation rates for years 2009 through 2012 are shown below:

Figure 28: Demand Response Projected Participation Rates

<i>3 Units per participant</i>	2009	2010	2011	2012
<i>Units operating annual</i>	0	1,620	1,620	1,620
<i>Units operating cumulative</i>	0	1,620	3,240	4,860

Figure 29: Demand Response Budget and Impacts

Projected Program Budget

Program Year	2009	2010	2011	2012	Total
Incentives	\$0	\$51,840	\$103,680	\$155,520	\$311,040
Admin	\$40,000	\$168,360	\$213,720	\$259,080	\$681,160

Projected Program Impacts

Program Year	2009	2010	2011	2012	Total
On-Peak Demand Reduction (kW)	0	2,592	5,184	7,776	7,776
Energy Savings (kWh)	0	111,974	223,949	335,923	671,846

Cost Effectiveness: TRC 1.3 – 2.0

- 3.4. Commercial/Industrial Large Sector (as defined by EDC Tariff) Programs include formatted descriptions of each program organized under the same headings as listed above for residential programs.

- 3.4.1. Commercial Sector Umbrella Energy Efficiency Program Plan

(Program description Section 3.3)

Estimated Participation (Large C&I): The primary metrics for program participation will be processing incentive payments for the purchase and installation of energy efficiency equipment rendering deemed savings estimates reflected in the Projected Program Impacts table below:

Figure 30: Commercial Sector Umbrella Budget and Impacts***Projected Program Budget***

Program Year	2009	2010	2011	2012	Total
Incentives	\$161,906	\$323,812	\$323,812	\$323,812	\$1,133,344
Admin	\$80,953	\$80,953	\$80,953	\$80,953	\$323,812

Projected Program Impacts

Program Year	2009	2010	2011	2012	Total
On-Peak Demand Reduction (kW)	407	813	813	813	2,846
Energy Savings (kWh)	1,895,155	3,790,309	3,790,309	3,790,309	13,266,082

3.4.2. Commercial Sector Sub-Program: Office Buildings

(Program description Section 3.3)

Estimated Participation (Large C&I): The primary metrics for program participation will be processing incentive payments for the purchase and installation of energy efficiency equipment rendering deemed savings estimates reflected in the Projected Program Impacts table below:

Figure 31: Office Buildings Budget and Impacts***Projected Program Budget***

Program Year	2009	2010	2011	2012	Total
Incentives	\$887,000	\$1,775,000	\$1,789,000	\$1,800,000	\$6,251,000
Admin	\$407,000	\$444,000	\$447,000	\$451,000	\$1,749,000

Projected Program Impacts

Program Year	2009	2010	2011	2012	Total
On-Peak Demand Reduction (kW)	2,200	4,400	4,400	4,400	15,400
Energy Savings (kWh)	10,100,000	20,200,000	20,400,000	20,600,000	71,300,000

3.4.3. Commercial Sector Sub-Program: Health Care

Title: The Commercial Sector Sub-Program: Health Sector Segment program will be implemented during program years 2009 and 2012.

Objectives: The Health Care Segment program is tailored to assist the segment to overcome unique, segment specific, barriers to energy efficiency program participation.

Target Market: This program provides energy efficiency services to medical office buildings and acute care facilities. (Represents 17% of commercial sector energy use)

Program Description: By working directly with regional health care system administrators, Duquesne's new Health Care Energy Efficiency Programs

(“HEEP”) establishes a permanent framework for a long-term energy management program for medical office buildings and acute care facilities. HEEP is a retrofit incentive program tailored to individual system administrator needs

Implementation Strategy: Duquesne Light will leverage its existing business relationships with major regional health care systems to enroll these important customers in tailored energy efficiency programs. Duquesne Light’s key account representatives, supported by specialized CSPs, will facilitate working group meetings with client energy and facility managers to identify and prioritize projects for inclusion in the HEEP. It is anticipated the working groups will focus on large scale projects and challenges facing this unique customer segment.

Program Risk and Risk Management Strategy: All portfolios and programs are operated through Duquesne Light’s PMRS. The system provides comprehensive oversight of program budgets and impacts and provides early warning regarding program under- or over-subscription. Provisions in CSP contract language provides for fund shifting from under-performing programs.

Anticipated Cost to Participating Customers: Program incentive payments will offset a portion of the incrementally greater cost of recommended high-efficiency equipment. The incentive levels, or the percentage of incremental measure cost offset by program incentives, is established under the Industrial Sector Umbrella Program. Participating customers pay the remaining amounts.

Ramp-up Strategy: It is anticipated the earliest program launch could be November 1, 2009. Given the need to develop business systems and processes, assemble collateral program materials and conduct training, it is unlikely the program will be enrolling participant before January 1, 2010. This provides for approximately five months of operation in program year 2009. Program “ramp-up” is initiated in 2009. The 2010 program year is planned to be fully-funded and fully operational, as reflected in EEC Plan projected budgets and savings impacts. During the 2009 “ramp-up” period, based on the aforementioned five months of likely program operation, it is anticipated the amount of incentive payments provided customers will be approximately 50% of the amount that would be provided during a full year of program operation. Even through the 2009 ramp-up year will be shorter than a full year of operation, the plan has allowed for an amount of administrative costs equivalent to what would be required for a full year of program operation. This is based on greater costs anticipated to initiate program operation, such as tracking and reporting system development, collateral material development, conducting RFPs and training.

Marketing Strategy: The marketing approach for this program will be direct meetings with mid-level health care system energy and facility managers. Duquesne Light will continue its outreach through participation and membership in selected key trade associations, attendance at key trade shows and sponsorship of training events.

Eligible Measures and Incentives: Eligible measures and incentives are defined under the Section 3.4.6 Industrial Sector Umbrella Program. Custom measures will be evaluated on a case-by-case basis.

Program Start Date and Key Milestones: Refer to Section Chart 3, Large Commercial/Industrial Portfolio Program.

Assumed EM&V requirements to document savings by the Commission's statewide EE&C Evaluator: Detailed evaluation, measurement and verification activities are identified in the EEC & DR Study and the EM&V Related Program Content section where there is a complete listing of the information that will be provided to the Commission's statewide EE&C Evaluator.

Administrative Requirements: Program administrative budgets are based on benchmarking of similar programs with administrative costs approximately 20% of program budgets as shown in the Projected Program Budget table below. Organization planning includes provision for one full-time project coordinator responsible for Duquesne Light implemented C&I programs as well as part-time support by engineering, marketing, purchasing, regulatory, data processing and clerical staff, in addition to contracted CSP services.

Estimated Participation (Large C&I): The primary metrics for program participation will be processing incentive payments for the purchase and installation of energy efficiency equipment rendering deemed savings estimates reflected in the Projected Program Impacts table below:

Figure 32: Health Care Budget and Impacts***Projected Program Budget***

Program Year	2009	2010	2011	2012	Total
Incentives	\$486,764	\$973,528	\$973,528	\$973,528	\$3,407,347
Admin	\$243,382	\$243,382	\$243,382	\$243,382	\$973,528

Projected Program Impacts

Program Year	2009	2010	2011	2012	Total
On-Peak Demand Reduction (kW)	1,222	2,445	2,445	2,445	8,557
Energy Savings (kWh)	5,697,697	11,395,394	11,395,394	11,395,394	39,883,880

Cost Effectiveness: TRC 2.6

3.4.4. Commercial Sector Sub-Program: Retail Stores

(For a complete program description see Section 3.3)

Estimated Participation (Large C&I): The primary metrics for program participation will be processing incentive payments for the purchase and installation of energy efficiency equipment rendering deemed savings estimates reflected in the Projected Program Impacts table below:

Figure 33: Retail Stores Budget and Impacts***Projected Program Budget***

Program Year	2009	2010	2011	2012	Total
Incentives	\$374,408	\$748,816	\$748,816	\$748,816	\$2,620,857
Admin	\$187,204	\$187,204	\$187,204	\$187,204	\$748,816

Projected Program Impacts

Program Year	2009	2010	2011	2012	Total
On-Peak Demand Reduction (kW)	940	1,881	1,881	1,881	6,582
Energy Savings (kWh)	4,382,545	8,765,090	8,765,090	8,765,090	30,677,815

3.4.5. Commercial Sector Sub-Program: Education

(For a complete program description see Section 3.3)

Estimated Participation (Large C&I): The primary metrics for program participation will be processing incentive payments for the purchase and installation of energy efficiency equipment rendering deemed savings estimates reflected in the Projected Program Impacts table below:

Figure 34: Education Budget and Impacts***Projected Program Budget***

Program Year	2009	2010	2011	2012	Total
Incentives	\$212,502	\$425,004	\$425,004	\$425,004	\$1,487,514
Admin	\$106,251	\$106,251	\$106,251	\$106,251	\$425,004

Projected Program Impacts

Program Year	2009	2010	2011	2012	Total
On-Peak Demand Reduction (kW)	534	1,067	1,067	1,067	3,736
Energy Savings (kWh)	2,487,390	4,974,781	4,974,781	4,974,781	17,411,733

3.4.6. Industrial Sector Energy Efficiency Umbrella Program

Title: The Industrial Sector Umbrella Energy Efficiency Program Plan will be implemented during program years 2009 through 2012.

Objectives: The Industrial Sector Umbrella Program (“ISUP”) provides for the payment of incentives to offset the higher cost of high-efficiency equipment when compared to standard efficiency equipment. Importantly, the ISUP establishes the terms, conditions, and incentive levels for all Sub-Programs. This has two key functions: (1) Changes to incentive levels occurs once at the ISUP, thereafter referenced by all other programs, and (2) all program incentive offers are consistent, eliminating confusion and gaming (customers and/or contractors can participate in any program within the portfolio and receive exactly the same incentive). Incentive program tracking, reporting and processing are performed under the structures and procedures established under the ISUP.

Additionally, Sub-Programs are structured to provide specialized services to customers consuming 92% of the sector energy use. The ISUP provides access to energy efficiency incentives by customers not served by the Sub-Programs.

Target Market: The ISUP is primarily an operations activity facilitating operation of the Sector Sub-Programs. The ISUP can serve to provide cash incentives to customers that lack service under one of the Sector Sub-Programs.

Program Description: The ISUP establishes the terms, conditions, and incentive levels for all Sub-Programs. Incentive program tracking, reporting and processing are performed under the structures and procedures established under the ISUP. The ISUP provides incentives to offset the higher cost of high-efficiency equipment when compared to standard efficiency equipment. Rebate applications allow customers to reserve funds for their projects via phone, fax, Internet, or mail.

Implementation Strategy: The ISUP is operated by the Duquesne Light core team or a designated CSP. Procedural guidelines for the ISUP define the processes for all incentive reservation, redemption as well as program activity and impact reporting.

Program Risk and Risk Management Strategy: All portfolios and programs are operated through Duquesne Light's PMRS. The system provides comprehensive oversight of program budgets and impacts and provides early warning regarding program under- or over-subscription. Provisions in CSP contract language provides for fund shifting from under-performing programs.

Anticipated Cost to Participating Customers: Incentive payments offset a portion of the incrementally greater cost of high-efficiency equipment. Incentive "levels" refer to the percentage of incremental measure cost offset by program incentives. Participating customers pay the remaining amounts. The following table summarizes incentive levels for industrial programs:

Figure 35: Industrial Program Incentive Levels

Lighting	32.6%
HVAC	45.8%
Refrigeration	60.9%
Office Equip	50.0%

Ramp-up Strategy: It is anticipated the earliest program launch could be November 1, 2009. Given the need to develop business systems and processes, assemble collateral program materials and conduct training, it is unlikely the program will be enrolling participant before January 1, 2010. This provides for approximately five months of operation in program year 2009. Program "ramp-up" is initiated in 2009. The 2010 program year is planned to be fully-funded and fully operational, as reflected in EEC Plan projected budgets and savings impacts. During the 2009 "ramp-up" period, based on the aforementioned five months of likely program operation, it is anticipated the amount of incentive payments provided customers will be approximately 50% of the amount that would be provided during a full year of program operation. Even through the 2009 ramp-up year will be shorter than a full year of operation, the plan has allowed for an amount of administrative costs equivalent to what would be

required for a full year of program operation. This is based on greater costs anticipated to initiate program operation, such as tracking and reporting system development, collateral material development, conducting RFPs and training.

Marketing Strategy: The ISUP is primarily an operational program. Customers will have access to ISUP incentive applications through a link on Duquesne Light's Act 129 website. In addition contacts can be made through the account representative.

Eligible Measures and Incentives: Prescriptive measures and associated rebate amounts are provided in the EEC & DR Attachment 13. Where custom or calculated incentive amounts are appropriate (as described in program terms and conditions) incentive levels for industrial process custom measures will be evaluated on a case-by-case basis.

Program Start Date and Key Milestones: Refer to Section Chart 3, Large Commercial/Industrial Portfolio Program.

Assumed EM&V requirements to document savings by the Commission's statewide EE&C Evaluator: Detailed evaluation, measurement and verification activities are identified in the EEC & DR Study and the EM&V Related Program Content section where there is a complete listing of the information that will be provided to the Commission's statewide EE&C Evaluator.

Administrative Requirements: Program administrative costs are shown in the Projected Program Budget table below. Organization planning includes provision for one full-time project coordinator for Duquesne Light C&I Programs as well as part-time support by engineering, marketing, purchasing, regulatory, data processing and clerical staff, in addition to contracted CSP services.

Estimated Participation (Large C&I): The primary metrics for program participation will be processing incentive payments for the purchase and installation of energy efficiency equipment rendering deemed savings estimates reflected in the Projected Program Impacts table below:

Figure 36: Industrial Umbrella Budget and Impacts***Projected Program Budget***

Program Year	2009	2010	2011	2012	Total
Incentives	\$79,854	\$104,626	\$104,626	\$104,626	\$393,731
Admin	\$88,782	\$116,323	\$116,323	\$116,323	\$437,750

Projected Program Impacts

Program Year	2009	2010	2011	2012	Total
On-Peak Demand Reduction (kW)	137	275	275	275	961
Energy Savings (kWh)	888,895	1,777,790	1,777,790	1,777,790	6,222,266

Cost Effectiveness: TRC 3.8

3.4.7. Industrial Sector Sub-Program: Primary Metals

Title: The Industrial Sector Sub-Program: Primary Metals Segment program will be implemented during program years 2009 and 2012.

Objectives: The primary metals segment program is tailored to assist the segment to overcome unique, segment specific, barriers to energy efficiency program participation.

Target Market: Primary Metals products manufacturing companies (SIC 33 / NAIC 331)

Program Description: The Primary Metals Segment Program helps industrial customers to assess the potential for energy-efficiency project implementation, cost and energy savings, and, for appropriate customers, provides follow-

through by installing measures and verifying savings. Program components include auditing of energy use, provision of targeted financing and incentives, project management and installation of retrofit measures, training, and technical assistance. Incentive amounts for this program are consistent with the Industrial Sector Umbrella Program.

Energy audits provide industry a readily available, reliable source of information about their energy use and outline ways to save energy that, when implemented, will result in energy savings, reduced operating costs, lowered carbon emissions, and improved air quality. Training and technical assistance is provided to facility managers on how to select vendors and retrofit strategies, and how to operate and maintain the energy efficiency equipment upon installation.

Implementation Strategy: The Primary Metals Segment Program will be delivered by one or more specialized CSPs with a track record of engaging primary metals companies in utility energy efficiency programs. RFPs will solicit innovative approaches to providing the services outlined above. Programs implemented under contract to CSPs will conform to the Industrial Sector Umbrella Program incentives structures, terms, conditions and operating procedures.

Program Risk and Risk Management Strategy: All portfolios and programs are operated through Duquesne Light's PMRS. The system provides comprehensive oversight of program budgets and impacts and provides early warning regarding program under- or over-subscription. Provisions in CSP contract language provides for fund shifting from under-performing programs.

Anticipated Cost to Participating Customers: Program incentive payments will offset a portion of the incrementally greater cost of recommended high-efficiency equipment. The incentive levels, or the percentage of incremental measure cost offset by program incentives, is established under the Industrial Sector Umbrella Program. Participating customers pay the remaining amounts.

Ramp-up Strategy: It is anticipated the earliest program launch could be November 1, 2009. Given the need to develop business systems and processes, assemble collateral program materials and conduct training, it is unlikely the program will be enrolling participant before January 1, 2010. This provides for approximately five months of operation in program year 2009. Program "ramp-up" is initiated in 2009. The 2010 program year is planned to be fully-funded and fully operational, as reflected in EEC Plan projected budgets and savings impacts. During the 2009 "ramp-up" period, based on the aforementioned five months of likely program operation, it is anticipated the amount of incentive payments provided customers will be approximately 50% of the amount that would be provided during a full year of program operation. Even through the 2009 ramp-up year will be shorter than a full year of operation, the plan has allowed for an amount of administrative costs equivalent to what would be required for a full year of program operation. This is based on greater costs anticipated to initiate program operation, such as tracking and reporting system development, collateral material development, conducting RFPs and training.

Marketing Strategy: A marketing plan is part of prospective CSP proposals to implement programs for this market segment. The successful contractor will raise target market awareness of program and service offerings to the retail stores sector through strategies such as hosting and sponsoring of Webinars, and the development and dissemination of general and specific collateral marketing materials via direct mail, email and the Internet. Additionally, CSP's can conduct outreach through participation and membership in selected key trade associations, attendance at key trade shows and sponsorship of training events. CSPs will be expected to use their unique market segment expertise to craft compelling program participation messages for key customer decision makers.

Eligible Measures and Incentives: Eligible measures and incentives are defined under the Section 3.4.6. Industrial Sector Umbrella Program.

Program Start Date and Key Milestones: Refer to Section Chart 3, Large Commercial/Industrial Portfolio Program.

Assumed EM&V requirements to document savings by the Commission's statewide EE&C Evaluator: Detailed evaluation, measurement and verification activities are identified in the EEC & DR Study and the EM&V Related Program Content section where there is a complete listing of the information that will be provided to the Commission's statewide EE&C Evaluator.

Administrative Requirements: Program administrative budgets are based on benchmarking of similar programs with administrative costs approximately 20% of program budgets as shown in the Projected Program Budget table below. Organization planning includes provision for one full-time project coordinator for sub-contracted C&I programs as well as part-time support by engineering, marketing, purchasing, regulatory, data processing and clerical staff, in addition to contracted CSP services.

Estimated Participation (Large C&I): The primary metrics for program participation will be processing incentive payments for the purchase and installation of energy efficiency equipment rendering deemed savings estimates reflected in the Projected Program Impacts table below:

Figure 37: Primary Metals Budget and Impacts***Projected Program Budget***

Program Year	2009	2010	2011	2012	Total
Incentives	\$769,851	\$1,008,668	\$1,008,668	\$1,008,668	\$3,795,853
Admin	\$855,921	\$1,121,438	\$1,121,438	\$1,121,438	\$4,220,235

Projected Program Impacts

Program Year	2009	2010	2011	2012	Total
On-Peak Demand Reduction (kW)	1,324	2,647	2,647	2,647	9,265
Energy Savings (kWh)	8,569,603	17,139,207	17,139,207	17,139,207	59,987,224

Cost Effectiveness: TRC 3.8

3.4.8. Industrial Sector Sub-Program: Chemical Products

Title: The Industrial Sector Sub-Program: Chemical Products Segment program will be implemented during program years 2009 and 2012.

Objectives: The Chemical Products Segment Program is tailored to assist the segment to overcome unique, segment specific, barriers to energy efficiency program participation.

Target Market: Chemical Products manufacturing companies (SIC 28 / NAIC 325)

Program Description: The Chemical Products Segment Program helps industrial customers to assess the potential for energy-efficiency project implementation, cost and energy savings, and, for appropriate customers, provides follow-through by installing measures and verifying savings. Program components include auditing of energy use, provision of targeted financing and incentives, project management and installation of retrofit measures, training, and technical assistance. Incentive amounts for this program are consistent with the Industrial Sector Umbrella Program.

Energy audits provide industry a readily available, reliable source of information about their energy use and outline ways to save energy that, when implemented, will result in energy savings, reduced operating costs, lowered carbon emissions, and improved air quality. Training and technical assistance is provided to facility managers on how to select vendors and retrofit strategies, and how to operate and maintain the energy efficiency equipment upon installation.

Implementation Strategy: The Chemical Products Segment Program will be delivered by one or more specialized CSPs with a track record of engaging chemical products companies in utility energy efficiency programs. RFPs will solicit innovative approaches to providing the services outlined above. Programs implemented under contract to CSPs will conform to the Industrial Sector Umbrella Program incentives structures, terms, conditions and operating procedures.

Program Risk and Risk Management Strategy: All portfolios and programs are operated through Duquesne Light's PMRS. The system provides comprehensive oversight of program budgets and impacts and provides early warning regarding program under- or over-subscription. Provisions in CSP contract language provides for fund shifting from under-performing programs.

Anticipated Cost to Participating Customers: Program incentive payments will offset a portion of the incrementally greater cost of recommended high-efficiency equipment. The incentive levels, or the percentage of incremental measure cost, offset by program incentives, is established under the Industrial Sector Umbrella Program. Participating customers pay the remaining amounts.

Ramp-up Strategy: It is anticipated the earliest program launch could be November 1, 2009. Given the need to develop business systems and processes, assemble collateral program materials and conduct training, it is unlikely the program will be enrolling participant before January 1, 2010. This provides for approximately five months of operation in program year 2009. Program "ramp-up" is initiated in 2009. The 2010 program year is planned to be fully-funded and fully operational, as reflected in EEC Plan projected budgets and savings impacts. During the 2009 "ramp-up" period, based on the aforementioned five months of likely program operation, it is anticipated the amount of incentive payments provided customers will be approximately 50% of the amount that would be provided during a full year of program operation. Even through the 2009 ramp-up year will be shorter than a full year of operation, the plan has allowed for an amount of administrative costs equivalent to what would be required for a full year of program operation. This is based on greater costs anticipated to initiate program operation, such as tracking and reporting system development, collateral material development, conducting RFPs and training.

Marketing Strategy: A marketing plan is part of prospective CSP proposals to implement programs for this market segment. The successful contractor will raise target market awareness of program and service offerings to the retail stores sector through strategies such as hosting and sponsoring of Webinars, and the development and dissemination of general and specific collateral marketing materials via direct mail, email and the Internet. Additionally, CSP's can conduct outreach through participation and membership in selected key trade

associations, attendance at key trade shows and sponsorship of training events. CSPs will be expected to use their unique market segment expertise to craft compelling program participation messages for key customer decision makers.

Eligible Measures and Incentives: Eligible measures and incentives are defined under the Section 3.4.6. Industrial Sector Umbrella Program.

Program Start Date and Key Milestones: Refer to Section Chart 3, Large Commercial/Industrial Portfolio Program.

Assumed EM&V requirements to document savings by the Commission's statewide EE&C Evaluator: Detailed evaluation, measurement and verification activities are identified in the EEC & DR Study and the EM&V Related Program Content section where there is a complete listing of the information that will be provided to the Commission's statewide EE&C Evaluator.

Administrative Requirements: Program administrative budgets are based on upon benchmarking of similar programs with administrative costs approximately 20% of program budgets as shown in the Projected Program Budget table below. Organization planning includes provision for one full-time project coordinator for sub-contracted C&I programs as well as part-time support by engineering, marketing, purchasing, regulatory, data processing and clerical staff, in addition to contracted CSP services.

Estimated Participation (Large C&I): The primary metrics for program participation will be processing incentive payments for the purchase and installation of energy efficiency equipment rendering deemed savings estimates reflected in the Projected Program Impacts table below:

Figure 38: Chemical Products Budget and Impacts***Projected Program Budget***

Program Year	2009	2010	2011	2012	Total
Incentives	\$279,776	\$366,566	\$366,566	\$366,566	\$1,379,476
Admin	\$311,056	\$407,549	\$407,549	\$407,549	\$1,533,703

Projected Program Impacts

Program Year	2009	2010	2011	2012	Total
On-Peak Demand Reduction (kW)	481	962	962	962	3,367
Energy Savings (kWh)	3,114,336	6,228,671	6,228,671	6,228,671	21,800,349

Cost Effectiveness: TRC 3.8

3.4.9. Demand Response: Curtailable Load for Large Commercial / Industrial

Title: The Curtailable Load Program for Large Commercial and Industrial Facilities will be implemented during program years 2009 through 2012.

Objectives: The program will achieve the benefits of demand response by engaging large commercial and industrial facilities in managing peak loads in a manner agreed to in advance under the terms of a program enrollment agreement.

Target Market: The target customers are more than 900 accounts with demands exceeding 300 kW.

Program Description: Customers execute an agreement to reduce facility electric demands during peak periods. Electric load reductions can result from operational curtailment at times coinciding with electric system peak loads as planned and defined in program agreements or when notified over an automated or real-time communication system. It is anticipated an average of 48 hours of

interruptions will be called for annually. Participants receive the control or communication systems facilitating load reductions at a reduced price and are paid incentives based on recorded reductions. Reduction periods are selected based upon an assessment of the current wholesale energy prices.

Implementation Strategy: The program will be delivered under contract with a third party experienced in implementing load management programs. The contractor will at least be responsible for such activities as, acquiring and inventorying equipment for installation, hiring and training of installation and service technicians, arranging equipment installation; communicating with equipment during cycling events, and handling customer service issues. The contractor may also be engaged more broadly, such as direct marketing; managing call centers for customer inquiries, installation and service; operating cycling events when called by the utility, and monitoring and verifying performance. All Large C & I customers and their authorized third parties, including Curtailment Service Providers in PJM will be given equivalent incentives to participate in the Duquesne program, equivalent access to customer usage data, and equivalent facilities paid for through the EEC&DR surcharge to implement this program. Customers can then choose to participate or not, without restriction.

Program Risk and Risk Management Strategy: All portfolios and programs are operated through Duquesne Light's PMRS. The system provides comprehensive oversight of program budgets and impacts and provides early warning regarding program under- or over-subscription. Provisions in CSP contract language provides for fund shifting from under-performing programs.

Anticipated Cost to Participating Customers: Participants receive the communications system at half-price

Ramp-up Strategy: The program will not operate in 2009. Some administrative costs will be incurred preparing program launch in 2010. Program projected participation is 18 participants per year, 2010 through 2012.

Marketing Strategy: The program will be promoted through a variety of strategies, including direct mail, telemarketing, and door to door sales; existing utility resources, including bill inserts, websites, customer service call center representatives. Special literature will be prepared for use in direct mail, door hangers, public meetings, and response to customer inquiries. Media events will be held for radio, television and newspapers. There will be presentations at public meetings such as civic clubs, church groups, and neighborhood associations. Per the Commission's Opinion and Order entered October 27, 2009 at Docket No. M-2009-2093217, marketing procedures will be subject to periodic Commission review.

Eligible Measures and Incentives: Participants will receive the communication and control technologies at a reduced price. Customers will receive credits on their monthly electric bill for participation amounting to \$32 per summer season. This is based on an incentive of \$8/month for each of the four summer months.

Program Start Date and Key Milestones: Refer to Section Chart 3, Large Commercial/Industrial Portfolio Program.

Assumed EM&V requirements to document savings by the Commission's statewide EE&C Evaluator: Detailed evaluation, measurement and verification activities are identified in the EEC & DR Study and the EM&V Related Program Content section, where there is a complete listing of the information that will be provided to the Commission's statewide EE&C Evaluator.

Administrative Requirements: Program administrative budgets are based on benchmarking of similar programs, administrative and incentive costs shown the Projected Program Budget table below. Organization planning assumes administrative duties will performed by the Duquesne Light program manager for the C&I sub-contract programs as well as part-time support by engineering, marketing, purchasing, data processing and clerical staff, in addition to contracted CSP services.

Estimated Participation: Projected participation rates for years 2009 through 2012 are shown below:

Figure 39: Demand Response Projected Participation Rates

Year	2009	2010	2011	2012
Participants per Year	0	18	18	18
Participants Cumulative	0	18	36	54

Figure 40: Demand Response: Curtailable Load for Large Commercial & Industrial Customers

Projected Program Budget

Program Year	2009	2010	2011	2012	Total
Incentives	0	\$46,656	\$93,312	\$139,968	\$279,936
Admin	\$60,000	\$66,120	\$72,240	\$78,360	\$276,720

Projected Program Impacts

Program Year	2009	2010	2011	2012	Total
On-Peak Demand Reduction (kW)	0	3,600	7,200	10,800	10,800
Energy Savings (kWh)	0	172,800	345,600	518,400	1,036,800

Cost Effectiveness: TRC 3.4 – 5.3

- 3.5. Governmental//Non-Profit Sector (as defined by 66 Pa. C.S. § 2806.1) Programs - include formatted descriptions of each program organized under the same headings as listed above for residential programs. As well, provide and detail all plans for achieving compliance with 66 Pa. C.S. § 2806.1.

Commercial Sector Sub-Program: Public Agency Partnership

Title: The Public Agency Partnership Program (PAPP) will be implemented during program years 2009 through 2012.

Objectives: Engage local government in a partnership to implement an Energy Efficiency Action Plan. Systematically inventory efficiency gain potential present in

local government departments and jurisdictional agencies. Execute project agreements to co-fund identified energy efficiency projects.

Target Market: Federal, state and local government, including municipalities, school districts, institutions of higher education and nonprofits (per Act 129)

Program Description Public Agency Partnerships are established through execution of a Memorandum of Understanding (MOU) by and between Duquesne and selected local governmental agencies. The MOU establishes working groups comprised of Duquesne and agency representatives that identify project areas within agency departments (and jurisdictional agencies). Working groups define project scopes of service and establish project agreements to co-fund agreed to projects. The project agreements between Duquesne Light and Partnership agencies contain the terms to leverage local agency staff to reach, pre-screen and enroll program participants. The utility and the agency split specified program costs. The Partnership MOU puts in place dedicated contacts and a working group structure to identify and evaluate energy efficiency project opportunities within all governmental departments and sub-agencies. A sample Public Agency MOU is provided in Study Attachment 14 of the EEC & DR Study.

Implementation Strategy: Key elements of the implementation process follow (1) Duquesne Light executes a Partnership MOU with the Public Agency (2) Duquesne Light facilitates working group meetings with the Public Agency and jurisdictional agencies (3) the working group collaborates on the development proposed project concept papers (4) public agency working group members obtain feedback on the proposed projects and the working group makes necessary adjustments to the concept paper (5) Duquesne Light prepares a project agreement and resolution for approval by the public agency governing body (6) Duquesne Light and the public agency implement the project plan consistent with the terms of the project agreement.

Patterned after successful programs operating in other parts of the country, a key element of the PAPP is co-funding by Duquesne Light and the Partnership agency of energy efficiency audits and measure implementation. PAPP will utilize local contractors and/or other survey and installation entities based on availability, cost, and quality of service. Whenever possible, PAPP will utilize non-profit, community based organizations to perform the energy efficiency surveys and measure installation. A sample resolution, project agreement and concept paper is provided in EEC & DR Study Attachment 15.

Program Risk and Risk Management Strategy: All portfolios and programs are operated through Duquesne Light's PMRS. The system provides comprehensive oversight of program budgets and impacts and provides early warning regarding program under- or over-subscription. Provisions in CSP contract language provides for fund shifting from under-performing programs.

Anticipated Cost to Participating Customers: PAPP Partners will fund portions of identified energy efficiency projects consistent with adopted project agreements.

Ramp-up Strategy: It is anticipated the earliest program launch could be November 1, 2009. Given the need to develop business systems and processes, assemble collateral program materials and conduct training, it is unlikely the program will be enrolling participants before January 1, 2010. This provides for approximately five months of operation in program year 2009. Program "ramp-up" is initiated in 2009. The 2010

program year is planned to be fully-funded and fully operational, as reflected in EEC Plan projected budgets and savings impacts. During the 2009 “ramp-up” period, based on the aforementioned five months of likely program operation, it is anticipated the amount of incentive payments provided customers will be approximately 50% of the amount that would be provided during a full year of program operation. Even through the 2009 ramp-up year will be shorter than a full year of operation, the plan has allowed for an amount of administrative costs equivalent to what would be required for a full year of program operation. This is based on greater costs anticipated to initiate program operation, such as tracking and reporting system development, collateral material development, conducting RFPs and training.

Marketing Strategy: Local government agencies are engage directly by Duquesne Light under the local government partnership model. Each partnering agency assists in communicating with all governmental departments and jurisdictional agencies.

Eligible Measures and Incentives: All measures identified in the Study Attachments 1 and 13 will be considered for inclusion in PAPP projects. Additionally, custom measures will be evaluated on a case-by-case basis. Project requirements will be specified in the project agreements described above. The cost to identify and implement measures shall be co-funded by parties to the Partnership as specified in project agreements.

Program Start Date and Key Milestones: Refer to Section 12 Chart 4, Governmental/Non-Profit Portfolio Program.

Assumed EM&V requirements to document savings by the Commission’s statewide EE&C Evaluator:

Detailed evaluation, measurement and verification activities are identified in the EEC & DR Study and the EM&V Related Program Content section where there is a complete listing of the information that will be provided to the Commission’s statewide EE&C Evaluator.

Administrative Requirements: Program administrative budgets are based on benchmarking of similar programs with administrative costs approximately 20% of program budgets, as shown in the Projected Program Budget table below. Organization planning includes provision for one full-time project coordinator as well as part-time support by engineering, marketing, purchasing, regulatory, data processing and clerical staff, in addition to contracted CSP services.

Estimated Participation: The primary metrics for program participation will be processing incentive payments for the purchase and installation of energy efficiency equipment rendering deemed savings estimates reflected in the Projected Program Impacts table below:

Figure 41: Public Agency Partnership Budget and Impacts***Projected Program Budget***

Program Year	2009	2010	2011	2012	Total
Incentives	\$1,158,267	\$2,316,535	\$2,316,535	\$2,316,535	\$8,107,871
Admin	\$579,134	\$579,134	\$579,134	\$579,134	\$2,316,535

Projected Program Impacts

Program Year	2009	2010	2011	2012	Total
On-Peak Demand Reduction (kW)	2,884	5,768	5,768	5,768	20,187
Energy Savings (kWh)	8,973,397	17,946,794	17,946,794	17,946,794	62,813,778

Cost Effectiveness: TRC 2.5

4. Program Management and Implementation Strategies (~5 to 10 pages)

(The objective of this section is to provide detailed description of how EDC plans to manage and implement programs, including their approach to and use of Conservation Service Providers (CSPs).)

4.1. Overview of EDC Management and Implementation Strategies:

- 4.1.1. Describe the types of services to be provided by EDC as well as consultants, trade allies, and CSPs. Indicate which organizations will provide which services and the basis for such allocation. Reference reporting and EM&V information from Sections 5 and 6 below.²¹

The delivery organization size and function will be largely driven by the portfolio of programs fielded. The portfolio proposed by Duquesne Light is structured under three broad “umbrella” programs: residential, commercial and industrial.

²¹ Services to be offered by EDC or others may include marketing, customer recruiting, demonstration projects, audits and or installation of new efficiency measures, verification of installations and or baseline usage, response to customer concerns, program tracking and program evaluation.

The umbrella programs provide incentives for a full range of measures to assist residential, commercial and industrial energy customers of all sizes and in all key market segments to overcome barriers to adopt energy efficiency measures. The umbrella programs put in place is a baseline program design, with set incentive levels and measure content. The umbrella programs are designed as an overarching programmatic structure with calculated incentives for customized projects or itemized incentives for standard measures. Under the overarching umbrella programs, specialized sub-programs can promote specific technologies or target specific market segments while incorporating the umbrella program savings impacts and incentive levels. In this manner, sub-programs present a consistent and common offering. The umbrella programs comprise the operational structure for the implementation of all programs to be offered.

Duquesne Light will implement programs effectively and economically. To achieve this, contractors known as CSPs with expertise and experience in program implementation and operations will be deployed under agreements with Duquesne Light. Success depends on special services offered by CSPs to implement and overcome market segment specific barriers. Duquesne Light will work together with CSPs and contractors to provide the services outlined in the table below.

Figure 42: Program Implementation Responsibility

EE Sector	Program	Implementation
Residential	Residential Rebate	Core Team (or Contractor)
	Residential School Energy Pledge	Sub-program Contractor
	Refrigerator Recycling	Sub-program Contractor
	Low-Income Weatherization	Sub-program Contractor
Commercial	Commercial Rebates (umbrella)	Core Team (or Contractor)
	Office Buildings	Sub-program Contractor
	Healthcare	Core Team (or Contractor)
	Retail Stores & Restaurants	Sub-program Contractor
	Education	Core Team (or Contractor)
	Governmental / Non-Profit	Core Team (or Contractor)
Industrial	Industrial Rebates (umbrella)	Core Team (or Contractor)
	Primary Metals	Sub-program Contractor
	Chemicals	Sub-program Contractor
	Industrial Rebates (Mixed)	Sub-program Contractor
Demand Response Programs	Utility Interface	Core Team (or Contractor)
	Residential DR	Sub-program Contractor
	Small/Mid Commercial DR	Sub-program Contractor
	Large C/I Curtailable Load	Sub-program Contractor

Program implementation requires significant planning and operation management functions. In addition to initiating the contracting process, each contractor will be managed and integrated into an organized and cohesive operation. Program procedural guidelines will be developed and followed. Documentation will be maintained and electronic data structures will be developed and managed.

Customers will be engaged through at least three channels. First, Duquesne Light will promote the programs to its customers through such marketing strategies as mass media advertising, direct marketing, events, conferences, account representatives and electronic media. Second, the Duquesne Light contractors will have similar responsibilities with a specific focus on securing commitments for customers to participate in the programs. Third, trade allies such as builders, architects, engineers, vendors, equipment installation contractors, retailers and others will be informed of the Duquesne Light programs with the objective of securing their willingness to participate and secure their customers and clients to participate. Trade allies will be engaged primarily through direct marketing, events, conferences and account representatives.

The programs are designed to overcome key barriers to customer participation. In general the barriers to greater customer participation in energy efficiency are information, technical assistance, and financial assistance. The programs are designed to encourage comprehensiveness in terms of including multiple

measures, taking account of interactive savings between measures, and advancing new designs and technologies.

Depending on the specific program in the portfolio for Duquesne Light, services available are expected to include:

- Benchmarking of energy use based on utility bills
- Walk-through energy audits to pre-screen and qualify the facility to optimize measure selection and implementation
- Investment grade energy audits for specific measures and energy savings
- Life-cycle cost-benefit analysis
- Retro-commissioning
- Project and construction planning and management
- Project documentation and operator training
- Post installation quantification of savings
- Providing guidance about alternative financing assistance
- Quantifying environmental benefits

The CSP may offer a range of services to achieve program success that includes:

- Marketing to prospective customers based on leads from Duquesne Light as well as resources of the CSP
- Educating customers and recruiting participants
- Conducting walk-through or preliminary energy audits
- Securing customer approval to proceed with targeted or comprehensive investment grade energy audits
- Recommending measures with estimates of energy and demand savings
- Preparing benefit and cost analyses and identification of financing options
- Completing and submitting customer applications to reserve program incentive funds to Duquesne Light for approval
- Performing or assisting customer with equipment specification, vendor selection, bidding and project management
- Conducting post-installation inspections
- Verifying savings estimates
- Coordinating applications for incentive payments
- Conducting project completion and follow-up services
- Conducting customer satisfaction surveys

Reporting will be conducted based on the requirements of the regulatory authorities, Duquesne Light management, and CSPs. Section 5 below presents Duquesne Light's proposed reporting criteria and supporting information systems.

EM&V will be conducted for each program. The scope and level will depend on the nature of the program and split of responsibilities between regulatory authorities, Duquesne Light management and CSPs. Section 6 below presents Duquesne Light's approach to EM&V.

- 4.1.2. Describe how the risk categories of performance, technology, market and evaluation can affect the programs and any risk management strategies that will be employed to mitigate those risks.²²

Performance risk refers to the ability of programs to achieve their individual goals in the context of overall corporate goals for Duquesne Light relating to energy efficiency and demand response programs. This risk will be mitigated by offering a variety of programs addressing key customer classes and market segments within the customer classes. There will be an umbrella program for each customer class and subprograms for market segments within the customer class. The programs will allow both itemized and customized solutions in terms of measures for commercial and industrial sectors. Comprehensive solutions will be encouraged. Performance risk will further be mitigated through regular reporting and timely management to identify and resolve issues through the PMRS as described in Section 5. CSP payments as well as incentive reservations and payments are facilitated through PMRS which provided for real-time management of program budgets and progress towards goals.

Technology risk refers to the possibilities that energy conservation measures will not perform as well as expected in achieving expected savings. The risk will be mitigated by designing programs to foster the installation of proven technologies for the specific energy conservation measure. The program design will allow for certain technologies and not others. However, advanced technologies will be encouraged where greater energy savings and cost-effectiveness are expected. The risk will be further mitigated by activities in EM&V to identify and resolve technology performance concerns.

Market risk refers to the ability to recruit sufficient participants for the programs. Mitigation of market risk will be pursued through efforts by Duquesne Light, CSPs, and trade allies to encourage participation by end-use customers. Where barriers to information, technical assistance and financial incentives are identified as continuing issues, adjustments will be considered to program designs to improve participation levels. Market risk is being mitigated during this process of planning and filing for program approval. In particular,

²² Performance risk is the risk that, due to design or implementation flaws, the program does not deliver expected savings. Technology risk is the risk that technologies targeted by a program fail to deliver the savings expected. Market risk is the risk that customers, or other key market players (e.g., contractors), choose not to participate in a program. Evaluation risk is the risk that independent EM&V will, based on different assumptions, conclude that savings fall short of what the implementers have estimated.

Duquesne Light has initiated discussions with certain large customers in key market segments to encourage participation and plan energy efficiency and demand response projects to qualify for the proposed programs.

Evaluation risk refers to the possibilities that energy savings results will be open to question. Mitigation of this risk should be achieved by an open and transparent planning process for EM&V. Programs are planned and implemented in a manner to support verification and ensure availability of required evaluation data. The plan is expected to be developed in consultation with regulatory authorities. The plan should be based on policies and procedures widely accepted in the discipline. The risk will be mitigated further by implementation of the plan in a collaborative manner and with careful documentation of significant deviations. Finally, issues will be identified and solutions will be proposed where evaluation risks become real.

- 4.1.3. Describe how EDC plans to address human resource and contractor resource constraints to ensure that adequate personnel and contractors are available to implement the EE&C plan successfully.

Human resource constraints refer to the ability of Duquesne Light to recruit and retain qualified personnel to manage and implement the proposed programs. Duquesne Light has involved individuals and teams within the organization in the planning process for the energy efficiency program to date. This should provide a pool of resources to participate in implementation. Several programs were specifically designed to leverage the resources of external governmental agencies and community engagement channels. In addition, job descriptions have been developed and further, all four positions are currently posted both internally and externally for Duquesne Light. These positions will assume their responsibility once programs are approved. Duquesne will conduct both local and national searches to obtain qualified personnel.

Contractor resource constraints refer to the ability of Duquesne Light to secure sufficient support from CSPs. Duquesne Light expects to recruit CSPs on a competitive basis by sending requests for proposals to a significant pool of potential contractors. Prior to selecting contractors and signing agreements, Duquesne Light will confirm the ability of the CSPs to fulfill their responsibilities.

A broader issue could be the long term availability of qualified technicians and professionals with skills such as energy auditing, energy savings analysis, project engineering and measures installation. Duquesne Light is willing to cooperate with educational institutions and training organizations to increase the supply of qualified personnel in the Pittsburgh job market. One unique strategy with long run potential is to stimulate interest in the field for energy efficiency and demand response via programs targeted to achieving energy savings in educational facilities and in the homes of students and staff at those facilities.

- 4.1.4. Describe “early warning systems” that will be utilized to indicate progress towards the goals and whether they are likely to be met. Describe EDC’s approach and process for shifting goals and funds, as needed, between programs and adding new measures/programs.

Progress toward goals will be reported on a regular basis rather than waiting until the end of the program cycle. The progress reporting process will be developed by Duquesne Light in consultation with regulatory authorities. Furthermore, it is anticipated that CSPs will be directly involved through regular reporting, documentation of issues, and development of plans to resolve issues in meeting goals.

Duquesne Light will implement programs in a manner to facilitate adjusting of individual programs funds and goals in order to achieve corporate goals. Each program will be managed with a total budget as well as a budget for each year of implementation. This will allow for at least an annual review and decision on the budget for the subsequent year.

As each year progresses, Duquesne Light anticipates allocating or reserving up to two-thirds of incentive payment funds for each program before committing the remaining funds for a program for that year. Funds will be allocated on a project-by-project basis for large commercial and industrial customers as submitted for Duquesne Light approval. Then, when the project is completed the customer will be more assured that funds to pay the incentive will be available. For programs that are implemented through CSPs contract provisions, approximately 30% will be held in reserve.

As further protection to help insure funds are well managed, Duquesne Light expects to pay for CSP performance in two steps. For applications submitted and approved by Duquesne Light, up to 30% of the pay for performance will be based on estimated savings. Applications will include a signed project agreement wherein the customer commits to proceed with the installation. The remainder of the pay for performance will be paid based on verified savings upon project completion and acceptance by the customer.

These plans will provide flexibility to Duquesne Light to re-allocate program budgets. For example, some programs may be oversubscribed so that more funds could be added to meet customer demand for participation and shifted away from programs that are undersubscribed.

New programs may be added over time to reach underserved customers and market segments. In particular, CSPs with expertise and experience in certain market segments may be recruited to address specific opportunities.

Similarly, new technologies may be encouraged as programs are implemented. Duquesne Light will be open to offering incentives for new technologies, whether as an existing or new program or subprogram.

Finally, Duquesne Light expects to consult with regulatory authorities and other utilities when considering significant adjustments to program budgets or adding new programs and new technologies.

4.1.5. Provide implementation schedules with milestones.

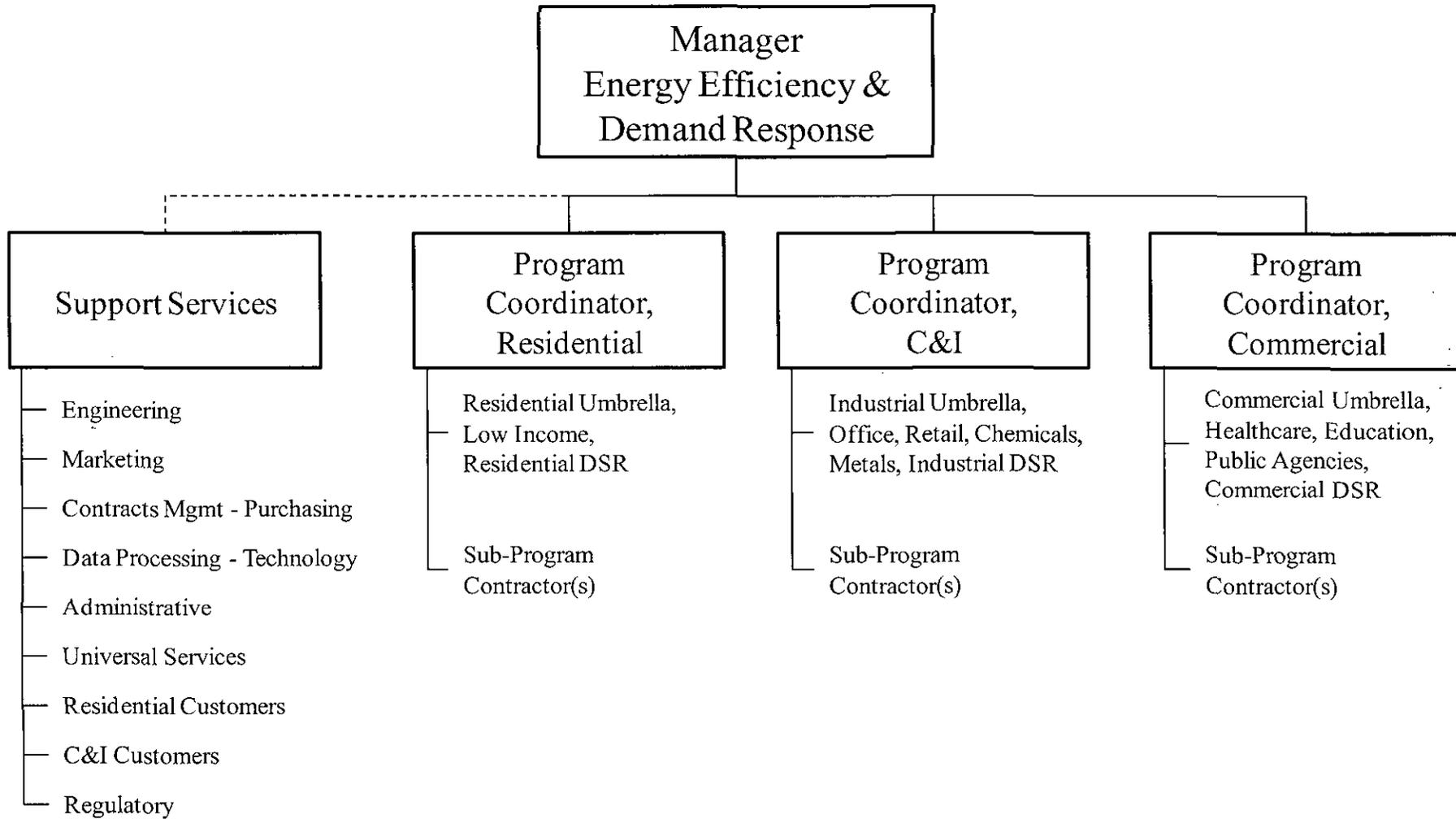
See Section 12, Charts 1 through 4.

4.2. Executive management structure:

4.2.1. Describe EDC structure for addressing portfolio strategy, planning, review of program metrics, internal and external communications, budgeting and financial management, program implementation, procurement, program tracking and reporting, and Quality Assurance/Quality Control (QA/QC). Include EDC organization chart for management team responsible for implementing EE&C plan.

The implementation organization for Duquesne Light will be located within the customer service function. The size and structure will reflect the use of contractors and subcontractors. The organization will be headed by one manager responsible for the energy efficiency and conservation program plan. The manager will be supported by several sector or segment specific program coordinators. There will also be support staff for such functions as engineering, marketing, regulatory, data processing and contract management. The organizational chart pictured below represents a preliminary structure to plan and implement the energy efficiency and conservation plan, including demand response.

Figure 43: Energy Efficiency and Demand Response Group



Each program coordinator will be responsible for overall program management including planning, reporting progress on program metrics, internal communication, external communication, budgeting and financial management. The program coordinator will be able to call upon staff support for assistance within the energy efficiency program. Support for the programs will be available for procurement and contract management, marketing, and data tracking and reporting. Also quality assurance and quality control functions performed by engineering and other support staff will support the program coordinator.

CSPs will be expected to provide a quality control plan. The plan will provide for quality control on projects, regulatory compliance processes and performance auditing. The plan will allow for Duquesne Light to access files, data and related program operating information. The plan will be designed to minimize customer service issues, protect confidential information and prevent duplicate applications for incentive payments.

- 4.2.2. Describe approach to overseeing the performance of sub-contractors and implementers of programs and how they can be managed to achieve results, within budget, and ensure customer satisfaction.

Contractors and implementers of programs will be subject to detailed planning requirements. The detailed plans will include tasks, milestones, schedules, budgets, metrics of performance and personnel assignments. Regular reports will be required on progress with sufficient information to allow the identification of issues and planning for improvements. Each contractor will be subject to specific policies and procedures to guide their activities. Both hard copy and electronic documentation methods will be required as appropriate. Regarding customer satisfaction, contractors and implementers will be expected to foster and participate in obtaining feedback from their clients with results supplied to Duquesne Light, whether directly or through a third party.

- 4.2.3. Describe basis for administrative budget.

The administrative budget may be broadly defined to include all items other than incentive payments for measures installed by customers. This would include planning, market research, sales and marketing communications, engineering, data management, contracting, and evaluation.

Administrative budgets vary from program to program depending on the nature of the program. The portion of program budgets allocated to program administration is based on administrative costs of similar programs implemented in other jurisdictions, most commonly New Jersey, New York and California. The administrative budgets of Duquesne Light are therefore based on these documented experiences of energy efficiency program implementation.

4.3. Conservation Service Providers (CSPs):

4.3.1. List any selected CSPs, describe their qualifications and basis for selection (include contracts in Appendix).

MCR Performance Solutions, LLC. (“MCR”). MCR was retained by Duquesne Light to assist in developing a compliance strategy and plan required by the energy efficiency and conservation and demand side response initiatives mandated by Act 129.

MCR provides management consulting services exclusively to the utility industry. The firm possesses substantial qualifications in energy efficiency business strategy, regulatory strategy, energy efficiency potential, program design and program implementation.

MCR was selected through an RFP process. The firm was selected based on its in-depth experience with developing the energy efficiency, conservation and demand response programs established over many years, clients and jurisdictions. Furthermore, MCR possesses an in depth understanding of the Pennsylvania regulatory environment, including familiarity with the Commission, Commission Staff, Office of Consumer Advocate (OCA) and Office of the Small Business Advocate (OSBA).

4.3.2. Describe the work and measures being performed by CSPs.

MCR developed the EEC & DR plan (“Plan”), pre-filed testimony and required filing supporting documents. The plan was developed using primary and secondary research, analytical processes, findings and program plans required to support the Plan filing.

4.3.3. Describe any pending RFPs to be issued for additional CSPs.

A request for proposal was issued for CSPs to respond for implementing the energy efficiency and conservation program for large commercial office buildings. The request was issued May 15, 2009 and responses were due June 19, 2009. No selection has been made.

It is anticipated that CSPs may be sought for the following segments:

- Low-income weatherization
- Residential rebate programs
- Small office buildings
- Retail stores and restaurants
- Primary metals
- Chemicals
- Other or mixed industrial rebates

5. Reporting and Tracking Systems²³ (~5 pages)

(Objective of this section is to provide detailed description of reporting and the critical data management and tracking systems that EDCs need in order to implement programs and which Commission, and its statewide EE&C Plan Evaluator, need to access.)

5.1. Reporting:

- 5.1.1. List reports that would be provided to the Commission, the schedule for their delivery, and the intended contents.

Four reports are proposed to be provided to the Commission within one month following the close of each quarter and program year-end.

The “Energy Efficiency Program Report” presents performance progress against goals for each program by customer sector. The report presents data on three key performance measures: Budgets & Expenditures, Demand Reduction (Peak kW) and Energy Savings (kWh). (Reference “Energy Efficiency Program Report” Appendix F in Section 10). Each performance measure will present data by the following attribute:

- Target: current year, inception through final target date
- Expended/installed: current quarter, current year and inception through final target date
- Committed: current quarter, current year and inception through final target date

The “Energy Efficiency Program Portfolio Report” presents performance progress against goals for each of the following portfolio components: (Reference “Energy Efficiency Program Portfolio Report” Appendix F in Section 10)

- Portfolio Costs - Current quarter, Inception-To-Date
- Portfolio Impacts - Quarterly
- Portfolio Impacts - Annual
- Portfolio Impacts - Cumulative 2009-2012 Savings
- Portfolio Impacts - Aggregate End Use
- Portfolio Impacts – Market Sector

The “Demand Response Program Report” presents program results for the demand response programs by Residential, Small C/I and Large C/I customer segments for each of the program indices. (Reference “Demand Response Program Report” Appendix F in Section 10).

²³ This Section may be modified if the Commission’s statewide EE&C Plan Evaluator develops further reporting and tracking systems that are approved by the Commission.

- Proposed Impacts
- Actual Impacts
- Programs Results

The “Energy Efficiency and Demand Response Summary Report” presents summary results for the energy efficiency programs, demand response programs and total for both programs combined. (Reference “Energy Efficiency and Demand Response Summary Report Appendix F in Section 10). The report presents progress against goals for the following:

- 2009, 2010 program years – actual against 2010 goal
- 2011, 2012 program years – actual against 2012 goal
- Low Income and Governmental/Non-profit kW and kWh reductions achieved as a percent of total programs.

5.1.2 Describe data that would be available (including format and time frame of availability) for Commission review and audit.²⁴

The data for managing and reporting project, program and portfolio activities, status, performance and expenditures will be collected and available through two flat files: The Measure Flat File and Financial Flat File.

Measure Flat File

The measure flat file reports measure savings impacts, expenditures and customer contact events. The measure flat file shows all data elements in a customer commitment and installation record or program service activity record. This flat file will be used to record customer contacts and any customer activities including installations, rebating, and educational or information services, i.e., energy survey. This flat file records information on a regular basis so that the progression from a sales contact to an installation and inspection of a project is fully documented. The following table lists the primary fields of the measure flat file.

²⁴ This should include information on measures, projects, programs and portfolios.

Figure 44: Measure Flat File

	Column Header	Description	Format	Max Length	Allow Empty Cell
1	Version	Flat file format version number. Must be a 1	Numeric	1	n
2	RcrdUpdate ¹	A value of one (1) indicates that DLC has updated this record. Contractor must set this to zero for new rows.	1 or 0	1	n
3	RprtGenDt	Date flat file is generated	Date		n
4	Contr	Contractor Name	Text	50	n
5	ContrContNam	Contractor Contract Name	Text	50	n
6	ContrContNum	Contractor Contract Phone Number	Text	30	n
7	OtComp	Customer hired consultant or company ("Other Company") other than the program implementer	Text	50	y
8	OtCompCont	Other Company Contact Name	Text	50	y
9	OtCompContNum	Other Company Contact Phone Number	Text	30	y
10	Prog	Program Name	Text	50	n
11	RpPrdEndDt ²	Reporting Period End Date	Date		n
12	ProjNum ²	Contractor's unique project number for each service account	Text	20	n
		Because service account numbers may not be available initially, this field serves as the identifier for an account and therefore must be unique with respect to accounts.			
13	ProjPhse	Project phase in sequential order M=Marketing A=Initial Audit/Survey C=Commitment O=Equipment Ordered S=Project Started E=Project Completion I=Contractor to Inspect/Survey V=DLC Verifies Installation R=Incentive/Rebate Payment Made B=DLC Billed by Contractor P=DLC Invoice Paid WE=Customer Withdraw	Text	1	n
14	DLCProjStat ³	P=Pre-committed	Text	1	y

	Column Header	Description	Format	Max Length	Allow Empty Cell
		C=Committed I=Installed D=Discontinued This field will be supplied by DLC based on ProjPhse			
15	DLCInspStat ³	Jon Availability for DLC Inspection Status P=DLC Passed F=DLC Failed R=IOU Re-inspect O=DLC Override of Inspection Result T=Pass Through Inspection due to inspection challenges such as location, etc.)		1	Y
16	ServAcctNum ⁴	Service Account Number (specify format)	Text	TBD	y
17	ServAcctNam ⁴	Bill Customer Service Account Name	Text	50	y
18	ServAcctStrtNum ⁴	Service Account Street Number	Text	20	y
19	ServAcctStrtPref ⁴	Service Account Address Prefix (N., North, S., South)	Text	20	y
20	ServAcctStrtNam ⁴	Service Account Street Name	Text	50	y
21	ServAcctUnitNum ⁴	Service Account Unit Number	Text	20	y
22	ServAcctStrtSuf ⁴	Service Account Address Suffix (Dr., Lane, St.)	Text	20	y
23	ServAcctCty ⁴	Service Account City	Text	50	y
24	ServAcctSt ⁴	Service Account State	Text	20	y
25	ServAcctZip ⁴	Service Account Zip Code (5 digits)	Text	5	y
26	ServAcctZipExt ⁴	Service Account Zip Code Extension	Text	4	y
27	MailStrtNum ⁴	Mailing Address Street Number	Text	20	y
28	MailStrtPref ⁴	Mailing Address Prefix (N., North, S., South)	Text	20	y
29	MailStrtNam ⁴	Mailing Address Street Name	Text	50	y
30	MailUnitNum ⁴	Mailing Address Unit Number	Text	20	y
31	MailStrtSuf ⁴	Mailing Address Suffix (Dr., Lane, St.)	Text	20	y
32	MailCty ⁴	Mailing Address City	Text	50	y
33	MailSt ⁴	Mailing Address State	Text	20	y
34	MailZip ⁴	Mailing Address Zip Code (5 digits)	Text	5	y

	Column Header	Description	Format	Max Length	Allow Empty Cell
35	MailZipExt ⁴	Mailing Address Zip Code Extension	Text	4	y
36	CustContNam1 ⁴	Customer Contact Name 1 (last, first, initial)	Text	50	n
37	CustContNam2 ⁴	Customer Contact Name 2 (last, first, initial)	Text	50	n
38	Phone1 ⁴	Customer Contact Phone Number 1. Format is ###-###-#### ext ##### (extension optional)	Text	30	y
39	Phone2 ⁴	Customer Contact Phone Number 2. Format is ###-###-#### ext ##### (extension optional)	Text	30	y
40	Email	Customer contact Email Address	Text	50	y
41	ElecRateSch4	DLC Rate Schedule	Text	50	y
42	RevCode	Customer Revenue Code	Text	50	y
43	MktgType	Describe Marketing: P=Phone D=Door hanger/leave behind B=Brochure M=Mail E=Email F=Face-to-face	Text	1	y
44	NAICS (or SIC)	NAICS code of facility (2 digit minimum)	Text	10	y
45	BldgArea	Area of facility (gross sq. ft.)	Numeric		y
46	ParticType	R=Residential LI=Low Income PA=Public Agency SCI=Small C&I LCI=Large C&I	Text		s
47	MrktSectr	Market Sector: SI=Single Family MU=Multi Family MO=Mobile Homes A=Agriculture I=Industrial C=Commercial	Text	2	s ¹

	Column Header	Description	Format	Max Length	Allow Empty Cell
48	EndUse	A=Appliances CE=Consumer Electronics CA=Cooking Appliances H-HVAC L-Lighting PP=Pool Pump R=Refrigeration W=Water Heating O=Office P=Process S= Solar RDR=Residential Demand Response SCIDR= Small Comm/Ind Demand Response LCIDR= Large Comm/Ind Demand Response	Text	2	s
49	BCMrCde	Contractor Internal Base Case Measure Code	Text	50	s
50	BCMrDesc	Contractor Internal Base Case Measure Description	Text	50	s
51	BCMrQty	Contractor Base Case Measure Qty	Text	50	s
52	BCOperHrs	Contractor Surveyed Customer Base Operating Hours	Text	50	s
53	RMrCde	Contractor Internal Retrofit Measure Code	Text	50	n
54	RMrDesc	Contractor Internal Retrofit Measure Description	Text	50	n
55	PropRMrQty	Proposed Retrofit Measure Qty	Numeric		s
56	Final RMrQty	Final Retrofit Measure Qty	Numeric		s
57	RMOperHrs	Contractor Surveyed Customer Retrofit Operating Hours	Text	50	s
58	MsrLctn	Measure Location	Text	50	y
59	MsrDtl	Measure Details (e.g., color, hp for motors, BTUs, R-factor)	Text	50	y
60	MsrModel	Measure Model Number	Text	50	y
61	MsrSerial	Measure Serial Number	Text	50	y
62	UnitDef	Unit of Measure (lamp, sq ft, each, site, kWh)	Text	50	s

	Column Header	Description	Format	Max Length	Allow Empty Cell
63	UnitkEProp	Proposed kW per Unit	Numeric		s
64	UnitkWhProp	Proposed kWh per Unit	Numeric		s
65	UnitkWFinal	Final kW per Unit	Numeric		s
66	UnitkWhFinal	Final kWh per Unit	Numeric		s
67	PropTotkW	Proposed kW Total	Numeric		s
68	PropTotkWh	Proposed kWh Total	Numeric		s
69	FinalTotkW	Final kW Total	Numeric		s
70	FinalTotkWh	Final kWh Total	Numeric		s
71	UnitIncentReb	Incentive per Unit	Numeric		s
72	PropTotIncent	Proposed Incentive Total	Numeric		s
73	FinalTotIncent	Final Incentive Total	Numeric		s
74	UnitDILabor	Unit Direct Install Labor Cost	Numeric		s
75	PropTotDILabor	Proposed Total Direct Install Labor	Numeric		s
76	FinalTotDILabor	Final Total Direct Install Labor	Numeric		s
77	UnitDIMaterialCst	Unit Direct Install Material Cost	Numeric		s
78	PropTotDIMatCst	Proposed Total Direct Install Material Cost	Numeric		2
79	FinalTotDIMatCst	Final Total Direct Install Material Cost	Numeric		s
80	PropTotCustCP	Proposed Total Customer Co-Pay	Numeric		y
81	FinalTotCustCP	Final Total Customer Co-Pay	Numeric		y
82	PropTotProjCst	Proposed Total Project Cost (Rebate+Co-Pay)	Numeric		s
83	FinalTotProjCst	Final Total Project Cost (Rebate+Co-Pay)	Numeric		s
84	ContactDte	Initial Customer Contact Date	Date		n
85	SurveyDte	Initial Survey Date	Date		s
86	CmtDte	Customer Commitment Date	Date		s
87	OrderDte	Material/Work Order Date	Date		y
88	MsrStrtDte	Measure Construction/Ship Date	Date		y
89	MsrCmpDte	Measure Completion Date	Date		s
90	ContInspDte	Contractor Post Measure Inspection Date	Date		y
	DLCInspDte ³	DLC Post Inspection Date	Date		y

	Column Header	Description	Format	Max Length	Allow Empty Cell
91		DLC will update this field if job was selected for inspection			
92	IncPmtDtc	Incentive Payment Date	Date		y
93	IncChkNum	Incentive Payment Check Number	Text	30	y
94	IncChkAmt	Incentive Check Amount	Numeric		y
95	InvDtc	Date DLC Invoiced by Contractor	Date		y
96	InvPdDtc	Date DLC Paid Contractor	Date		y
97	InvNum	Contractor-DLC Invoice Number	Text	50	y
98	InvChkNum ³	DLC Check Number to Pay Contractor Invoice	Text	30	y
99	InvChkAmt	DLC Payment to Contractor Amount	Numeric		y
100	RejectionReason ³	Job rejected reason (DLC entry only)	Text	100	y
101	MSRCD ^{1,2}	Unique measure code provided by DLC	Text	10	s
102	DLC Misc 1	DLC Misc 1 through DLC Misc 6 are reserved for future use and should be left blank at this time	Text	100	y
103	DLC Misc 2				
104	DLC Misc 3				
105	DLC Misc 4				
106	DLC Misc 5				
107	DLC Misc 6				
108	DLC Misc 3				
109	DLC Misc 4				
110	DLC Misc 5				
111	DLC Misc 6				

Financial Flat File

The financial flat file reports program expenditures categorized by invoice, cost description, and task. The following table lists the fields of the financial flat file.

Figure 45: Financial Flat File Fields

	Column Header	Description	Format	Max Length	Allow Empty Cell
1	Version	Flat file format version number. Must be a 1	Numeric	1	n
2	RcrdUpdate ¹	A value of one (1) indicates that DLC has updated this record. Contractor must set this to zero for new rows.	1 or 0	1	n
3	Contr	Contractor Name	Text	50	y
4	Prog	Program Name	Text	50	y
5	RpPrdEndDt ⁴	Reporting Period End Date	Date		n
6	InvApprvIDtDLC ¹	DLC invoice approval date	Date		y
7	InvNum ⁴	Contractor Invoice Number to DLC	Text	50	n
8	Cost Desc. ^{2,4}	Allowable Cost Element Description	Text	100	n
9	Admin ²	Administrative category expenses incurred for the period	Numeric		y
10	Marketing ²	Marketing category expense incurred for the period	Numeric		y
11	Direct Implementation	Direct implementation category expenses incurred for the period including expenses for the measure flat file (rebates, installation costs and/or material cost (excluding customer co-pay)	Numeric		y
12	Finance Cost ²	Finance charge expenses incurred for the period for financing the contract project	Numeric		y
13	TaskNum ³	Task number specific cost is tied to	Text	50	y
14	DLC Misc 1	DLC Misc 1 through DLC Misc 6 are reserved for future use and should be left blank at this time	Text	100	y
15	DLC Misc 2				
16	DLC Misc 3				
17	DLC Misc 4				
18	DLC Misc 5				
19	DLC Misc 6				

The data captured in the measure and financial flat files will be available for Commission review and audit one month following the close of each quarter and program year-end. The format of each file will be available in hard copy and published for download in a secured area on the Duquesne Light website.

5.2. Project Management Tracking Systems:

5.2.1. Provide brief overview of the data tracking system for managing and reporting measure, project, program and portfolio activities, status and performance as well as EDC and CSP performance and expenditures.

Duquesne Light plans to design and develop a PMRS for tracking, managing and reporting measure, project, program and portfolio activities. The PMRS will support and facilitate program operation, management and reporting for use by umbrella program managers (“UPM”) and sub-segment program managers (“SSPM”). PMRS will serve three primary purposes:

1. Enable SSPMs/CSPs to upload program reports
2. Provide UPMs the capability to download and approve SSPM reports
3. Provide comprehensive reporting to support Duquesne Light's internal and Commission reporting requirements.

Flat files will be uploaded into PMRS as required by procedural guidelines and statements of work for UPMs and SSPMs, respectively. All required monthly invoice reports can be generated via PMRS by uploading measure flat file data. In addition, the financial flat file data can be used to directly develop invoices from a pre-determined budget matrix. SSPMs/CSPs will work collaboratively with the UPM to tailor, as required, the measure and financial flat files for the specific program.

- 5.2.2. Describe the software format, data exchange format, and database structure you will use for tracking participant and savings data. Provide examples of data fields captured.

The PMRS will store data in a relational database using the IBM DB2 database engine. The database will be populated by uploading the measures and financial flat files from SSPMs/CSPs. The measures and financial flat files are comma separated values ("CSV") files. The PMRS will read and extract the data from these files and store the values in the PMRS database. The PMRS will use a reporting engine to run reports off of the database. Reports and supporting data for Commission review and audit will be provided in hard copy as well as published for download in a secured area on the Duquesne Light website. Examples of the fields captured are presented in the Measure and Financial flat files presented in 5.1.2.

- 5.2.3. Describe access and mechanism for access for Commission and statewide EE&C Plan Evaluator.

The program quarterly reports, program annual reports and supporting data will be provided in hard copy as well as published for download in a secured area on the Duquesne Light website using electronic access.

6. Quality Assurance and Evaluation, Measurement and Verification (~5 pages)

(Objective of this section is to provide detailed description of how the EDC's quality assurance/quality control, verification and internal evaluation process will be conducted and how this will integrate with the statewide evaluation activities)

6.1. Quality Assurance/Quality Control:

6.1.1. Describe overall approach to quality assurance and quality control.(QA/QC)

EE&C program QA/QC is incorporated into program planning and implementation as describe below:

Program Planning: Program target markets and measure content are based on an energy efficiency potential forecast that is a systematic and comprehensive inventory of regional efficiency gain opportunities. Program approaches to deliver identified energy efficiency services are developed using benchmarked program approaches, tailored to Duquesne Light regional needs and opportunities. Program logic models identify key program activities that combine to produce a variety of expected outputs that in turn lead to key short-, mid- and long-term outcomes as well as performance indicators or metrics for each activity.

Program Implementation: Program managers will develop procedural guidelines to ensure programs are operated in a manner to achieve planned performance objectives. Procedural guidelines are a reference manual documenting qualifying technologies, instructions for calculating energy savings and demand reductions, step-by-step processes for customer enrollment, scheduling and recording energy audits, customer incentives reservation and payment. Program procedural guidelines provide the requirements for hard-copy project-level documentation as well as populating and operating the program tracking and reporting systems. Parts of procedural guidelines are unique to each program implemented, developed prior to program launch to support orientation and training, and; a deliverable of CSP contracts. Procedural elements common to all programs support portfolio management regulatory compliance reporting.

Program managers and coordinators will be made of aware of program performance indicators (see section 6.2, below) and annual employee/contractor performance evaluations will include progress toward addressing the program performance indicators.

Internal audits will be conducted each full year of program operation, to ensure programs are being implemented as designed and to determine to what extent performance indicators are being addressed. Additionally, the audits will inform management about changes needed in the programmatic approach, content and processes.

6.1.2. Describe procedures for measure and project installation verification, quality assurance and control, and savings documentation.

Programs will document savings impacts in hard-copy project files and in electronic media that can vary considerably depending upon the type of program

and measure/project implemented. Generally, electronic data will be located in Duquesne Light's PMRS described in Section 5. PMRS data will contain measure savings impacts, expenditures and customer contact events. The record tracks all data elements in a customer commitment and installation process, including contact information, installations, rebating, and educational or information services, i.e., energy surveys. The data records are to be updated on a regular basis so that the progression from a sales contact to an installation and inspection of a project is fully documented for each program.

Verification processes will vary depending upon individual program objectives and content. However, all of the programs comprising the portfolio fall into the "downstream" incentive variety. Downstream means programmatic offerings, energy audits, recommendations and incentives, provided to end-use consumers. This is in contrast to "upstream" and "midstream" type programs that provide financial incentives to manufacturers and retail distribution outlets as a strategy for penetrating a particular market.

Downstream program procedural guidelines will foster efficient program operation and ensure only qualifying measures receive correct incentive amounts. The procedural guidelines for commercial and industrial down-stream audit and incentive programs seek to ensure program expenditures are prudent and (1) audits functionally increase awareness and are of a caliber to support capital investment (i.e., "investment grade audits"), and (2) rebates are incentives not rewards. This means energy efficiency audits, audit reports with recommendations, and monetary incentives precede the decision to install the efficient measures and are designed to cause a customer to implement energy efficiency measures. Installation verification and quality assurance and control are addressed for discrete programs below.

Low Income Programs: In Duquesne Light's Low Income Energy Efficiency Program (LIEEP) measures are installed at no cost to low income household residents and *all* installations are verified by contractors. "Quality Control" is the responsibility of the implementation contractor. "Quality Assurance" is provided by the Duquesne Light core team. The implementation contractor will perform the following quality control activities:

- Develop a system of technical and program review tasks to control the quality of program procedures and measures
- Ensure contractors maintain appropriate credentials
- Provide clear instructions and guidelines
- Review scopes of work
- Conduct quality control phone calls, pre-inspections, in-progress inspections and post-inspections
- Provide feedback to contractors based on QC/QA activities
- Provide Duquesne Light reports and ratings from completed QA calls and inspections

Duquesne Light quality assurance will include on-site visits on a random sample of customers that represent a cross section of contractors and regions for households receiving LIEEP services. On-site QA visits shall be scheduled

within 45 days of project completion. Contractors and vendors receiving less than satisfactory results shall be reevaluated for possible replacement.

Duquesne Light will conduct phone surveys on a random sample of customers who represent a cross section of contractors and territories for households who have received LIEEP services. Those customers reporting any significant issues via the phone surveys will be targeted for on-site inspections. Phone QA surveys shall be scheduled within thirty (30) days of project completion. After two attempts to schedule a phone QA survey, a letter will be sent to non-respondents along with a survey form and a self-addressed business reply envelope. Sampling percentages for LIEEP projects:

- On-site quality assurance inspection 5%
- Phone survey/quality assurance 15%

Residential Energy Efficiency Rebate Program (REEP): In addition to Duquesne Light's assessment of performance indicators linking to the program logic diagram (see section 6.2 below), a program impact verification and customer satisfaction survey will be performed on a random sample of participants via phone survey. The number of surveys to be conducted shall be based on program participation volume, with a sample quantity statistically valid to render a confidence level of 90% +/- 10% or higher. REEP savings impacts will be based on deemed savings values published in the TRM or other documented ex ante savings values if the TRM fails to address specific program measures.

Residential: Schools Energy Pledge Program (SEP): The SEP is 100% verified. Each parent is asked to sign a pledge that bears the customer's service account number(s), address(es) and a self-reporting inventory of measures installed. The signature attests to the program's influence in motivating each participant's decision to install program measures. SEP savings impacts will be based on deemed savings values published in the TRM or other documented ex ante savings values if the TRM fails to address specific program measures. Program implementers will perform spot checks to ensure energy saving toolkits are received and measures are installed. Follow-up satisfaction surveys will be conducted with participating schools, students and families.

Residential Refrigerator Recycling Program: In addition to Duquesne Light's assessment of performance indicators linking to the program logic diagram (see section 6.2 below), a program customer satisfaction survey will be performed on a random sample of participants via phone survey. The number of surveys to be conducted shall be based on program participation volume, with a sample quantity statistically valid to render a confidence level of 90% +/- 10% or higher. Program savings impacts will be based on deemed savings values published in the TRM or other documented ex ante savings values in any cases where the TRM fails to address specific program measures.

Commercial & Industrial Umbrella Programs and Sub-Programs:

Definition of Terms:

Sector Umbrella Programs: Umbrella programs described in Sections 3.3 and 3.4 provide a level of service (incentives only) to *all* sector customers and establish the terms, conditions and incentive levels for all Sector Sub-Programs. Umbrella programs define prescriptive incentives (\$ per lamp, fixture, ton, square foot of insulation, etc) and custom incentives provide \$ per kWh saved for all Sector Sub-Programs.

Sector Sub-Programs: Sub-sector programs described in Sections 3.3 and 3.4 are designed to mitigate segment specific barriers to program participation by providing segment specific energy efficiency audits and incentives. The manner of program delivery is aligned to segment characteristics and needs. Incentive levels for all Sector Sub-Programs are defined by sector umbrella programs.

As described above commercial and industrial umbrella programs establish incentive levels, as well as the terms and conditions for providing incentives in sub-programs. Sub-program incentive program tracking, reporting and processing are performed under the structures and procedures established under umbrella programs. From a customer enrollment perspective, umbrella program services are limited to providing mainly prescriptive incentives, primarily to customers not served under on sector sub-programs. The verification process for umbrella program prescriptive incentives is to randomly sample for inspection a quantity of participating sites statistically valid to render a confidence level of 90% +/- 10% or higher. Applications with rebates of \$2,000 or more are treated as mandatory inspections. Applications with rebates under \$2,000 are selected randomly on an ongoing basis, maintaining the aforementioned confidence levels throughout the program period. Umbrella program customer projects receiving custom incentive payments will be 100% site verified. Custom incentives are paid on a per-kWh basis based on engineering calculations, and usually are associated with large, complex projects. Field inspections are recorded in PMRS.

Sub-programs verification processes will be adjusted depending upon the program activity. Sub-programs implemented through pay-for-performance contracts with CSPs will be 100% site verified. In these cases the implementing CSPs will inspect and verify that 100% of the installed measures/projects in the program have been properly installed according to specifications and are functioning correctly. The main objective is to provide sufficient assurances that the work is accurate, thorough, and performed as reported. The inspection procedure for different aspects of the program is as follows.

Low-cost/No-cost Measures: All equipment serviced will be tested for functionality at the time of installation. In addition, a sample of sites serviced (up to 10% of all sites with no hardware installation) will be inspected by Duquesne Light or CSP staff members that did not participate in delivering the services. All sites with hardware installation will be inspected.

Capital Investment Measures: Upon notification of Project completion, Duquesne Light or the CSP will schedule a post-installation inspection to verify completion and ensure the scope of work has not altered from the agreed-upon installation agreement. EM&V data will be reviewed by Consultant to ensure proper Project completion.

- 6.1.3. Describe process for collecting and addressing participating customer, contractor and trade ally feedback (e.g., suggestions and complaints).

All Duquesne Light EE&C programs have requirements for customer satisfaction surveys conducted following customer enrollment and participation. For contractor implemented programs, customers are provided Duquesne Light direct contact information along with an open solicitation for feedback and comments. Depending upon the program and verification plan, for CSP implemented programs, Duquesne Light contacts program participants directly regarding quality assurance and customer satisfaction (e.g., LIEEP Duquesne Light contacts 15% of participants via phone survey). Please see performance indicators for the commercial and industrial umbrella programs and sub-programs in section 6.2 for direct evidence Duquesne Light programs are designed to engage trade allies and that Duquesne Light anticipated being evaluated based on their success at performing same.

Trade associations were specifically invited to Duquesne Light's Act 129 stakeholder meetings and trade association engagement and leveraging is a priority element Duquesne Light utilizes for ranking CSP proposals to provide EE&C services to specific market segments (large office buildings, retail segment, industrial primary metals and chemicals products manufacturing). Active and direct engagement of customers, contractors and trade associations has and will continue to characterize Duquesne Light's EE&C program planning and implementation.

- 6.2. Describe any planned market and process evaluations and how results will be used to improve programs.

Each program has a prepared logic diagram with hypothesized cause and effect linkages and associated performance indicators (for more information about program logic diagrams and performance indicators please see EEC & DR Study). The logic diagram and performance indicators are provided to evaluation contractors to support their work. If it is determined through annual employee and contractor annual evaluations as well as annual internal program audits that program performance indicators are not being addressed and met, corrective actions will be initiated. The following excerpts highlight the focus of performance indicators on market outreach, program participant enrollment and program processes.

Residential Energy Efficiency Rebate Program performance indicators linked to the program logic model includes the following:

1. Appropriate collateral marketing materials created. Coherent outreach strategies developed. Appropriate materials delivered to market outreach implementation team on time.

2. Outreach activities launched on schedule, number of customers contacted, brochures delivered and number of radio spots. Customer perception of the credibility of the information provided. Customer satisfaction with contacts and information provided.
3. Changes in awareness. Knowledge and attitudes of customers with respect to energy efficiency and the likelihood that customer will invest in energy efficiency. Customer stated intentions to adopt recommendations.
4. Number of customers who apply for an incentive. Amount of the incentives for each end use category. Customer satisfaction with application process.
5. Number of applications processed in a timely manner. Cycle times (time from application to approval and time from approval to receipt of payment).
6. Number of applications rejected. Reasons for rejection.
7. Number of applications approved.
8. Measures installed, practices adopted and changes to systems.
9. Annual and life-cycle ex ante estimates of energy and demand impacts.

Residential: Schools Energy Pledge Program performance indicators linked to the program logic model includes the following:

1. Appropriate collateral marketing materials were created and coherent outreach strategies were developed. The percent of schools approached who agree to participate.
2. Quality of the materials prepared (clear, logical, compelling, etc.). Quality of the presentations.
3. Number of students who claim to have delivered the materials. Number of parents who claimed to have received the materials.
4. Changes in awareness, knowledge and attitudes of customers with respect to energy efficiency and likelihood of agreeing to an in-home energy audit. Customer stated intentions to have an energy auditor conduct an energy audit. Use by the customer of Duquesne Light's on-line energy audit resulting from program participation.
5. Percent of parents who sign the pledge. Reasons for not signing the pledge.
6. Number of energy efficiency tool kits prepared and quality of the measures in the toolkits. Clarity of the instructions in the toolkits, kits prepared and delivered on time.
7. Number of toolkits sent to participating homes.
8. Number of students and parents who recall receiving the toolkit. Number of students and parents who understood the instructions in the toolkit.

9. Number of incentives paid to participating schools, time from signed pledges to payment of incentives to participating schools.
10. Verification of the number and types of measures households have installed. Quality of installations, location of installations and customer satisfaction with installations. Customer satisfaction with measure performance.
11. Annual and life-cycle ex ante estimates of energy and demand impacts.

Refrigerator Recycling Program performance indicators linked to the program logic model includes the following:

1. Marketing collateral is created and has a clear and compelling message. It has easy to understand directions on how to participate.
2. Marketing material emphasizes cost to operate the second unit and is placed in appropriate areas to be seen by target audience.
3. Number of applications received and average time to process applications.
4. Number of refrigerators scheduled for pickup and average time from application approval to scheduled pickup.
5. Number of incentive payments made and average time from application approval to incentive payment.
6. Documentation regarding the use of units for 2 years prior to disposal.
7. Prompt payments, correct incentive amounts and customer satisfaction with the program (number of complaints noted).
8. Number of units verified permanently removed from the grid kWh and kW impacts and emissions reductions.
9. Given an increase level of customer awareness about energy efficiency, stated intentions by homeowners to further reduce the energy use in the future.

Low Income Energy Efficiency Program performance indicators linked to the program logic model includes the following:

1. Number of meetings with local governments. Satisfaction with agreements on program design and cost sharing.
2. Appropriate collateral marketing materials created and coherent outreach strategies developed. Appropriate materials delivered to market outreach implementation team on time.
3. Number of potential low-income participants identified.
4. Outreach activities launched on schedule. Extent to which campaign is faithfully implemented. The number of customers contacted, brochures delivered and radio

spots. Customer perception of the credibility of the information provided.
Customer satisfaction with contacts.

5. Changes in awareness, knowledge and attitudes of customers with respect to energy efficiency and likelihood of agreeing to an in-home energy audit.
Customer stated intentions to have an energy auditor conduct an energy audit.
6. Number of households agreeing to in-home energy audit. Number of households refusing an in-home energy audit.
7. Number of in-home audits conducted. Period of time between agreeing to an audit and actually receiving the audit (cycle time). Quality of the energy audit.
Comprehensiveness of the energy audit. Number of missed opportunities.
8. Number of recommended measures and practices. Mix of measures versus practices.
9. Percent of the recommended measures and practices accepted. Types of measure recommendations accepted. Percent of behavioral recommendations accepted.
10. Number and types of measures installed, quality of installations and customer satisfaction with installations. Customer satisfaction with measure performance.
11. Annual and life-cycle ex ante estimates of energy and demand impacts

Commercial / Industrial Umbrella Program and Sub-Program performance indicators linked to the program logic model includes the following:

1. Vendor & trade ally collaboration:
 - a. Number of meetings with vendors & trade allies. Types of vendors and trade allies, collateral and marketing created by parties, coherent outreach strategies, satisfaction of collaborative parties.
 - b. Outreach activities launched.
2. Duquesne Light outreach activities launched on schedule.
3. Subcontractor outreach activities launched on schedule.
4. Number of customers contacted, brochures delivered, number of radio spots, customer perception of credibility of the information provided.
5. Number of audits conducted, types of recommendations made. Number of customers who recall the audit, read the audit report, recall recommendations.
6. Changes in customer awareness, knowledge and attitudes, likelihood customer will invest, customer intentions to adopt recommendations.
7. Number of incentive applications, amount of incentives for each end-use category and customer satisfaction with the application process.

8. Number of applications processed, cycle time (application to approval) cycle time approval to receipt.
 9. Number of applications rejected, reasons for rejection.
 10. Number of applications approved.
 11. Measures installed, practices adopted, changes in systems.
 12. Estimated and confirmed energy and demand impacts.
 13. Reductions at the customer site likely to spill over to other customer sites.
 14. Increase demand and supply for energy efficient technologies, reductions in incremental costs, applicability to potential building code changes, long-term reductions in energy use and related emissions.
- 6.3. Describe strategy for coordinating with the statewide EE&C Plan Evaluator (nature and type of data will be provided in a separate Commission Order).

The following information concerning each program will be provided to the statewide EE&C Plan Evaluator.²⁵ This information is separate from participant-level data collected in the program-tracking database, PMRS. Information to be provided includes:

- a) Full program descriptions, including operational and/or procedures manuals and activities descriptions and description of program service territory.
- b) Detailed descriptions of tracking system and tracking system operations, including data dictionaries.
- c) A detailed description or map of how data in the tracking system rolls up to the quarterly PA PUC report.
- d) Program management and staff names, titles, work locations, phone numbers, fax numbers, and e-mail addresses.
- e) Program savings objectives.
- f) A program theory and logic model for each program. Program theory characterizes the relevant market(s) and how program activities are expected to change the behavior of the potential participants in the market(s) to increase the adoption of energy efficient technologies and practices. The characterization of the market will include a description of the remaining technical energy and demand potential and the proportion of that potential that the program is expected to achieve at the conclusion of the current funding cycle.
- g) When the program relies on key market factors, trade allies, and other stakeholders to deliver or support the program in order to reach the energy saving

²⁵ Recommendations Regarding Evaluation Data Tracking and Reporting Templates, New York State Department of Public Services and New York Evaluation Advisory Group, TecMarket, May 6, 2009

or outreach goals, the administrator should provide a listing, description and contact information for these individuals/organizations.

- h) Name of firms participating in the delivery of the program or program component(s) (e.g., vendors, installers, specifies etc.).

- 6.4. Describe any planned market and process evaluations and how results will be used to improve programs.

Each program has a prepared logic diagram with hypothesized cause and effect linkages and associated performance indicators (for more information about program logic diagrams and performance indicators please see EEC & DR Study). The logic diagram and performance indicators are provided to evaluation contractors to support their work. If it is determined through annual employee and contractor annual evaluations as well as annual internal program audits that program performance indicators are not being addressed and met, corrective actions will be initiated. The following excerpts highlight the focus of performance indicators on market outreach, program participant enrollment and program processes. See also response to Section 6.2.

- 6.5. Describe strategy for coordinating with the statewide EE&C Plan Evaluator (nature and type of data will be provided in a separate Commission Order).

The strategy for coordinating with statewide EE&C Plan Evaluator will be to provide the information addressed under Section 6.3.

7. Cost-Recovery Mechanism (~5-10 pages with tables)

(Objective of this section is to provide detailed description and estimated values for cost recovery mechanism.)

- 7.1. Provide the amount of total annual revenues as of December 31, 2006, and provide a calculation of the total allowable EE&C costs based on 2% of that annual revenue amount.²⁶

Figure 46: Total Revenues

	<u>2006 Total</u>	<u>2% of Total</u>
DLC Revenue	\$723,299,451	\$ 14,465,989.02
EGS G&T	\$253,998,128	\$ 5,079,962.56
Act 129 Annual Budget		\$ 19,545,951.58

- 7.2. Description of plan in accordance with 66 Pa. C.S. §§ 1307 and 2806.1 to fund the energy efficiency and conservation measures, to include administrative costs.

The Act allows all EDCs to recover on a full and current basis from customers, through a reconcilable adjustment clause under 66 Pa. C.S. § 1307, all reasonable and prudent costs incurred in the provision or management of its plan. The Act also requires that

²⁶ See also Commissioner Pizzingrilli’s January 15, 2009 Motion at Docket no. M-2008-2069887, allowing Duquesne Light to include the EGS G & T.

each EDC's plan include a proposed cost-recovery tariff mechanism, in accordance with 66 Pa. C.S. § 1307 to fund all measures and to ensure full and current recovery of prudent and reasonable costs, including administrative costs, as approved by the Commission. To that end, Duquesne Light has designed a surcharge and reconciliation mechanism for all customer segments. The surcharge has been designed in a manner that recovers costs of the programs from the customers who have an opportunity to participate in those programs designed.

7.3. Provide data tables

Tables 6A, 6B, and 6C are populated with all the appropriate data required by the PA PUC.

7.4. Provide and describe tariffs and a Section 1307 cost recovery mechanism. Provide all calculations and supporting cost documentation.

The Company proposes to add Rider No. 15, "Energy Efficiency and Conservation and Demand Response Surcharge," to its tariff. The tariff sets forth the monthly surcharge rates by customer class to recover the program budgets. Since the proposed cost recovery method is different for residential, small and medium C&I and large C&I customer classes, a formula and description of the formula is defined for each customer class surcharge. Five surcharges are defined to recover costs as reasonably close as possible for each customer class and segment within the class, i.e. commercial or industrial customers. The formulas are in accordance with the provisions of a Section 1307 cost recovery surcharge and include reconciliation of over or under collections and interest on the over or under recovery. Duquesne will not impose any interest on over or under collections, per the Commission's Opinion and Order entered October 27, 2009.

7.5. Describe how the cost recovery mechanism will ensure that measures approved are financed by the same customer class that will receive the direct energy and conservation benefits.

The Company proposes to implement five surcharges to recover costs as close as reasonably possible to the customer class receiving the benefit. The costs are first defined for the three specific customer classes – residential, commercial and industrial. Commercial and industrial ("C&I") customers were separated into small and medium C&I and large C&I customer segments because of the diversity in the size of C&I customers in the Company's service territory to allow for more reasonable cost recovery. Small and medium C&I customers are those customers with monthly metered billing demand 300 kW and less. Large C&I customers are those customers with monthly billing metered demand greater than 300 kW. This segmentation of customers is appropriate because it aligns programs and program costs with the current tariff and with the tariff charges for distribution, transmission and default service supply. C&I program costs were then assigned for recovery first based on program description (e.g. Office Buildings – Large). Duquesne will adopt the use of the Peak Load Contribution demand measure in the application of its cost recovery mechanism for Large C&I customers. The tariff modification was filed with the Commission on November 9, 2009 and was approved by a Secretarial Letter issued on November 24, 2009, at Docket No. M-2009-2093217. The Commission proposed a modification to the Large Commercial Surcharge

and the Large Industrial Surcharge in an Opinion and Order dated February 2, 2010, at Docket No. M-2009-2093217. As a result of this modification, Duquesne will implement the rate design of a fixed customer charge to recover the administrative costs and a demand charge, using Peak Load Contribution, to recover the incentive costs for Large Commercial and Large Industrial customers. Duquesne filed a revised tariff supplement on February 22, 2010. The fixed customer charge component of the surcharge and the demand charge component of the surcharge will be set forth as two separate line item charges on the customer bill.

8. Cost Effectiveness (~5 pages)

(Objective of this section is to provide detailed description of the cost-effectiveness criteria and analyses. It can refer to appendices with program data.)

- 8.1. Explain and demonstrate how the proposed plan will be cost effective as defined by the Total Resource Cost Test (TRC) specified by the Commission.

All measures and programs within the proposed EE&C program portfolio have passed the Total Resource Cost (“TRC”)²⁷ test screening with the single exception of the solar program which has been removed per the Opinion and Order entered October 27, 2009 in Docket No. M-2009-2093217.

This screening metric exceeds Commission requirements that program portfolios pass the TRC allowing for individual measures and programs to fail the test.

The energy efficiency potential forecast, described in Sections 3 and 6 above, forecast technical, economic and achievable energy efficiency potential. Economic potential is defined as technically feasible measures that pass the TRC test. Program measures described herein are selected from the measures comprising forecast economic potential.

Low income programs are typically excused from cost-effectiveness tests and treated as “equity programs” or programs mandated to fulfill an obligation to reach an underserved and disadvantage customer segment. Low income energy efficiency programs are evolving from strictly weatherization programs to more comprehensive “end use” strategies focusing on lighting, appliances and weatherization. Nationally, leading low income programs have been structured to ensure they are cost-effective contributors to energy utilities’ resource portfolios. The Low Income Energy Efficiency Program (LIEEP) advanced in this portfolio is patterned after a public agency partnership²⁸ model wherein local government and energy utility resources are leveraged to create cost-effective programs ultimately providing expanded levels of service. As documented in Table 7B, the LIEEP is a cost-effective program with a TRC of 2.3.

²⁷ The PA PUC adopted the California Public Utilities Commission, California Standard Practice Manual - Economic Analysis of Demand-Side Programs and Projects (SPM) for defining energy efficiency cost-effectiveness. In the SPM, TRC is defined at Chapter 4, page 18.

²⁸ See EEC & DR Study low income program benchmarking strategy 2 and the Prototype Community Energy Efficiency Program, program number 1241-04, authorized by the California Public Utilities Commission under Rulemaking R.01-08-028.

To further document program planning diligence to ensure cost-effectiveness vis-à-vis the TRC test, Tables 7A, 7B, 7C, 7D and 7E have been expanded to include “TRC Cost” supporting TRC test ratio calculation as defined and referenced herein. Additional, measure, program and portfolio cost-effectiveness analytical processes and detail are provided in the Study and its attachments.

8.2. Provide data tables

See Tables 7A through 7E.

9. Plan Compliance Information and Other Key Issues (~ 5–10 pages)

(Objective of this section is to have specific areas in EE&C plan where the Commission can review miscellaneous compliance items required in legislation and address key issues in EE&C plan, portfolio, and program design.)

9.1. Plan Compliance Issues.²⁹

9.1.1. Describe how the plan provides a variety of energy efficiency, conservation, and load management measures and will provide the measures equitably to all classes of customers in accordance with the January 15 Implementation Order.

Program development was initiated by first completing an energy efficiency potential forecast. The energy efficiency potential forecast included detailed information about customer populations in the residential, commercial and industrial sectors. A description of the forecast analysis, inputs for residential, commercial and industrial sector building stock as well as sector measures is provided under Section 3.1.2 of the Plan.

Forecast of annual achievable energy efficiency potential would require annual budgets approximately \$47 million. The Act and Commission implementation orders limit Duquesne Light annual spending to \$19,545,952. The energy efficiency potential forecast was proportionally scaled down to present a mix of measures, representative of regional potential, with program implementation budgets aligned with authorized program spending.

Program funding is allocated among residential, commercial and industrial sectors based on each sector’s share of total energy consumption. Low income program funding is treated as a portion of the residential sector. Public agency program funding is treated as a portion of the commercial sector. After allocating required funding to achieve low income and public agency mandates, the residual funding in each sector is applied, using the forecast model, to forecast sector and program impacts and budgets.

²⁹ These sub-sections may reference other chapters of the plan as they may restate what was included elsewhere in the plan, and are collected here only for convenience of review.

- 9.1.2. Provide statement delineating the manner in which the EE&C plan will achieve the requirements of the program under 66 Pa. C.S. §§ 2806.1(c) & 2806.1(d).

The following table shows the cumulative portfolio and program reductions in consumption (energy) and peak demand reductions in program years ending May 31, 2011 and May 31, 2013:

Figure 47: Cumulative Portfolio and Program Reductions in Consumption³⁰

Cumulative Energy (kWh) and Demand (kW) Savings		Program Years Ending		
		May 31, 2011 (kWh)	May 31, 2013 (kWh)	May 31, 2013 (kW)
	Program Name			
Residential	Energy Efficiency	49,102,713	113,738,471	56,044
	Residential/Schools	2,025,000	4,725,000	4,253
	Refrigerator Recycling	5,000,503	11,667,840	2,908
	Low-Income Energy Efficiency	12,880,759	30,055,105	12,254
Commercial	Umbrella Program Rebates	8,043,808	18,768,885	4,027
	Office Buildings	46,251,895	108,521,087	22,189
	Healthcare	17,093,091	39,883,880	8,557
	Retail Stores & Restaurants	18,601,305	43,403,046	9,312
	Education	10,557,498	24,634,161	5,285
	Governmental / Non-Profit	26,920,191	62,813,778	20,187
	Industrial	Industrial Rebates (umbrella)	3,772,833	8,803,277
	Primary Metals	25,708,810	59,987,224	9,265
	Chemicals	9,343,007	21,800,349	3,367
	Industrial Rebates (Mixed)	8,335,770	19,450,130	3,004
Demand Response(DR)				
	Residential DR	229,965	1,388,748	18,595
	Small/Mid Commercial DR	111,974	671,846	7,776
	Large C/I Curtailable Load	172,800	1,036,800	10,800
Total EEC & DR Programs (incremental)		244,151,922	571,349,629	199,182
Mandated Reductions		140,885,117	422,565,351	113,000

- 9.1.3. Provide statement delineating the manner in which the EE&C plan will achieve the Low-Income requirements under 66 Pa. C.S. §§ 2806.1(b)(1)(i)(G).

Act 129 requires low income customer segment program energy savings to be a proportional share of mandated reductions equivalent to the low income segment energy use percentage of Duquesne Light's total territory energy use. As described in Section 3.2.1 LIEEP description, the low income segment's proportional share of Duquesne's total territory energy use is estimated to be approximately 6.1%. As shown above in Section 9.1.2 and the table below, LIEEP projected energy savings exceeds these target savings amounts.

³⁰ REEP energy savings and demand reduction estimates changed based on increasing annual budgets \$150,000 (previously in Solar PV) and addition of the high-efficiency furnace fan measure. Adding furnace fans shifted the overall measure mix and forecast measure savings in Duquesne's penetration model. This reduced the penetration of other more cost-effective measures (primarily outdoor lighting fixtures) resulting in an overall reduction of projected savings in the Residential sector programs.

Figure 48: LIEEP Projected Energy Savings

	2011 (kWh)	2013 (kWh)	2013 (kW)
Mandated Requirements	140,885,117	422,565,351	113,000
Low Income Program Reduction Requirements (6.1%)	8,580,945	25,737,535	6,883
LIEEP Projected Impacts	12,880,759	30,055,105	12,254

- 9.1.4. Provide statement delineating the manner in which the EE&C plan will achieve the Governmental/non-profit requirements under 66 Pa. C.S. §§ 2806.1(b)(1)(i)(B).

Act 129 requires governmental/non-profit program energy savings be a minimum of 10% of the required reductions in consumption and demand reduction. As shown in the summary table in Section 9.1.2 and the table below, Public Agency Partnership program projected energy and demand reductions exceed the mandated amounts.

Figure 49: Public Agency Partnership Program Projected Energy and Demand Reductions

	May 31, 2011 (kWh)	May 31, 2013 (kWh)	May 31, 2013 (kW)
Mandated Requirements	140,885,117	422,565,351	113,000
Governmental/non-profit Requirements (10%)	14,088,512	42,256,535	11,300
Public Agency Partnership Projected Impacts	26,920,191	62,813,778	20,187

- 9.1.5. Describe how EDC will ensure that no more than two percent of funds available to implement the plan shall be allocated for experimental equipment or devices.

Funds are so limited to reach the goals associated with the Act that experimental equipment or devices have not been planned in the program designs. In the event that customized programs are developed for customers which provide for the use of such equipment or devices, funding will be tracked to ensure that no more than two percent of funds are available for such equipment.

- 9.1.6. Describe how the plan will be competitively neutral to all distribution customers even if they are receiving supply from an EGS.

The General Assembly intended Act 129 to be competitively neutral, and not disadvantage EDCs that had active retail electric markets. The Commission also notes that, in ascertaining legislative intent, the Commission is to presume that the General Assembly did not intend a result that was impossible to execute, unreasonable or unconstitutional.

Duquesne Light program designs for the customer segments, the implementation plans and tracking mechanisms have been developed regardless of the generation supply for the individual customers. The Plan does not discriminate on the basis of generation supply nor does it provide additional opportunities based on the specifics of a customer's generation supply.

9.2. Other Key Issues:

9.2.1. Describe how this EE&C plan will lead to long-term, sustainable energy efficiency savings in the EDC's service territory and in Pennsylvania.

Previous sections of this plan description describe in detail the specific manner in which the program is designed to address specific consumption profiles and respond to diverse customer needs. Since the early seventies, utility-sponsored energy efficiency programs have developed and refined a series of approaches to effectively reduce energy consumption in the residential, commercial and industrial sectors. Critical elements to program success have been identified, tested, and replicated by utilities nationwide. All of the measures that make up the EE&C plan for Duquesne Light will draw upon the lessons learned in these other initiatives and will focus on reducing kWh and kW savings within each specific customer sector.

Duquesne Light believes that all residential approaches (mass market/rebates, schools education program and home performance/retrofits) will be appropriately focused on achieving long-term, sustainable energy efficiency savings. Likewise, programs focused on reducing kWh and kW savings in the commercial sector will primarily achieve reductions through rebates and loans, education, and upstream partnerships. Finally, within the industrial sector, programs will focus on reducing kWh and kW savings through rebates and loans, direct install and technical assistance (comprehensive and custom measure-specific), and upstream partnerships. Simply stated, because the funding levels for each specific measure will be evaluated on the level of savings that can be reasonably achieved over the useful life of the measure, the applicable screening methods strongly favor funding measures that provide longer-term savings.

The Plan will facilitate the selection and installation of energy efficient equipment, foster construction of energy efficient structures, and encourage and reward energy efficient behaviors.

9.2.2. Describe how this EE&C plan, and the EDC, will avoid possible overlaps between programs offered in different Pennsylvania EDC service territories as well as possibly programs offered in neighboring states.

Duquesne Light recognizes that certain opportunities and challenges exist because of the differences in programs that may be offered in adjacent or nearby service territories. Media markets overlap utility service territories so messages that are intended for a particular utility's customers are likely to be received by (and potentially acted upon by) customers of other utility service providers. Such messages can raise awareness of and interest in energy efficiency, therefore the customers of all affected utilities can benefit from such messages, even if they are not served by the sponsoring utility and are not eligible for the advertised programs. To lessen customer confusion, Duquesne Light will clearly identify itself in messages it sponsors, particularly where the messages may overlap into other service areas. The PA PUC should encourage other service providers to clearly identify themselves as the offering utility to minimize customer uncertainty.

Duquesne Light also will ensure that resources devoted for the benefit of its customers are in fact used for its customers. The company will confirm customer accounts prior to disbursing program funds and only pay for measures (whether installed by the customer or on behalf of the customer by a third party) for its customers. Appropriate certifications by customers and third party vendors will be used as appropriate.

- 9.2.3. Describe how this EE&C plan will leverage and utilize other financial resources, including funds from other public and private sector energy efficiency and solar energy programs.

The full scope of relevant information concerning available financial resources and incentives is not always easily discoverable by customers that seek to implement measures. The company will endeavor to stay informed of and fully utilize other financial incentives and resources for the benefit of its customers. Where funds are available to the company to defray expenses associated with approved measures, Duquesne Light will seek to obtain and fully leverage such resources to reduce costs to its customers. Where funds are available to customers directly, the company will communicate the availability of other resources as part of the information it provides concerning its own program measures, and will facilitate customers qualifying for such funds, to the extent practicable. Finally, where other incentives are available (such as tax deductions or credits) to customers, the company will provide customers with relevant information. The project agreements between Duquesne and partnership agencies contain the terms to leverage local agency staff to reach, pre-screen and enroll program participants. The utility and the agency split specified program costs. Patterned after successful programs operating in other parts of the country, a key element is co-funding by Duquesne Light and the Partnership agency of energy efficiency audits and measure implementation.

- 9.2.4. Describe how the EDC will address consumer education on energy efficiency, conservation, solar and solar photovoltaic systems, and geothermal heating, and other measures.

Effective customer education is essential to successfully implementing this initiative. Indeed, comprehensive consumer marketing campaigns will generate

increased understanding of EE benefits and demand for EE measures. Duquesne's customers are diverse. Because the available measures range from simple to comprehensive, no single means of customer communication is likely to succeed in isolation. The benefits of some measures (for instance, consumer-installed efficient lighting) will be easily communicated and easily achieved by customers. Benefits of some other measures (for instance, the life-cycle benefits of industrial process measures) are considerably more complex to calculate and require the involvement of highly skilled contractors or vendors to install. Moreover, sustainable energy savings ultimately are best optimized by combining state-of-the-art equipment and materials with modified personal behaviors. Consequently, Duquesne Light will use an extensive combination of means to ensure that appropriate customer education is achieved.

At the threshold level, customer education begins by raising general awareness of energy efficiency. Duquesne Light believes that this threshold goal is best accomplished by repeatedly exposing its customers to short, positive messages that emphasize the general benefits of embracing energy efficiency. The second step involves contemporaneously communicating the array of measures that are available to customers, coupled with messages encouraging customer participation. These customer education initiatives are best accomplished through repeated communications in mass media as well as through existing channels of customer contacts, such as billing messages, bill inserts, signage in pay stations, messages on hold, and other existing customer communications.

All communications designed to raise awareness and encourage participation should also provide a means for customers to learn more. As the assortment of available measures and the benefits of customer participation are effectively communicated, customers will want to learn more. A primary method of communicating the program details will be interactive web-based communications. Websites offer one of the most cost-effective means of communicating the details in a manner that is easily accessible to a substantial portion of the customer base. In addition to the cost advantage, web-based information is easily updated, and can provide links to extensive existing information. Because a portion of customers are not web-active, printed materials will also be available to customers who request more information.

The School Energy Pledge (SEP) program provides information about energy efficiency at school assemblies and classroom curricula linked to state curriculum standards. The SEP targets approximately 73,000 primary school students (grades K-5) and provides hands-on lessons linking scientific concepts with practical applications. Students take what they've learned at school home where families implemented energy efficiency measures provided through the SEP program.

Finally, customer call center employees and commercial and industrial major account representatives will be trained to respond to customers who have become aware of the available measures and who respond positively to the opportunities to participate.

As a supplement to communications between the company and its customers, it is essential that reliable customer information is available from material and equipment vendors, contractors and installers. The company will work with suppliers, trade associations, community based organization, faith based organizations, contractors, and vendors in the service territory to ensure that accurate, reliable program information is available from these sources as well.

- 9.2.5. Indicate that the EDC will provide a list of all eligible federal and state funding programs available to ratepayers for energy efficiency and conservation.

The federal and state funding sources available to the company's customers for energy efficiency and conservation have been, and are expected to be, changing rapidly. Consequently, the most effective listing of eligible funding sources will be available on the company's website. Listing the eligible programs on the website not only allows the list to be updated rapidly, but can also provide links directly to the websites maintained by the federal and state programs for ease of use by customers.

- 9.2.6. Describe how the EDC will provide the public with information about the results from the programs.

Significant data concerning the results from the programs will also be available to the public on the company's website. This data will include (but not be limited to) information concerning the level of customer participation, the calculated energy savings, description of the associated environmental benefits, and other significant program milestones and information.

10. Appendices

- A. Commission approved electricity consumption forecast for the period of June 1, 2009 through May 31, 2010.
- B. Average hourly demand in the EDC's 100 highest peak hours during the period of June 1, 2007 through September 30, 2007.
- C. Approved CSP contract(s).
- D. Program by program calculation of savings and costs for each program year. Include separate sections for each program with sub-sections for each year describing savings and costs information. Cost data should include for each program (and for General Administrative Cost Areas of Planning, Evaluation and Other) and each program year separate budgets for (see Example Tables 6A, 6B, and 6C):
 - Direct Program Costs
 - EDC labor
 - EDC materials and supplies
 - CSP labor
 - CSP materials and supplies
 - Other outside services (define)
 - Customer incentives
 - Other (define)
 - Administrative Costs, including but not limited to costs relating to plan and program development, cost-benefit analysis, measurement and verification, and reporting.
 - Total costs.
 - Cost effectiveness calculations by program and by program year, indicating benefits by category (see Example Table 7A – 7E).
- E. Calculation methods and assumptions. Describe methods used for estimating all program costs, including administrative, marketing, and incentives costs; include key assumptions. Describe assumptions and present all calculations, data and results in a consistent format. Reference Appendix D.
- F. Energy Efficiency and Demand Response Reports

Appendix A

DUQUESNE LIGHT COMPANY							
Page 1 of 2							
Monthly Control Area KWH Forecast							
	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09
RA	4,274,548	5,411,401	5,328,593	3,645,078	3,406,966	3,760,545	4,553,532
RS	354,805,375	451,458,006	444,543,953	297,577,740	257,697,785	271,130,256	321,326,266
RH	18,467,397	23,285,137	23,415,411	18,055,756	21,157,031	30,475,366	47,515,428
GS	7,577,150	8,269,995	8,564,124	7,235,214	6,784,496	6,574,172	6,798,115
GM < 25 COM	71,070,342	77,492,048	78,331,989	65,785,815	61,248,624	59,221,579	61,194,749
GM < 25 IND	233,505	245,541	249,515	217,030	223,427	216,933	231,137
GM > 25 COM	170,995,579	186,166,670	188,822,118	158,765,204	148,180,728	143,301,101	148,071,612
GM > 25 IND	21,301,687	22,188,099	22,775,216	19,949,952	20,475,788	19,880,049	21,182,454
GMH < 25 COM	4,977,387	5,553,167	5,455,957	4,683,522	4,693,477	5,023,158	6,427,600
GMH < 25 IND	11,669	12,936	13,453	11,437	12,618	13,304	15,385
GMH > 25 COM	16,899,279	18,505,075	18,461,091	15,889,104	15,893,514	17,019,222	21,807,294
GMH > 25 IND	698,150	756,151	772,296	660,748	725,299	761,539	871,322
GL COM	216,257,247	229,525,936	233,747,673	207,377,440	190,552,279	173,713,538	168,181,790
GL IND	75,815,039	75,507,970	78,080,638	71,361,504	71,654,778	68,593,077	69,101,480
GLH COM	41,130,927	44,015,032	44,599,234	38,209,342	37,412,689	39,018,509	40,645,780
GLH IND	5,019,198	5,181,734	5,208,722	4,610,346	4,750,066	4,587,986	4,861,779
L COM	74,598,959	81,343,073	83,298,218	70,920,884	69,822,399	64,792,339	66,059,114
L IND	50,755,994	52,073,076	51,797,279	46,893,700	46,878,874	44,912,186	45,423,805
HVPS	97,680,355	105,357,986	102,983,248	102,481,414	100,031,541	100,043,708	99,767,635
AL COM	6,603	7,053	7,309	7,820	9,524	9,228	11,249
SE	2,326,184	2,290,440	2,125,384	2,361,575	2,213,035	2,339,442	2,304,430
SM RES	32,556	29,774	30,697	31,657	28,112	31,326	29,290
SM COM	101,738	89,657	100,683	91,024	94,501	96,506	90,075
SM LIT	2,328,254	2,402,467	2,367,183	2,281,467	2,385,394	2,340,751	2,504,002
SH	79,096	85,779	78,362	80,999	81,055	73,764	81,861
MTS/UMS (LIT)	835,134	857,194	837,979	852,180	843,710	817,152	859,069
PAL (RES)	5,895	6,343	6,267	6,322	6,200	5,807	5,842
PAL (COM)	110,122	112,164	112,003	109,150	114,500	112,140	116,946
UMS (COM)	1,314,961	1,302,176	1,299,795	1,310,277	1,481,842	1,242,249	1,452,154
Total	1,239,710,330	1,399,532,081	1,403,414,391	1,141,464,601	1,068,860,253	1,060,106,930	1,141,491,196
Residential	377,585,771	480,190,662	473,324,921	319,316,553	282,296,094	305,403,300	373,430,357
Commercial	610,608,961	658,017,926	668,209,103	575,961,017	541,811,768	515,694,848	526,605,841
Industrial	251,515,598	261,323,493	261,880,367	246,187,031	244,752,391	239,008,781	241,454,998

DUQUESNE LIGHT COMPANY						
						Page 2 of 2
Monthly Control Area KWH Forecast						
	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Total
RA	3,804,544	3,266,177	3,222,480	2,714,057	2,921,450	46,309,369
RS	274,343,140	235,424,135	231,242,278	201,866,501	234,518,585	3,575,934,019
RH	121,282,498	107,369,610	88,564,708	57,320,187	44,967,106	601,875,635
GS	13,819,499	12,442,082	13,202,476	12,044,887	12,982,280	116,294,490
GM < 25 COM	54,751,048	49,593,955	53,072,385	49,456,543	54,709,796	735,928,873
GM < 25 IND	15,653,268	16,027,917	16,526,234	14,454,899	14,627,608	78,907,915
GM > 25 COM	129,716,391	117,799,919	125,417,218	117,322,621	129,723,441	1,764,282,601
GM > 25 IND	42,006,069	42,708,300	44,238,574	38,920,080	39,322,001	354,948,269
GMH < 25 COM	10,697,509	9,295,725	8,653,697	6,823,017	6,646,966	78,931,181
GMH < 25 IND	2,039,127	1,668,415	1,675,231	1,395,412	1,243,481	8,112,469
GMH > 25 COM	20,500,469	17,777,304	16,467,002	13,026,609	12,715,180	204,961,143
GMH > 25 IND	5,087,392	4,386,637	4,432,511	3,673,797	3,360,042	26,185,884
GL COM	153,749,590	142,927,502	155,983,528	151,039,188	169,244,433	2,192,300,145
GL IND	89,545,133	87,976,337	93,155,544	86,022,751	93,063,742	959,877,992
GLH COM	51,940,634	46,985,539	45,925,302	40,339,712	42,912,377	513,135,078
GLH IND	12,296,817	11,132,864	11,494,670	10,824,436	11,487,346	91,455,963
L COM	56,239,013	52,061,511	56,613,240	56,354,720	61,565,911	793,669,381
L IND	46,573,625	45,941,136	49,565,265	49,275,040	51,251,270	581,341,252
HVPS	97,256,485	87,804,991	101,143,020	92,090,736	94,842,145	1,181,483,264
AL COM	24,224,459	18,549,603	19,476,411	16,956,698	15,654,752	94,920,710
SE	1,633,814	2,077,471	1,872,104	1,956,693	1,851,871	25,352,443
SM RES	439,022	403,065	389,677	454,554	400,108	2,299,839
SM COM	86,879	83,045	86,180	79,882	78,618	1,078,787
SM LIT	1,959,125	1,868,077	2,106,009	1,933,208	2,102,120	26,578,057
SH	443,092	474,541	449,623	430,024	485,429	2,843,626
MTS/UMS (LIT)	703,670	736,595	717,691	687,409	733,548	9,481,330
PAL (RES)	120,938	129,563	127,531	130,087	144,685	695,479
PAL (COM)	90,373	90,714	97,389	93,813	99,263	1,258,578
UMS (COM)	1,179,653	1,032,223	1,183,699	1,131,885	1,137,020	15,067,935
Total	1,232,183,273	1,118,034,954	1,147,101,679	1,028,819,445	1,104,792,574	14,085,511,707

Residential	399,990,141	346,592,549	323,546,675	262,485,386	282,951,933	4,227,114,341
Commercial	521,735,216	473,795,808	501,323,955	469,676,908	512,643,005	6,576,084,357
Industrial	310,457,917	297,646,598	322,231,049	296,657,151	309,197,635	3,282,313,009

Appendix B
Duquesne Light Company

Docket No. M-2008-2069887

100 Hours of Highest Load
 June 1, 2007 through September 30, 2007

Average (MW) = 2,517.658

Year	Month	Date	Hour	Peak Load - MW
2007	8	08/24/2007	17	2,658.852
2007	8	08/24/2007	16	2,658.461
2007	8	08/08/2007	16	2,650.336
2007	8	08/24/2007	14	2,649.745
2007	8	08/24/2007	15	2,640.474
2007	8	08/08/2007	15	2,639.863
2007	8	08/24/2007	18	2,639.290
2007	8	08/08/2007	17	2,636.454
2007	8	08/23/2007	15	2,607.214
2007	8	08/23/2007	16	2,601.886
2007	8	08/08/2007	14	2,600.879
2007	8	08/02/2007	17	2,599.034
2007	9	09/06/2007	17	2,598.679
2007	6	06/27/2007	15	2,596.968
2007	8	08/02/2007	18	2,594.756
2007	8	08/23/2007	17	2,593.270
2007	8	08/23/2007	14	2,591.785
2007	8	08/24/2007	13	2,584.921
2007	8	08/02/2007	16	2,581.761
2007	9	09/06/2007	18	2,577.345
2007	7	07/09/2007	17	2,572.520
2007	8	08/03/2007	17	2,572.286
2007	6	06/27/2007	16	2,570.634
2007	8	08/24/2007	19	2,569.725
2007	9	09/06/2007	16	2,562.409
2007	8	08/01/2007	17	2,560.919
2007	8	08/02/2007	19	2,559.939
2007	8	08/01/2007	18	2,558.796
2007	7	07/09/2007	18	2,558.274
2007	6	06/27/2007	14	2,557.264
2007	7	07/10/2007	16	2,556.323
2007	8	08/01/2007	16	2,547.410
2007	8	08/02/2007	14	2,547.170
2007	7	07/10/2007	17	2,545.564
2007	8	08/02/2007	15	2,539.639
2007	8	08/08/2007	18	2,539.035
2007	7	07/09/2007	16	2,539.034
2007	8	08/08/2007	13	2,539.021
2007	8	08/03/2007	18	2,536.862
2007	8	08/03/2007	15	2,536.670
2007	7	07/10/2007	15	2,536.481
2007	6	06/27/2007	13	2,535.816
2007	8	08/23/2007	18	2,527.633
2007	8	08/29/2007	17	2,525.971
2007	8	08/03/2007	16	2,524.528
2007	7	07/10/2007	18	2,523.436
2007	8	08/03/2007	14	2,522.920
2007	8	08/03/2007	13	2,521.838
2007	9	09/07/2007	17	2,519.297
2007	9	09/07/2007	16	2,517.444

Appendix B
Duquesne Light Company

Docket No. M-2008-2069887

100 Hours of Highest Load
 June 1, 2007 through September 30, 2007

Average (MW) = 2,463.855

Year	Month	Date	Hour	Peak Load - MW
2007	6	06/26/2007	17	2,515.953
2007	8	08/01/2007	19	2,515.665
2007	6	06/27/2007	17	2,515.364
2007	8	08/29/2007	18	2,513.995
2007	8	08/01/2007	15	2,512.344
2007	7	07/09/2007	19	2,508.115
2007	8	08/24/2007	20	2,507.459
2007	9	09/06/2007	15	2,506.116
2007	9	09/06/2007	19	2,505.873
2007	7	07/10/2007	19	2,502.031
2007	8	08/24/2007	21	2,500.758
2007	7	07/09/2007	15	2,496.551
2007	6	06/26/2007	18	2,492.199
2007	6	06/26/2007	16	2,490.716
2007	7	07/10/2007	14	2,486.165
2007	7	07/09/2007	14	2,484.336
2007	8	08/29/2007	16	2,482.850
2007	9	09/07/2007	18	2,482.020
2007	8	08/23/2007	13	2,481.070
2007	9	09/07/2007	15	2,478.903
2007	8	08/02/2007	13	2,477.658
2007	8	08/08/2007	12	2,473.800
2007	6	06/26/2007	15	2,472.235
2007	8	08/29/2007	19	2,466.161
2007	8	08/02/2007	20	2,465.508
2007	8	08/24/2007	12	2,463.327
2007	8	08/01/2007	14	2,461.952
2007	6	06/27/2007	12	2,455.018
2007	9	09/05/2007	17	2,453.472
2007	6	06/18/2007	15	2,452.340
2007	6	06/26/2007	19	2,446.072
2007	9	09/07/2007	14	2,446.016
2007	8	08/06/2007	18	2,444.876
2007	8	08/03/2007	19	2,443.316
2007	8	08/23/2007	19	2,442.884
2007	8	08/09/2007	14	2,439.971
2007	8	08/03/2007	12	2,435.201
2007	9	09/06/2007	14	2,433.345
2007	6	06/18/2007	14	2,432.687
2007	6	06/18/2007	16	2,431.290
2007	9	09/06/2007	20	2,426.513
2007	9	09/05/2007	16	2,424.802
2007	8	08/01/2007	20	2,424.712
2007	8	08/06/2007	19	2,418.690
2007	8	08/29/2007	15	2,417.541
2007	8	08/06/2007	17	2,416.294
2007	6	06/26/2007	14	2,414.279
2007	6	06/18/2007	17	2,411.807
2007	7	07/31/2007	17	2,411.595
2007	7	07/09/2007	13	2,410.921

Appendix C

CSP SERVICES AGREEMENT

This CSP Services Agreement, dated _____, 2009, is made by and between Duquesne Light Company ("DLC" or "Company") and _____ ("CSP" or ___).

WHEREAS, CSP is in the business of providing information and technical assistance on measures to enable a person to increase energy efficiency or reduce energy consumption services in the utility industry; and

WHEREAS, DLC is an electric distribution company ("EDC") in Pennsylvania; and

WHEREAS, Act 129 of House Bill 2200 was signed into law by Governor Rendell on October 15, 2008, requiring each EDC to create and submit an energy efficiency and conservation plan by July 1, 2009, and the Pennsylvania Public Utility Commission ("Commission") is developing procedures to implement a process for review of EDC filings; and

WHEREAS, CSP has prepared and submitted to DLC proposals, CSP's Proposal for Energy Efficiency and Conservation and Demand Side Response Initiative, dated _____, a copy of which is attached hereto as Exhibit A (the "Proposals"), to provide services regarding the implementation of an EE/Conservation Plan as required for the energy efficiency and conservation and demand side response initiatives recently mandated in the Commonwealth of Pennsylvania by Act 129 of House Bill 2200 (the "Plan"); and

WHEREAS, CSP certifies that it was approved by and is a member of the Commission's Registry of Conservation Service Providers and will maintain such registration with the Commission for the term of the contract; and

WHEREAS, DLC is relying upon the skill and expertise of CSP to implement the Plan as identified in the Proposals and to meet the needs of DLC and to provide the services necessary for the proper and effective energy efficiency and conservation plan compliance.

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NOW, THEREFORE, in consideration of the premises and of the mutual benefits and covenants contained herein, the parties hereto, intending to be legally bound hereby, agree as follows:

1. **DEFINITIONS**

“Applicable Law” means any applicable constitution, charter, act, statute, law, ordinance, code, rule regulation, judgment, decree, writ, order, permit, approval or the like of any Governmental Authority.

“Company” shall mean Duquesne Light Company.

“Company’s Site” shall mean 411 Seventh Avenue, Pittsburgh, PA 15219.

“Price” shall mean the purchase price or prices stated in Exhibit C of the CSP Agreement.

“CSP Agreement” shall mean this Agreement, along with Exhibits dated _____).

“Services” shall mean CSP services, Work Product and any other work performed by CSP necessary to fulfill CSP’s obligations under the CSP Agreement.

“Subcontractor” shall mean vendors, suppliers and subcontractors of any tier and any other persons or entities contracting directly or indirectly with CSP for or in regard to the CSP Agreement.

“Work” shall mean CSP services. Work Product and other work performed by Contractor as necessary to fulfill CSP’s obligations under the CSP Agreement.

Appendix C

“Work Product” shall mean studies, reports, evaluations, designs, drawings, procedures, specifications, plans and all other documentation and deliverables which are prepared, produced or acquired by CSP for the Work or at the request or direction of Company in connection with the Plan’s requirements for reduction in demand and consumption.

2. ENGAGEMENT OF CSP; CSP’S WORK

Subject to the terms and conditions of this CSP Agreement, DLC hereby engages CSP to properly and completely design, submit and assist with the implementation of an energy efficiency and conservation plan in compliance with Act 129 of House Bill 2200. CSP shall perform the Work in a professional and workmanlike manner and with accuracy and reasonable care and skill. Specifically, the Services to be provided are shown on Exhibit C.

3. CSP’S ACKNOWLEDGMENT

CSP, by performing the Work and/or delivering the Work Product, by any performance under this CSP Agreement and/or by written acknowledgement, accepts the offer contained in this Agreement and such acceptance of the offer is expressly limited to the terms and conditions as set forth herein. Any term or condition proposed by CSP, in the *Proposals or otherwise, which is different from, conflicts with or adds to any of the provisions of this CSP Agreement*, shall be deemed to materially alter the provisions of this CSP Agreement and is hereby objected to and rejected by DLC. Except as expressly provided herein, under no circumstances shall any term and/or condition of the Proposal or CSP’s sales documents or otherwise become part of this CSP Agreement.

4. PROJECT SCHEDULE

(a) CSP shall design, submit and assist with the implementation of an energy efficiency and conservation plan to meet all the needs and requirements of DLC, applicable laws and applicable standards, to achieve all the requirements identified in the Proposals and to allow DLC to properly and efficiently implement a Plan as defined in the Scope and Exhibit C. Company shall be entitled to implement adequate provisions and procedures for monitoring performance quality and rate of progress. Such is set forth in more detail in Exhibit C.

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(b) (i) Except as expressly set forth herein, CSP is authorized to commence the Work and shall perform the Work in accordance with and within the time schedule contained in the project schedule attached hereto as Exhibit B (the "Project Schedule").

(ii) If at any time CSP determines that it is behind schedule or is unable to meet any milestone set forth in the Project Schedule, CSP shall, within five (5) days of its knowledge of such delay, promptly notify DLC, in writing, of any anticipated material departure from the Project Schedule and if CSP has reason to believe that a milestone or the Completion Date will not be met and shall specify in said notice corrective action planned by CSP to timely complete the Work or any portion thereof; provided, however, that such notice shall not relieve Vendor of any of its obligations under the CSP Agreement or its obligations to take all actions necessary to achieve the timely and proper completion of the Work. At all times, CSP shall take such actions as may be necessary to facilitate the timely and proper completion of the Work on or prior to any applicable milestones set forth in the Project Schedule or by the Completion Date.

(iii) CSP understands and agrees that time is of the essence with respect to the dates and times set forth in the Project Schedule, including, but not limited to, the Completion Date, and for performance of the Work.

5. PRICE AND PAYMENT

The price or compensation to be paid to CSP shall be as was bid by CSP Provider and accepted herein by Company upon acceptable performance of the Services. Those payment arrangements are shown in Exhibit D. Compensation shall be performance based, and rewards are provided for achieving successful results and deductions are made for not achieving successful results, as agreed to in Exhibit D.

Unless otherwise agreed upon, statements must be submitted monthly, within 30 days after the end of a billing month. Itemized statements for services and expenses should be submitted directly to Michele Sandoe, Duquesne Light Company, 411 Seventh Avenue, Mail Drop 6-1, Pittsburgh, PA 15219. If any (portion) of the Work does not conform to the requirements of the CSP Agreement upon inspection by Company, a corresponding portion of the Price may be withheld by Company until the nonconformity is corrected. Invoices shall be paid within 45 days.

6. WARRANTIES

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CSP represents, warrants and guarantees that the Work provided under the CSP Agreement shall be: (a) provided in accordance with, and conform to, the requirements of the CSP Agreement; (b) provided in accordance with the standard of care consistent with generally accepted industry practices and procedures in CSP's particular area of expertise; and (c) suitable for the specified purposes.

CSP represents, warrants and guarantees that it is not an affiliate of Duquesne or any other Pennsylvania EDC. If CSP should merge with a Pennsylvania EDC during the term of the CSP Agreement, then the CSP shall immediately notify Duquesne and provide for automatic termination of the CSP Agreement.

CSP represents, warrants and guarantees that it will conduct criminal background checks for all employees of the CSP that will enter a customer's premises or otherwise have personal contact with an EDC customer.

If, during the sixty-day period following completion of the Work, it is shown there is an error in the Work caused solely by CSP's failure to meet such standards and Company has notified CSP in writing of such error within that period, CSP shall re-perform, at no additional cost to Company, such Work as may be necessary to remedy such error.

Company shall have no liability for defects in the Work attributable to CSP's reliance upon or use of data, design criteria, drawings, specifications or other information furnished by Company.

6. OWNERSHIP RIGHTS

CSP warrants that the Work shall not infringe or misappropriate the intellectual property rights of any third parties. Company shall have exclusive use of and own title, rights and interests in and to all Work. All Work shall be considered "work made for hire."

At all times, each party shall retain all of its rights in its drawings details, designs, specifications, databases, computer software, copyrights, trade and service marks, patents, trade secrets, and any other proprietary property.

Appendix C

7. FACILITIES, SUPPLIES AND EQUIPMENT

To the extent that CSP's Work must be performed at Company's Site, Company shall furnish the facilities, supplies and equipment which Company determines are reasonably required for CSP to perform Work under the CSP Agreement.

8. TERMINATION

Company may terminate all or part of the CSP Agreement if CSP: performs below acceptable standards, abandons the work; becomes bankrupt or insolvent; is unable to obtain a bond, if required; assigns the CSP Agreement or subcontracts any portion thereof without Company's written consent; or otherwise breaches or fails to comply with the CSP Agreement; provided, however, that prior to such termination, Company must have notified CSP in writing of its intent to terminate the CSP Agreement and the reasons therefore, and CSP must have failed to cure such non-compliance within ten (10) days after receipt of such notice. If Company so terminates the CSP Agreement, Company may complete or contract with a third party to complete all or part of the Work, and CSP shall be liable to Company for the excess costs to complete all or such part of the Work and any other damage resulting from CSP's non-compliance or breach. Company may suspend all payments to CSP in order to protect ratepayer funds pursuant to Commission order.

Company may, at any time, also terminate by written notice all or part of the CSP Agreement due to modification of its Energy Efficiency/Conservation plan. Upon receipt of such notice, CSP shall bring the work to a prompt conclusion. Company shall pay CSP a proportionate amount of the price due to CSP for the portion of the Work completed up to the effective date of the termination plus costs necessarily incurred directly as a result of the termination, subject to Company's right to audit CSP's books and records. Such payment by Company, however, shall not exceed the total price for the Work set forth in the CSP Agreement.

In all cases, Company may require CSP to transfer title and deliver to Company any contracts, rights, goods, equipment or Work Product produced, received or acquired by CSP for the performance of the CSP Agreement.

9. INDEMNIFICATION

CSP shall defend, indemnify and hold harmless Company, its directors, officers, employees, agents, successors and assigns and customers and users of the goods, equipment and services, from and against, and shall pay, all losses, damages (including consequential, indirect and punitive), costs, liabilities, suits, claims and actions, and all related expenses (including attorneys' fees and expenses and the actual costs of litigation) by reason of

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injury or death to any person or damage to any property or any accident or event arising or relating to the performance of the CSP Agreement or arising from or relating to the goods, equipment or services or from any other cause to the extent not attributable to the negligence or willful misconduct of Company.

10. INTELLECTUAL PROPERTY INDEMNIFICATION

CSP represents and warrants that all goods, equipment and services shall not and do not infringe any United States or foreign patent, trademark, copyright or other intellectual property right of any third party. CSP shall defend, indemnify and hold harmless Company and its directors, officers, employees, agents, successors and assigns from and against, and shall pay, all losses, damages (including consequential, indirect and punitive), costs, liabilities, suits, claims and actions, and all related expenses (including attorneys' fees and expenses and the actual costs of litigation) based on or arising from an allegation or claim that any goods, equipment or services or parts thereof furnished by CSP infringe or misappropriate the rights of others; and/or if their use by Company is enjoined, CSP shall at Company's option and CSP 's expense either: (a) procure for Company the right to continue using the goods, equipment and services or parts thereof; (b) replace the same with substantially equivalent goods, equipment or services or parts thereof that do not infringe or misappropriate the rights of others; (c) modify the same so they no longer infringe or misappropriate the rights of others; or (iv) refund the price and the transportation and installation costs to Company.

CSP shall obtain from all Subcontractors similar indemnity protection for Company.

11. LIMITATION OF LIABILITY

Company shall not be liable to CSP for any indirect, incidental, special, liquidated, punitive or consequential damages or damages for delay in performance and/or failure to perform, irrespective of whether claims or actions for such damages are based upon contract, tort, negligence, strict liability, warranty or otherwise. CPS's liability for performance shall be limited as set forth in the compensation section except for acts of negligence, misconduct, or intentional acts.

12. CHANGES

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Company may, at any time by a written change order, make changes to the scope of the CSP Agreement ("Change Order"). If any change results in a increase or decrease in the quantity or cost of the goods, equipment or services or otherwise materially affects the CSP Agreement, the Change Order will include an equitable adjustment in the price, the schedule and/or any other affected provisions. Any objection by CSP to the equitable adjustment set forth in a Change Order must be asserted within seven (7) business days after receipt of the Change Order by CSP. Notwithstanding such objection, if directed by Company, CSP shall proceed with the change and performance of the Work.

13. SUSPENSION OR INTERRUPTION OF WORK

Company may direct CSP, in writing, to suspend or interrupt all or any part of the Work for such period of time as Company may determine to be appropriate. CSP shall mitigate the costs of such suspension or interruption. Company agrees to reimburse CSP for those expenses necessarily and directly incurred as a result of such suspension or interruption, subject to Company's right to audit CSP's books and records.

14. CONFLICTS, ERRORS AND OMISSIONS

In the event CSP becomes aware of any conflict, error or omission in the documents comprising the CSP Agreement, CSP shall promptly bring the discrepancy to the attention of Company. Such discrepancy shall be resolved by Company in its sole discretion.

15. INSPECTIONS; MONITORING PERFORMANCE QUALITY AND RATE OF PROGRESS

Company may inspect, at all reasonable times, the progress of the Work, including work performed at CSP's or Subcontractor's facilities. Also, if the CSP Agreement, laws, ordinances, rules, regulations or orders of any governmental authority require any portion of the Work to be inspected, tested or approved, CSP shall give Company reasonable notice to permit Company to observe such inspection, testing or approval. CSP shall provide Company with periodic status reports during the course of the Work.

16. COST ACCOUNTS AND INFORMATION/AUDITS

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CSP shall maintain detailed separate cost data for each CSP Agreement in accordance with generally accepted accounting principles. CSP's records pertaining to the cost of the Work (other than fixed prices agreed to prior to performance of the Work) and CSP's tax records shall be open at all reasonable times for inspection or audit by Company or its representative(s). Company or its representative(s) shall, at all reasonable times, have access to the premises, materials, instructions, working papers, plans, drawings, specifications, memoranda and other information of CSP pertaining to the Work. All CSP's purchase orders or contracts with Subcontractors shall provide that Company or its representative(s) shall have the right to audit Subcontractors' charges to CSP. Company's rights under this Article shall terminate five (5) years after expiration of the warranty periods.

17. INSURANCE

Prior to commencing any portion of the Work, CSP shall properly maintain the following coverage: Statutory Workers' Compensation Insurance in full compliance with the Workers' Compensation and Occupational Disease Acts of each and every state in which Work is to be performed and U.S. Longshoremen's and Harbor Workers' Compensation Acts, if applicable; Employer's Liability Insurance with a limit of not less than \$500,000; Comprehensive General Liability Insurance including Premises-Operation Independent Contractor's Protective, Products, Completed Operation, and Blanket Contractual Liability coverages with a combined single limit of not less than \$1,000,000 per occurrence and \$2,000,000 aggregate; Excess Umbrella Liability Insurance with a single limit of not less than \$2,000,000; and Automobile Liability Insurance covering all owned, hired and non-owned vehicles with a combined single limit of not less than \$1,000,000 per occurrence. CSP shall provide Company with a certificate of insurance specifically evidencing the coverages required above, naming the Company as an additional insured, except under the Workers' Compensation Policy, and stating the policy numbers and the inception and expiration dates of all policies. The certificate of insurance shall also provide for thirty (30) days' prior written notice to Company in the event of cancellation or any material alteration of any policy. The certificate of insurance shall be furnished to Company prior to commencement of any portion of the Work. The Property Damage Liability Insurance shall include the Broad Form Comprehensive General Liability coverage.

18. TAXES

The price set forth in the CSP Agreement shall include, unless otherwise expressly set forth in the CSP Agreement, all federal state and local sales and use taxes applicable to the manufacture and/or sale of the goods and equipment and/or the performance of the services.

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Company will provide to CSP, upon CSP 's request, a tax exemption certificate for taxes for the Work that are exempt under Pennsylvania's Sales and Use Tax laws.

Upon Company's request, CSP shall provide evidence satisfactory to Company of the payment of any taxes which CSP is required to pay. CSP shall also provide to Company such additional information as Company may request to facilitate the determination of taxes for which Company is responsible, if any.

19. CONFIDENTIAL/PROPRIETARY INFORMATION

CSP agrees to treat as confidential and proprietary any of Company's information which is not generally known to the public and to exercise the same care to prevent the disclosure of such information as CSP exercises to prevent disclosure of its own proprietary and confidential information; however, CSP may disclose such information as required by law or court order. Furthermore, Company's information shall be utilized by CSP only in connection with performance of CSP's obligations under the CSP Agreement.

20. PUBLICITY

CSP shall not use Company's name nor issue any publicity releases, including but not limited to, news releases and advertising, relating to the CSP Agreement and Services without the prior written consent of Company.

21. FORCE MAJEURE

Neither party shall be liable for any failure or delay in performing its obligations under the CSP Agreement, or for any loss or damage resulting therefrom, due to causes beyond its reasonable control, including but not limited to, acts of God, public enemy or government, riots, fires, natural catastrophe, strikes or epidemics. In the event of such failure or delay, the date of delivery or performance shall be extended for a period not to exceed the time lost by reason of the failure or delay; provided that Company may terminate the CSP Agreement if the period of failure or delay exceeds fifteen (15) days. Company shall have no obligation to make any payments to CSP during the period of failure or delay. Each

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party shall notify the other promptly of any failure or delay in, and the effect on, its performance.

22. ASSIGNMENT

CSP shall not assign the CSP Agreement, in whole or in part, nor contract with any Subcontractor for the performance of the same or any of its parts, without first obtaining Company's written consent. Company's consent shall not be construed as discharging or releasing, nor shall it discharge or release, CSP in any way from the performance of the Work or the fulfillment of any obligation under the CSP Agreement.

23. NOTICES

Any notice required under the CSP Agreement shall be in writing and sent to the CSP and Company at their respective addresses identified below:

If to DLC: c/o Michele Sandoe
 Duquesne Light Company
 411 Seventh Avenue, Mail Drop 6-1,
 Pittsburgh, PA 15219.
 Via e-mail: msandoe@duqlight.com

If to CSP:

24. INDEPENDENT CONTRACTOR

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CSP shall operate as an independent contractor in the performance of the CSP Agreement and not as an agent or employee of Company. CSP shall ensure that neither it nor its agents or employees shall act or hold themselves out as agents or employees of Company. CSP shall have complete control of its agents and employees engaged in the performance of the Work.

25. PRIORITY OF DOCUMENTS

In the event of conflict among the various documents comprising the CSP Agreement, the conflict shall be resolved according to the priority given to the documents in the Purchase Order. If no priority is indicated in the Purchase Order, the conflict shall be resolved according to Article 16, Conflicts, Errors and Omissions.

26. SEVERABILITY

If any provision(s) of the CSP Agreement is prohibited by law or held to be invalid, illegal or unenforceable, the remaining provisions thereof shall not be affected, and the CSP Agreement shall continue in full force and effect as if such prohibited, illegal or invalid provisions had never constituted a part thereof, with the remaining provisions of the CSP Agreement being enforced to the fullest extent possible.

27. SURVIVAL

The obligations and rights of the parties pursuant to the Warranties, Liens, Indemnification, Intellectual Property Indemnification, Limitation of Liability, Cost Accountants and Information/Audits and Confidential/Proprietary Information shall survive the expiration or early termination of the CSP Agreement.

28. MBE/WBE

It is the policy of Company to stimulate the growth of Certified Minority, Women and Disabled Business Enterprises (MBEs, WBEs and DBEs) by encouraging their participation

Appendix C

in Company's procurement activities and by affording them an equal opportunity to compete for Company's procurements. CSP agrees to carry out this policy to the fullest extent consistent with the requirements of the CSP Agreement (a) through the award of subcontracts to MBEs, WBEs and DBEs or (b) if CSP is a MBE, WBE or DBE, through the use of its own forces. CSP shall include this policy as a provision in all subcontracts.

29. LAWS, CODES, RULES, REGULATIONS

CSP and its Subcontractors, at their own expense, shall obtain all necessary licenses and permits and shall comply with all applicable federal, state and local laws, statutes, ordinances, codes, rules and regulations relating to performance of the Work and the CSP Agreement, including but not limited to, safety, products liability, environment, labor standards and workers' compensation laws.

CSP and its Subcontractors shall also comply with Company's policies, rules and procedures.

30. HAZARDOUS AND DANGEROUS GOODS

For any goods or equipment provide by CSP pursuant to the CSP Agreement which are defined as hazardous or dangerous under any applicable law, rule or regulation, CSP shall provide Company with hazardous warning and safety handling information, including Material Safety Data Sheets, and appropriate labeling for all such goods and equipment.

31. ELECTRIC COMMERCE

At Company's request, Company and CSP may facilitate business transactions for the CSP Agreement by electronically transmitting data. Any data digitally signed pursuant to this Article and electronically transmitted shall be as legally sufficient as a written and signed paper document exchanged between the parties, notwithstanding any legal requirement that the document be in writing or signed.

32. GOVERNING LAW/JURISDICTION

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The CSP Agreement shall be governed by and interpreted in accordance with the laws of the Commonwealth of Pennsylvania, excluding the choice of law and conflicts of law provisions. Any litigation arising from or relating to the CSP Agreement shall only be filed in state or federal court in and for Allegheny County, Pennsylvania and CSP hereby consents and submits to the exclusive jurisdiction of such courts.

33. ENTIRE AGREEMENT

The CSP Agreement contains the entire understanding and agreement of Company and CSP with respect to the subject matter hereof and supersedes and replaces all prior agreements and commitments with respect thereto. There are no oral understandings, terms or conditions and neither Company nor CSP has relied upon any representation, express or implied, not contained in the CSP Agreement.

34. AMENDMENT

Except as expressly set forth herein, no provision of the CSP Agreement may be changed, modified, waived, terminated or amended except by written instrument executed as appropriate by Company and/or CSP.

35. WAIVER

Any failure of Company to enforce any of the provisions of the CSP Agreement or to require compliance with any of its terms at any time during the term of the CSP Agreement shall in no way affect the validity of the CSP Agreement, or any part thereof, and shall not be deemed a waiver of the right of Company thereafter to enforce any and each such provision.

36. CAPTIONS

Appendix C

The captions contained in the CSP Agreement are for convenience and reference only and in no way define, describe, extend or limit the scope or intent of the CSP Agreement or the intent of any provision contained therein.

IN WITNESS WHEREOF, the parties have executed this Agreement on the respective dates entered below.

DUQUESNE LIGHT COMPANY

CSP

By: _____ By: _____

Name: _____ Name: _____

Title: _____ Title: _____

Date: _____ Date: _____

Appendix C

Exhibit A

Bid Materials Sent, Received and Accepted

Appendix C

Exhibit B

Project Schedule

- Phase 1 -

Phase 2 -

- Phase 3 -

Phase 4 -

Exhibit C

Scope of Work

Section 10 - Appendix D

Program Name	Year	Savings kWh	Savings kW	Admin Cost EDC (Portfolio)	Direct Program Costs					Total Program Cost	TRC Cost	Program Benefits	Benefits				TRC
					EDC Labor	EDC Materials	CSP Labor	CSP Materials	Incentives				Capacity		Energy		
													Generation	Trans/Dist	Peak	Off Peak	
Residential Energy Efficiency	2009	16,784,834	8,149	\$77,452	\$341,563	\$6,971	\$341,563	\$6,971	\$1,609,038	\$2,383,557	\$5,447,546	\$15,137,074	\$3,085,342	\$1,346,368	\$7,012,487	\$3,692,878	2.8
	2010	32,317,879	15,965	\$77,452	\$341,563	\$6,971	\$341,563	\$6,971	\$3,098,075	\$3,872,594	\$9,785,248	\$29,145,248	\$5,940,583	\$2,592,325	\$13,501,992	\$7,110,347	3.0
	2011	32,317,879	15,965	\$77,452	\$341,563	\$6,971	\$341,563	\$6,971	\$3,098,075	\$3,872,594	\$9,785,248	\$29,145,248	\$5,940,583	\$2,592,325	\$13,501,992	\$7,110,347	3.0
	2012	32,317,879	15,965	\$77,452	\$341,563	\$6,971	\$341,563	\$6,971	\$3,098,075	\$3,872,594	\$9,785,248	\$29,145,248	\$5,940,583	\$2,592,325	\$13,501,992	\$7,110,347	3.0
Residential: Schools Energy Pledge	2009	675,000	608	\$34,267	\$0	\$0	\$302,232	\$6,168	\$90,000	\$432,667	\$357,137	\$715,540	\$145,846	\$63,644	\$333,993	\$172,057	2.0
	2010	1,350,000	1,215	\$34,267	\$0	\$0	\$302,232	\$6,168	\$180,000	\$522,667	\$410,167	\$1,431,081	\$291,693	\$127,288	\$667,986	\$344,114	3.5
	2011	1,350,000	1,215	\$34,267	\$0	\$0	\$302,232	\$6,168	\$180,000	\$522,667	\$410,167	\$1,431,081	\$291,693	\$127,288	\$667,986	\$344,114	3.5
	2012	1,350,000	1,215	\$34,267	\$0	\$0	\$302,232	\$6,168	\$180,000	\$522,667	\$410,167	\$1,431,081	\$291,693	\$127,288	\$667,986	\$344,114	3.5
Refrigerator Recycling	2009	1,666,834	415	\$10,453	\$0	\$0	\$92,194	\$1,882	\$209,056	\$313,584	\$347,861	\$957,045	\$195,071	\$85,124	\$392,888	\$283,962	2.8
	2010	3,333,669	831	\$10,453	\$0	\$0	\$92,194	\$1,882	\$418,112	\$522,640	\$627,167	\$1,914,090	\$390,143	\$170,249	\$785,775	\$567,923	3.1
	2011	3,333,669	831	\$10,453	\$0	\$0	\$92,194	\$1,882	\$418,112	\$522,640	\$627,167	\$1,914,090	\$390,143	\$170,249	\$785,775	\$567,923	3.1
	2012	3,333,669	831	\$10,453	\$0	\$0	\$92,194	\$1,882	\$418,112	\$522,640	\$627,167	\$1,914,090	\$390,143	\$170,249	\$785,775	\$567,923	3.1
Low Income Energy Efficiency	2009	4,293,586	1,751	\$47,876	\$110,593	\$2,257	\$110,593	\$2,257	\$547,150	\$820,725	\$1,346,309	\$2,873,347	\$585,665	\$255,570	\$1,275,273	\$756,839	2.1
	2010	8,587,173	3,501	\$27,357	\$120,647	\$2,462	\$120,647	\$2,462	\$1,094,299	\$1,367,874	\$2,464,638	\$5,746,694	\$1,171,330	\$511,140	\$2,550,546	\$1,513,677	2.3
	2011	8,587,173	3,501	\$27,357	\$121,648	\$2,483	\$121,648	\$2,483	\$1,094,299	\$1,367,874	\$2,464,638	\$5,746,694	\$1,171,330	\$511,140	\$2,550,546	\$1,513,677	2.3
	2012	8,587,173	3,501	\$27,357	\$122,658	\$2,503	\$122,658	\$2,503	\$1,094,299	\$1,367,874	\$2,464,638	\$5,746,694	\$1,171,330	\$511,140	\$2,550,546	\$1,513,677	2.3
Demand Response: Residential A/C Cycling	2009	0	0	\$48,338	\$39,662	\$0	\$0	\$0	\$0	\$88,000	\$88,000	\$0					0.0
	2010	229,965	6,138	\$48,338	\$262,224	\$0	\$83,342	\$67,373	\$164,688	\$625,966	\$625,966	\$647,178					1.0
	2011	462,164	6,198	\$48,338	\$263,446	\$0	\$167,494	\$135,400	\$330,977	\$945,655	\$945,655	\$1,296,824					1.4
	2012	696,619	6,258	\$48,338	\$264,680	\$0	\$252,464	\$204,088	\$498,881	\$1,268,450	\$1,268,450	\$1,954,702					1.5
Commercial Umbrella (Small)	2009	786,115	169	\$3,358	\$29,617	\$604	\$0	\$0	\$67,159	\$100,739	\$245,173	\$638,653	\$130,175	\$56,805	\$316,758	\$134,915	2.6
	2010	1,572,229	337	\$3,358	\$29,617	\$604	\$0	\$0	\$134,318	\$167,898	\$490,346	\$1,277,305	\$260,349	\$113,610	\$633,516	\$269,830	2.6
	2011	1,572,229	337	\$3,358	\$29,617	\$604	\$0	\$0	\$134,318	\$167,898	\$490,346	\$1,277,305	\$260,349	\$113,610	\$633,516	\$269,830	2.6
	2012	1,572,229	337	\$3,358	\$29,617	\$604	\$0	\$0	\$134,318	\$167,898	\$490,346	\$1,277,305	\$260,349	\$113,610	\$633,516	\$269,830	2.6
Office Buildings (Small)	2009	5,317,298	970	\$25,156	\$0	\$0	\$221,878	\$4,528	\$430,126	\$681,689	\$1,658,356	\$4,319,862	\$880,504	\$384,230	\$2,142,559	\$912,569	2.6
	2010	10,634,596	1,940	\$21,456	\$0	\$0	\$189,244	\$3,862	\$859,251	\$1,073,814	\$3,316,712	\$8,639,724	\$1,761,008	\$768,461	\$4,285,118	\$1,825,138	2.6
	2011	10,634,596	1,940	\$21,156	\$0	\$0	\$186,598	\$3,808	\$845,251	\$1,056,814	\$3,316,712	\$8,639,724	\$1,761,008	\$768,461	\$4,285,118	\$1,825,138	2.6
	2012	10,634,596	1,940	\$20,756	\$0	\$0	\$183,070	\$3,736	\$834,251	\$1,041,814	\$3,316,712	\$8,639,724	\$1,761,008	\$768,461	\$4,285,118	\$1,825,138	2.6
Retail Segments (Small)	2009	1,817,890	390	\$7,765	\$0	\$0	\$68,490	\$1,398	\$155,305	\$232,958	\$566,963	\$1,476,884	\$301,029	\$131,362	\$732,503	\$311,991	2.6
	2010	3,635,780	780	\$7,765	\$0	\$0	\$68,490	\$1,398	\$310,611	\$388,264	\$1,133,925	\$2,953,769	\$602,057	\$262,723	\$1,465,006	\$623,982	2.6
	2011	3,635,780	780	\$7,765	\$0	\$0	\$68,490	\$1,398	\$310,611	\$388,264	\$1,133,925	\$2,953,769	\$602,057	\$262,723	\$1,465,006	\$623,982	2.6
	2012	3,635,780	780	\$7,765	\$0	\$0	\$68,490	\$1,398	\$310,611	\$388,264	\$1,133,925	\$2,953,769	\$602,057	\$262,723	\$1,465,006	\$623,982	2.6
Education (Small)	2009	1,031,775	221	\$4,407	\$38,873	\$793	\$0	\$0	\$88,146	\$132,219	\$321,790	\$838,232	\$170,854	\$74,557	\$415,745	\$177,076	2.6
	2010	2,063,551	443	\$4,407	\$38,873	\$793	\$0	\$0	\$176,293	\$220,366	\$643,579	\$1,676,463	\$341,708	\$149,113	\$831,490	\$354,152	2.6
	2011	2,063,551	443	\$4,407	\$38,873	\$793	\$0	\$0	\$176,293	\$220,366	\$643,579	\$1,676,463	\$341,708	\$149,113	\$831,490	\$354,152	2.6
	2012	2,063,551	443	\$4,407	\$38,873	\$793	\$0	\$0	\$176,293	\$220,366	\$643,579	\$1,676,463	\$341,708	\$149,113	\$831,490	\$354,152	2.6

Section 10 - Appendix D

Program Name	Year	Savings kWh	Savings kW	Admin Cost EDC (Portfolio)	Direct Program Costs					Total Program Cost	TRC Cost	Program Benefits	Benefits				TRC
					EDC Labor	EDC Materials	CSP Labor	CSP Materials	Incentives				Capacity		Energy		
													Generation	Trans/Dist	Peak	Off Peak	
Industrial Umbrella (Small)	2009	368,716	57	\$3,683	\$32,481	\$663	\$0	\$0	\$33,124	\$69,950	\$65,542	\$248,613	\$50,674	\$22,113	\$100,300	\$75,525	3.8
	2010	737,432	114	\$4,825	\$42,557	\$869	\$0	\$0	\$43,399	\$91,650	\$131,084	\$497,225	\$101,348	\$44,226	\$200,601	\$151,051	3.8
	2011	737,432	114	\$4,825	\$42,557	\$869	\$0	\$0	\$43,399	\$91,650	\$131,084	\$497,225	\$101,348	\$44,226	\$200,601	\$151,051	3.8
	2012	737,432	114	\$4,825	\$42,557	\$869	\$0	\$0	\$43,399	\$91,650	\$131,084	\$497,225	\$101,348	\$44,226	\$200,601	\$151,051	3.8
Industrial Mixed (Small)	2009	2,778,590	429	\$27,752	\$0	\$0	\$244,774	\$4,995	\$249,615	\$527,137	\$493,917	\$1,873,509	\$381,871	\$166,639	\$755,850	\$569,148	3.8
	2010	5,557,180	858	\$36,361	\$0	\$0	\$320,706	\$6,545	\$327,048	\$690,661	\$987,833	\$3,747,018	\$763,743	\$333,279	\$1,511,700	\$1,138,297	3.8
	2011	5,557,180	858	\$36,361	\$0	\$0	\$320,706	\$6,545	\$327,048	\$690,661	\$987,833	\$3,747,018	\$763,743	\$333,279	\$1,511,700	\$1,138,297	3.8
	2012	5,557,180	858	\$36,361	\$0	\$0	\$320,706	\$6,545	\$327,048	\$690,661	\$987,833	\$3,747,018	\$763,743	\$333,279	\$1,511,700	\$1,138,297	3.8
Demand Response: Small & Mid-Sized C/I	2009	0	0	\$17,029	\$22,971	\$0	\$0	\$0	\$0	\$40,000	\$40,000	\$0					0.0
	2010	111,974	2,592	\$17,029	\$105,971	\$0	\$25,110	\$20,250	\$51,840	\$220,200	\$220,200	\$276,473					1.3
	2011	223,949	2,592	\$17,029	\$105,971	\$0	\$50,220	\$40,500	\$103,680	\$317,400	\$317,400	\$552,946					1.7
	2012	335,923	2,592	\$17,029	\$105,971	\$0	\$75,330	\$60,750	\$155,520	\$414,600	\$414,600	\$829,419					2.0
Commercial Umbrella (Large)	2009	1,895,155	407	\$8,095	\$71,401	\$1,457	\$0	\$0	\$161,906	\$242,859	\$591,060	\$1,539,655	\$313,823	\$136,945	\$763,636	\$325,252	2.6
	2010	3,790,309	813	\$8,095	\$71,401	\$1,457	\$0	\$0	\$323,812	\$404,766	\$1,182,120	\$3,079,311	\$627,646	\$273,889	\$1,527,272	\$650,503	2.6
	2011	3,790,309	813	\$8,095	\$71,401	\$1,457	\$0	\$0	\$323,812	\$404,766	\$1,182,120	\$3,079,311	\$627,646	\$273,889	\$1,527,272	\$650,503	2.6
	2012	3,790,309	813	\$8,095	\$71,401	\$1,457	\$0	\$0	\$323,812	\$404,766	\$1,182,120	\$3,079,311	\$627,646	\$273,889	\$1,527,272	\$650,503	2.6
Office Buildings (Large)	2009	10,100,000	2,200	\$40,700	\$0	\$0	\$358,974	\$7,326	\$887,000	\$1,294,000	\$3,149,983	\$8,205,409	\$1,672,482	\$729,830	\$4,069,707	\$1,733,389	2.6
	2010	20,200,000	4,400	\$44,400	\$0	\$0	\$391,608	\$7,992	\$1,775,000	\$2,219,000	\$6,299,965	\$16,410,818	\$3,344,965	\$1,459,661	\$8,139,413	\$3,466,779	2.6
	2011	20,400,000	4,400	\$44,700	\$0	\$0	\$394,254	\$8,046	\$1,789,000	\$2,236,000	\$6,299,965	\$16,410,818	\$3,344,965	\$1,459,661	\$8,139,413	\$3,466,779	2.6
	2012	20,600,000	4,400	\$45,100	\$0	\$0	\$397,782	\$8,118	\$1,800,000	\$2,251,000	\$6,299,965	\$16,410,818	\$3,344,965	\$1,459,661	\$8,139,413	\$3,466,779	2.6
Healthcare (Large)	2009	5,697,697	1,222	\$24,338	\$214,663	\$4,381	\$0	\$0	\$486,764	\$730,146	\$1,776,995	\$4,628,904	\$943,495	\$411,718	\$2,295,837	\$977,854	2.6
	2010	11,395,394	2,445	\$24,338	\$214,663	\$4,381	\$0	\$0	\$973,528	\$1,216,910	\$3,553,990	\$9,257,809	\$1,886,990	\$823,436	\$4,591,675	\$1,955,708	2.6
	2011	11,395,394	2,445	\$24,338	\$214,663	\$4,381	\$0	\$0	\$973,528	\$1,216,910	\$3,553,990	\$9,257,809	\$1,886,990	\$823,436	\$4,591,675	\$1,955,708	2.6
	2012	11,395,394	2,445	\$24,338	\$214,663	\$4,381	\$0	\$0	\$973,528	\$1,216,910	\$3,553,990	\$9,257,809	\$1,886,990	\$823,436	\$4,591,675	\$1,955,708	2.6
Retail Segments (Large)	2009	4,382,545	940	\$18,720	\$0	\$0	\$165,114	\$3,370	\$374,408	\$561,612	\$1,366,826	\$3,560,453	\$725,716	\$316,685	\$1,765,908	\$752,144	2.6
	2010	8,765,090	1,881	\$18,720	\$0	\$0	\$165,114	\$3,370	\$748,816	\$936,020	\$2,733,652	\$7,120,906	\$1,451,432	\$633,369	\$3,531,816	\$1,504,288	2.6
	2011	8,765,090	1,881	\$18,720	\$0	\$0	\$165,114	\$3,370	\$748,816	\$936,020	\$2,733,652	\$7,120,906	\$1,451,432	\$633,369	\$3,531,816	\$1,504,288	2.6
	2012	8,765,090	1,881	\$18,720	\$0	\$0	\$165,114	\$3,370	\$748,816	\$936,020	\$2,733,652	\$7,120,906	\$1,451,432	\$633,369	\$3,531,816	\$1,504,288	2.6
Education (Large)	2009	2,487,390	534	\$10,625	\$93,713	\$1,913	\$0	\$0	\$212,502	\$318,753	\$775,766	\$2,020,798	\$411,893	\$179,740	\$1,002,272	\$426,893	2.6
	2010	4,974,781	1,067	\$10,625	\$93,713	\$1,913	\$0	\$0	\$425,004	\$531,255	\$1,551,532	\$4,041,595	\$823,786	\$359,480	\$2,004,544	\$853,785	2.6
	2011	4,974,781	1,067	\$10,625	\$93,713	\$1,913	\$0	\$0	\$425,004	\$531,255	\$1,551,532	\$4,041,595	\$823,786	\$359,480	\$2,004,544	\$853,785	2.6
	2012	4,974,781	1,067	\$10,625	\$93,713	\$1,913	\$0	\$0	\$425,004	\$531,255	\$1,551,532	\$4,041,595	\$823,786	\$359,480	\$2,004,544	\$853,785	2.6
Industrial Umbrella (Large)	2009	888,895	137	\$8,878	\$78,305	\$1,598	\$0	\$0	\$79,854	\$168,636	\$158,008	\$599,352	\$122,164	\$53,309	\$241,803	\$182,076	3.8
	2010	1,777,790	275	\$11,632	\$102,597	\$2,094	\$0	\$0	\$104,626	\$220,948	\$316,017	\$1,198,704	\$244,328	\$106,619	\$483,606	\$364,151	3.8
	2011	1,777,790	275	\$11,632	\$102,597	\$2,094	\$0	\$0	\$104,626	\$220,948	\$316,017	\$1,198,704	\$244,328	\$106,619	\$483,606	\$364,151	3.8
	2012	1,777,790	275	\$11,632	\$102,597	\$2,094	\$0	\$0	\$104,626	\$220,948	\$316,017	\$1,198,704	\$244,328	\$106,619	\$483,606	\$364,151	3.8

Program Name	Year	Savings kWh	Savings kW	Admin Cost EDC (Portfolio)	Direct Program Costs					Total Program Cost	TRC Cost	Program Benefits	Benefits				TRC
					EDC Labor	EDC Materials	CSP Labor	CSP Materials	Incentives				Capacity		Energy		
													Generation	Trans/Dist	Peak	Off Peak	
Primary Metals (Large)	2009	8,569,603	1,324	\$85,592	\$0	\$0	\$754,922	\$15,407	\$769,851	\$1,625,772	\$1,523,316	\$5,778,193	\$1,177,751	\$513,942	\$2,331,158	\$1,755,342	3.8
	2010	17,139,207	2,647	\$112,144	\$0	\$0	\$989,108	\$20,186	\$1,008,668	\$2,130,105	\$3,046,632	\$11,556,385	\$2,355,501	\$1,027,883	\$4,662,317	\$3,510,684	3.8
	2011	17,139,207	2,647	\$112,144	\$0	\$0	\$989,108	\$20,186	\$1,008,668	\$2,130,105	\$3,046,632	\$11,556,385	\$2,355,501	\$1,027,883	\$4,662,317	\$3,510,684	3.8
	2012	17,139,207	2,647	\$112,144	\$0	\$0	\$989,108	\$20,186	\$1,008,668	\$2,130,105	\$3,046,632	\$11,556,385	\$2,355,501	\$1,027,883	\$4,662,317	\$3,510,684	3.8
Chemicals (Large)	2009	3,114,336	481	\$31,106	\$0	\$0	\$274,351	\$5,599	\$279,776	\$590,832	\$553,598	\$2,099,891	\$428,014	\$186,775	\$847,181	\$637,920	3.8
	2010	6,228,671	962	\$40,755	\$0	\$0	\$359,458	\$7,336	\$366,566	\$774,116	\$1,107,196	\$4,199,781	\$856,028	\$373,550	\$1,694,363	\$1,275,841	3.8
	2011	6,228,671	962	\$40,755	\$0	\$0	\$359,458	\$7,336	\$366,566	\$774,116	\$1,107,196	\$4,199,781	\$856,028	\$373,550	\$1,694,363	\$1,275,841	3.8
	2012	6,228,671	962	\$40,755	\$0	\$0	\$359,458	\$7,336	\$366,566	\$774,116	\$1,107,196	\$4,199,781	\$856,028	\$373,550	\$1,694,363	\$1,275,841	3.8
Demand Response: Curtailable Load for Large C/I	2009	0	0	\$6,918	\$53,082	\$0	\$0	\$0	\$0	\$60,000	\$60,000	\$0					0.0
	2010	172,800	3,600	\$6,918	\$53,082	\$0	\$4,320	\$1,800	\$46,656	\$112,776	\$112,776	\$388,656					3.4
	2011	345,600	3,600	\$6,918	\$53,082	\$0	\$8,640	\$3,600	\$93,312	\$165,552	\$165,552	\$777,312					4.7
	2012	518,400	3,600	\$6,918	\$53,082	\$0	\$12,960	\$5,400	\$139,968	\$218,328	\$218,328	\$1,165,968					5.3
Governmental / Non-Profit	2009	8,973,397	2,884	\$57,913	\$510,796	\$10,424	\$0	\$0	\$1,158,267	\$1,737,401	\$2,621,204	\$6,461,545	\$1,317,036	\$574,722	\$2,935,041	\$1,634,745	2.5
	2010	17,946,794	5,768	\$57,913	\$510,796	\$10,424	\$0	\$0	\$2,316,535	\$2,895,668	\$5,242,409	\$12,923,090	\$2,634,072	\$1,149,445	\$5,870,082	\$3,269,491	2.5
	2011	17,946,794	5,768	\$57,913	\$510,796	\$10,424	\$0	\$0	\$2,316,535	\$2,895,668	\$5,242,409	\$12,923,090	\$2,634,072	\$1,149,445	\$5,870,082	\$3,269,491	2.5
	2012	17,946,794	5,768	\$57,913	\$510,796	\$10,424	\$0	\$0	\$2,316,535	\$2,895,668	\$5,242,409	\$12,923,090	\$2,634,072	\$1,149,445	\$5,870,082	\$3,269,491	2.5
Total		571,349,629	199,182	\$2,480,106	\$7,607,518	\$127,026	\$13,639,070	\$803,633	\$53,526,453	\$78,183,806	\$170,937,341	\$317,090,302					1.9

Appendix E

Calculation methods and assumptions. Describe methods used for estimating all program costs, including administrative, marketing, and incentives costs; include key assumptions. Describe assumptions and present all calculations, data and results in a consistent format. Reference Appendix D.

As described under Sections 1 and 3, the program planning process was initiated by first performing an energy efficiency potential forecast. The energy efficiency potential forecast inputs, assumptions and analytical methodology are documented in The EEC & DR Study. Forecast findings include annual achievable energy and demand savings, programs costs and cost-effectiveness calculations. As described in exhaustive detail above and in the Study, through use of the forecast model, program planning was performed.

Program planning incorporated planning assumptions identical to those identified in the Study. Program impact projections are based on proportional scaling of forecast annual achievable savings impacts and demand reductions. Key planning assumptions include customer sector statistics, applicable measures and measure savings; end-use saturations, customer retail rates, utility avoided costs, emissions rates and baseline planning budget allocations of administration costs and incentive costs, as well as measure incentive levels and are described in EEC & DR Study Energy Efficiency Potential Forecast, Summary of Analytical Steps, Step – 1 Develop key Energy Efficiency Forecast Inputs and Assumptions and referenced in Study Attachments 1 through 14.

The program planning process incorporates measure specific market saturations, annual energy savings, peak period demand reductions, estimated operating life, annual hourly savings profiles, incremental costs, incentive amounts and program administrative costs for 57 residential customer measures, 78 commercial customer measures and 136 industrial customer measures applied in 6 residential dwelling types, 10 commercial building types and 16 industrial market segments; 3,298 unique measure/building applications. The analysis processes, key assumptions, calculations and findings are presented in the Study as well as by reference to more than 130 pages of supporting attachments. Please refer to the description of the analytical process in Section 3 as well to the multiple references provided therein that documents all “calculations, data and results” requested.

Table 1.3: Portfolio Impacts - Cumulative 2009-2012 Savings

	Cumulative Goals				Cumulative Program Administrators Projections (Compliance Filing or as Revised)				Installed Savings - TYD (Cumulative, Inception-to-Date)				Installed Savings - % of Goal (% of Cumulative Goals)			
	2009	2010	2011	2012	2009	2010	2011	2012	2009	2010	2011	2012	2009	2010	2011	2012
Residential - Net Summer Peak kW																
Residential - Net Annual kWh																
Large Commercial/ Industrial - Net Summer Peak kW																
Large Commercial/ Industrial - Net Annual kWh																
Small Commercial/ Industrial - Net Summer Peak kW																
Small Commercial/ Industrial - Net Annual kWh																
Low Income - Net Summer Peak kW																
Low Income - Net Annual kWh																
Governmental/ Non-profit - Net Summer Peak kW																
Governmental/ Non-profit - Net Annual kWh																

Table 1.4: Portfolio Impacts - Aggregated End Use

	Annual kWh	Peak kW
Residential		
Appliances		
Consumer Electronics		
Cooking Appliances		
HVAC		
Lighting		
Pool Pump		
Refrigeration		
Water Heating		
Other		
Low Income		
Demand Response		
Large Commercial/Industrial		
HVAC		
Lighting		
Office		
Process		
Refrigeration		
Other		
Other - Demand Response		
Small Commercial/Industrial		
HVAC		
Lighting		
Office		
Process		
Refrigeration		
Other		
Other - Demand Response		
Governmental / Non-profit		
Total Portfolio		

Table 1.5: Portfolio Impacts - Market Sector

	Annual kWh
Residential	
Single Family	
Multi Family	
Mobile Homes	
Commercial/Industrial	
Commercial	
Industrial	
Other - Demand Response	
Low Income Energy Efficiency	
Public Agency Energy Efficiency	
Total Portfolio	

Appendix F

**Duquesne Light Company
Demand Response Program Report
Aggregate Measurement and Reporting of Program Results
Year XXXX**

For Period May 1 to September 30

Program Description	Program Indices	Residential	Small C/I	Large C/I
	A. Proposed			
	1) Total kW Available			
	2) Total kW Reduction			
	a) Actual kW Reduction Commitment			
	b) Estimate KW Reduction Commitment			
	3) Total Estimated Opportunity Hours			
	4) Total kWh Potential			
	B. Actual			
	5) Total kWh Reduction			
	6) Total Opportunity Hours			
	7) Average kW Reduction			
	8) KW Reduction @ System Peak			
	9) # Customers Eligible to Participate			
	10) # Customers in Program			
	11) # Customers Reducing Load			
	C. Program Results			
	12) % kW Participation			
	13) % kWh Potential Achieved			
	14) % Customers Participating			

- a) Information in subsection A to be filed in conjunction with the Annual Resource Planning Report filing by May 1 each year.
- b) Information in subsections B and C to be filed by December 1 each year.

Appendix F

Duquesne Light Company
Energy Efficiency and Demand Response Summary Report
Quarter Ending XX, Program Year XXXX

EEC & DR Programs - 2009-2012 Savings

(Cumulative, Inception-to-Date)

Energy Efficiency Programs	2009 Installed	2010 Installed	2010 Goal	% of Goal	2011 Installed	2012 Installed	2012 Goal	% of Goal
Energy Efficiency Program - Net Summer Peak kW								
Energy Efficiency Program - Net Annual kWh								
Low Income - Net Summer Peak kW							6,883	
Low Income - Net Annual kWh			8,580,945				25,737,535	
Governmental / Non-profit - Net Summer Peak kW							11,300	
Governmental / Non-profit - Net Annual kWh			14,088,512				42,256,535	
Total Energy Efficiency Program - Net Summer Peak kW							113,000	
Total Energy Efficiency Program - Net Annual kWh			140,885,117				422,565,351	

Demand Response Programs	2009 Installed	2010 Installed			2011 Installed	2012 Installed	2012 Goal	% of Goal
Demand Response Program - Net Summer Peak kW								
Demand Response Program - Net Annual kWh								

Total EEC & DR Programs	2009 Installed	2010 Installed	2010 Goal	% of Goal	2011 Installed	2012 Installed	2012 Goal	% of Goal
EEC & DR Program - Net Summer Peak kW								
EEC & DR Program - Net Annual kWh								
Low Income - Net Summer Peak kW							6,883	
Low Income - Net Annual kWh			8,580,945				25,737,535	
Governmental / Non-profit - Net Summer Peak kW							11,300	
Governmental / Non-profit - Net Annual kWh			14,088,512				42,256,535	
Total EEC & DR Programs - Net Summer Peak kW							113,000	
Total EEC & DR Programs - Net Annual kWh			140,885,117				422,565,351	

11. Tables for Pennsylvania EDC Energy Efficiency and Conservation Plans

To be submitted by EDCs by July 1, 2009

Contents

- The tables attached on this word document are for illustrative purposes only.
 - A master excel spreadsheet is uploaded on the Commission website. Each EDC is directed to use the master spreadsheet when populating the following tables.
1. Portfolio Summary of Lifetime Costs and Benefits
 2. Summary of Portfolio Energy and Demand Savings
 3. Summary of Portfolio Costs
 4. Program Summaries
 5. Budget and Parity Analysis Summary
 6. Cost Recovery
 - A. Portfolio-Specific Assignment of EE&C Costs
 - B. Allocation of Common Costs to Applicable Customer Sector
 - C. Summary of Portfolio EE&C Costs
 7. TRC Benefits Table (7A – 7E)

Table 1: Portfolio Summary of Lifetime Costs and Benefits

Notes:

o Net Lifetime Benefits, and TRC per the California Standard Practice Manual

Portfolio	Discount Rate	Total Discounted Lifetime Costs (\$000)	Total Discounted Lifetime Benefits (\$000)	Total Discounted Net Lifetime Benefits (\$000)	Cost-Benefit Ratio	TRC[1]
Residential (exclusive of Low-Income)						
Residential Low-Income	6.9%	\$15,022,964	\$95,632,188	\$80,609,225	6.4	3.0
Commercial/ Industrial Small	6.9%	\$4,131,925	\$16,933,805	\$12,801,880	4.1	2.3
Commercial/ Industrial Large	6.9%	\$8,068,451	\$55,005,460	\$46,937,009	6.8	2.9
Governmental / Non-Profit	6.9%	\$34,701,408	\$204,662,623	\$169,961,215	5.9	2.9
Total Energy Efficiency	6.9%	\$8,746,918	\$37,827,759	\$29,080,841	4.3	2.5
Res. A/C Cycling	6.9%	\$2,375,511	\$3,124,717	\$749,206	1.3	1.3
Small C&I A/C Cycling	6.9%	\$807,412	\$1,421,451	\$614,040	1.8	1.8
Large C&I DR	6.9%	\$457,519	\$1,998,226	\$1,540,706	4.4	4.4
Total DR	6.9%	\$3,640,442	\$6,544,394	\$2,903,952	1.8	1.8
EE and DR	6.9%	\$74,312,107	\$416,606,229	\$342,294,122	5.6	2.8

Table 2: Summary of Portfolio Energy and Demand Savings

o Program Year is June 1 – May 31

MWh Saved for Consumption Reductions kW Saved for Peak Load Reductions	Program Year 2009		Program Year 2010		Program Year 2011		Program Year 2012	
	MWh Saved	kW Saved	MWh Saved	kW Saved	MWh Saved	kW Saved	MWh Saved	kW Saved
Baseline ¹			14,085,512				14,085,512	2,518,000
Residential Sector (exclusive of Low-Income) - Cumulative Projected Portfolio Savings ²	19,127	9,172	56,128	27,183	93,130	45,194	130,131	63,204
Residential Low-Income Sector - Cumulative Projected Portfolio Savings ²	4,294	1,751	12,881	5,252	21,468	8,753	30,055	12,254
Commercial/Industrial Small Sector - Cumulative Projected Portfolio Savings ²	12,100	2,236	36,301	6,708	60,502	11,180	84,703	15,652
Commercial/Industrial Large Sector - Cumulative Net Weather Adjusted Savings ²	37,136	7,245	111,407	21,735	185,878	36,224	260,549	50,714
Governmental / Non-Profit Sector - Cumulative Projected Portfolio Savings ²	8,973	2,884	26,920	8,652	44,867	14,420	62,814	20,187
EEC Plan Total - Cumulative Projected Savings	81,630	23,287	243,637	69,529	405,845	115,770	568,252	162,011
Demand Response: Residential A/C Cycling	0	0	230	6,138	692	12,336	1,389	18,595
Demand Response: Small & Mid-Sized C/I	0	0	112	2,592	336	5,184	672	7,776
Demand Response: Curtailable Load for Large C/I	0	0	173	3,600	1,037	7,200	1,037	10,800
DR Plan Total - Cumulative Projected Savings	0	0	515	12,330	1,546	24,720	3,097	37,171
EEC & DR Plan Total - Cumulative Projected Savings	81,630	23,287	244,152	81,859	407,391	140,490	571,350	199,182
Percent Reduction From Baseline			1.7%				4.1%	7.9%
Commission Identified Goal			140,885				422,565	113,000
Percent Savings Due to Portfolio Above or Below Commission Goal			73%				34%	43%

¹ Commission approved Consumption Forecast and Peak Demand Forecast per Section H of the January 15 Implementation Order. (Template Section 10A & 10B)

² Adjusted for weather and extraordinary load as applicable.

Table 3: Summary of Portfolio Costs

o Program year is June 1 – May 31

	Program Year 2009		Program Year 2010		Program Year 2011		Program Year 2012	
	Portfolio Budget	% Budget						
Residential Portfolio Annual Budget (\$000 and percent of Portfolio Budget)	\$3,217,807	24.5%	\$5,543,866	26.1%	\$5,863,555	27.1%	\$6,186,351	27.9%
Residential Low-Income Portfolio Annual Budget (\$000 and percent of Portfolio Budget)	\$820,725	6.2%	\$1,367,874	6.5%	\$1,367,874	6.3%	\$1,367,874	6.2%
Commercial/Industrial Small Portfolio Annual Budget (\$000 and percent of Portfolio Budget)	\$47,291	0.4%	\$2,852,852	13.5%	\$2,933,052	13.5%	\$3,015,252	13.6%
Commercial/Industrial Large Portfolio Annual Budget (\$000 and percent of Portfolio Budget)	\$7,330,011	55.7%	\$8,545,896	40.3%	\$8,615,672	39.7%	\$8,683,448	39.2%
Governmental/Non-Profit Portfolio Annual Budget (\$000 and percent of Portfolio Budget)	\$1,737,401	13.2%	\$2,895,668	13.7%	\$2,895,668	13.4%	\$2,895,668	13.1%
Total Portfolio Annual Budget	\$13,153,234	100.0%	\$21,206,156	100.0%	\$21,675,821	100.0%	\$22,148,593	100.0%

Table 4: Program Summaries

o Add additional rows to list more programs.

	Program Name	Program Market	Program Two Sentence Summary	Program Years Operated	Net Lifetime MWh Savings	Net Peak Demand kW Savings	Percentage of Portfolio and Total Lifetime MWh savings %/%	
Residential Portfolio Programs (exclusive of Low Income)	<i>Residential Energy Efficiency</i>	Residential	Reduces cost barrier of homeowners and renters to adopting energy efficiency upgrades. Provides prescriptive rebates on EEC products focused on lighting..	4	113,738	56,044	86%	20%
	<i>Residential: Schools Energy Pledge</i>	Residential	Energy savings take place at home when families adopt energy efficiency measures promoted at school. Offers curriculum, measures and school incentives.	4	4,725	4,253	4%	1%
	<i>Refrigerator Recycling</i>	Residential	The program is offered as a cooperative effort between Allegheny Power and DLCo using a single contractor to provide recycling services in the territories.	4	11,668	2,908	9%	2%
	<i>Demand Response: Residential A/C Cycling</i>	Residential	CSP installs load cycling switches on the air conditioner condensing units for summer cycling. Customers receive bill credit incentives.	3	1,389	18,595	1%	0.24%
	Totals for Residential Sector					131,520	81,799	100%

Table 4: Program Summaries

o Add additional rows to list more programs.

Residential Low-Income Sector Programs	<i>Low Income Energy Efficiency</i>	Low-Income	Energy efficiency partnerships with regional housing authorities. Develops project agreements to implement measures co-funded by DLCo and public agencies	4	30,055	12,254	100%	5%
	Totals for Low-Income Sector			30,055	12,254	100%	-	

Table 4: Program Summaries

o Add additional rows to list more programs.

Commercial/ Industrial Small Sector Programs	<i>Commercial Umbrella (Small)</i>	Commercial	Serves all commercial customers and establishes the terms, conditions and incentive levels for the remaining commercial sub-programs.	4	5,503	1,181	6%	1%
	<i>Office Buildings (Small)</i>	Commercial	Contractor/CSP serves <300kW small office buildings providing energy audits, program assistance and incentives per the commercial sector umbrella program.	4	37,221	6,789	44%	6%
	<i>Retail Segments (Small)</i>	Commercial	Contractor/CSP services and incentives for retail stores, grocery stores and restaurants <300kW. Incentives per the commercial sector umbrella program.	4	12,725	2,730	15%	2%
	<i>Education (Small)</i>	Commercial	Energy audits, program assistance and incentives for community colleges and primary schools. Incentives per the commercial sector umbrella program.	4	7,222	1,550	8%	1%
	<i>Industrial Umbrella (Small)</i>	Industrial	Serves all industrial customers and establishes the terms, conditions and incentive levels for the remaining industrial sub-programs.	4	2,581	399	3%	0.4%
	<i>Industrial Mixed (Small)</i>	Industrial	By stakeholder request, provides CSP services and incentives to small industrial customers <300kW. Incentive levels per the industrial umbrella program.	4	19,450	3,004	23%	3%
	<i>Demand Response: Small & Mid-Sized Commercial/Industrial</i>	Small C&I	CSP installs load cycling switches on the air conditioner condensing units offices, retail and restaurant facilities <300 kW. Customers receive bill credit incentives.	3	672	7,776	0.8%	0.12%
	<i>Totals for C/I Small Sector</i>				85,375	23,428	99%	-

Table 4: Program Summaries

o Add additional rows to list more programs.

Commercial/ Industrial Large Sector Programs	<i>Commercial Umbrella (Large)</i>	Commercial	Serves all commercial customers and establishes the terms, conditions and incentive levels for the remaining commercial sub-programs.	4	13,266	2,846	5%	2%
	<i>Office Buildings (Large)</i>	Commercial	Contractor/CSP serves >=300kW large office buildings providing energy audits, program assistance and incentives per the commercial sector umbrella program.	4	71,300	15,400	27%	12%
	<i>Healthcare (Large)</i>	Commercial	Engages regional health care systems, provides framework for comprehensive energy management at medical office buildings and acute care facilities.	4	39,884	8,557	15%	7%
	<i>Retail Segments (Large)</i>	Commercial	Contractor/CSP services and incentives for retail stores, grocery stores and restaurants >=300kW. Incentives per the commercial sector umbrella program.	4	30,678	6,582	12%	5%
	<i>Education (Large)</i>	Commercial	Energy audits, program assistance and incentives for colleges and universities. Incentives per the commercial sector umbrella program.	4	17,412	3,736	7%	3%
	<i>Industrial Umbrella (Large)</i>	Industrial	Serves all industrial customers and establishes the terms, conditions and incentive levels for the remaining industrial sub-programs.	4	6,222	961	2%	1%
	<i>Primary Metals (Large)</i>	Industrial	Specilaized contractor/CSP services and incentives for primary metals product manufacturing. Incentive levels per the industrial umbrella program.	4	59,987	9,265	23%	10%
	<i>Chemicals (Large)</i>	Industrial	Specilaized contractor/CSP services and incentives for chemcial products manufacturing. Incentive levels per the industrial umbrella program.	4	21,800	3,367	8%	4%
	<i>Demand Response: Curtailable Load for Large Commercial/Industrial</i>	Large C&I	Customers reduce summer load when called. They receive communications system at half-price and incentives based on wholesale energy prices.	3	1,037	10,800	0.4%	0.18%
	<i>Totals for C/I Large Sector</i>					261,586	61,514	100%

Table 4: Program Summaries

o Add additional rows to list more programs.

	Program Name	Program Market	Program Two Sentence Summary	Program Years Operated	Net Lifetime MWh Savings	Net Peak Demand kW Savings	Percentage of Portfolio and Total Lifetime MWh savings %/ %	
Governmental / Non-Profit Sector Programs	<i>Governmental / Non-Profit</i>	Public Agencies	Partnerships are formed via MOU with local governmental agencies. Working groups develop project agreements to co-fund agreed to projects.	4	62,814	20,187	100%	10.99%
	Totals for Gov't/NP Sector Programs				62,814	20,187	100%	-
Total for Portfolio					571,350	199,182	-	100%

Table 5: Budget and Parity Analysis Summary
 o Through program year 2012

Customer Class	Budget	% of Total EDC Budget	% of Total Budget Excluding Other Expenditures	% of Total Customer Revenue	Difference
Residential	\$20,811,579	26.6%	26.6%	47.8%	
Residential Low Income	\$4,924,348	6.3%	6.3%	6.3%	
Residential Subtotal	\$25,735,926	32.9%	32.9%	54.1%	-21.2%
C&I Small	\$10,585,848	13.5%	13.5%	12.1%	
C&I Large	\$31,437,626	40.2%	40.2%	28.6%	
C&I Subtotal	\$42,023,474	53.7%	53.7%	40.7%	13.0%
Governmental/Non-Profit	\$10,424,406	13.3%	13.3%	5.2%	
Governmental/Non-Profit Subtotal	\$10,424,406	13.3%	13.3%	5.2%	8.2%
Residential/C&I/Governmental/Non-Profit Subtotal	\$78,183,806	100.0%	100.0%	100.0%	
Other Expenditures					
Other Expenditures Subtotal	0	0.0%			
EDC TOTAL	\$78,183,806	100.0%			

Table 6A: Portfolio-Specific Assignment of EE&C Costs ¹

Table 6A: Portfolio-Specific Assignment of EE&C Costs ¹

Residential Portfolio							
EE&C Program ²	Cost Elements (\$) ³						Totals
	<i>Portfolio Administration</i>	<i>Program Administration*</i>	<i>Incentives</i>				
<i>Residential Energy Efficiency</i>	\$309,808	\$2,788,268	\$10,903,264				\$14,001,339
<i>Residential: Schools Energy Pledge</i>	\$137,067	\$1,233,600	\$630,000				\$2,000,667
<i>Refrigerator Recycling</i>	\$41,811	\$376,300	\$1,463,391				\$1,881,502
<i>Low Income Energy Efficiency</i>	\$123,800	\$970,499	\$3,830,048				\$4,924,348
<i>Demand Response: Residential A/C Cycling</i>	\$193,352	\$1,740,172	\$994,546				\$2,928,070
Totals	\$805,838	\$7,108,839	\$17,821,249				\$25,735,926

* Program Administration cost includes marketing and outreach costs.

Small Commercial/Industrial Portfolio							
EE&C Program ²	Cost Elements (\$) ³						Totals
	<i>Portfolio Administration</i>	<i>Program Administration*</i>	<i>Incentives</i>				
<i>Commercial Umbrella (Small)</i>	\$13,432	\$120,886	\$470,114				\$604,432
<i>Office Buildings (Small)</i>	\$88,525	\$796,726	\$2,968,880				\$3,854,131
<i>Retail Segments (Small)</i>	\$31,061	\$279,550	\$1,087,138				\$1,397,749
<i>Education (Small)</i>	\$17,629	\$158,663	\$617,024				\$793,317
<i>Industrial Umbrella (Small)</i>	\$18,158	\$163,422	\$163,320				\$344,900
<i>Industrial Mixed (Small)</i>	\$136,836	\$1,231,524	\$1,230,759				\$2,599,119
<i>Demand Response: Small & Mid-Sized C/I</i>	\$68,116	\$613,044	\$311,040				\$992,200
Totals	\$373,757	\$3,363,815	\$6,848,275				\$10,585,848

Table 6A: Portfolio-Specific Assignment of EE&C Costs ¹

Large Commercial/Industrial Portfolio							
EE&C Program ²	Cost Elements (\$) ³						Totals
	<i>Portfolio Administration</i>	<i>Program Administration*</i>	<i>Incentives</i>				
<i>Commercial Umbrella (Large)</i>	\$32,381	\$291,431	\$1,133,344				\$1,457,156
<i>Office Buildings (Large)</i>	\$174,900	\$1,574,100	\$6,251,000				\$8,000,000
<i>Healthcare (Large)</i>	\$97,353	\$876,175	\$3,407,347				\$4,380,875
<i>Retail Segments (Large)</i>	\$74,882	\$673,935	\$2,620,857				\$3,369,674
<i>Education (Large)</i>	\$42,500	\$382,503	\$1,487,514				\$1,912,517
<i>Industrial Umbrella (Large)</i>	\$43,775	\$393,975	\$393,731				\$831,481
<i>Primary Metals (Large)</i>	\$422,023	\$3,798,211	\$3,795,853				\$8,016,088
<i>Chemicals (Large)</i>	\$153,370	\$1,380,333	\$1,379,476				\$2,913,179
<i>Demand Response: Curtailable Load for Large C/I</i>	\$27,672	\$249,048	\$279,936				\$556,656
Totals	\$1,068,857	\$9,619,711	\$20,749,057				\$31,437,626

Public Agency Portfolio							
EE&C Program ²	Cost Elements (\$) ³						Totals
	<i>Portfolio Administration</i>	<i>Program Administration*</i>	<i>Incentives</i>				
<i>Governmental / Non-Profit</i>	\$231,653	\$2,084,881	\$8,107,871				\$10,424,406
Totals	\$231,653	\$2,084,881	\$8,107,871				\$10,424,406

Totals	\$2,480,106	\$22,177,247	\$53,526,453				\$78,183,806
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Table 6B: Allocation of Common Costs to Applicable Customer Sector

Common Cost Element ¹	Total Cost (\$)	Basis for Cost Allocation ²	Class Cost Allocation (\$)			
			Residential (Including Low-Income)	Commercial/Industrial -- Small	Commercial/Industrial -- Large	Governmental/Non-profit
Portfolio Administration	\$2,480,106	10% Program Administration	\$805,838	\$373,757	\$1,068,857	\$231,653
Totals	\$2,480,106		\$805,838	\$373,757	\$1,068,857	\$231,653

Notes:

¹ List all identified cost elements that are determined to be applicable to multiple customer sectors, or are common across all sectors. Because cost elements may vary for each EDC and program, the EDC should designate cost elements at its discretion, an

² Provide a brief explanation of the methodology used to allocate each common cost element to the applicable customer sectors.

Table 6C: Summary of Customer Sector EE&C Costs

Customer Class	Total Sector Portfolio-specific Costs ¹	Total Common Costs ²	Total of All Costs
Residential (Including Low-Income)	\$24,930,088	\$805,838	\$25,735,926
Commercial/Industrial -- Small	\$10,212,091	\$373,757	\$10,585,848
Commercial/Industrial -- Large	\$30,368,769	\$1,068,857	\$31,437,626
Governmental/ Non-Profit	\$10,192,752	\$231,653	\$10,424,406
Totals	\$75,703,700	\$2,480,106	\$78,183,806

Notes:

¹ Cost figures are to be carried over from the last column ("Totals") of Table 7A.

² Cost figures are to be carried over from the bottom row ("Totals") of Table 7B.

Table 7A: TRC Benefits Table

o Submit yearly projections for each program thru final year of that program for TRC evaluation.

Residential	TRC Benefits By Program Per Year (\$000)													
	Program	Program Year	TRC	Program TRC Costs (\$000)	Program Costs (\$000)	Program Benefits (\$000)	Capacity		Energy		Load Reductions in kW		MWh Saved	
							Annual		Annual		Annual	Lifetime	Annual	Lifetime
							Generation	Trans/Dist	Peak	Off Peak				
<i>Residential Energy Efficiency</i>	2009	2.8	\$5,448	\$2,384	\$15,137	\$3,085	\$1,346	\$7,012	\$3,693	8,149	8,149	16,785	232,043	
	2010	3.0	\$9,785	\$3,873	\$29,145	\$5,941	\$2,592	\$13,502	\$7,110	15,965	15,965	32,318	464,086	
	2011	3.0	\$9,785	\$3,873	\$29,145	\$5,941	\$2,592	\$13,502	\$7,110	15,965	15,965	32,318	464,086	
	2012	3.0	\$9,785	\$3,873	\$29,145	\$5,941	\$2,592	\$13,502	\$7,110	15,965	15,965	32,318	464,086	
<i>Res./Schools Energy Pledge</i>	2009	2.0	\$357	\$433	\$716	\$146	\$64	\$334	\$172	608	608	675	4,320	
	2010	3.5	\$410	\$523	\$1,431	\$292	\$127	\$668	\$344	1,215	1,215	1,350	8,640	
	2011	3.5	\$410	\$523	\$1,431	\$292	\$127	\$668	\$344	1,215	1,215	1,350	8,640	
	2012	3.5	\$410	\$523	\$1,431	\$292	\$127	\$668	\$344	1,215	1,215	1,350	8,640	
<i>Refrigerator Recycling</i>	2009	2.8	\$348	\$314	\$957	\$195	\$85	\$393	\$284	415	415	1,667	13,335	
	2010	3.1	\$627	\$523	\$1,914	\$390	\$170	\$786	\$568	831	831	3,334	26,669	
	2011	3.1	\$627	\$523	\$1,914	\$390	\$170	\$786	\$568	831	831	3,334	26,669	
	2012	3.1	\$627	\$523	\$1,914	\$390	\$170	\$786	\$568	831	831	3,334	26,669	
<i>Demand Response: Residential A/C Cycling</i>	2009	0.0	\$88	\$88	\$0					0	0	0		
	2010	1.0	\$626	\$626	\$647					6,138	6,138	230	230	
	2011	1.4	\$946	\$946	\$1,297					6,198	6,198	462	462	
	2012	1.5	\$1,268	\$1,268	\$1,955					6,258	6,258	697	697	
Total	All		\$41,548	\$20,812	\$118,180	\$23,294	\$10,165	\$52,607	\$28,216	81,799	81,799	131,520	1,749,272	

Table 7B: TRC Benefits Table

o Submit yearly projections for each program thru final year of that program for TRC evaluation.

Residential Low-Income	TRC Benefits By Program Per Year (\$000)													
	Program	Year	TRC	Program TRC Costs	Program Costs (\$000)	Program Benefits (\$000)	Capacity		Energy		Load Reductions in		MWh Saved	
							Annual		Annual		Annual	Lifetime	Annual	Lifetime
							Generator	Trans/Dist	Peak	Off Peak				
<i>Low Income Energy Efficiency</i>	2009	2.1	\$1,346	\$821	\$2,873	\$586	\$256	\$1,275	\$757	1,751	1,751	4,294	42,653	
	2010	2.3	\$2,465	\$1,368	\$5,747	\$1,171	\$511	\$2,551	\$1,514	3,501	3,501	8,587	85,307	
	2011	2.3	\$2,465	\$1,368	\$5,747	\$1,171	\$511	\$2,551	\$1,514	3,501	3,501	8,587	85,307	
	2012	2.3	\$2,465	\$1,368	\$5,747	\$1,171	\$511	\$2,551	\$1,514	3,501	3,501	8,587	85,307	
Total	All	2.3	\$8,740	\$4,924	\$20,113	\$4,100	\$1,789	\$8,927	\$5,298	12,254	12,254	30,055	298,573	

Table 7C: TRC Benefits Table

o Submit yearly projections for each program thru final year of that program for TRC evaluation.

Commercial/Industrial Small	TRC Benefits By Program Per Year (\$000)													
	Program	Year	TRC	Program TRC Costs	Program Costs (\$000)	Program Benefits (\$000)	Capacity		Energy		Load Reductions in		MWh Saved	
							Annual		Annual		Annual	Lifetime	Annual	Lifetime
							Generator	Trans/Dist	Peak	OffPeak				
<i>Commercial Umbrella (Small)</i>	2009	2.6	\$245	\$101	\$639	\$130	\$57	\$317	\$135	169	169	786	9,628	
	2010	2.6	\$490	\$168	\$1,277	\$260	\$114	\$634	\$270	337	337	1,572	19,256	
	2011	2.6	\$490	\$168	\$1,277	\$260	\$114	\$634	\$270	337	337	1,572	19,256	
	2012	2.6	\$490	\$168	\$1,277	\$260	\$114	\$634	\$270	337	337	1,572	19,256	
<i>Office Buildings (Small)</i>	2009	2.6	\$1,658	\$682	\$4,320	\$881	\$384	\$2,143	\$913	970	970	5,317	55,362	
	2010	2.6	\$3,317	\$1,074	\$8,640	\$1,761	\$768	\$4,285	\$1,825	1,940	1,940	10,635	110,725	
	2011	2.6	\$3,317	\$1,057	\$8,640	\$1,761	\$768	\$4,285	\$1,825	1,940	1,940	10,635	110,725	
	2012	2.6	\$3,317	\$1,042	\$8,640	\$1,761	\$768	\$4,285	\$1,825	1,940	1,940	10,635	110,725	
<i>Retail Segments (Small)</i>	2009	2.6	\$567	\$233	\$1,477	\$301	\$131	\$733	\$312	390	390	1,818	22,265	
	2010	2.6	\$1,134	\$388	\$2,954	\$602	\$263	\$1,465	\$624	780	780	3,636	44,531	
	2011	2.6	\$1,134	\$388	\$2,954	\$602	\$263	\$1,465	\$624	780	780	3,636	44,531	
	2012	2.6	\$1,134	\$388	\$2,954	\$602	\$263	\$1,465	\$624	780	780	3,636	44,531	
<i>Education (Small)</i>	2009	2.6	\$322	\$132	\$838	\$171	\$75	\$416	\$177	221	221	1,032	12,637	
	2010	2.6	\$644	\$220	\$1,676	\$342	\$149	\$831	\$354	443	443	2,064	25,274	
	2011	2.6	\$644	\$220	\$1,676	\$342	\$149	\$831	\$354	443	443	2,064	25,274	
	2012	2.6	\$644	\$220	\$1,676	\$342	\$149	\$831	\$354	443	443	2,064	25,274	
<i>Industrial Umbrella (Small)</i>	2009	3.8	\$66	\$70	\$249	\$51	\$22	\$100	\$76	57	57	369	3,688	
	2010	3.8	\$131	\$92	\$497	\$101	\$44	\$201	\$151	114	114	737	7,376	
	2011	3.8	\$131	\$92	\$497	\$101	\$44	\$201	\$151	114	114	737	7,376	
	2012	3.8	\$131	\$92	\$497	\$101	\$44	\$201	\$151	114	114	737	7,376	
<i>Industrial Mixed (Small)</i>	2009	3.8	\$494	\$527	\$1,874	\$382	\$167	\$756	\$569	429	429	2,779	27,791	
	2010	3.8	\$988	\$691	\$3,747	\$764	\$333	\$1,512	\$1,138	858	858	5,557	55,582	
	2011	3.8	\$988	\$691	\$3,747	\$764	\$333	\$1,512	\$1,138	858	858	5,557	55,582	
	2012	3.8	\$988	\$691	\$3,747	\$764	\$333	\$1,512	\$1,138	858	858	5,557	55,582	
<i>DR: Small & Mid-C&I</i>	2009	0.0	\$40	\$40	\$0									
	2010	1.3	\$220	\$220	\$276					2,592	2,592	112		
	2011	1.7	\$317	\$317	\$553					2,592	2,592	224		
	2012	2.0	\$415	\$415	\$829					2,592	2,592	336		
Total	All	2.8	\$24,454	\$10,586	\$67,429	\$13,406	\$5,850	\$31,246	\$15,269	23,428	23,428	85,375	919,602	

Table 7D: TRC Benefits Table

o Submit yearly projections for each program thru final year of that program for TRC evaluation.

Commercial/Industrial Large		TRC Benefits By Program Per Year (\$000)											
Program	Program Year	TRC	Program TRC Costs (\$000)	Program Costs (\$000)	Program Benefits (\$000)	Capacity		Energy		Load		MWh Saved	
						Annual	Annual	Annual	Lifetime	Annual	Lifetime		
						Generation	Trans/Dist	Peak	Off Peak	Annual	Lifetime	Annual	Lifetime
<i>Commercial Umbrella (Large)</i>	2009	2.6	\$591	\$243	\$1,540	\$314	\$137	\$764	\$325	407	407	1,895	23,212
	2010	2.6	\$1,182	\$405	\$3,079	\$628	\$274	\$1,527	\$651	813	813	3,790	46,423
	2011	2.6	\$1,182	\$405	\$3,079	\$628	\$274	\$1,527	\$651	813	813	3,790	46,423
	2012	2.6	\$1,182	\$405	\$3,079	\$628	\$274	\$1,527	\$651	813	813	3,790	46,423
<i>Office Buildings (Large)</i>	2009	2.6	\$3,150	\$1,294	\$8,205	\$1,672	\$730	\$4,070	\$1,733	2,200	2,200	10,100	133,467
	2010	2.6	\$6,300	\$2,219	\$16,411	\$3,345	\$1,460	\$8,139	\$3,467	4,400	4,400	20,200	266,934
	2011	2.6	\$6,300	\$2,236	\$16,411	\$3,345	\$1,460	\$8,139	\$3,467	4,400	4,400	20,200	266,934
	2012	2.6	\$6,300	\$2,251	\$16,411	\$3,345	\$1,460	\$8,139	\$3,467	4,400	4,400	20,200	266,934
<i>Healthcare (Large)</i>	2009	2.6	\$1,777	\$730	\$4,629	\$943	\$412	\$2,296	\$978	1,222	1,222	5,698	69,785
	2010	2.6	\$3,554	\$1,217	\$9,258	\$1,887	\$823	\$4,592	\$1,956	2,445	2,445	11,395	139,569
	2011	2.6	\$3,554	\$1,217	\$9,258	\$1,887	\$823	\$4,592	\$1,956	2,445	2,445	11,395	139,569
	2012	2.6	\$3,554	\$1,217	\$9,258	\$1,887	\$823	\$4,592	\$1,956	2,445	2,445	11,395	139,569
<i>Retail Segments (Large)</i>	2009	2.6	\$1,367	\$562	\$3,560	\$726	\$317	\$1,766	\$752	940	940	4,383	53,677
	2010	2.6	\$2,734	\$936	\$7,121	\$1,451	\$633	\$3,532	\$1,504	1,881	1,881	8,765	107,354
	2011	2.6	\$2,734	\$936	\$7,121	\$1,451	\$633	\$3,532	\$1,504	1,881	1,881	8,765	107,354
	2012	2.6	\$2,734	\$936	\$7,121	\$1,451	\$633	\$3,532	\$1,504	1,881	1,881	8,765	107,354
<i>Education (Large)</i>	2009	2.6	\$776	\$319	\$2,021	\$412	\$180	\$1,002	\$427	534	534	2,487	53,677
	2010	2.6	\$1,552	\$531	\$4,042	\$824	\$359	\$2,005	\$854	1,067	1,067	4,975	107,354
	2011	2.6	\$1,552	\$531	\$4,042	\$824	\$359	\$2,005	\$854	1,067	1,067	4,975	107,354
	2012	2.6	\$1,552	\$531	\$4,042	\$824	\$359	\$2,005	\$854	1,067	1,067	4,975	107,354
<i>Industrial Umbrella (Large)</i>	2009	3.8	\$158	\$169	\$599	\$122	\$53	\$242	\$182	137	137	889	8,891
	2010	3.8	\$316	\$221	\$1,199	\$244	\$107	\$484	\$364	275	275	1,778	17,781
	2011	3.8	\$316	\$221	\$1,199	\$244	\$107	\$484	\$364	275	275	1,778	17,781
	2012	3.8	\$316	\$221	\$1,199	\$244	\$107	\$484	\$364	275	275	1,778	17,781
<i>Primary Metals (Large)</i>	2009	3.8	\$1,523	\$1,626	\$5,778	\$1,178	\$514	\$2,331	\$1,755	1,324	1,324	8,570	85,711
	2010	3.8	\$3,047	\$2,130	\$11,556	\$2,356	\$1,028	\$4,662	\$3,511	2,647	2,647	17,139	171,423
	2011	3.8	\$3,047	\$2,130	\$11,556	\$2,356	\$1,028	\$4,662	\$3,511	2,647	2,647	17,139	171,423
	2012	3.8	\$3,047	\$2,130	\$11,556	\$2,356	\$1,028	\$4,662	\$3,511	2,647	2,647	17,139	171,423
<i>Chemicals (Large)</i>	2009	3.8	\$554	\$591	\$2,100	\$428	\$187	\$847	\$638	481	481	3,114	31,149
	2010	3.8	\$1,107	\$774	\$4,200	\$856	\$374	\$1,694	\$1,276	962	962	6,229	62,298
	2011	3.8	\$1,107	\$774	\$4,200	\$856	\$374	\$1,694	\$1,276	962	962	6,229	62,298
	2012	3.8	\$1,107	\$774	\$4,200	\$856	\$374	\$1,694	\$1,276	962	962	6,229	62,298
<i>DR: Curtailable Large C&I</i>	2009	0.0	\$60	\$60	\$0					0	0	0	
	2010	3.4	\$113	\$113	\$389					3,600	3,600	173	
	2011	4.7	\$166	\$166	\$777					3,600	3,600	346	
	2012	5.3	\$218	\$218	\$1,166					3,600	3,600	518	
Total	All	2.9	\$69,826	\$31,438	\$201,361	\$40,567	\$17,703	\$93,223	\$47,536	61,514	61,514	260,986	3,216,976

Table 7E: TRC Benefits Table

o Submit yearly projections for each program thru final year of that program for TRC evaluation.

Governmental/Non-Profit	TRC Benefits By Program Per Year (\$000)													
	Program	Program Year	TRC	Program TRC Costs	Program Costs (\$000)	Program Benefits (\$000)	Capacity		Energy		Load Reductions in		MWh Saved	
							Annual		Annual		Annual	Lifetime	Annual	Lifetime
							Generation	Trans/Dist	Peak	Off Peak				
<i>Public Agency (Large)</i>	2009	2.5	\$2,621	\$1,737	\$6,462	\$1,317	\$575	\$2,935	\$1,635	2,884	2,884	8,973	96,677	
	2010	2.5	\$5,242	\$2,896	\$12,923	\$2,634	\$1,149	\$5,870	\$3,269	5,768	5,768	17,947	193,354	
	2011	2.5	\$5,242	\$2,896	\$12,923	\$2,634	\$1,149	\$5,870	\$3,269	5,768	5,768	17,947	193,354	
	2012	2.5	\$5,242	\$2,896	\$12,923	\$2,634	\$1,149	\$5,870	\$3,269	5,768	5,768	17,947	193,354	
Total	All	2.5	\$18,348	\$10,424	\$45,231	\$9,219	\$4,023	\$20,545	\$11,443	20,187	20,187	62,814	676,738	

12. Gantt Charts of Program Schedule Summary

Chart 1: Gantt Chart of Program Schedule Summary (For Section 1.4)

Chart will be formatted to fit on one 8½ - 11 page

It will use color to differentiate schedule items

Provide a separate chart for each Portfolio that includes:

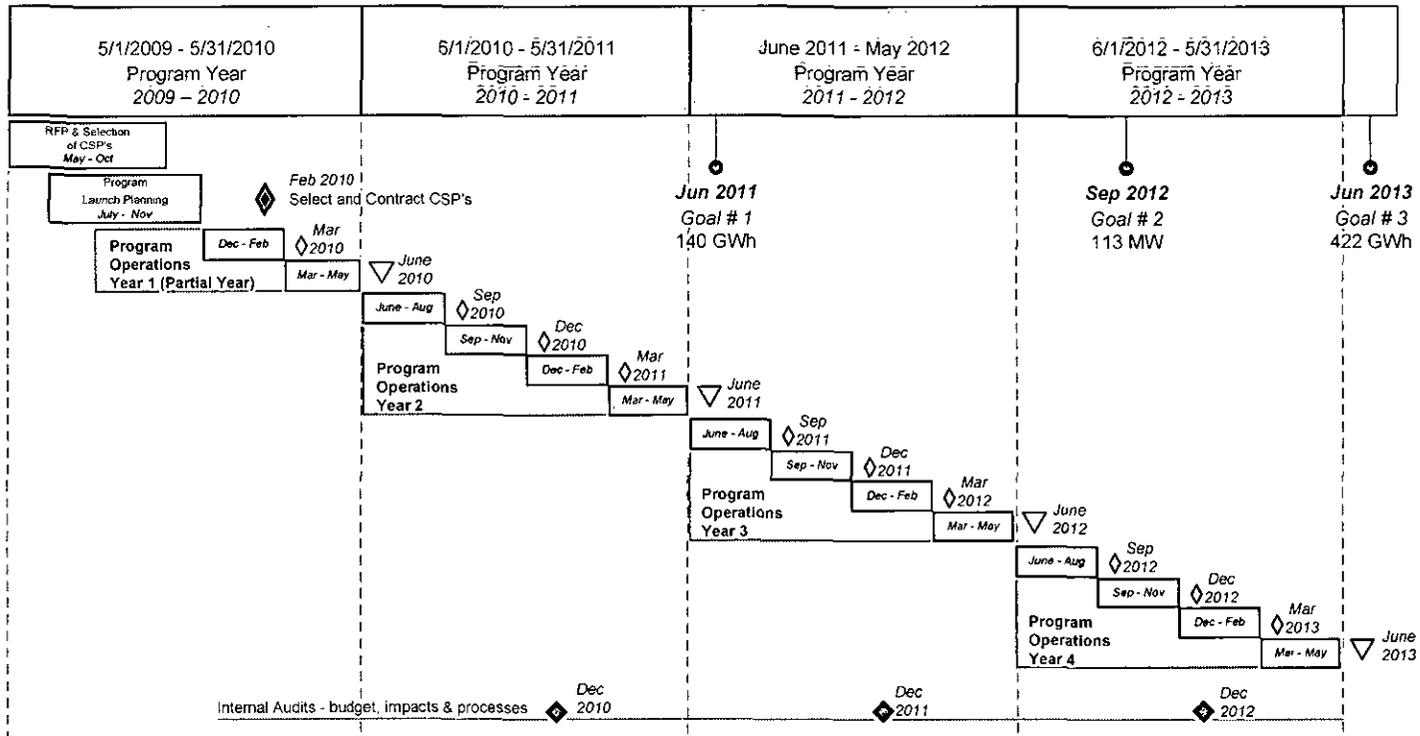
- Start and completion dates for the launch and close of Residential Portfolio programs for Program Years 2009, 2010, 2011 and 2012
- Start and completion dates for the launch and close of Commercial/Industrial Small portfolio programs for Program Years 2009, 2010, 2011 and 2012
- Start and completion dates for the launch and close of Commercial/Industrial Large portfolio programs for Program Years 2009, 2010, 2011 and 2012
- Start and completion dates for the launch and close of Governmental/Non-Profit Small portfolio programs for Program Years 2009, 2010, 2011 and 2012

As well, include the following for each chart:

- Start and completion dates for design of each Program Year
- Dates at which CSPs will be selected and placed under contract for each portfolio
- Dates at which EDC will provide annual program reports to Commission



Section 12, Chart 1
 Energy Efficiency and Conservation Plans
 Gantt Chart of Program Schedule Summary
 Residential Portfolio Programs



Assumptions:

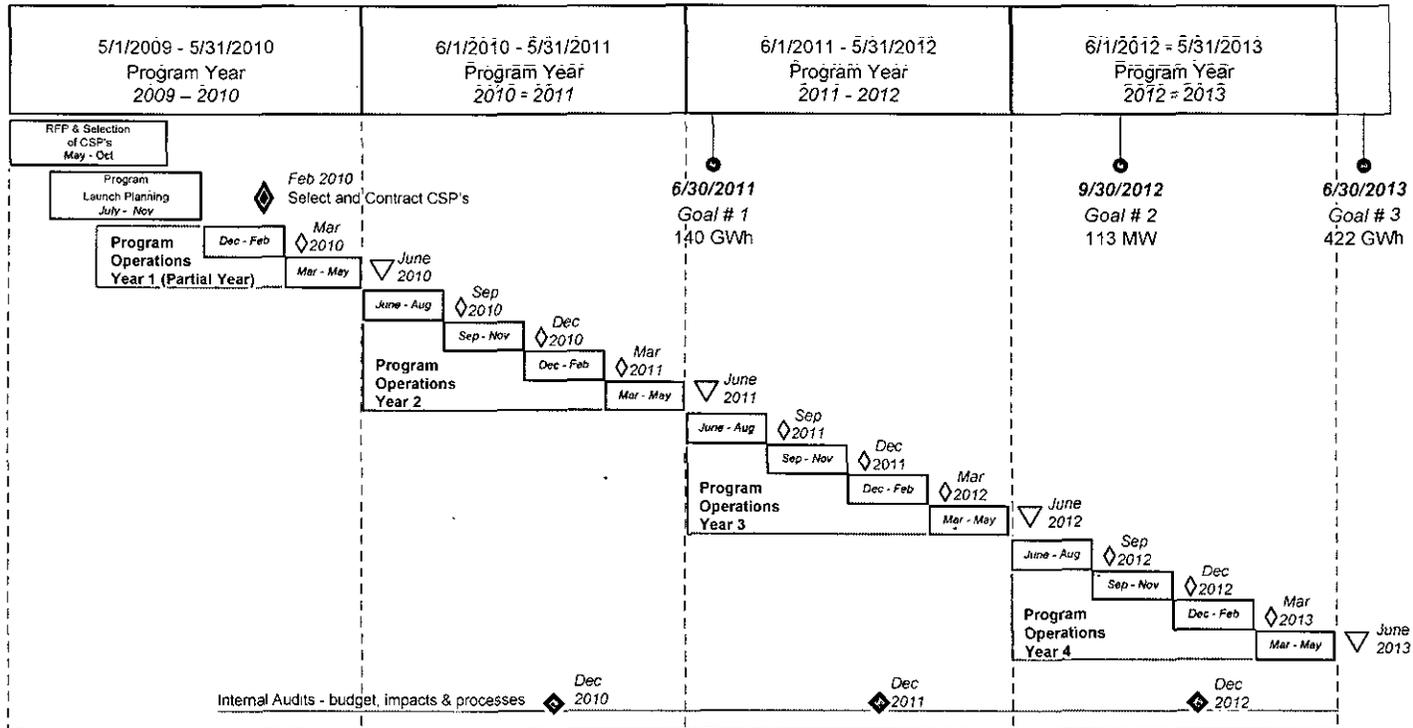
Duquesne Light Company filing of plans on July 1, 2009
 Pennsylvania Public Utility Commission Approval of plans on November 1, 2009

Key	
◇	Quarterly Report
▽	Annual Report PUC
◆	Internal Audit

Note: Program Year Ending May 31



Section 12, Chart 2
 Energy Efficiency and Conservation Plans
 Gantt Chart of Program Schedule Summary
 Small Commercial and Industrial Portfolio Programs



Assumptions:

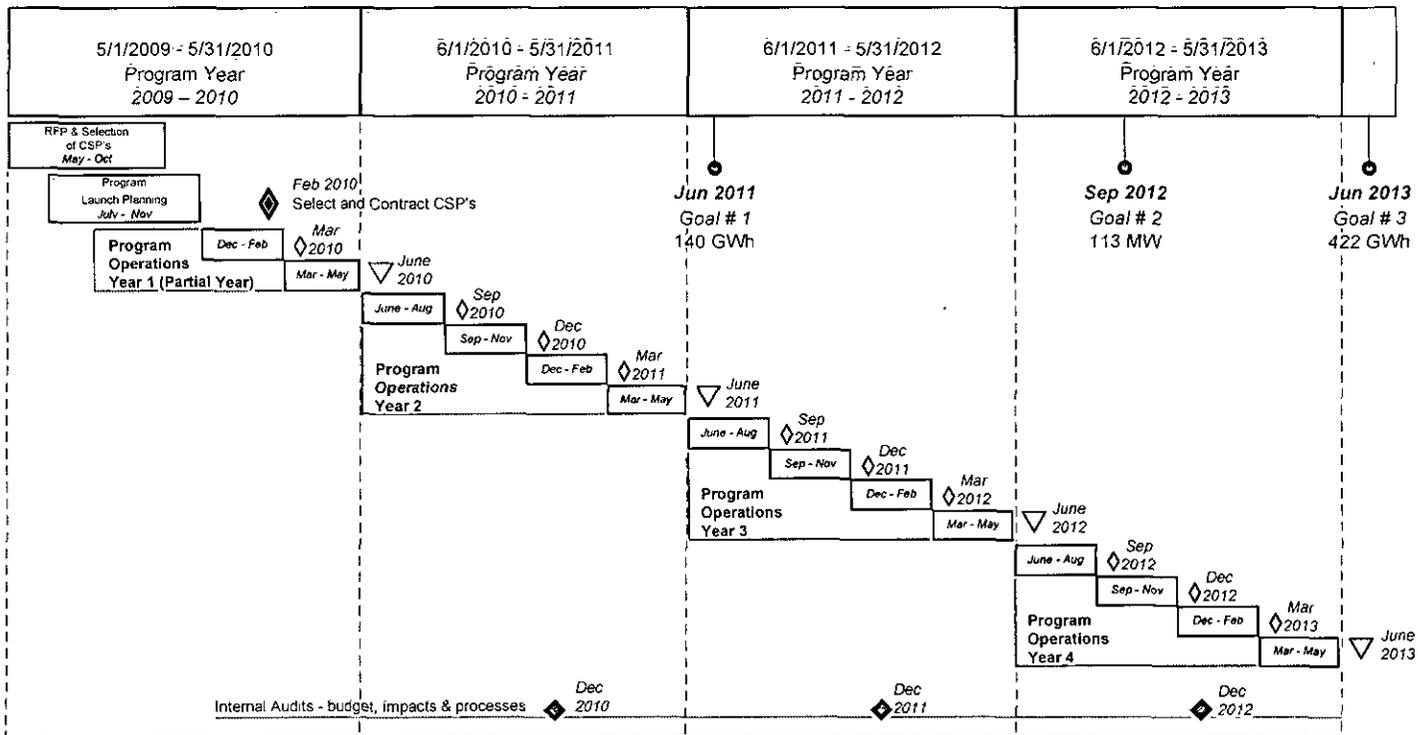
Duquesne Light Company filing of plans on July 1, 2009
 Pennsylvania Public Utility Commission Approval of plans on November 1, 2009
 Small commercial/industrial customers are covered by these programs

Key	
◇	Quarterly Report
▽	Annual Report PUC
◆	Internal Audit

Note: Program Year Ending May 31



Section 12, Chart 3
 Energy Efficiency and Conservation Plans
 Gantt Chart of Program Schedule Summary
 Large Commercial and Industrial Portfolio Programs



Assumptions:

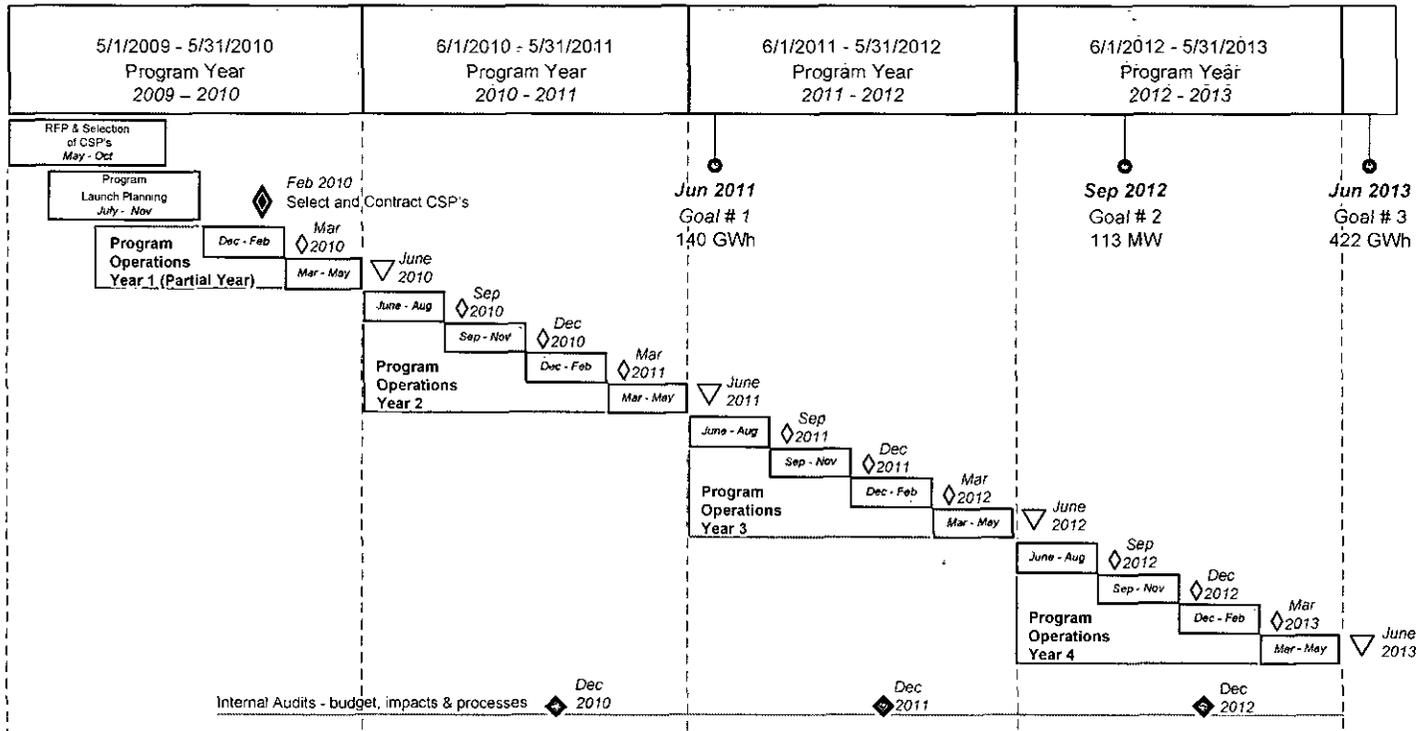
Duquesne Light Company filing of plans on July 1, 2009
 Pennsylvania Public Utility Commission Approval of plans on November 1, 2009
 Large commercial/industrial customers are covered by these programs

Key	
◇	Quarterly Report
▽	Annual Report PUC
◆	Internal Audit

Note: Program Year Ending May 31



Section 12, Chart 4
 Energy Efficiency and Conservation Plans
 Gantt Chart of Program Schedule Summary
 Governmental/Non-Profit Portfolio Programs



Assumptions:

Duquesne Light Company filing of plans on July 1, 2009
 Pennsylvania Public Utility Commission Approval of plans on November 1, 2009
 Includes large hospital and education customers

Key	
◇	Quarterly Report
▽	Annual Report PUC
◆	Internal Audit

Note: Program Year Ending May 31

Annual Report to the Pennsylvania Public Utility Commission

**For the period
December 2009 to May 2010
Program Year 2009**

For Act 129 of 2008
Energy Efficiency and Conservation Program

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PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

Prepared by Duquesne Light Company
September 15, 2010

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SECRET
ENERGY EFFICIENCY PROGRAM

Abbreviations (see Glossary for definitions)

CPITD	Cumulative Program/Portfolio Inception to Date
EM&V	Evaluation Measurement and Verification
IQ	Incremental Quarter
kW	Kilowatt
kWh	Kilowatt-hour
M&V	Measurement and Verification
MW	Megawatt
MWh	Megawatt-hour
NTG	Net-to-Gross
PYTD	Program/Portfolio Year to Date
TRC	Total Resource Cost

1 Overview of Portfolio

Act 129, signed October 15th, 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 annual report documents the progress and effectiveness of the EE&C accomplishments for Duquesne Light through the end of Program Year 2009.

Compliance goal progress as of the end of the reporting period¹:

Cumulative Portfolio Energy Impacts

- The CPITD reported gross energy savings is 26,217 MWh.
- The CPITD verified energy savings is 3,642 MWh.
- Achieved 19% of the 140,885 MWh May 31st, 2011 energy savings compliance target.
- Achieved 6% of the 422,565 MWh May 31st, 2013 energy savings compliance target.

Portfolio Demand Reduction²

- The CPITD reported gross demand reduction is 1.13 MW.
- The CPITD verified demand reduction is 0.16 MW.
- Achieved 1% of the 113 MW May 31st, 2013 demand reduction compliance target.

Low Income Sector

- There are 7 measures offered to the Low-Income Sector, comprising 11.5% of the total measures offered.
- The CPITD reported gross energy savings for low-income sector programs is 508 MWh.
- The CPITD verified energy savings for low-income sector programs is 510 MWh.
(All low-income measures reported have deemed savings specified in the TRM adopted concurrent or after implementation requiring adjustment using a Deemed Savings Adjustment factor (DSA) that increased recorded savings from 508 MWh to 510 MWh.)

Government and Non-Profit Sector

- The CPITD reported gross energy savings for government and non-profit sector programs is 6,000 MWh.
- The CPITD verified energy savings for government and non-profit sector programs is -0- MWh.
- Achieved 14% of the 42,257 MWh May 31st, 2013 energy savings compliance target.

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

- The PYTD reported gross energy savings is 4,176 MWh.
- The PYTD verified energy savings is 3,642 MWh.
- The PYTD reported gross demand reduction is 1.13 MW.
- The PYTD verified demand reduction is 0.16 MW.
- The PYTD reported participation is 9,199 participants.³

¹ Percentage of compliance target achieved calculated using verified Cumulative Program/Portfolio Inception to Date values (or Preliminary verified value, if not available) divided by compliance target value.

² Demand reduction to include both the demand savings from the installation of energy efficiency measures and the demand reduction associated with demand response programs.

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 PY 2009 EE&C program accomplishments were limited during this initial program year period of 6-month but significant ramp-up activities occurred.

Business process teams were initiated soon after filing to begin the preliminary analyses for implementation of the EE&C plan. This was accomplished by reviewing existing processes and development of new processes to facilitate the full integration of the existing work flows with the new flows necessary to meet the Act 129 goals. A series of Request for Proposals (RFPs) were developed and released to the designated list of Conservation Service Providers on the PA PUC website in four separate flights. Evaluations occurred, interviews were held, references checked and finally contracts were signed. The signed contracts followed the approved regulatory format and were forwarded to the PA PUC for approval. Official notices to proceed were received in all cases.

Training was given to the contracted CSPs for the Large Office and Primary Metals segments, the Small Office and Retail segments and the Mixed Industrial and Chemical segments on December 7, 2009 covering the overall EE&C program which had been branded as Watt Choices, the Watt Choices Website, the approved surcharge values for each customer class along with preliminary information on Program Management and Reporting System.

Program Evaluation Measurement and Verification (EM&V)

The following information was provided to the independent EDC program evaluator and incorporated into the EM&V Plan:

1. Full program descriptions, including operational and/or procedures manuals and activities descriptions and description of program service territory
2. Detailed descriptions of the Program Management and Reporting System (PMRS) tracking system and tracking system operations
3. A detailed description or map of how data in the tracking system rolls up to the quarterly PA PUC report
4. Program management and staff names, titles, work locations, phone numbers, fax numbers, and e-mail addresses
5. Program savings objectives
6. A program theory and logic model for each program. Program theory characterizes the relevant market(s) and how program activities are expected to change the behavior of the relevant participants in the market(s) to increase the adoption of energy efficient technologies and practices. The characterization of the market will include a description of the remaining technical energy and demand potential and the proportion of that potential that the program is expected to achieve at the conclusion of the current funding cycle
7. Name of firms participating in the delivery of the program or program component(s) (e.g., vendors, installers, specifiers, etc.)

³ For reporting participants, please report CFL participants separately from other program participant numbers.

For savings impact evaluation purposes, on June 22, 2010 an evaluation dataset was downloaded directly from PMRS that contained record of 9,180 customer actions taken to implement energy efficiency measures termed “projects” completed by Duquesne Light’s EE&C Programs from initiation through May 31, 2010 (PY 2009).⁴ Data supporting verification of program results for PY 2009 were recorded within the six month reporting period ending May 2010. The PY 2009 verification dataset results are shown in the following table:

Program	Participants	MWh	MW
Residential: EE Rebate Program	2,861	723.2	0.0421
Residential: School Energy Pledge Program	4,750	1,898.6	0.7143
Residential: Refrigerator Recycling Program	252	452.7	0.0621
Residential: Low Income Energy Efficiency Program	1,296	507.9	0.1481
Commercial Sector Umbrella Program (1)	19	7.0	0.0014
Commercial Sector Retail Program	2	31.7	0.0061
Total	9,180	3,621.2	0.9741

(1) Project activity was 19 energy efficiency kits installed in residential dwellings served by commercial master-metered accounts

The 9,180 projects include 8,326 (91%) energy efficiency kits containing residential measures (CFLs, night lights and furnace whistles) that the utility provided free of charge to program participants. The remaining 854 projects included 852 residential measures, and two commercial lighting projects. Because 9,178 projects out of 9,180 projects reviewed (99.98%) involved implementing residential measures in residential dwellings, PY 2009 verification addressed only PY 2009 savings impacts of the residential programs described below.

Program performance and evaluation findings will be discussed in detail in sections that follow PY 2009 program verified savings impacts, project qualification and customer participation were very high (97-100%) resulting in the following realization rates and verified program savings reflected below:

	REEP	SEP	RRRP	LIEEP	Total
DSA kWh Savings	766,512	1,913,405	452,736	509,684	3,642,337
DSA kW Savings	25.5	62.2	62.1	18.9	168.7
Net kWh Savings	744,612	1,858,736	439,801	509,684	3,552,832
Net kW Savings	24.8	60.4	60.3	18.9	164.4
kWh Realization Rates	97.1%	97.1%	97.1%	100.0%	97.5%
kW Realization Rates	97.1%	97.1%	97.1%	100.0%	97.5%

REEP – Residential Energy Efficiency Rebate Program

⁴ Monthly data transfers to the SWE reflect 9,191 projects due to inclusion of 11 back-dated projects resulting from a data entry back-log associated with program ramp-up. Verification activities such as survey design, data requests, customer interviews, hard-copy review and quantitative analysis require a snap-shot of tracking system data. Verification was not performed on the back-dated projects but strictly adhered to the content of the verification dataset provided on June 22, 2010. The additional back-dated program activity will be addressed in PY 2010 verification activities. Duquesne Light EM&V Report for PY 2009 EE&C Programs is provided as Attachment A.

SEP – Residential: School Energy Pledge Program
RRRP – Residential: Refrigerator Recycling Program
LIEEP – Low Income Energy Efficiency Program

Program Changes Planned for 2010:

First proposed change:

1. Residential: Refrigerator Recycling Program (RRRP):

The RRRP is patterned after exemplary appliance recycling programs⁵ to encourage residential customers in Duquesne Light's service territory to turn in their older operating refrigerators to be recycled. Removing an older, operating refrigerator can result in an energy savings of more than 1,728 kWh and reduce 0.24 peak kW.⁶ To encourage participation in this program, this program provides a \$35 check for the removal of the old refrigerator. The program is implemented by JACO Environmental that operates similar programs across the country and for other Pennsylvania EDCs.

Based on recommendations by JACO Environmental and requests from Duquesne's customers, Duquesne Light is requesting to expand the program by adding "Freezers" to the program offer. The PA TRM documents the identical deemed savings for freezers under Section 4.5 "Refrigerator/Freezer Retirement" as for refrigerators. Similarly, recycling costs are identical. Duquesne Light proposes to change the title of the program to the Residential: Refrigerator/Freezer Recycling Program to improve customer service and promote greater program savings.

Adding freezers to the program does not affect budgeting dollars already allocated to this program.

Second Proposed Change:

2. PA Technical Reference Manual (TRM) Deemed Savings Measure Additions:

Extensive collaborative work by the Bureau of Conservation, Economics & Energy Planning (CEEP), the Statewide Evaluation Team (SWE) and the EDC stakeholders in the TRM Technical Working Group (TWG) has resulted in the addition of many new deemed savings measures to the PA Technical Reference Manual. The TRM is updated annually through the development of Interim Protocols for the TRM. The updating process refines and improves deemed savings assumptions, adding new measures and streamlining program implementation processes. The collaborative process provides an opportunity for peer review of program measures under the guidance and oversight of the CEEP and SWE.

⁵ Based on the Pacific Gas & Electric 2008 ACEEE Exemplary Appliance Recycling Program (<http://aceee.org/pubs/u081/res-light-app.pdf>).

⁶ PA TRM Section 4.5 Refrigerator/Freezer Retirement, Table 4-5

Measures proposed to be added to Duquesne Light’s approved EE&C Plan are shown below:

New Measure	Effected Program
Furnace Whistle	REEP
Night light (LED)	REEP
Night light (limelight)	REEP
Heat Pump Water Heater (EF 2.0 - 2.3)	REEP
Electric Water Heaters (EF .93 - .95)	REEP
Refrigerator/Freezer Replacement*	LIEEP
Smart Strips	REEP

*This program is different than the recycling program noted in Change 1 above and involves complete replacement for low-income customers.

Adding these new TRM approved measures offers our customers additional energy efficient products. All of the incentives in the Program are in the form of a rebate. The total incentive budget for the Residential Energy Efficiency Rebate Program (REEP) is \$10.4 M and the incentive budget for LIEEP is \$3.8 M for 2009-2013. Rebates on these products are offered on a first-come, first-serve basis. All rebates are tracked on a monthly basis against the total budget. To date, nothing has occurred to indicate oversubscription of rebates for a particular measure or rebate. In the event that certain measure rebates appear to becoming over-subscribed in relation to their derived benefit, Duquesne will seek Commission approval to limit or remove the measure from its Plan.

Summary of Portfolio Impacts

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

Table 1-1: 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	2,827.1	0.41
Reported Gross Impact: Program Year to Date	4,175.7	1.13
Reported Gross Impact: Cumulative Portfolio Inception to Date	4,175.7	1.13
Unverified Ex Post Savings ⁷ :	11,388.0	0.944
Estimated Impact: Projects in Progress	10,651.7	0.957
Estimated Impact: PYTD Total Committed	26,216.7	3.028
Preliminary PYTD Verified Impact ^[a]	3,552.8	.16
Preliminary PYTD Net Impact ^[b]	3,552.8	.16
NOTES:		
[a] Portfolio Verified Impact calculated by aggregating Program PYTD Verified Impacts. Program PYTD Verified Impacts are calculated by multiplying Program PYTD-Reported Gross Impacts by program realization rates.		
[b] Portfolio Net Impact calculated by aggregating Program Net Impacts. Program Net Impacts are calculated by multiplying Program PYTD Verified Impacts by program Net-to-Gross ratios.		

⁷ “Unverified Ex Post Savings” are unverified savings pending approval of a TRM or Custom Measure Protocol by the Commission.

A summary of total evaluation adjusted impacts for the portfolio is presented in Table 1-2.

Table 1-2: Verified Preliminary Portfolio Total Evaluation Adjusted Impacts through the End of the Reporting Period

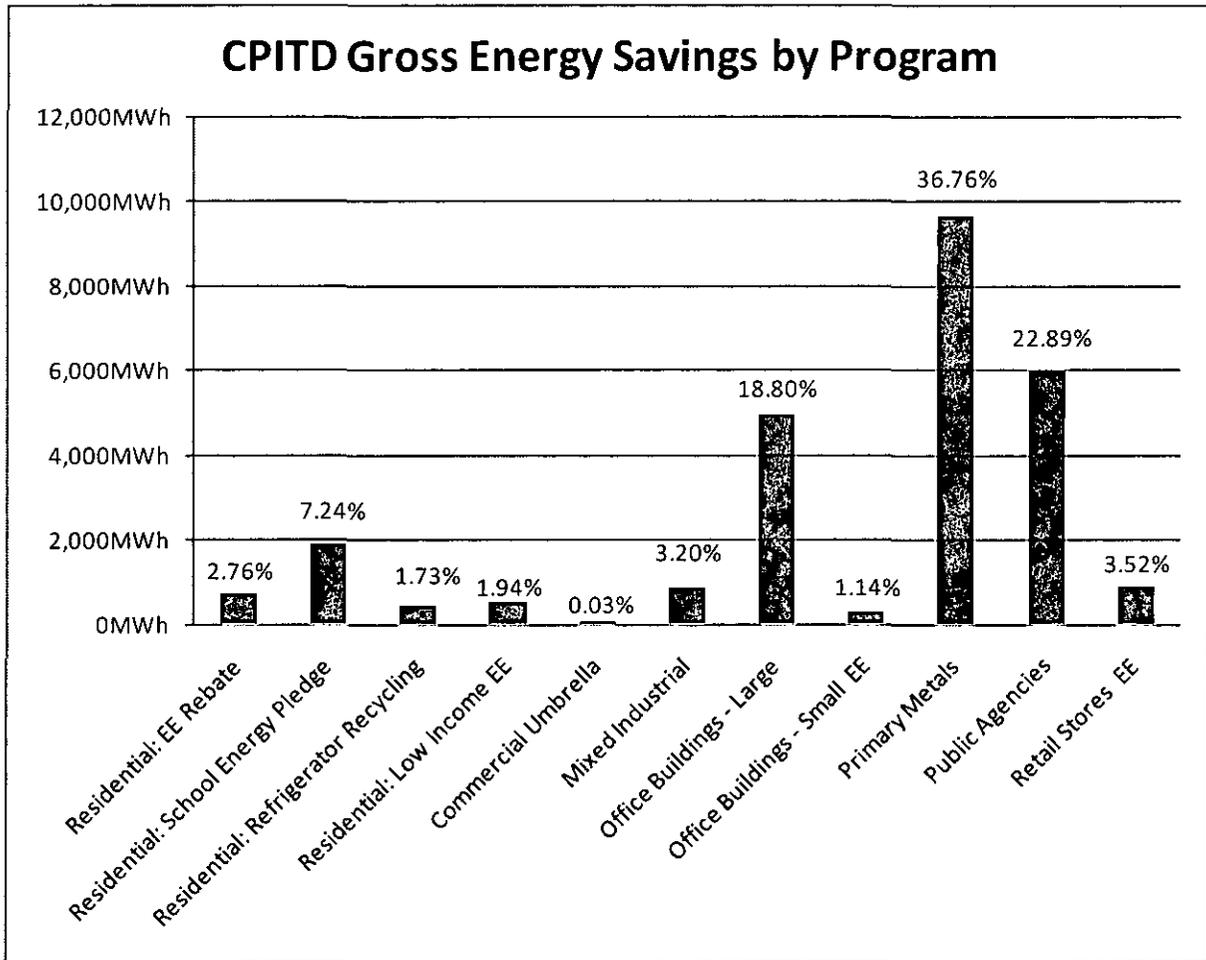
TRC Category	IQ ^[a]	PYTD ^[b]	CPITD
TRC Benefits (\$)*			
TRC Costs (\$)*			
TRC Benefit-Cost Ratio*			
NOTES: [a] Based on reported gross savings. [b] Based on reported gross savings.			

**Per direction from the SWE on 9-13-2010, no TRC values are provided for the PY 2009 annual report.*

1.1 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 Program Year 2009 is presented in Table 1-3 and Table 1-4.

Table 1-3: EDC Reported Participation and Gross Energy Savings by Program through the End of the Reporting Period

Program	Participants			Reported Gross Impact (MWh)		
	IQ	PYTD	CPITD	IQ	PYTD	CPITD
Residential: EE Rebate	2,563	2,861	2,861	669	723	723
Residential: School Energy Pledge	3,236	4,750	4,750	1,346	1,899	1,899
Residential: Refrigerator Recycling	205	252	252	366	453	453
Residential: Low Income EE	1,022	1,296	1,296	408	508	508
Commercial Sector Umbrella EE	18	19	19	7	7	7
Mixed Industrial EE *	2	2	2	838	838	838
Office Building – Large – EE *	1	1	1	4,930	4,930	4,930
Office Building – Small EE *	3	3	3	299	299	299
Primary Metals EE *	2	2	2	9,638	9,638	9,638
Public Agency / Non-Profit *	1	1	1	6,000	6,000	6,000
Retail Stores EE *	10	12	12	922	922	922
TOTAL PORTFOLIO	7,063	9,199	9,199	25,423	26,217	26,217
NOTES: * Includes in-progress and unverified ex post savings (unverified savings pending approval of a TRM of Custom Measure Protocol by the Commission).						

Table 1-4: 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 Rebate			723	16,785	4.3%
Residential: School Energy Pledge			1899	675	281.3%
Residential: Refrigerator Recycling			453	1,667	27.2%
Residential: Low Income EE			508	4,294	11.8%
Commercial Sector Umbrella EE			7	2,681	0.3%
Industrial Sector Umbrella EE				1,258	0.0%
Chemical Products EE				3,114	0.0%
Healthcare EE				5,698	0.0%
Mixed Industrial EE		838	838	2,779	30.2%
Office Buildings – Large EE	1,750	3,180	4,930	10,100	48.8%
Office Buildings – Small EE		75	299	5,317	5.6%
Primary Metals EE	9,638		9,638	8,570	112.5%
Public Agency, Non-Profit EE		6,000	6,000	12,493	48.0%
Retail Stores EE		559	922	6,200	14.9%
TOTAL PORTFOLIO	11,388	10,652	26,217	81,630	32.1%
NOTES: "Unverified Ex Post Savings" are unverified savings pending approval of a TRM or Custom Measure Protocol by the Commission.					

A summary of evaluation verified energy impacts by program is presented in Table 1-5.

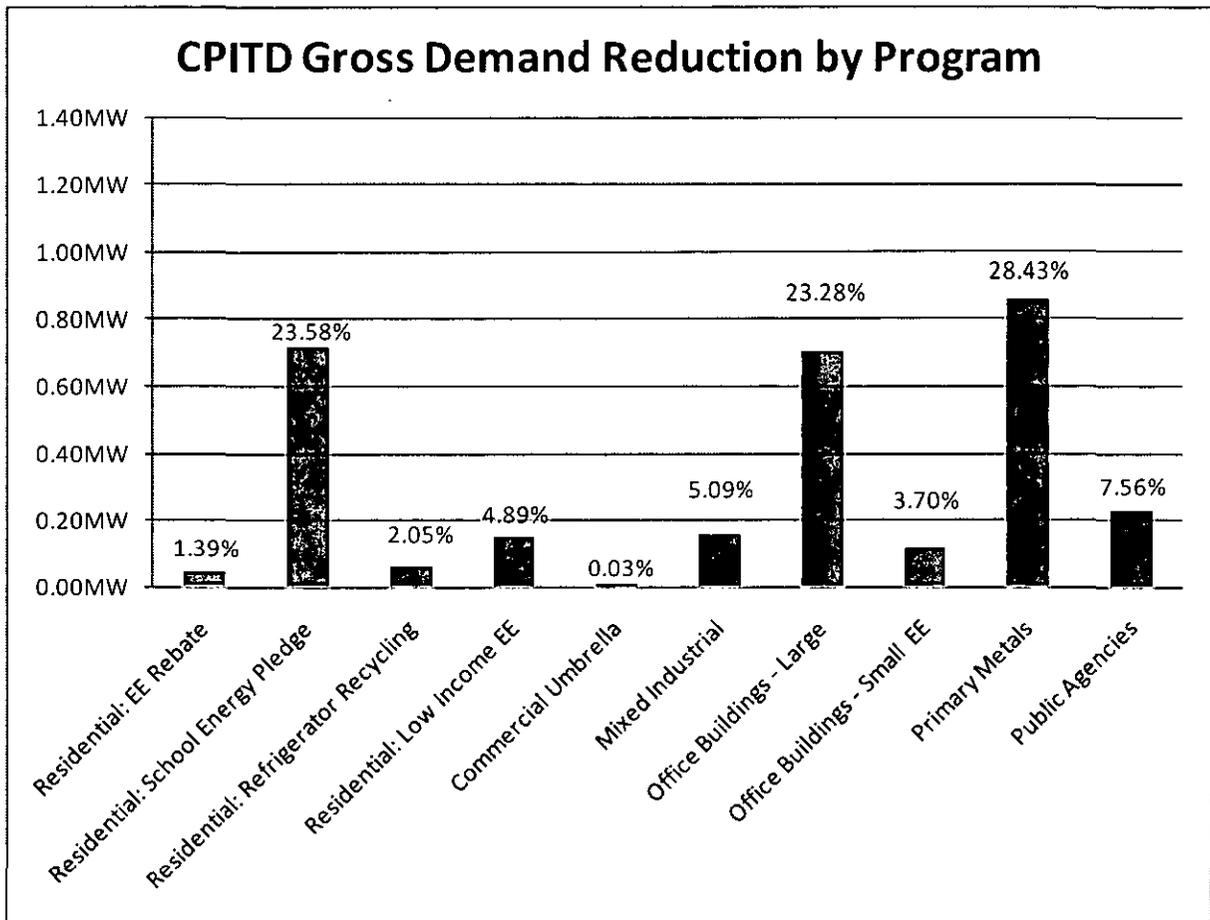
Table 1-5: Verified Energy Savings by Program through the End of the Reporting Period

Program	PYTD Reported Gross Impact (MWh)	Realization Rate	PYTD Verified Impact (MWh)	Net-to-Gross Ratio	PYTD Net Impact (MWh)
Residential: EE Rebate	767	97.1%	745	N/A	745
Residential: School Energy Pledge	1,913	97.1%	1,859	N/A	1,859
Residential: Refrigerator Recycling	453	97.1%	440	N/A	440
Residential: Low Income EE	510	100.0%	510	N/A	510
TOTAL PORTFOLIO	3,642		3,553	N/A	3,553
NOTES:					

1.2 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 Program Year 2009 is presented in Table 1-6.

Table 1-6: Participation and Reported Gross Demand Reduction by Program through the End of the Reporting Period

Program	Participants			Reported Gross Impact (MW)		
	IQ	PYTD	CPITD	IQ	PYTD	CPITD
Residential: EE Rebate	2,563	2,861	2,861	0.038	0.042	0.042
Residential: School Energy Pledge	3,236	4,750	4,750	0.269	0.714	0.714
Residential: Refrigerator Recycling	205	252	252	0.050	0.062	0.062
Residential: Low Income EE	1,022	1,296	1,296	0.050	0.148	0.148
Commercial Sector Umbrella EE	18	19	19	0.001	0.001	0.001
Mixed Industrial EE *	2	2	2	0.154	0.154	0.154
Office Buildings – Large EE *	1	1	1	0.705	0.705	0.705
Office Buildings – Small EE *	3	3	3	0.112	0.112	0.112
Primary Metals EE *	2	2	2	0.861	0.861	0.861
Public Agency / Non-Profit EE *	1	1	1			
Retail Stores EE *	10	12	12	0.229	0.229	0.229
TOTAL PORTFOLIO	7,063	9,199	9,199	2.469	3.028	3.028
NOTES: * Includes in-progress and unverified ex post savings (unverified savings pending approval of a TRM of Custom Measure Protocol by the Commission).						

A summary of demand reduction impacts by program through the Program Year 2009 is presented in Table 1-67.

Table 1-7: Reported Gross Demand Reduction by Program through the End of the Reporting Period

Program	Unverified Ex Post Savings (MW)	Projects In Progress (MW)	PYTD Total Committed (MW)	EE&C Plan Estimate for Program Year (MW)	Percent of Estimate Committed (%)
Residential: EE Rebate			0.04	8.1	0.5%
Residential: School Energy Pledge			0.7	0.6	117.4%
Residential: Refrigerator Recycling			0.1	0.4	14.9%
Residential: Low Income EE			0.1	1.8	8.5%
Commercial Sector Umbrella EE			0.001	0.6	0.2%
Industrial Sector Umbrella EE				0.2	0.0%
Chemical Products EE				0.5	0.0%
Healthcare EE				1.2	0.0%
Mixed Industrial EE	0.1	0.1	0.2	0.4	35.8%
Office Buildings – Large EE	0.1	0.6	0.7	2.2	32.0%
Office Buildings – Small EE		0.03	0.1	1.0	11.5%
Primary Metals EE	0.9		0.9	1.3	65.0%
Public Agency, Non-Profit EE				3.6	0.0%
Retail Stores EE		0.1	0.2	1.3	17.2%
TOTAL PORTFOLIO	1.0	1.0	3.0	23.3	13.0%
NOTES:					

A summary of evaluation adjusted demand impacts by program is presented in Table 1-8.

Table 1-8: 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)	Net-to-Gross Ratio	PYTD Net Impact (MW)
Residential: EE Rebate	0.026	97.1%	0.025	N/A	0.025
Residential: School Energy Pledge	0.062	97.1%	0.060	N/A	0.060
Residential: Refrigerator Recycling	0.062	97.1%	0.060	N/A	0.060
Residential: Low Income EE	0.019	100.0%	0.019	N/A	0.019
TOTAL PORTFOLIO	0.169		0.164	N/A	0.164
NOTES:					

1.3 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 measure⁸ 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 determined by approved protocols. The protocol type determines the data type that is sampled.

1.3.1 Impact Evaluation

Explanation concerning the variance between monthly data transfers the Statewide Evaluation Team (SWE) and content of the evaluation dataset:

Data transfers to the SWE were affected in response to the SWE's data request of 7/1/2010 on 7/15/2010. Duquesne Light's program year (PY) 2009 savings impact verification report was based on a download of program tracking system data downloaded on 6/22/2010 for activity shown to be installed in the tracking system through 5/31/2010. Program activity was entered into the program tracking system between 6/22/2010 and 7/15/2010 adding 11 projects with installation dates on or before 5/31/2010 for five customers participating in the Small Office Building Program and the Retail Stores Program. Data entry for back-dated projects reflects a data entry back-log associated with program ramp-up. Verification activities such as survey design, data requests, customer interviews, hard-copy review and quantitative analysis require a snap-shot of tracking system data. Verification was not performed on the back-dated projects but strictly adhered to the content of the verification dataset provided on June 22, 2010. The additional back-dated program activity will be addressed in PY 2010 verification activities.

Evaluation, measurement and verification (EM&V) activities were performed on the following PY 2009 program activity:

Program	Participants	MWh	MW
Residential: EE Rebate Program	2,861	723.2	0.0421
Residential: School Energy Pledge Program	4,750	1,898.6	0.7143
Residential: Refrigerator Recycling Program	252	452.7	0.0621
Residential: Low Income Energy Efficiency Program	1,296	507.9	0.1481
Commercial Sector Umbrella Program (1)	19	7.0	0.0014
Commercial Sector Retail Program	2	31.7	0.0061
Total	9,180	3,621.2	0.9741

⁸ TRM measures with stipulated values and variables.

The evaluation dataset contained a record of 9,180 customer actions taken to implement energy efficiency measures termed “projects” completed by Duquesne Light’s EE&C Programs during PY 2009. The 9,180 projects include 8,326 (91%) energy efficiency kits containing residential measures (CFLs, night lights and furnace whistles) that the utility provided free of charge to program participants. The 19 projects listed above under the Commercial Sector Umbrella Program (1) were actually residential energy efficiency kits provided participants residing in premises served by “commercial” master-meter accounts. The remaining 854 projects included 852 residential, measures, and two commercial lighting projects. PY 2009 verification activities addressed the four residential programs.

Deemed Savings Adjustments

As related above, deemed TRM measure realization rates are driven by differences in the number of installed measures. All energy efficiency measures delivered in the 9,180 projects were found to have deemed savings specified in the Technical Reference Manual⁹ or interim updates to the TRM approved and adopted by the Statewide Evaluator (TRM). Consistent with Duquesne Light’s EM&V Plan and the Audit Plan and Evaluation Framework for Pennsylvania Act 129 Energy Efficiency and Conservation Programs (Audit Plan)¹⁰ analysis of tracking system values was performed to ensure claimed savings (tracking system savings values) reflected the approved deemed savings values.

Several key measures’ deemed savings values were in the process of being developed and approved by the SWE either concurrent with, and in some cases after, project implementation.¹¹ As a result program implementers could not have known the values ultimately adopted. This created the need to adjust claimed/tracked measure savings to align with the deemed savings adopted. Tracking system values were compared with adopted savings values and a Deemed Savings Adjustment factor (DSA) was applied to claimed/tracked savings to bring them in-line with adopted savings values. The following table shows the result of this adjustment:

Program	Tracking System		DSA Savings	
	kWh	kW	kWh	kW
REEP	723,172	42.1	766,512	25.5
SEP	1,898,633	714.3	1,913,405	62.2
RRRP	452,736	62.1	452,736	62.1
LIEEP	507,932	148.1	509,684	18.9
Total	3,582,473	966.5	3,642,337	168.7
<i>DSA Factor</i>	<i>102%</i>	<i>17%</i>		

DSA dramatically reduced demand savings (kW) linked to removal of demand reductions for programmable thermostats and components contained in the EE kits (furnace whistles & nightlights), as well as severed reductions in CFL demand impacts through application of a 5% residential lighting coincident factor.

⁹ Pennsylvania Public Utility Commission, *Technical Reference Manual for Pennsylvania Act 129 Energy Efficiency and Conservation Program and Act 213 Alternative Energy Portfolio Standards*, June 2010.

¹⁰ GDS Associates, Inc., Nextant, & Mondre Energy, *Audit Plan and Evaluation Framework for Pennsylvania Act 129 Energy Efficiency and Conservation Programs*. December 1, 2009

¹¹ Updates to the TRM are implemented through “interim Protocols for the TRM”; the most recent draft is dated July 30, 2010.

Sampling Plan

As related above, all energy efficiency measures delivered in PY 2009 were found to have deemed savings specified in the TRM or interim updates to the TRM approved/adopted by the Statewide Evaluator. Based on low project-level variability simplified random sampling (EM&V Plan Section 2.8.1) was employed to achieve the desired level of confidence and precision.

The table below reflects *achieved versus planned* confidence and precision rates. A complete description of the program evaluation sample plan, evaluation approach and findings is contained in the accompanying PY 2009 EM&V Report.

The realization rates for each program are presented in Table 1-9 below:

Table 1-9: Summary of Realization Rates and Confidence Intervals (CI) for kWh

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	35	35	97.1%	90%/±4.7%	97.1%	90%/±4.7%
Residential: School Energy Pledge	35	35	97.1%	90%/±4.7%	97.1%	90%/±4.7%
Residential: Refrigerator Recycling	35	35	97.1%	90%/±4.7%	97.1%	90%/±4.7%
Residential: Low Income EE	35	35	100.0%	90%/±0.0%	100.0%	90%/±0.0%
PORTFOLIO	140	140	97.5%	90%/±2.7%	97.5%	90%/±2.5%
NOTES:						

1.3.2 Process Evaluation

A complete and formal process evaluation was not conducted for PY 2009 for all programs due to the limited program activity, program systems were still being implemented, an EM&V Plan was being developed and implementation contractors were still being engaged. While a process evaluation conducted during this time would have found many areas for process improvement, program management questioned the utility of such an activity.

However, during the conduct of program sampling and the evaluation of program tracking system data evaluators learned key metrics were not being properly recorded by implementation contractors. This lead to adjustments in implementation processes which was communicated to CSPs and process revisions were made.

1.4 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 1-10.

Table 1-10: Summary of Portfolio Finances: TRC Test¹²

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$190,181	\$236,816	\$236,816
A.2	EDC Incentives to Trade Allies	\$62,289	\$91,877	\$91,877
A	Subtotal EDC Incentive Costs	\$252,470	\$328,693	\$328,693
B.1	Design & Development	\$691,262	\$2,993,815	\$2,993,815
B.2	Administration	0	0	0
B.3	Management	\$161,815	\$309,402	\$309,402
B.4	Marketing	\$13,931	\$197,051	\$197,051
B.5	Technical Assistance	0	0	0
B	Subtotal EDC Implementation Costs	\$867,008	\$3,500,268	\$3,500,268
C	EDC Evaluation Costs	\$84,000	\$84,000	\$84,000
D	SWE Audit Costs	0	\$291,879	\$291,879
E	Participant Costs	0	0	0
	Total Costs	\$1,203,478	\$4,204,840	\$4,204,840
F	Annualized Avoided Supply Costs*			
G	Lifetime Avoided Supply Costs*			
	Total Lifetime Economic Benefits*			
	Portfolio Benefit-to-Cost Ratio*			
NOTES:				

* Per direction from the SWE on 9-13-2010, no TRC values are provided for the PY 2009 annual report.

¹² 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 1-11.

Table 1-11: Summary of Portfolio Budget by Program

Program	TRC Benefits (\$)	TRC Costs (\$)	TRC Benefit-Cost Ratio
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*			
Portfolio			
NOTES:			

**Per direction from the SWE on 9-13-2010, no TRC values are provided for the PY 2009 annual report.*

2 Portfolio Results by Sector

The EE&C Implementation Order issued on January 15th, 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

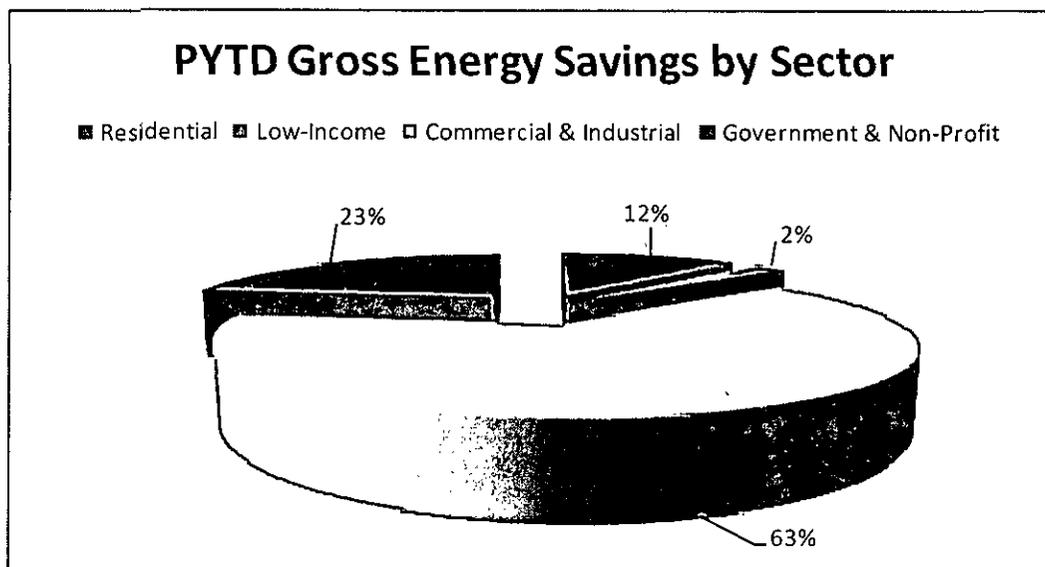
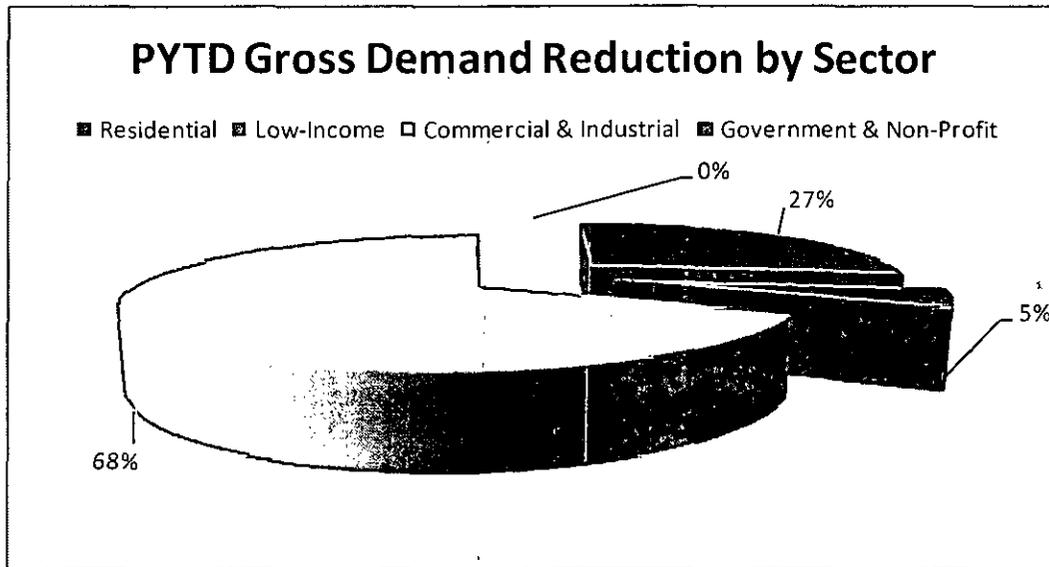


Figure 2-2: PYTD Reported Gross Demand Reduction by Sector



Energy savings reported for the Government & Non-Profit Sector results from project savings that, consistent with adopted TRM savings protocols, does not produce demand reductions.

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 ¹³
	IQ	PYTD	CPITD			
Residential EE	2,381	3,075	3,075		3,075	
Residential Low-Income EE	408	508	508		508	
Small Commercial & Industrial EE	580	593	593	913	1,506	
Large Commercial & Industrial EE				3,739	3,739	11,388
Government & Non-Profit EE				6,000	6,000	
TOTAL PORTFOLIO	3,369	4,176	4,176	10,652	14,828	11,388

¹³ "Unverified Ex Post Savings" are unverified savings pending approval of a TRM or Custom Measure Protocol by the Commission.

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 ¹⁴
	IQ	PYTD	CPITD			
Residential EE	0.358	0.819	0.819		0.819	
Residential Low-Income EE	0.072	0.148	0.148		0.148	
Small Commercial & Industrial EE	0.159	0.161	0.161	0.336	0.497	
Large Commercial & Industrial EE				0.622	0.622	.944
Government & Non-Profit EE						
TOTAL PORTFOLIO	0.588	1.128	1.128	0.958	2.086	.944

Energy savings reported for the Government & Non-Profit Sector results from project savings that, consistent with adopted TRM savings protocols, does not produce demand reductions.

¹⁴ ibid

2.1 Residential EE Sector

The sector target for annual energy savings is 19,127 MWh and the sector target for annual peak demand reduction is 9.172 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

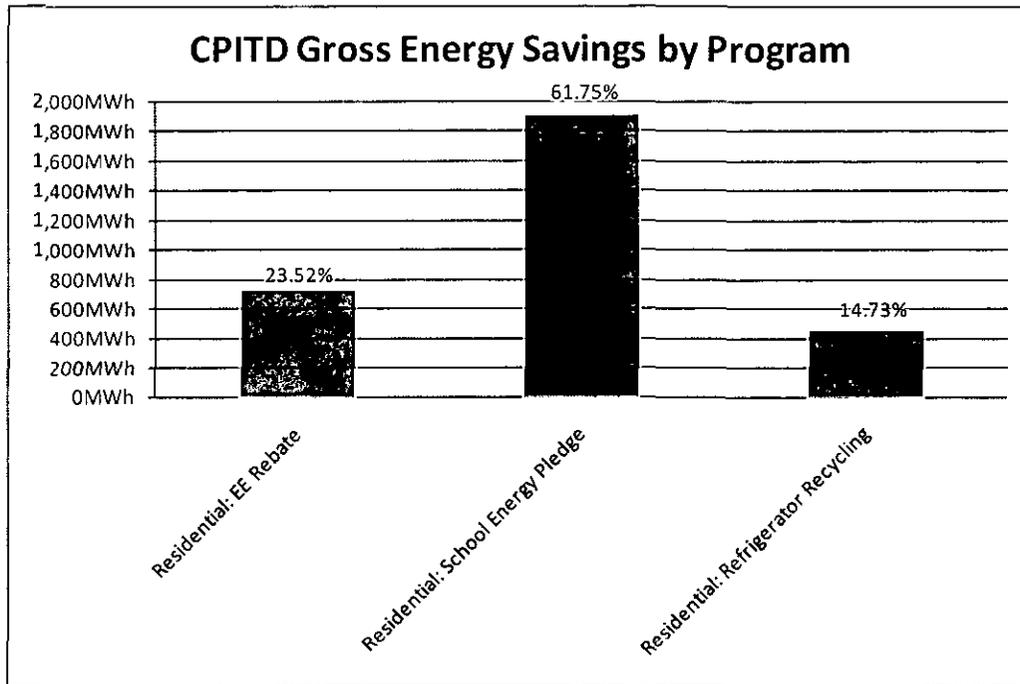
Residential EE Sector	IQ Participants	IQ Reported Gross Energy Savings (MWh)	IQ Reported Gross Demand Reduction (MW)
Residential: EE Rebate	2,563	669	0.038
Residential: School Energy Pledge	3,236	1,346	0.269
Residential: Refrigerator Recycling	205	366	0.050
Sector Total	6,004	693	0.358
NOTES:			

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 Rebate	2,861	723	0.042
Residential: School Energy Pledge	4,750	1,899	0.714
Residential: Refrigerator Recycling	252	453	0.062
Sector Total	7,863	3,075	0.819
NOTES:			

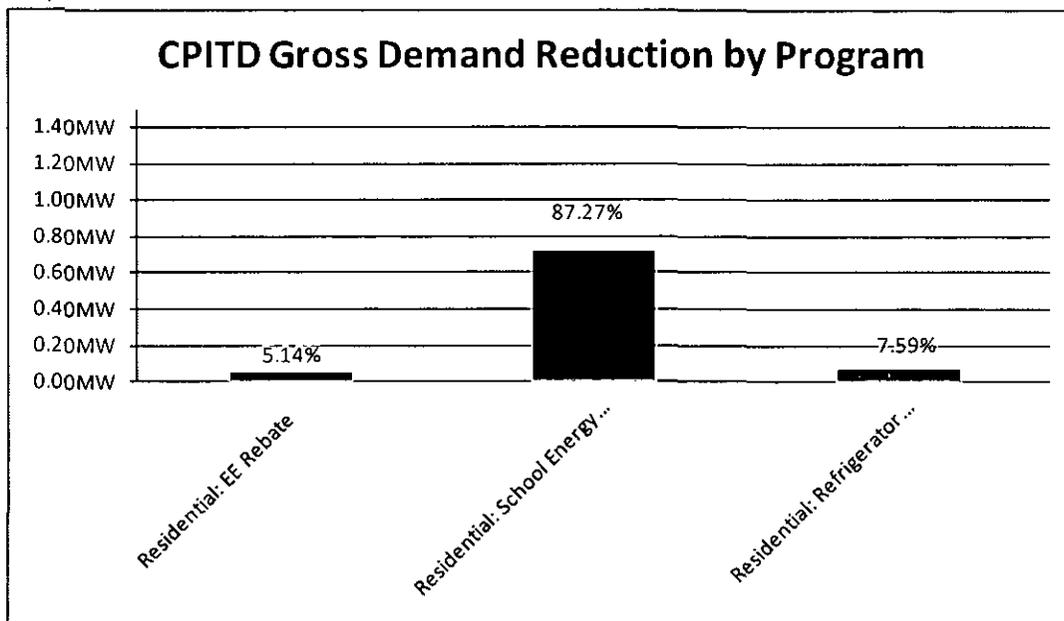
A summary of the sector energy savings by program is presented in Figure 2-3.

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 sector target for annual energy savings is 4,294 MWh and the sector target for annual peak demand reduction is 1.751 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

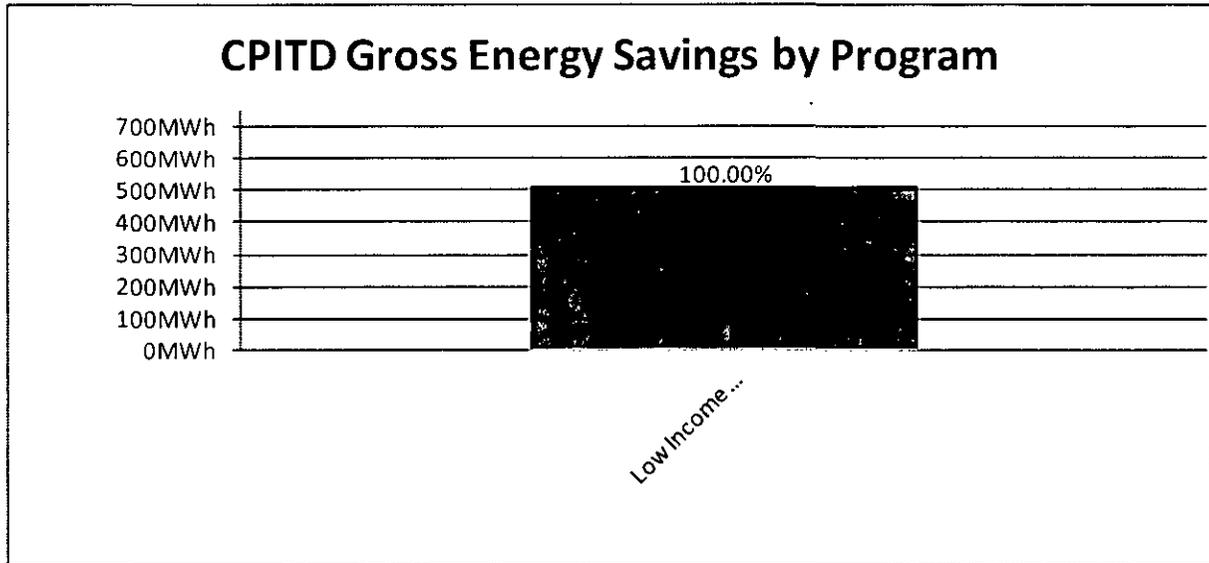
Residential Low-Income EE Sector	IQ Participants	IQ Reported Gross Energy Savings (MWh)	IQ Reported Gross Demand Reduction (MW)
Low Income Energy Efficiency Program	1,022	408	0.072
Sector Total	1,022	408	0.072
NOTES:			

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

Residential EE Sector	PYTD Participants	PYTD Reported Gross Energy Savings (MWh)	PYTD Reported Gross Demand Reduction (MW)
Low Income Energy Efficiency Program	1,296	508	0.148
Sector Total	1,296	508	0.148
NOTES:			

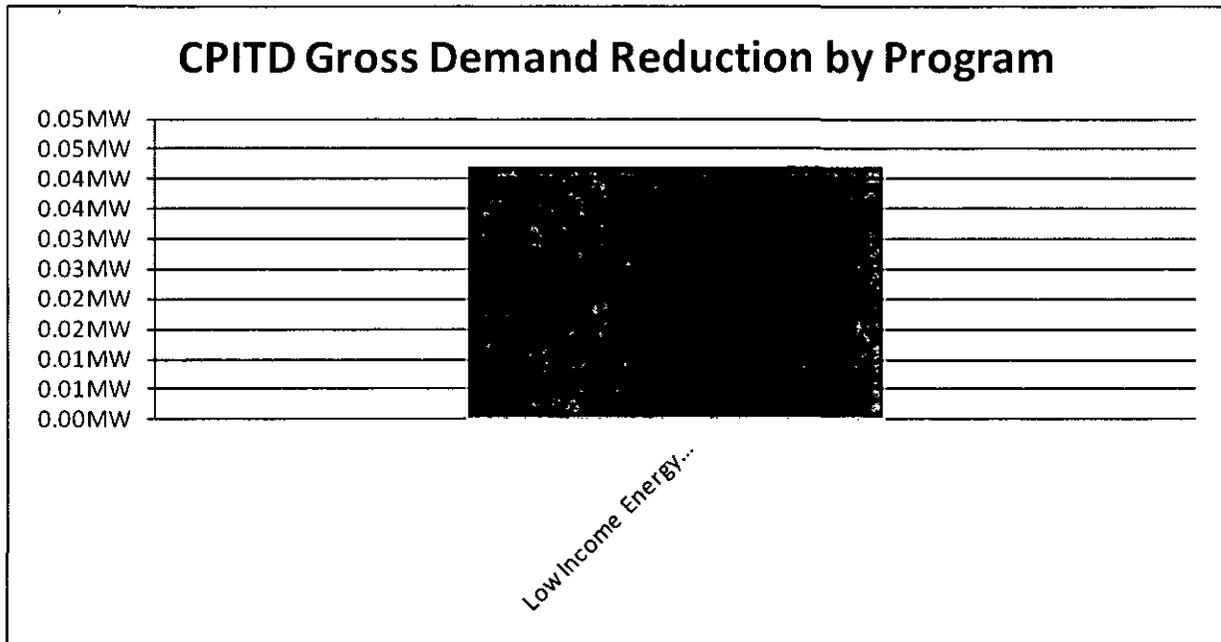
A summary of the sector energy savings by program is presented in Figure 2-3.

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 2-4.

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



Requirements per the Low-Income Working Group: Report of Act 129 Low-Income Working Group, March 19, 2010 Docket no. M-2009-2146801 Recommendations, 1. Estimated Baseline Usage of Low-Income Households (page 5-6) Table 1: The number of measures shall be proportionate to those households' share of the total energy usage in the service territory. Total Number of Measures = 61; Duquesne Light Percent kWh Usage Low-Income Households vs. Total Consumption: 7.88%; 7.88% of 61 measures = 4.8 measures. In PY 2009 Duquesne Light reported savings for the Low Income Energy Efficiency Program from income qualifying participant implementation of energy saving CFLs, furnace whistles, night lights, ENERGY STAR (ES) dehumidifiers, ES outdoor lighting fixtures, ES refrigerators and refrigerator recycling. This activity accounts for 7 measures, exceeding the 4.8 measures required for compliance.

2.3 Small Commercial & Industrial EE Sector

The sector target for annual energy savings is 12,100 MWh and the sector target for annual peak demand reduction is 2.236 MW.

A sector summary of results by program is presented in Table 2-6 and Table 2-7.

Table 2-6: Summary of Small Commercial & Industrial EE Sector Incremental Impacts by Program through the End of the Reporting Period

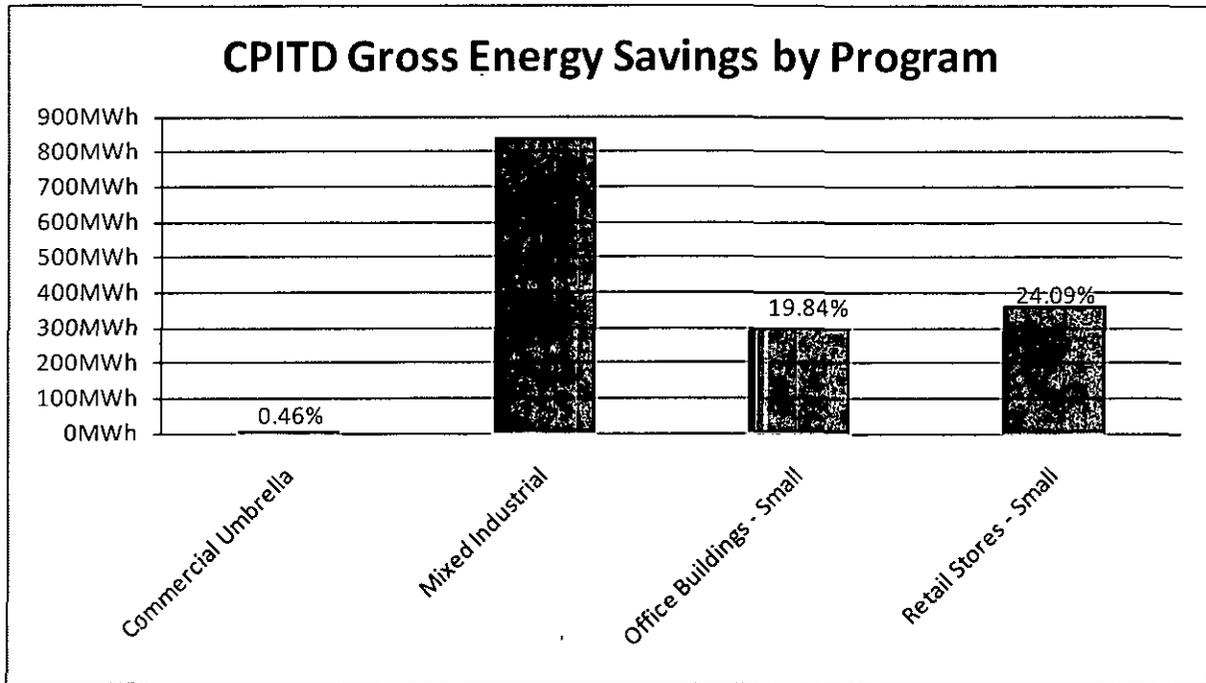
Small Commercial & Industrial Sector	IQ Participants	IQ Reported Gross Energy Savings (MWh)	IQ Reported Gross Demand Reduction (MW)
Commercial Sector Umbrella Program	18	7	0.001
Mixed Industrial EE	2	838	0.154
Office Buildings EE - Small	3	299	0.112
Retail Stores EE - Small	7	363	0.081
Sector Total	30	1,507	0.348
NOTES:			

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

Small Commercial & Industrial Sector	PYTD Participants	PYTD Reported Gross Energy Savings (MWh)	PYTD Reported Gross Demand Reduction (MW)
Commercial Sector Umbrella Program	19	7	0.001
Mixed Industrial EE	2	838	0.154
Office Buildings EE - Small	3	299	0.112
Retail Stores EE - Small	7	363	0.081
Sector Total	31	1,507	0.348
NOTES:			

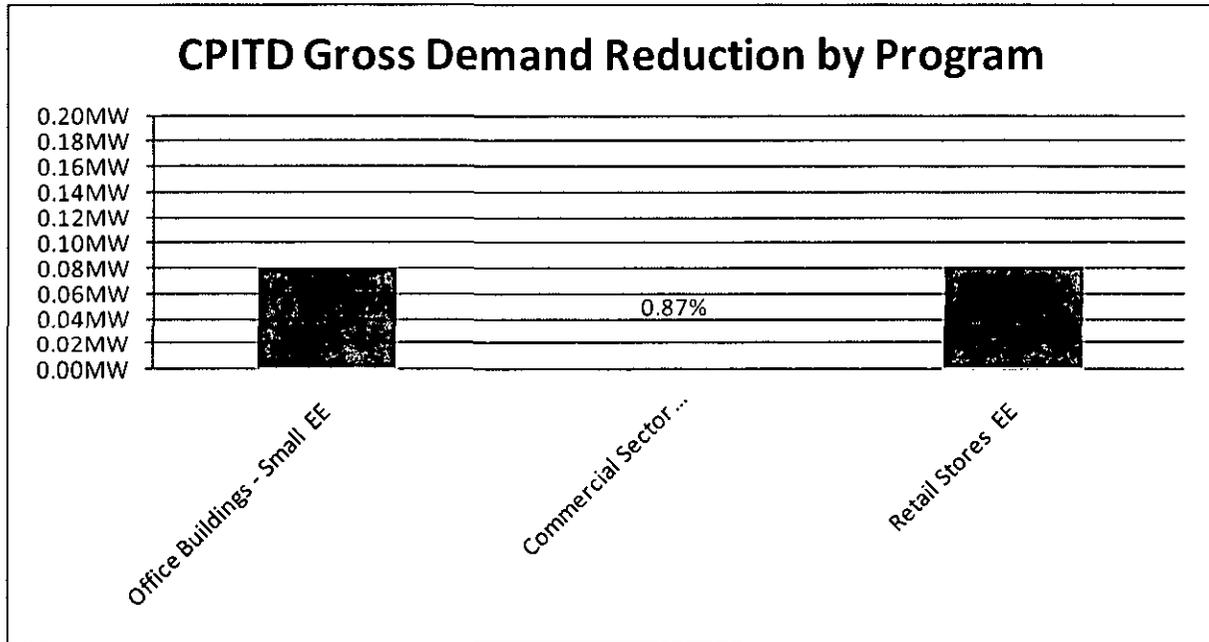
A summary of the sector energy savings by program is presented in Figure 2-3.

Figure 2-7: 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 2-8.

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



2.4 Large Commercial & Industrial EE Sector

The sector target for annual energy savings is 37,136 MWh and the sector target for annual peak demand reduction is 7.245 MW.

A sector summary of results by program is presented in Table 2-8 and Table 2-9.

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

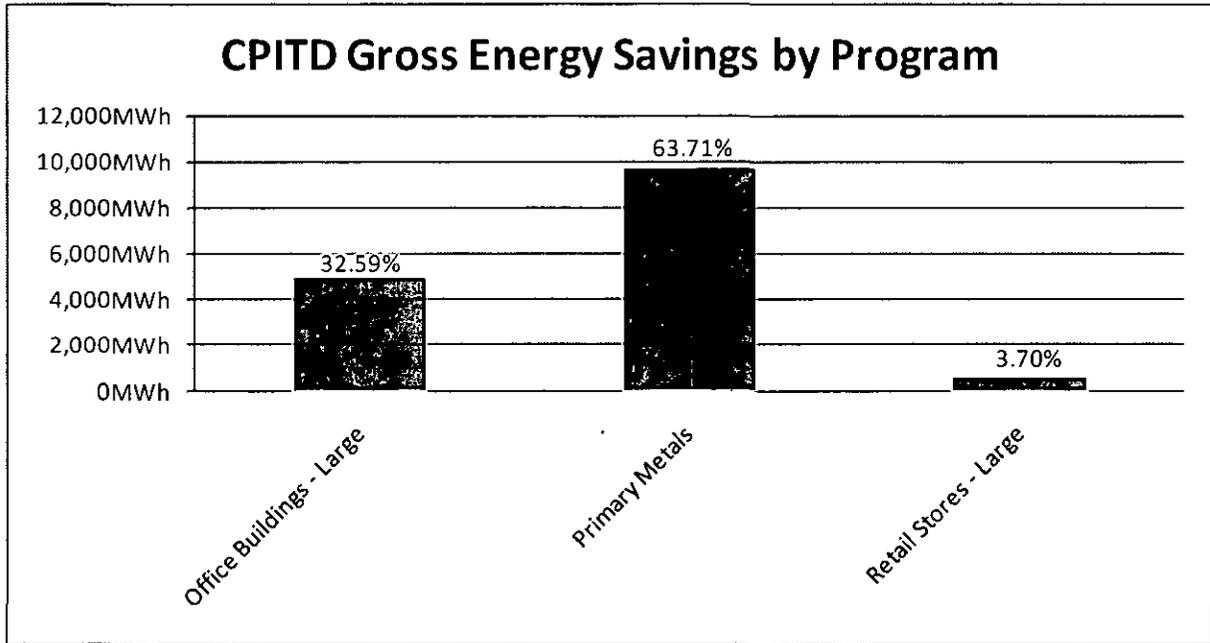
Large Commercial & Industrial EE Sector	IQ Participants	IQ Reported Gross Energy Savings (MWh)	IQ Reported Gross Demand Reduction (MW)
Office Buildings - Large	1	4,930	0.705
Primary Metals	2	9,638	0.861
Retail Stores - Large	3	559	0.148
Sector Total	6	15,127	1.714
NOTES:			

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

Large Commercial & Industrial EE Sector	PYTD Participants	PYTD Reported Gross Energy Savings (MWh)	PYTD Reported Gross Demand Reduction (MW)
Office Buildings - Large	1	4,930	0.705
Primary Metals	2	9,638	0.861
Retail Stores - Large	3	559	0.148
Sector Total	6	15,127	1.714
NOTES:			

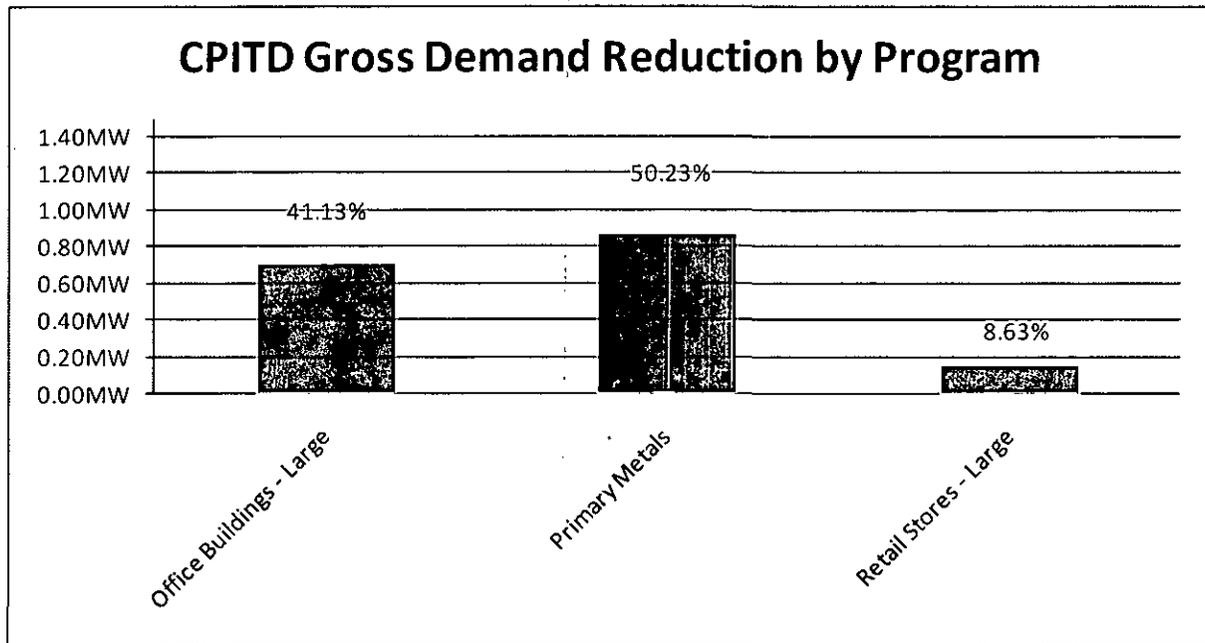
A summary of the sector energy savings by program is presented in Figure 2-9.

Figure 2-9: 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 2-10.

Figure 2-10: 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 sub-programs that address market segments within the Duquesne Light service territory. Under the overarching umbrella program, specialized sub-programs are allowed to promote specific technologies or target specific market segments while incorporating the umbrella program savings impacts and incentive levels. In this manner, sub-programs are intended to present a consistent and common offering. The following provides a brief description of each large commercial and industrial sector sub-program.

The large commercial and industrial sub-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 -- with Duquesne Light customers. Each sub-program is charged with providing 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 large commercial and industrial sector programs:

- Primary Metals and Large Offices: Roth Bros, Inc. and Enerlogics Networks, Inc.
- Chemical Products: Global Energy Partners, LLC
- Mixed Industrial: Global Energy Partners, LLC
- Large Retail: AllFacilities Energy Group

2.5 Government & Non-Profit EE Sector

The sector target for annual energy savings is 8,973 MWh and the sector target for annual peak demand reduction is 2.884 MW.

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

Table 2-9: Summary of Government & Non-Profit EE Sector Incremental Impacts by Program through the End of the Reporting Period

Government & Non-Profit EE Sector	IQ Participants	IQ Reported Gross Energy Savings (MWh)	IQ Reported Gross Demand Reduction (MW)
Government / Non-Profit	1	6,000	0
Sector Total	1	6,000	0
NOTES:			

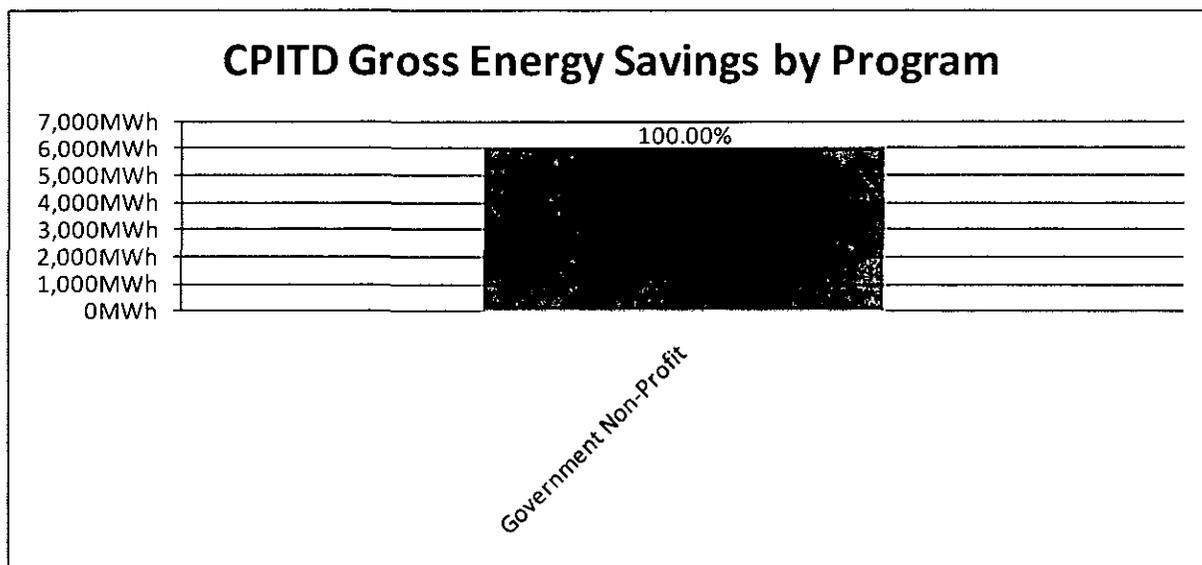
Table 2-10: Summary of Government & Non-Profit EE Sector PYTD Impacts by Program through the End of the Reporting Period

Government & Non-Profit EE Sector	PYTD Participants	PYTD Reported Gross Energy Savings (MWh)	PYTD Reported Gross Demand Reduction (MW)
Government / Non-Profit	1	6,000	0
Sector Total	1	6,000	0
NOTES:			

Energy savings reported for the Government & Non-Profit Sector results from project savings that, consistent with adopted TRM savings protocols, does not produce demand reductions.

A summary of the sector energy savings by program is presented in Figure 2-11.

Figure 2-11: Summary of Government & Non-Profit EE Sector PYTD Reported Gross Energy Savings by Program



A summary of the sector demand reduction by program is presented in Figure 2-12.

Energy savings reported for the Government & Non-Profit Sector results from project savings that, consistent with adopted TRM savings protocols, does not produce demand reductions.

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 identified project areas within agency departments (and jurisdictional agencies); define project scopes of service; and establish project agreements to co-fund agreed-to projects. A partnership such as this was 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

For Duquesne Light, the demand response goal translates into a demand reduction of 113 MW. Three demand response programs were proposed on July 1, 2009 for a total of 37.2 MW. The three include:

- 1) A direct load control program for air conditioners and water heaters for residential customers (18.6 MW)
- 2) A direct load control program for air conditioners for small and mid-sized commercial and industrial customers (7.8 MW)
- 3) A curtailable load program for large commercial and industrial customers defined as those facilities above 300 kW (10.8 MW)

The proposed energy efficiency programs have a target demand reduction of 162 MW. Thus the total of demand response and energy efficiency is 199 MW, compared to the Act 129 goal of 113 MW.

In March 2010, Duquesne Light issued RFPs for the demand response programs. The response in April yielded two bidders for the direct load control programs and one bidder for the curtailable load program. Meetings were held with all bidders in May 2010. The uncertainty over the establishment of approved measurement and verification protocols of the Statewide Evaluator may have accounted for the limited number of respondents.

Currently, the bidders have been notified that the proposals are under consideration. They have been alerted that future discussions will focus on how to meet the goals of Act 129 once measurement and verification protocols are established.

Plan of Action:

- 1) Participate on the demand response working group with PJM: Meet with other utilities, regulatory officials and PJM to develop consensus protocols for M&V of demand response programs. It is hoped the working group will have an acceptable protocol by October 2010.
- 2) Operate demand response programs with selected participants according to approved protocols beginning in the summer of 2011.
- 3) Operate and measure demand response programs in the summer of 2012 according to approved protocols.

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 and total EM&V activity performed, are referred to in the following section, and provided with this Annual Report for reference.

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 will be 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.

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 following describes the M&V Approach: Consistent with Duquesne Light's EM&V Plan Sections 2.5 and 2.5.1, the basic level of verification rigor was used for TRM deemed savings measures and measures with rebates less than \$2,000 consisting of a six-step process:

Step 1 – Verification Checklist: A verification checklist 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 following is a checklist of *qualification, savings verification and installation verification* activities applicable to the REEP:

(Measure/Project Qualification)

- 1) Participant has a valid utility account number
- 2) Measure is part of the applicable rebate catalog or approved measure list
- 3) Proof of purchase identifies qualifying measure and is dated within the period being verified.

- 4) Rebate payment date is within the evaluation period (this date may occur after closure of the current program year based on proof of purchases verified within the evaluation period).

(Deemed Savings Verification)

- 5) Tracking system unit kWh and kW are correct for when compared to adopted and referenced deemed savings values or partially deemed savings protocols.

(Installation Verification)

- 6) Telephone Installation Verification - Measure was actually installed at the customer site (telephone survey for basic level of rigor). If adopted deemed savings values and/or protocols include-service rates (ISR), verification shall confirm program participation and customer's purchase or otherwise taking possession of the relevant energy efficiency products (in the case of give-away EE kits).

Step 2 – Random Sampling: Simplified random sample of participants selected from PMRS

All energy efficiency measures delivered by the REEP have deemed savings specified in the TRM or interim updates to the TRM approved/adopted by the Statewide Evaluator (SWE). Based on low project-level variability simplified random sampling (EM&V Plan Section 2.8.1) is employed to achieve the desired level of confidence and precision (relative error).

The sample size meets or exceeds the Audit Plan and Evaluation Framework for Pennsylvania Act 129 Energy Efficiency and Conservation Programs (Audit Plan) Table 3-35: Desired Confidence and Relative Precision for M&V Activities by Program Type. Using a Microsoft Excel random number generator function program participants were selected randomly. The planned sample size is statically valid to produce confidence/precision of 90/9.7% given minimum program participation of 85% of sampled participants.

Measure	Participants	Sample Size
Residential Deemed Savings Measures	2,861	35

Step 3 – Measure/Project Qualification: The evaluation team reviewed and confirmed relevant documentation for check list criteria item 1 through 4 described under Step 1 from PMRS, or other hardcopy documentation obtained for each sampled PMRS record.

- 1) Participant has a valid utility account number:
All sampled participants had active Duquesne Light account numbers (these were found to be validated in PMRS via linkage to the Customer Information System).
- 2) Measure is on approved list:
All sampled project measures were confirmed to be either listed in Duquesne Light's residential rebate catalog containing approved measures or provided by Duquesne Light in a community outreach energy efficiency kit.

3) Proof of Purchase:

Of the 35 sampled participants, 27 received community outreach energy efficiency tool kits (EE Kits) and 8 received rebates for submitting applications and proof of purchase for qualifying rebate catalog items (REEP Rebates).

EE kits: Invoices from Niagara Conservation for Item YDUQ001-01 confirmed cost, delivery, shipping dates of kits Duquesne Light distributed at nine community outreach events identified in Table 1, above. The kits contained (2) 13 Watt CFLs, (1) 20 Watt CFL and a furnace whistle. Duquesne Light payment vouchers dated and signed, referencing Niagara Conservation invoice numbers were obtained and reviewed and checked against invoice costs, descriptions and event dates.

REEP Rebates: Retailer receipts or contractor invoices, bar codes and UPC descriptions were compared with rebate applications and PMRS measure descriptions. Applications envelop (bearing US Postal processing stamps) return addresses were compared with the rebate application and customer billing address. If proof of purchase was not definitive product information for referenced manufacturers and model numbers were obtained and compared against the rebate application and PMRS measure descriptions.

4) Rebate payment date is within the program year being verified

Rebate payment dates were checked to be within the evaluation period (If payment dates occurred after closure of the evaluation, period proof of purchase was accepted to verify a valid evaluation period transaction).

Step 4 – Deemed Savings Verification: All energy efficiency measures delivered by the REEP have deemed savings specified in the TRM or interim updates to the TRM approved/adopted by the Statewide Evaluator (SWE). The fifth check list criterion described under Step 1, above, is addressed through comparison of PMRS tracking system unit kWh and kW with TRM or interim TRM update deemed savings values. REEP deemed savings verification bases are provided in Appendix A. Variances between tracking system savings values and adopted TRM deemed savings values are identified (Appendix B) for the sample set and incorporated into a Deemed Savings Adjustment (DSA) factor that is applied to savings claims of the sampled population. Overall REEP 2009 deemed savings were found to be 106% of tracking system energy savings values (kWh) and 61% of tracking system demand values (kW) linked to conservative tracking system energy savings estimates for programmable thermostats (PTs), dehumidifiers and EE Kits; deemed savings' omission of demand reductions for PTs.

Deemed Savings Adjusted Savings

	Gross Savings	DSA	DSA Savings
kWh	723,172	106.0%	766,512
kW	42.1	60.6%	25.5

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)¹⁵. Telephone interviews of each sampled customer confirmed participation in

¹⁵ Duquesne Light EM&V Plan Section 2.5.1 Verification of Gross Savings for Deemed Measures and Section 2.5.1.1 Basic Level of Verification Rigor Step 6.

the program, receipt a rebate or EE Kit, and installation the energy saving measure(s). If TRM, or adopted interim updates to the TRM, include 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).

Of the 35 sampled REEP participant projects, 27 are energy efficiency kits provided at community outreach events and 8 are for energy efficient product rebates. Telephone surveys were tailored to the product promotion and include questions designed to verify participants obtained the EE products. Appendix C contains the REEP Energy Efficiency Kit Recipient Survey and Appendix D – REEP Rebate Recipient Survey. Generally, the survey serves multiple impact verification, customer satisfaction, process evaluation and potentially net-to-gross related research objectives. Questions directly applicable to this report follow:

REEP Energy Efficiency Kit Recipient Survey Participation / Installation Rates

REEP Energy Efficiency Kit Recipient Survey Questions	Number
(V1 – Participation Rate)	
Q1. Do you recall receiving the energy savings kit at the [EVENT]?	
Yes	26
No	1
(V2 – Installation Rate)	
Q3. Can we report that you installed the energy efficiency products that were contained in the Kit?	
Yes	24
No	3

REEP Rebate Recipient Survey Questions	Number
(V1 – Participation Rate)	
Q3. Our program records indicate that you purchased [quantity of product] around [date of purchase] and applied for a rebate. Do you recall purchasing [quantity of product]?	
Yes	8
No	0
(V2 – Installation Rate)	
Q6. Can we report that you installed or are using the energy efficiency products that you purchased?	
Yes	8
No	0

Survey Results	Total	Yes	No	Rate (Yes)
V1- Participation Rate	35	34	1	97.1%
V2 – Installation Rate	35	32	3	91.4%

Step 6 – Program Realization Rate: Because all PY 2009 measure savings impacts resulted from the implementation of TRM deemed savings measures with stipulated savings and because the ISRs are also either stipulated in the deemed savings protocol or verified to be 100%, program realization rates presented herein are a function of participant projects meeting the program qualification requirements (QR - Step 3) and verification of program participation (PR - Step 5).

REEP Program Year 2009 Verified Impacts

	DSA Savings	QR	PR	Net Savings	Realization Rate
kWh	766,512	100.0%	97.1%	744,612	97.1%
kW	25.5	100.0%	97.1%	24.8	97.1%

4.1.3 Program Sampling

Program sampling is described above in Section 1.4.1 and 4.1.2 of this Annual Report.

4.1.4 Process Evaluation

A complete and formal process evaluation was not conducted for PY 2009. During the six month program activity, program systems and were still being implemented, an EM&V Plan was being developed and implementation contractors were still being engaged.

However, during the conduct of program sampling and the evaluation of program tracking system data evaluators learned key metrics were not being properly recorded by implementation contractors. This lead to adjustments in implementation processes which was communicated to CSPs and process revisions were made.

4.1.5 Program Partners and Trade Allies

Duquesne Light worked 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.

4.1.6 Program Finances

A summary of the project finances are presented in Table 4-1.

Table 4-1: Summary of Program Finances: TRC Test¹⁶

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$20,582	\$20,582	\$20,582
A.2	EDC Incentives to Trade Allies	0	0	0
A	Subtotal EDC Incentive Costs	\$20,582	\$20,582	\$20,582
B.1	Design & Development	\$105,792	\$452,742	\$452,742
B.2	Administration	0	0	0
B.3	Management	\$6,100	\$42,943	\$42,943
B.4	Marketing	\$2,525	\$38,572	\$38,572
B.5	Technical Assistance	0	0	0
B	Subtotal EDC Implementation Costs	\$114,417	\$534,257	\$534,257
C	EDC Evaluation Costs	\$50,400	\$50,400	\$50,400
D	SWE Audit Costs	0	\$52,893	\$52,893
E	Participant Costs	0	0	0
	Total Costs	\$185,399	\$658,132	\$658,132
F	Annualized Avoided Supply Costs*			
G	Lifetime Avoided Supply Costs*			
	Total Lifetime Economic Benefits*			
	Portfolio Benefit-to-Cost Ratio*			
NOTES: Incentives are not included in the TRC test ratio calculation. Estimated measure costs are included as well as program administration costs applied pro-rata to each program incentive transaction.				

**Per direction from the SWE on 9-13-2010, no TRC values are provided for the PY 2009 annual report.*

¹⁶ 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 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

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:

Step 1 – Verification Checklist: A verification checklist 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 following is a checklist of *qualification, savings verification and installation verification* activities applicable to the SEP:

(Measure/Project Qualification)

- 1) Participant has a valid utility account number
- 2) Measure is part of the applicable rebate catalog or approved measure list
- 3) Proof of purchase identifies qualifying measure and is dated within the period being verified.
- 4) Rebate payment date is within the evaluation period (this date may occur after closure of the current program year based on proof of purchases verified within the evaluation period).

(Deemed Savings Verification)

- 5) Tracking system unit kWh and kW are correct for when compared to adopted and referenced deemed savings values or partially deemed savings protocols.

(Installation Verification)

- 6) Telephone Installation Verification - Measure was actually installed at the customer site (telephone survey for basic level of rigor). If adopted deemed savings values and/or protocols include-service rates (ISR), verification shall confirm program participation and customer's purchase or otherwise taking possession of the relevant energy efficiency products (in the case of give-away EE kits).

Step 2 – Random Sampling: Simple random sample of participants selected from the PMRS.

All energy efficiency measures delivered by the SEP have deemed savings specified in the TRM or interim updates to the TRM approved/adopted by the Statewide Evaluator (SWE). Based on low project-level variability simplified random sampling (EM&V Plan Section 2.8.1) is employed to achieve the desired level of confidence and precision (relative error).

The sample size meets or exceeds the Audit Plan and Evaluation Framework for Pennsylvania Act 129 Energy Efficiency and Conservation Programs (Audit Plan) Table 3-35: Desired Confidence and Relative Precision for M&V Activities by Program Type. Using a Microsoft Excel random number generator function program participants were selected randomly. The planned sample size is statically valid to produce confidence/precision of 90/9.7% given minimum program participation of 85% of sampled participants.

Measure	Participants	Sample Size
Residential Deemed Savings Measures	4,750	35

Step 3 – Measure/Project Qualification: The evaluation team reviewed and confirmed relevant documentation for check list criteria item 1 through 4 described under Step 1 from PMRS, or other hardcopy documentation obtained for each sampled PMRS record.

- 1) Participant has a valid utility account number:
All sampled participants had active Duquesne Light account numbers (these were found to be validated in PMRS via linkage to the Customer Information System).
- 2) Measure is on approved list:
All sampled project measures were confirmed to be either listed in Duquesne Light’s residential rebate catalog containing approved measures or provided by Duquesne Light in a community outreach energy efficiency kit.
- 3) Proof of Purchase:
Of the 35 sampled participants all received SEP EE Kits. Invoices from Niagara Conservation for Item YDL02 and YDL04 confirmed cost, delivery, shipping dates of kits Duquesne Light distributed. Duquesne Light payment vouchers dated and signed, referencing Niagara Conservation invoice numbers were obtained and reviewed and checked against invoice costs and descriptions.
- 4) Rebate payment date is within the program year being verified:
Not applicable for this program.

Step 4 - Deemed Savings Verification: All energy efficiency measures delivered by the SEP have deemed savings specified in the TRM or interim updates to the TRM approved/adopted by the Statewide Evaluator (SWE). The fifth check list criterion described under Step 1, above, is addressed through comparison of PMRS tracking system unit kWh and kW with TRM or interim TRM update deemed savings values. SEP deemed savings verification bases are provided in Appendix E. Variances between tracking system savings values and adopted TRM deemed savings values are identified below as a census of all PY 2009 SEP EE Kits reflecting the FY 2009 SEP Program Deemed Savings Adjustments (DSA). Overall SEP 2009 verified deemed savings were found to be 100.8% of tracking system energy savings values (kWh) and 8.7% of tracking system demand values (kW).

Variations between tracking system savings values and adopted TRM deemed savings values can be linked to adoption of deemed savings during and after program implementation. Generally, SEP energy savings estimates were conservative (specifically for night lights and furnace whistles). However adopted deemed savings provide for no demand reductions associated with these measures as well as incorporating severed reductions in CFL demand impacts through adoption of 5% residential lighting coincident factors. Deemed savings verification for SEP EE Kits delivered in PY 2009 are summarized in the following table:

SEP EE Kit Deemed Savings Adjustments

Kit Description	2009	Unit PMRS		Unit Deemed		Total PMRS		DSA Adjusted	
	EE Kit Qty	kWh	kW	kWh	kW	kWh	kW	kWh	kW
YLD02	1,517	365	0.294	379	0.0118	553,705	446.0	574,943	17.9
YLD04	3,233	416	0.083	414	0.0137	1,344,928	268.3	1,338,462	44.3
Total	4,750					1,898,633	714.3	1,913,405	62.2
<i>Deemed Savings Adjustment</i>						<i>100.8%</i>	<i>8.7%</i>		

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)¹⁷. The SEP telephone interview survey (Appendix F) of each sampled customer confirmed participation in the program and receipt of a SEP EE Kit. Kit content installation rates are recorded at the kit level but lack measure specific detail. Installation rates are taken from TRM, or adopted interim updates to the TRM, deemed savings values and/or protocols incorporating in-service rates (ISR); The primary function of the verification survey is to confirm program participation and participant receipt of the SEP EE Kit.

Generally, the survey serves multiple impact verification, customer satisfaction, process evaluation and potentially net-to-gross related research objectives. Questions directly applicable to this report follow:

SEP EE Kit Recipient Survey Participation / Installation Rates

SEP Energy Efficiency Kit Recipient Survey Questions	Number
(V1 – Participation Rate)	
Q1. Do you recall the program? (if yes go to Q3)	
Yes	34
No	1
(V2 – Kit Content Installation Rate)	
Q3. Can we report that you installed the energy efficiency products that were contained in the Kit?	
Yes	31
No (1-No, 3 Partial)	4

Survey Results	Total	Yes	No	Rate (Yes)
V1- Participation Rate	35	34	1	97.1%
V2 – Installation Rate	35	31	4	88.6%

Note: Results are not discounted for V2 because deemed savings adopt an in-service rate for EE kit components (CFL: 84%, Night Lights 87% and Furnace Whistle 47.4%)

¹⁷ Duquesne Light EM&V Plan Section 2.5.1 Verification of Gross Savings for Deemed Measures and Section 2.5.1.1 Basic Level of Verification Rigor Step 6.

Step 6 – Program Realization Rate: Because all PY 2009 measure savings impacts resulted from the implementation of TRM deemed savings measures with stipulated savings and because the ISRs are also either stipulated in the deemed savings protocol or verified to be 100%, program realization rates presented herein are a function of participant projects meeting the program qualification requirements (QR - Step 3) and verification of program participation (PR - Step 5).

SEP Program Year 2009 Verified Impacts

	DSA Savings	QR	PR	Net Savings	Realization Rate
kWh	1,913,405	100.0%	97.1%	1,858,736	97.1%
kW	62.2	100.0%	97.1%	60.4	97.1%

4.2.3 Program Sampling

Program sampling is described above in Section 1.4.1 and 4.2.2 of this Annual Report.

4.2.4 Process Evaluation

A complete and formal process evaluation was not conducted for PY 2009. During the six month period of program activity, program systems and were still being implemented, an EM&V Plan was being developed and implementation contractors were still being engaged.

4.2.5 Program Partners and Trade Allies

The School Energy Pledge Program was implemented as a partnership between Duquesne Light and 35 regional elementary schools. Duquesne Light also partnered with 4,750 families that “pledged” to install energy efficient products in return for a \$25 donation their child school.

4.2.6 Program Finances

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

Table 4-2: Summary of Program Finances: TRC Test¹⁸

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$80,900	\$118,750	\$118,750
A.2	EDC Incentives to Trade Allies (Kit Supplier Conservation)	62,289	\$91,877	\$91,877
A	Subtotal EDC Incentive Costs	\$143,189	\$210,627	\$210,627
B.1	Design & Development	\$12,977	\$356,618	\$356,618
B.2	Administration	0	0	0
B.3	Management	\$6,096	\$16,301	\$16,301
B.4	Marketing	\$458	\$6,599	\$6,599
B.5	Technical Assistance	0	0	0
B	Subtotal EDC Implementation Costs	\$19,531	\$379,518	\$379,518
C	EDC Evaluation Costs	\$9,240	\$9,240	\$9,240
D	SWE Audit Costs	0	\$9,601	\$9,601
E	Participant Costs	0	0	0
	Total Costs	\$171,960	\$608,986	\$608,986
F	Annualized Avoided Supply Costs*			
G	Lifetime Avoided Supply Costs*			
	Total Lifetime Economic Benefits*			
	Portfolio Benefit-to-Cost Ratio*			
NOTES:				

**Per direction from the SWE on 9-13-2010, no TRC values are provided for the PY 2009 annual report.*

¹⁸ Definitions for terms in following table are subject to TRC Order.

4.3 Residential: Refrigerator Recycling Program

The Residential Refrigerator (& Freezer) Recycling Program (RRRP) 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, RRRP offers incentives for eligible refrigerators (\$35) and freezers (\$35). In addition, RRRP 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, Figure E-4 for the Residential School Energy Pledge Program.

4.3.2 Program M&V Methodology

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:

Step 1 – Verification Checklist: A verification checklist 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 following is a checklist of qualification, savings verification and installation verification activities applicable to the RRRP:

(Measure/Project Qualification)

- 1) Participant has a valid utility account number
- 2) Measure qualification:
 - Unit in working condition (tested prior to pick-up)
 - Unit meets size requirement which is 10 cu ft - 30 cu ft.
- 3) Energy savings impact occurred within the evaluation period (surrogate for EE rebate proof of purchase date); unit must have been removed within the evaluation period.
- 4) Rebate payment date is within the evaluation period (this date may occur after closure of the program year providing unit removal (savings impact) occurred within the evaluation period)

(Deemed Savings Verification)

- 5) Tracking system unit kWh and kW are correct for each listed measure

(Installation Verification)

- 6) Telephone Installation Verification - Measure was actually installed at the customer site (telephone survey for basic level of rigor - for this program means the appliance was actually picked up and recycled)

Step 2 – Random Sampling: Simple random sample of participants selected from the PMRS.

All energy efficiency measures delivered by the RRRP have deemed savings specified in the TRM.. Based on low project-level variability simplified random sampling (EM&V Plan Section 2.8.1) is employed to achieve the desired level of confidence and precision (relative error).

The sample size meets or exceeds the Audit Plan and Evaluation Framework for Pennsylvania Act 129 Energy Efficiency and Conservation Programs (Audit Plan) Table 3-35: Desired Confidence and Relative Precision for M&V Activities by Program Type. Using a Microsoft Excel random number generator function program participants were selected randomly. The planned sample size is statically valid to produce confidence/precision of 90/9.1% given minimum program participation of 85% of sampled participants.

Measure	Participants (Through 5/31/2010)	Sample Size
Recycle Refrigerator or Freezer	252	35

Step 3 – Measure/Project Qualification: Relevant documentation for item #1 through #4 from PMRS, or other hardcopy documentation is then obtained for each sampled PMRS record.

- 1) Participant has a valid utility account number
Participant Duquesne Light account numbers are validated in PMRS via linkage to the Customer Information System.
- 2) Measure is on approved list (Refrigerators/freezers qualify for Recycling when):
 - In working condition
Verification addressed under Step 5 – Participation and Installation Verification
 - Meets the size requirement which is 10 cu ft - 30 cu ft.
See Appendix H: JACO data request “SizeCuFt” field
- 3) Proof of Purchase: Not applicable for this program, appliance pick-up date was checked to ensure it was within the evaluation period.
PMRS records indicates pick-up dates were within the evaluation period, cross-checked with JACO response to data request (Appendix H), and participant survey *addressed under Step 5 – Participation and Installation Verification.*
- 4) Rebate payment date is within the program year being verified
Rebate payment dates N/A, defer to appliance pick-up date for verification of impact within the evaluation period.

Step 4 - Deemed Savings Verification: All energy efficiency measures delivered by the RRRP have deemed savings specified in the current TRM. The fifth check list criterion described under Step 1, above, 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. Unit savings are defined as below:

$$\text{Electricity Impact (kWh)} = \text{ESav}_{\text{RetFridge}}$$

$$\text{Demand Impact (kW)} = \text{DSav}_{\text{RetFridge}} \times \text{CF}_{\text{RetFridge}}$$

Term definition:

$\text{ESav}_{\text{RetFridge}}$ = Gross annual energy savings per unit retired appliance

$\text{DSav}_{\text{RetFridge}}$ = Summer demand savings per retired refrigerator/freezer

$\text{CF}_{\text{RetFridge}}$ = Summer demand coincidence factor

(TRM) Table 4-2: Refrigerator/Freezer Recycling – References

Component	Type	Value
$\text{ESav}_{\text{RetFridge}}$	Fixed	1,728 kWh
$\text{DSav}_{\text{RetFridge}}$	Fixed	0.2376 kW
$\text{CF}_{\text{RetFridge}}$	Fixed	1

The aforementioned deemed savings values were compared with PMRS tracking system data for the RRRP sample projects and found to be 100% consistent where deemed savings values are 100% of tracking system energy savings values (kWh) and 100% of tracking system demand savings values (kW); there is no Deemed Savings Adjustment (DSA) indicated.

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)¹⁹. RRRP telephone interview surveys (Appendix I) were 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 (per Step 1, criterion 2). RRRP telephone survey questions addressing this activity follow:

¹⁹ Duquesne Light EM&V Plan Section 2.5.1 Verification of Gross Savings for Deemed Measures and Section 2.5.1.1 Basic Level of Verification Rigor Step 6.

RRRP Participant Survey Participation / Installation Rates

Refrigerator /Freezer Recycling Program Participant Survey Questions	Number
Q3. Our program records indicate that you received an incentive of [amount of program incentive] for pickup of [quantity of refrigerator, freezer] around [date of pickup]. Do you recall having your [refrigerator, freezer] picked up by JACO Environmental?	
Yes	35
No	0
Q8. Do you recall if the representative from JACO Environmental tested the refrigerator, freezer] before taking it away?	
Yes	34
No	1

Confirmation of participation requires both questions 3 and 8 be answered in the affirmative; a negative response to either of the questions constitutes failure of the participation test.

Survey Results	Total	Yes	No	Rate (Yes)
Participation Rate	35	34	1	97.1%

Step 6 – Program Realization Rate: Because all PY 2009 measure savings impacts resulted from the implementation of TRM deemed savings measures with stipulated savings and because the ISRs are also either stipulated in the deemed savings protocol or verified to be 100%, program realization rates presented herein are a function of participant projects meeting the program qualification requirements (QR - Step 3) and verification of program participation (PR - Step 5).

The PR (Participation Rate) is a function of project verification undertaken in function of Step 1 and Step 5.

- The participant is a current Duquesne Light customer
- Verification (via telephone survey) the customer participated in the program.
- Measure qualifies under program requirements:
 - Unit in working condition (tested prior to pick-up)
 - Unit meets size requirement which is 10 cu ft - 30 cu ft.

Participant telephone surveys found one participant had unplugged a refrigerator prior to the contractor’s arrival to remove the unit. Based on this finding the evaluation team concludes it could not have been tested and thereby failed the participation test resulting in participation verification of 34 out of 35 participants sampled resulting in a participation rate of 97.14%

RRRP Program Year 2009 Verified Impacts

	Gross Savings	QR	PR	Net Savings	Realization Rate
kWh	452,736	100.0%	97.1%	439,801	97.1%
kW	62.1	100.0%	97.1%	60.3	97.1%

4.3.3 Program Sampling

Program sampling is described above in Section 1.4.1 and 4.3.2 of this Annual Report.

4.3.4 Process Evaluation

A complete and formal process evaluation was not conducted for PY 2009. During the four month period of program activity, program systems and were still being implemented, an EM&V Plan was being developed and implementation contractors were still being engaged.

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 4-3.

Table 4-3: Summary of Program Finances: TRC Test²⁰

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$7,420	\$9,170	\$9,170
A.2	EDC Incentives to Trade Allies	0	0	0
A	Subtotal EDC Incentive Costs	\$7,420	\$9,170	\$9,170
B.1	Design & Development	\$39,178	\$85,777	\$85,777
B.2	Administration	0	0	0
B.3	Management	\$6,096	\$16,301	\$16,301
B.4	Marketing	\$332	\$5,502	\$5,502
B.5	Technical Assistance	0	0	0
B	Subtotal EDC Implementation Costs	\$45,606	\$107,580	\$107,580
C	EDC Evaluation Costs	\$6,720	\$6,720	\$6,720
D	SWE Audit Costs	0	\$6,959	\$6,959
E	Participant Costs	0	0	0
	Total Costs	\$59,746	\$130,429	\$130,429
F	Annualized Avoided Supply Costs*			
G	Lifetime Avoided Supply Costs*			
	Total Lifetime Economic Benefits*			
	Portfolio Benefit-to-Cost Ratio*			

**Per direction from the SWE on 9-13-2010, no TRC values are provided for the PY 2009 annual report.*

²⁰ 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 2009 the LIEEP savings by income qualifying customers were delivered by the Residential Energy Efficiency Program (REEP), the Residential School Energy Pledge Program (SEP) and the Residential Refrigerator/Freezer Recycling Program (RRRP).

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 School Energy Pledge Program.

4.4.2 Program M&V Methodology

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:

Step 1 – Verification Checklist: A verification checklist 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 following is a checklist of *qualification, savings verification and installation verification* activities applicable to the LIEEP:

(Measure/Project Qualification)

- 1) Participant has a valid utility account number
- 2) Measure is part of the applicable rebate catalog, approved measure list or provided free of charge by Duquesne Light. Where savings were delivered by the RRRP, measure qualification include:
 - Unit in working condition (tested prior to pick-up)
 - Unit meets size requirement which is 10 cu ft - 30 cu ft.
- 3) Proof of purchase identifies qualifying measure and is dated within the period being verified. Where EE kits were provided free of charge, or refrigerators or freezers were removed for recycling, verifying the date energy savings impact occurs shall serve as a surrogate for EE rebate proof of purchase date.
- 4) Rebate payment date is within the evaluation period (this date may occur after closure of the program year providing):
 - Proof of purchase is dated within the evaluation period
 - RRRP unit removal occurs within the evaluation period

(Deemed Savings Verification)

- 5) Tracking system unit kWh and kW are correct for when compared to adopted and referenced deemed savings values or partially deemed savings protocols.

(Installation Verification)

- 6) Telephone Installation Verification - Measure was actually installed at the customer site (telephone survey for basic level of rigor). If adopted deemed savings values and/or protocols include-service rates (ISR), verification shall confirm program participation and customer's purchase or otherwise taking possession of the relevant energy efficiency products (in the case of give-away EE kits).

Step 2 – Random Sampling: Simple random sample of participants selected from the PMRS.

All energy and demand savings reported for PY 2009 LIEEP result from the implementation of measures with deemed savings specified in the TRM or interim updates to the TRM approved/adopted by the Statewide Evaluator (SWE). Based on low project-level variability simplified random sampling (EM&V Plan Section 2.8.1) is employed to achieve the desired level of confidence and precision (relative error).

The sample size meets or exceeds the Audit Plan and Evaluation Framework for Pennsylvania Act 129 Energy Efficiency and Conservation Programs (Audit Plan) Table 3-35: Desired Confidence and Relative Precision for M&V Activities by Program Type. Using a Microsoft Excel random number generator function program participants were selected randomly. The planned sample size is statically valid to produce confidence/precision of 90/9.6% given minimum program participation of 85% of sampled participants.

Measure	Participants	Sample Size
Residential Deemed Savings Measures	1,296	35

Step 3 – Measure/Project Qualification: The evaluation team reviewed and confirmed relevant documentation for check list criteria item 1 through 4 described under Step 1 from PMRS, or other hardcopy documentation obtained for each sampled PMRS record.

- 1) Participant has a valid utility account number:
All sampled participants had active Duquesne Light account numbers (these were found to be validated in PMRS via linkage to the Customer Information System).
- 2) Measure is on approved list:
97% of projects implemented (1,261 out of 1,296) by income qualifying customers resulting in savings reported by the PY 2009 LIEEP came from *measures provided by Duquesne Light in an EE Kit or SEP EE Kit. Random selection of 35 sample projects resulted in a sample set comprised of 12 EE Kits and 23 SEP EE Kits. The following table provides definition of the EE Kits or SEP EE kits sampled:*

EE Kit and SEP EE Kit Content

Kit Type	Item	Sampled	Kit Content	Qty
EE Kit	YDUQ001-01	12	13 Watt CFL	2
			20 Watt CFL	1
			Furnace Whistle	1
			Description / Installation Sheet	1
SEP EE Kit	YDL02	23	13 Watt CFL	5
			Night Light (Lime Light)	2
			Furnace Whistle	1
			Door / Window Weather Stripping	1
			Energy Wheel	1
			Description / Installation Sheet	1

All sampled project measures were provided by Duquesne Light and are qualifying measures.

3) Proof of Purchase:

As related above, random selection of 35 sample projects result in a sample set comprised of 12 EE Kits and 23 SEP EE Kits.

EE kits: Invoices from Niagara Conservation for Item YDUQ001-01 EE Kits confirmed cost, delivery, shipping dates of kits Duquesne Light distributed at nine community outreach events identified in Table 12, above. Duquesne Light payment vouchers dated and signed, referencing Niagara Conservation invoice numbers were obtained and reviewed and checked against invoice costs, descriptions and event dates.

SEP EE Kits. Invoices from Niagara Conservation for Item YDL02 (described above) confirmed cost, delivery, shipping dates of kits Duquesne Light distributed. Duquesne Light payment vouchers dated and signed, referencing Niagara Conservation invoice numbers were obtained and reviewed and checked against invoice costs and descriptions.

4) Rebate payment date is within the program year being verified

Not applicable for the sampled projects.

Step 4 - Deemed Savings Verification: Measures implemented by income qualifying customers resulting in savings reported by the PY 2009 LIEEP came from measures with deemed savings specified in the TRM or interim updates to the TRM approved/adopted by the Statewide Evaluator (SWE). The fifth check list criterion described under Step 1, above, is addressed through comparison of PMRS tracking system unit kWh and kW with TRM or interim TRM update deemed savings values. LIEEP deemed savings verification bases are provided in Appendix K. Table 19 summarizes variances found between tracking system savings values and adopted TRM deemed savings values and bases for the FY 2009 LIEEP Deemed Savings Adjustments (DSA). The table expands the comparison from 35 sampled sites to

compare PMRS tracking system data to deemed savings data for all EE Kits, SEP EE Kits, Duquesne Light Employee Kits, and Refrigerator Recycling activity provided income qualifying participants reported under LIEEP. This activity comprises a near census of LIEEP claimed savings: 1,272 projects (1,274 measures see below) out of 1,296 reported projects comprising 98% of all projects; 501 MWh out of 507 MWh claimed savings (99%). The remaining 24 projects were comprised of individual rebates for items such as dehumidifiers, refrigerators, CFLs, lighting fixtures and programmable thermostats for low income customers.

Comparison of EE Kit Tracking System Savings with Adopted Deemed Savings

Kit Description	2009 EE Kit Qty	Unit PMRS		Unit Deemed		Total PMRS		DSA Adjusted	
		kWh	kW	kWh	kW	kWh	kW	kWh	kW
YDUQ001-01	177	248	0.007	248	0.0075	43,896	1.2	43,914	1.3
YLD02	256	365	0.294	379	0.0118	93,440	75.3	97,024	3.0
YLD04	812	416	0.083	414	0.0137	337,792	67.4	336,168	11.1
Employee Kit 1	13	142	0.005	120	0.0051	1,846	0.1	1,558	0.1
Employee Kit 2	3	568	0.095	581	0.0511	1,704	0.3	1,743	0.2
Refrig Recycling	13	1728	0.237	1728	0.237	22,464	3.1	22,464	3.1
Total	1,274					501,142	147.3	502,870	19
<i>Deemed Savings Adjustment Factors</i>						<i>100.3%</i>	<i>12.7%</i>		

Table 20 applies the DSA calculated above to total claimed savings (tracking system values) for the PY 2009 LIEEP DSA Savings:

Deemed Savings Adjusted Savings

	Gross Savings	DSA	DSA Savings
kWh	507,932	100.3%	509,684
kW	148.1	12.7%	18.9

Overall LIEEP 2009 deemed savings were found to be 100.4% of tracking system energy savings values (kWh) and 10.8% of tracking system demand savings values (kW). Variances between tracking system savings values and adopted TRM deemed savings values can be linked to adoption of deemed savings during and after program implementation. Generally, energy savings estimates were conservative (specifically for night lights and furnace whistles). However adopted deemed savings provide for no demand reductions associated with these measures as well as incorporating severed reductions in CFL demand impacts through adoption of a 5% residential lighting coincident factor.

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)²¹. Of the 35 sampled LIEEP participant projects, 12 are EE kits and 23 are SEP EE Kits. Telephone surveys were tailored to the product promotion and include questions designed to verify participants obtained the EE products. Appendix B contains the EE Kits recipient survey and Appendix F contains the SEP EE Kit recipient survey. Kit content installation rates are recorded at the kit level but lack measure specific detail. Installation rates are taken from TRM, or adopted interim updates to the TRM, deemed savings values and/or protocols incorporating in-service rates (ISR); The primary function

²¹ Duquesne Light EM&V Plan Section 2.5.1 Verification of Gross Savings for Deemed Measures and Section 2.5.1.1 Basic Level of Verification Rigor Step 6.

of the verification survey is to confirm program participation and participant receipt of the EE Kit of SEP EE Kit.

Generally, the survey serves multiple impact verification, customer satisfaction, process evaluation and potentially net-to-gross related research objectives. Questions directly applicable to this report follow:

LIEEP Energy Efficiency Kit Recipient Survey Participation / Installation Rates

LIEEP Energy Efficiency Kit Recipient Survey Questions	Number
(V1 – Participation Rate)	
Q1. Do you recall receiving the energy savings kit at the [EVENT]?	
Yes	12
No	0
(V2 – Installation Rate)	
Q3. Can we report that you installed the energy efficiency products that were contained in the Kit?	
Yes	11
No (1-partial)	1

LIEEP - SEP Energy Efficiency Kit Recipient Survey Questions	Number
(V1 – Participation Rate)	
Q1. Do you recall the program? (if yes go to Q3)	
Yes	23
No	0
(V2 – Kit Content Installation Rate)	
Q3. Can we report that you installed the energy efficiency products that were contained in the Kit?	
Yes	23
No	0

Survey Results	Total	Yes	No	Rate (Yes)
V1- Participation Rate	35	35	0	100.0%
V2 – Installation Rate	35	34	1	97.1%

Step 6 – Program Realization Rate: Because all PY 2009 measure savings impacts resulted from the implementation of TRM deemed savings measures with stipulated savings and because the ISRs are also either stipulated in the deemed savings protocol or verified to be 100%, program realization rates presented herein are a function of participant projects meeting the program qualification requirements (QR - Step 3) and verification of program participation (PR - Step 5).

The PR (Participation Rate) is a function of project verification undertaken in function of Step 1 and Step 5. If any of the following tests fail, verified program impacts are set to zero:

- 1) The participant is a current Duquesne Light customer
- 2) The measure is included in The LIEEP

- 3) The measure was obtained during the program period
- 4) Verification (via telephone survey) the customer participated in the program.

The IR (Installation Rate) is a function of project verification under taken in Step 5 wherein participants are asked if they installed the item purchased or received (in the case of community outreach EE Kits). The IR is a percentage of the items obtained that were reported to be installed. All LIEEP rebate recipients surveyed confirmed an IR of 100%.

LIEEP Program Year 2009 Verified Impacts

	DSA Savings	QR	PR	Net Savings	Realization Rate
kWh	509,684	100.0%	100.0%	509,684	100.0%
kW	18.9	100.0%	100.0%	18.9	100.0%

4.4.3 Program Sampling

Program sampling is described above in Section 1.4.1 and 4.4.2 of this Annual Report.

4.4.4 Process Evaluation

A complete and formal process evaluation was not conducted for PY 2009. During the four month period of program activity, program systems and were still being implemented, an EM&V Plan was being developed and implementation contractors were still being engaged.

4.4.5 Program Partners and Trade Allies

Primary reporting for PY 2009 for the LIEEP reflects income qualifying customers participating in REEP, SEP or RRRP. Consistent with its filed program plan, in PY 2010 the 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 4-4.

Table 4-4 A Summary of Program Finances

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$21,445	\$27,915	\$27,915
A.2	EDC Incentives to Trade Allies	0	0	0
A	Subtotal EDC Incentive Costs	\$21,445	\$27,915	\$27,915
B.1	Design & Development	\$20,661	\$122,344	\$122,344
B.2	Administration	0	0	0
B.3	Management	\$6,096	\$16,301	\$16,301
B.4	Marketing	\$869	\$11,985	\$11,985
B.5	Technical Assistance	0	0	0
B	Subtotal EDC Implementation Costs	\$27,626	\$150,630	\$150,630
C	EDC Evaluation Costs	\$17,640	\$17,640	\$17,640
D	SWE Audit Costs	0	\$18,212	\$18,212
E	Participant Costs	0	0	0
	Total Costs	\$66,711	\$214,397	\$214,397
F	Annualized Avoided Supply Costs*			
G	Lifetime Avoided Supply Costs*			
	Total Lifetime Economic Benefits*			
	Portfolio Benefit-to-Cost Ratio*			
NOTES:				

**Per direction from the SWE on 9-13-2010, no TRC values are provided for the PY 2009 annual report.*

4.5 Other Programs Active in PY 2009

As related above under Annual Report Section 1.4.1, the evaluation dataset contained record of 9,180 customer actions taken to implement energy efficiency measures termed “projects” completed by Duquesne Light’s EE&C Programs during PY 2009. The 9,180 projects include 8,326 (91%) energy efficiency kits containing residential measures (CFLs, night lights and furnace whistles) that the utility provided free of charge to program participants. The remaining 854 projects included 852 residential, measures, and two commercial lighting projects. Because 9,178 projects out of 9,180 projects reviewed involved implementing residential measures in residential dwellings, PY 2009 verification addressed only PY 2009 savings impacts of the residential programs described above.

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MCR



**Duquesne Light
Evaluation Measurement & Verification
Report**

**Energy Efficiency & Conservation
Programs**

Program Year 2009



Prepared by
MCR Performance Solutions, LLC

With assistance from
Ridge & Associates

August 25, 2010

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1. Executive Summary

Introduction

This document contains verification findings for Duquesne Light's (utility) Act 129 residential energy efficiency and conservation (EE&C) programs for program year 2009 (PY 2009) ending May 31, 2010 (evaluation period). PY 2009 comprises the first year of a program period ending May 31, 2013 as set forth in Pennsylvania Act 129 of 2008 and Pennsylvania Public Utilities Commission (Commission) Implementation Order at Docket No. M-2008-2069887 (Implementation Order).

Duquesne Light filed its EE&C Plan on July 1, 2009 and received Commission conditional approved on October 22, 2009. Programs were launched December 1, 2009 then revised pursuant to a Commission order on December 23, 2009. Duquesne Light's PY 2009 EE&C program accomplishments were limited to a 5-month program period that was dominated by program ramp-up activities.

Purpose and Objectives

The purpose of the verification report is to provide reliable and objective verification of claimed program accomplishments for Duquesne Light's residential retrofit energy efficiency programs implemented in PY 2009. The objectives of the verification were to confirm installations claimed by Duquesne Light, to corroborate the appropriate *ex ante* assumptions were used and documented in the claims, and to validate the calculations used for those claims.

The following table provides a summary of EE&C program energy savings impacts resulting from program measures implemented on or before May 31, 2010:

Table ES-1: Duquesne Light PY 2009 EE&C Activity and Savings Impacts

Program	Participants	MWh	MW
Residential: EE Rebate Program	2,861	723.2	0.0421
Residential: School Energy Pledge Program	4,750	1,898.6	0.7143
Residential: Refrigerator Recycling Program	252	452.7	0.0621
Residential: Low Income Energy Efficiency Program	1,296	507.9	0.1481
Commercial Sector Umbrella Program (1)	19	7.0	0.0014
Commercial Sector Retail Program	2	31.7	0.0061
Total	9,180	3,621.2	0.9741

An evaluation dataset provided June 22, 2010 contains record of 9,180 customer actions taken to implement energy efficiency measures termed "projects" completed by Duquesne Light's EE&C Programs during PY 2009. The 9,190 projects include 8,326 (91%) energy efficiency kits containing residential measures (CFLs, night lights, furnace whistle, etc) that Duquesne Light provided free of charge to program participants. The remaining 854 projects are 852 residential, measures, and two commercial lighting projects. This verification report addresses only PY 2009 savings impacts of the residential programs.

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All energy efficiency measures delivered in the 9,180 projects have deemed savings specified in the Pennsylvania Technical Reference Manual and no single project rebate exceeded \$2,000. The Statewide Evaluation Audit Plan prescribes basic level of rigor EM&V protocols for TRM deemed measures and verification activities consist primarily of verifying the number of installations, assumptions and inputs to the deemed savings estimates and appropriate application of the TRM (energy and demand) savings algorithms.

Verification Approach

This report contains detailed descriptions of the approach undertaken to verify utility EE&C program PY 2009 savings impacts. At a high level, the verification process is built upon a statistically valid random sample of representative projects, evaluating them, determining the accuracy of claimed savings, and; based on findings, developing quantitative correction factors required to adjust sample set claimed savings to be equal to verified savings. The correction factors are then applied to the entire population from which the sample was drawn. Correction factors can be termed “realization rates.”

The following is a brief description of the random sampling performed as well as project qualification, savings verification and participation and installation verification activities undertaken to develop program realization rates.

Random Sampling:

All energy efficiency measures delivered in PY 2009 have deemed savings specified in the TRM or interim updates to the TRM approved/adopted by the Statewide Evaluator. Based on low project-level variability, simplified random sampling is employed to achieve the desired level of confidence and precision levels.

The following sample sizes exceed Audit Plan Table 3-35: Desired Confidence and Relative Precision for M&V Activities by Program Type. Using the Microsoft Excel random number generator function program participants were selected randomly. The planned sample size is sufficient to achieve the following level of confidence and precision, assuming a minimum program participation of 85% of sampled participants.

Table ES-2: Program Sample Sizes

Program Grouping	TRM Designation	Sample Size	5/31/2010 Project Population	Planned Absolute Percision at 90% Confidence	Achieved Absolute Percision at 90% Confidence
Residential: EE Rebate	Deemed	35	2,861	9.70%	4.7%
Residential: School Energy Pledge	Deemed	35	4,750	9.70%	4.7%
Residential: Refrigerator Recycling	Deemed	35	252	9.10%	4.4%
Residential: Low Income Energy	Deemed	35	1,296	9.60%	0.0%

Qualification: A verification checklist identified requirements to qualify projects (e.g., participant must have a current service account number, measure must be included in the program, proof of purchase must identify the measure and be dated in the program period).

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Savings Verification: Tracking system values were compared to adopted TRM deemed savings values. Variances between tracking system savings values and adopted TRM deemed savings values are identified for each program sample set and incorporated into a Deemed Savings Adjustment (DSA) factor that is applied to savings claims of the sampled population.

Table ES-3: DSA Adjusted Program Savings

Program	Tracking System		DSA Savings	
	kWh	kW	kWh	kW
REEP	723,172	42.1	766,512	25.5
SEP	1,898,633	714.3	1,913,405	62.2
RRRP	452,736	62.1	452,736	62.1
LIEEP	507,932	148.1	509,684	18.9
Total	3,582,473	966.5	3,642,337	168.7
<i>DSA Factor</i>	<i>102%</i>	<i>17%</i>		

Participation and Installation Verification: Based on the program activity identified above, telephone surveys were used to verify customer program participation and the energy efficiency measures were acquired and installed.

Program Realization Rate: Because all PY 2009 measure savings impacts resulted from the implementation of TRM deemed savings measures with stipulated savings and because the ISRs are also either stipulated in the deemed savings protocol or verified to be 100%, program realization rates presented herein are a function of participant projects meeting the program qualification requirements and verification of program participation.

Table ES-4: Duquesne Light PY2009 EE&C Program Savings Impact Realization Rates

	REEP	SEP	RRRP	LIEEP	Total
DSA kWh Savings	766,512	1,913,405	452,736	509,684	3,642,337
DSA kW Savings	25.5	62.2	62.1	18.9	168.7
Net kWh Savings	744,612	1,858,736	439,801	509,684	3,552,832
Net kW Savings	24.8	60.4	60.3	18.9	164.4
kWh Realization Rates	97.1%	97.1%	97.1%	100.0%	97.5%
kW Realization Rates	97.1%	97.1%	97.1%	100.0%	97.5%

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2. Purpose and Approach

2.1 Introduction

This document contains verification findings for Duquesne Light's Act 129 residential energy efficiency and conservation (EE&C) programs for program year 2009 (PY 2009) ending May 31, 2010 (evaluation period). PY 2009 comprises the first year of a program period ending May 31, 2013 as set forth in Pennsylvania Act 129 of 2008 (Act) and Pennsylvania Public Utilities Commission (Commission) Implementation Order at Docket No. M-2008-2069887 (Implementation Order).

Duquesne Light's PY 2009 EE&C program accomplishments were limited to a 5-month program period that was dominated by program ramp-up activities. As outlined in the Act and Implementation Order, EE&C program years begin on June 1 and end on May 31st. Duquesne Light filed its EE&C Plan on July 1, 2009 and received Commission conditional approval on October 22, 2009. Programs were launched December 1, 2009 then revised pursuant to a Commission order on December 23, 2009. Accordingly, the effective period consisted of five months during the third and fourth quarter of PY 2009. During this period, a program tracking system was implemented; conservation service providers entered into contracts to implement commercial and industrial programs and an evaluation measurement and verification plan was developed.

2.2 Purpose and Approach of the Verification Report Effort

The purpose of the verification report is to provide reliable and objective verification of claimed program accomplishments for Duquesne Light's residential retrofit energy efficiency programs implemented in PY 2009. The objectives of the verification are to confirm installations claimed by Duquesne Light, to corroborate the appropriate *ex ante* assumptions were used and documented in the claims, and to validate the calculations used for those claims.

On June 22, 2010 MCR Performance Solutions (MCR) was provided an evaluation dataset downloaded from the utility's Program Management and Reporting System (PMRS) tracking system for the purposes of documenting energy savings impacts resulting from program measures implemented on or before May 31, 2010. This evaluation report is based upon the content of that dataset. The following table provides a summary of program activity contained in the dataset:

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Table 1: Evaluation Dataset Program Activity

Program	Projects	MWh	MW
Residential: EE Rebate Program	2,861	723.2	0.0421
Residential: School Energy Pledge Program	4,750	1,898.6	0.7143
Residential: Refrigerator Recycling Program	252	452.7	0.0621
Residential: Low Income Energy Efficiency Program	1,296	507.9	0.1481
Commercial Sector Umbrella Program (1)	19	7.0	0.0014
Commercial Sector Retail Program	2	31.7	0.0061
Total	9,180	3,621.2	0.9741

(1) Comprised of 19 residential EE Kits implemented at dwellings served by commercial master-metered accounts

Note: Activity reconciles with SWE monthly data transfers with these exceptions: The monthly data transfers for February 2010 through May 2010 include activity entered into PMRS between 6/22/2010 and 7/15/2010 adding 11 projects with installation dates on or before 5/31/2010 for five customers participating in the Small Office Building Program (1 project) and the Retail Stores Program (10 projects). PMRS data entry for back-dated projects reflects a data entry back-log associated with program ramp-up. Verification activities such as survey design, data requests, customer interviews, hard-copy review and quantitative analysis require a snap-shot of tracking system data. Verification was not performed on the back-dated projects but strictly adhered to the content of the verification dataset provided on June 22, 2010. MCR recommends the additional back-dated program activity be addressed in PY 2010 verification activities.

The evaluation dataset contains record of 9,180 customer actions taken to implement energy efficiency measures termed “projects” completed by Duquesne Light’s EE&C Programs during PY 2009. The 9,180 projects include 8,326 (91%) energy efficiency kits containing residential measures (CFLs, night lights and furnace whistles) that the utility provided free of charge to program participants. The remaining 854 projects included 852 residential, measures, and two commercial lighting projects. This verification report addressed only PY 2009 savings impacts of the residential programs.

All energy efficiency measures delivered in the 9,180 projects were found to have deemed savings specified in the Technical Reference Manual¹ or interim updates to the TRM approved and adopted by the Statewide Evaluator (TRM).

The EM&V Plan and the Audit Plan and Evaluation Framework for Pennsylvania Act 129 Energy Efficiency and Conservation Programs (Audit Plan)² prescribes a basic level of rigor EM&V protocol for TRM deemed measures where minimum allowable methods for savings evaluation include (1) verification of number of installations, stipulated operating hours and other assumptions and inputs to the deemed savings estimates specified in the TRM and; (2)

¹ Pennsylvania Public Utility Commission, *Technical Reference Manual for Pennsylvania Act 129 Energy Efficiency and Conservation Program and Act 213 Alternative Energy Portfolio Standards*, June 2010.

² GDS Associates, Inc., Nextant, & Mondre Energy, *Audit Plan and Evaluation Framework for Pennsylvania Act 129 Energy Efficiency and Conservation Programs*. December 1, 2009

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simple engineering methods for TRM partially deemed measures and verification of appropriate application of the TRM (energy and demand) savings algorithms.

As described in the EM&V Plan, rigor level is also dependent upon the size of a project. Within the 9,190 projects no single project rebate exceeded \$2,000.

Verification Approach

Per the utility's EM&V Plan,³ for TRM deemed savings measures and measures with rebates less than \$2,000, the basic level of verification rigor was employed consisting of the following seven-step process:

Step 1 – Verification Checklist: A verification checklist included data downloaded from PMRS and/or taken from hardcopy documentation for each participant installation or obtained by telephone interviews. The following is a checklist of applicable *qualification, savings verification and installation verification* activities:

(Qualification)

1. Participant had a valid utility account number
2. Measure was part of the applicable rebate catalog or approved measure list
3. Proof of purchase identified qualifying measure and was dated within the evaluation period.
4. Rebate payment date was within the evaluation period (rebate payment dates occurring after closure of the current program year were allowed if proof of purchases were verified within the evaluation period. The focus was placed on verifying savings began during the evaluation period).

(Savings Verification)

5. Deemed Savings Verification
 - a. Tracking system unit kWh and kW were compared to adopted and referenced deemed savings values or partially deemed savings protocols.

(Installation Verification)

6. Telephone Installation Verification – Verified the measure(s) were actually installed at the customer site (telephone survey for basic level of rigor). If TRM deemed savings values and/or protocols include-service rates (ISR), the verification functioned only to confirm program participation and the customer purchased or otherwise acquired (in the case of give-away EE kits) the relevant energy efficiency products.

Step 2 – Random Sampling: Simplified random sample of participants selected from PMRS

As related above, all energy efficiency measures delivered in PY 2009 were found to have deemed savings specified in the TRM or interim updates to the TRM approved/adopted by the

³ 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.

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Statewide Evaluator. Based on low project-level variability simplified random sampling (EM&V Plan Section 2.8.1) was employed to achieve the desired level of confidence and precision.

The standard formula from Cochran (1977) used to determine sample size for estimating population proportions from a simple random sample is shown below in Equation 1.

$$n_0 = \frac{t^2 p(1-p)}{d^2} \quad (1)$$

where

- n_0 = required sample size without the finite population correction
- t = t value associated with the 90% level of confidence
- d = desired level of accuracy
- p = expected percent of valid (successful) occurrences in the population.

The finite population correction (fpc) reduces the required sample size to achieve the same level of planned confidence and precision. Equation 2 presents this calculation.

$$n = \frac{n_0}{1 + \frac{n_0}{N}} \quad (2)$$

Where N=the population size

The following planned sample sizes exceeded Audit Plan Table 3-35: Desired Confidence and Relative Precision for M&V Activities by Program Type. Using the Microsoft Excel random number generator function, program participants were selected randomly. The planned sample size is statistically valid to produce the following stated confidence and precision levels assuming a minimum program participation of 85% of sampled participants⁴.

Table 2: Program Sample Sizes

Program Grouping	TRM Designation	Sample Size	5/31/2010 Project Population	Planned Absolute Percision at 90% Confidence	Achieved Absolute Percision at 90% Confidence
Residential: EE Rebate	Deemed	35	2,861	9.70%	4.7%
Residential: School Energy Pledge	Deemed	35	4,750	9.70%	4.7%
Residential: Refrigerator Recycling	Deemed	35	252	9.10%	4.4%
Residential: Low Income Energy	Deemed	35	1,296	9.60%	0.0%

⁴ Plans for verification studies conducted in California for the 2006-07 programs (e.g. Small Commercial Program Group) typically assumed a very conservation proportion of verified installations of 80%. In the verification studies conducted for Southern California Edison for 2003 through 2005 for their entire residential portfolio, the resulting adjustment factors always exceeded .95.

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Note: The 0% achieved absolute precision for the Low Income Energy Program reflect the fact that there was no variation in the response variable, participation. Therefore, there is no sample error.

As related above, all energy efficiency measures delivered in the 9,190 projects were found to have deemed savings specified in the TRM. For basic level of rigor verification, telephone surveys were used to confirm participation and in some programs confirm Qualification criterion identified in Step 1. Table 3 below shows the total number of participants surveyed for each of the four programs evaluated and the survey response rates:

Table 3: Telephone Survey Sample Disposition

Response Types	REEP	SEP	RRRP	LIEEP
Survey Completed	35	35	35	35
No Answer (3-tries)	92	63	56	174
Designated Respondent Not Available	3	1	0	5
Refused	0	2	0	0
Wrong Number	3	5	2	4
Disconnected	7	8	1	24
Fax Number	0	1	0	0
Phone Number Missing	5	1	0	3
Total	145	116	94	245

REEP - Residential Energy Efficiency Program
 SEP - Residential: School Energy Pledge Program
 RRRP - Residential: Refrigerator Recycling Program
 LIEEP - Low Income Energy Efficiency Program

Table 4 provides various types completion rates: 1) the pool efficiency rate, 2) the gross completion rate, and 3) the eligible completion rate. The pool efficiency rate is a measure of how efficient the sample frame was in reaching working numbers. That is, of all the numbers called, what percent were working telephone numbers. The gross completion rate is the number of completions divided by the total number of call sheets. A more relevant number is the eligible completion rate, which is the number of completions divided by the number of households reached that were eligible. Ineligible households were ones in which English was not spoken, the respondent was hearing impaired, there was no answer, telephones were disconnected, telephone number was blocked, etc.

Table 4: Various Completion Rates, by Program

	REEP	SEP	RRRP	LIEEP
Pool Efficiency Rate	95.00%	92.17%	98.94%	90.08%
Gross Completion Rate	25.00%	30.43%	37.23%	14.46%
Eligible Completion Rate	26.92%	34.65%	38.46%	16.36%

The eligible completion rates in Table 4 indicate the possibility of non-response bias. Unit non-response, the failure to obtain any survey measurements on a sample unit, arises in ways that are specific to the survey design. For example, in the telephone surveys of the four programs, some

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sampled units refused the explicit request of the interviewer to participate or a simply did not answer the phone after three attempts. In most situations, researchers assume that the data are missing at random. That is, if one is willing to assume that, within subgroups, the respondents are a random sample of all sample persons, then the response rate in the group represents a sampling rate (Groves et al., 2004; Lyberg et al., 1997). Given this, researchers proceed to weight the responses so that they resemble the population with respect to key demographic, firmographic or energy use variables that are available for every unit (individual, household, firm, etc.) in the sample (both respondents and nonrespondents). When there is variation in the response variable by any these key variables, weighting for non-response can affect the response variable. However, the situation in the case of all four programs is that there is either no variation in the participation rate (EE Rebate and School Energy Pledge) or very little variation (Refrigerator Recycling and Low Income Energy). This means that weighting for non-response would have either no effect on the participation rate or a trivial effect. Thus, the team concluded that there was no need to adjust for non-response. In the future this will likely not be the case since there is expected to be much greater variation in the ex post response variable, gross kWh savings and net-to-gross ratios.

Step 3 – Measure/Project Qualification: The evaluation team reviewed and confirmed relevant documentation for check list criteria item 1 through 4 described under Step 1 from PMRS, or other hardcopy documentation obtained for each sampled PMRS record.

1. Participant had a valid utility account number
2. Measure is included in the program offering
3. Proof of purchase describes the quantity and type of qualifying energy efficiency product and the purchase date was within the evaluation period
4. Rebate payment date is within the program year being verified

Step 4 – Deemed Savings Verification: All energy efficiency measures delivered in PY 2009 were found to have deemed savings specified in the TRM. The fifth check list criterion described under Step 1, above, is addressed through comparison of PMRS tracking system unit kWh and kW with TRM or interim TRM update (TRM) deemed savings values. Deemed savings verification bases used for comparison are provided in appendices referenced from the Program Specific Findings section of the report. Variances between tracking system savings values and adopted TRM deemed savings values are identified for each program sample set and incorporated into a Deemed Savings Adjustment (DSA) factor that is applied to savings claims of the sampled population.

Step 5 – Participation and Installation Verification: Telephone surveys were employed for impact verification of measures receiving basic level of rigor verification (i.e., deemed savings measures with rebates less than \$2000)⁵. Telephone interviews of each sampled customer confirmed participation in the program; receipt a rebate or EE Kit, and installation the energy saving measure(s).

⁵ Duquesne Light EM&V Plan Section 2.5.1 Verification of Gross Savings for Deemed Measures and Section 2.5.1.1 Basic Level of Verification Rigor Step 6, page 22.

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Installation Rate (IR) is a function of project verification under taken wherein participants are asked if they installed the item purchased or received. The IR is a percentage of the items obtained that were reported to be installed. IR is meant to correct the overly optimistic assumption all participants install all measures all the time, immediately. However, If TRM deemed savings values and/or protocols include service rates (ISR), application of the additional IR serves to double discount claimed savings, essentially correcting the overly optimistic installation assumptions, twice. In these cases the adopted deemed savings were retained intact and the survey based IR was not applied. For PY 2009 in almost all cases the applicable TRM deemed savings included an ISR. In cases where TRM deemed savings did not include an ISR the measures were verified to have been 100% installed.

Step 6 Program Realization Rate: Because all PY 2009 measure savings impacts resulted from the implementation of TRM deemed savings measures with stipulated savings and because the ISRs are also either stipulated in the deemed savings protocol or verified to be 100%, program realization rates presented herein are a function of participant projects meeting the program qualification requirements (Step 3) and verification of program participation (Step 5).

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3. Program Specific Findings

3.1 Residential Energy Efficiency Rebate Program (REEP)

3.1.1 Program Overview

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 will be 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.

Table 5: Duquesne Light Program Claims 2009

Category	Measure	Projects	Units Qty	Unit kWh	Unit kW	Ext kWh	Ext kW
Community Outreach EE Kits	Allegheny Court House Kit	158	158	248	0.007	39,184	1.1
	APTMetroPGH Kit	31	31	248	0.007	7,688	0.2
	Beaver County Home & Garden Show Kit	246	246	248	0.007	61,008	1.7
	DLC Employee Kit	270	270	142	0.005	38,340	1.4
	DLC Employee Kit - Electric Heat	28	28	568	0.095	15,904	2.7
	Friendship Folk Festival Kit	35	35	248	0.007	8,680	0.2
	Hilltop Kit	85	85	248	0.007	21,080	0.6
	Home & Garden Show Kit	1,143	1,143	248	0.007	283,464	8.0
	Kane Regional Center Kit	300	300	248	0.007	74,400	2.1
	Subtotal	2,296	2,296			549,748	18.0
Appliances	Energy Star Dehumidifiers RA1	127	127	214	0.009	27,178	1.1
	Energy Star Freezer RA2	8	8	69	0.011	552	0.1
	Energy Star Refrigerator RA3	103	103	86	0.012	8,858	1.2
	Subtotal	238	238			36,588	2.5
Lighting	Compact Fluorescent Lamp: Screw-In 5-25 watts RL1	113	1,840			90,160	4.2
	Compact Fluorescent Lamp: Screw-In >= 26 watts RL	52	339			27,459	1.2
	Energy Star Outdoor Fixture RL5	10	11	135	0.005	1,485	0.1
	Energy Star Torchiere RL6	1	1	107	0.006	107	0.0
	Interior Compact Fluorescent Fixture, 5 - 25 watts RL:	4	4	49	0.002	196	0.0
	Interior Compact Fluorescent Fixture, >= 26 watts RL:	4	6	243	0.011	486	0.0
	Linear Fluorescent T5/T8 Lamp RL7	2	4			164	0.2
	Subtotal	186	2,205			120,057	5.7
Space Conditioning	Programmable Thermostat RS5	141	141	119	0.113	16,779	15.9
Total		2,861	4,880			723,172	42.1

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3.1.2 Verification Approach

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:

Step 1 – Verification Checklist: A verification checklist 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 following is a checklist of *qualification, savings verification and installation verification* activities applicable to the REEP:

(Measure/Project Qualification)

7. Participant has a valid utility account number
8. Measure is part of the applicable rebate catalog or approved measure list
9. Proof of purchase identifies qualifying measure and is dated within the period being verified.
10. Rebate payment date is within the evaluation period (this date may occur after closure of the current program year based on proof of purchases verified within the evaluation period).

(Deemed Savings Verification)

11. Deemed Savings Verification
 - a. Tracking system unit kWh and kW are correct for when compared to adopted and referenced deemed savings values or partially deemed savings protocols.

(Installation Verification)

12. Telephone Installation Verification - Measure was actually installed at the customer site (telephone survey for basic level of rigor). If adopted deemed savings values and/or protocols include-service rates (ISR), verification shall confirm program participation and customer's purchase or otherwise taking possession of the relevant energy efficiency products (in the case of give-away EE kits).

Step 2 – Random Sampling: Simplified random sample of participants selected from PMRS

All energy efficiency measures delivered by the REEP have deemed savings specified in the TRM or interim updates to the TRM approved/adopted by the Statewide Evaluator (SWE). Based on low project-level variability simplified random sampling (EM&V Plan Section 2.8.1) is employed to achieve the desired level of confidence and precision (relative error).

The sample size meets or exceeds the Audit Plan and Evaluation Framework for Pennsylvania Act 129 Energy Efficiency and Conservation Programs (Audit Plan) Table 3-35: Desired Confidence and Relative Precision for M&V Activities by Program Type. Using a Microsoft Excel random number generator function program participants were selected randomly. The planned sample size is statically valid to produce confidence/precision of 90/9.7% given minimum program participation of 85% of sampled participants.

Measure	Participants	Sample Size
Residential Deemed Savings Measures	2,861	35

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Step 3 – Measure/Project Qualification: The evaluation team reviewed and confirmed relevant documentation for check list criteria item 1 through 4 described under Step 1 from PMRS, or other hardcopy documentation obtained for each sampled PMRS record.

5. Participant has a valid utility account number:
All sampled participants had active Duquesne Light account numbers (these were found to be validated in PMRS via linkage to the Customer Information System).
6. Measure is on approved list:
All sampled project measures were confirmed to be either listed in Duquesne Light's residential rebate catalog containing approved measures or provided by Duquesne Light in a community outreach energy efficiency kit.
7. Proof of Purchase:
Of the 35 sampled participants, 27 received community outreach energy efficiency tool kits (EE Kits) and 8 received rebates for submitting applications and proof of purchase for qualifying rebate catalog items (REEP Rebates).

EE kits: Invoices from Niagara Conservation for Item YDUQ001-01 confirmed cost, delivery, shipping dates of kits Duquesne Light distributed at nine community outreach events identified in Table 1, above. The kits contained (2) 13 Watt CFLs, (1) 20 Watt CFL and a furnace whistle. Duquesne Light payment vouchers dated and signed, referencing Niagara Conservation invoice numbers were obtained and reviewed and checked against invoice costs, descriptions and event dates.

REEP Rebates: Retailer receipts or contractor invoices, bar codes and UPC descriptions were compared with rebate applications and PMRS measure descriptions. Applications envelop (bearing US Postal processing stamps) return addresses were compared with the rebate application and customer billing address. If proof of purchase was not definitive product information for referenced manufacturers and model numbers were obtained and compared against the rebate application and PMRS measure descriptions.

8. Rebate payment date is within the program year being verified
Rebate payment dates were checked to be within the evaluation period (If payment dates occurred after closure of the evaluation, period proof of purchase was accepted to verify a valid evaluation period transaction).

Step 4 - Deemed Savings Verification: All energy efficiency measures delivered by the REEP have deemed savings specified in the TRM or interim updates to the TRM approved/adopted by the Statewide Evaluator (SWE). The fifth check list criterion described under Step 1, above, is addressed through comparison of PMRS tracking system unit kWh and kW with TRM or interim TRM update deemed savings values. REEP deemed savings verification bases are provided in Appendix A. Variances between tracking system savings values and adopted TRM deemed savings values are identified (Appendix B) for the sample set and incorporated into a Deemed Savings Adjustment (DSA) factor that is applied to savings claims of the sampled population. Overall REEP 2009 deemed savings were found to be 106% of tracking system energy savings values (kWh) and 61% of tracking system demand values (kW) linked to conservative tracking

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system energy savings estimates for programmable thermostats (PTs), dehumidifiers and EE Kits; deemed savings' omission of demand reductions for PTs.

Table 6: Deemed Savings Adjusted Savings

	Gross Savings	DSA	DSA Savings
kWh	723,172	106.0%	766,512
kWh	42.1	60.6%	25.5

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)⁶. Telephone interviews of each sampled customer confirmed participation in the program, receipt a rebate or EE Kit, and installation the energy saving measure(s). If TRM, or adopted interim updates to the TRM, include 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).

Of the 35 sampled REEP participant projects, 27 are energy efficiency kits provided at community outreach events and 8 are for energy efficient product rebates. Telephone surveys were tailored to the product promotion and include questions designed to verify participants obtained the EE products. Appendix C contains the REEP Energy Efficiency Kit Recipient Survey and Appendix D – REEP Rebate Recipient Survey. Generally, the survey serves multiple impact verification, customer satisfaction, process evaluation and potentially net-to-gross related research objectives. Questions directly applicable to this report follow:

Table 7: REEP Energy Efficiency Kit Recipient Survey Participation / Installation Rates

REEP Energy Efficiency Kit Recipient Survey Questions	Number
(V1 – Participation Rate)	
Q1. Do you recall receiving the energy savings kit at the [EVENT]?	
Yes	26
No	1
(V2 – Installation Rate)	
Q3. Can we report that you installed the energy efficiency products that were contained in the Kit?	24
Yes	2
No	

REEP Rebate Recipient Survey Questions	Number
(V1 – Participation Rate)	
Q3. Our program records indicate that you purchased [quantity of product] around [date of purchase] and applied for a rebate. Do you recall purchasing [quantity of product]?	
Yes	8
No	0

⁶ Duquesne Light EM&V Plan Section 2.5.1 Verification of Gross Savings for Deemed Measures and Section 2.5.1.1 Basic Level of Verification Rigor Step 6.

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(V2 – Installation Rate)	
Q6. Can we report that you installed or are using the energy efficiency products that you purchased?	
Yes	8
No	0

Survey Results	Total	Yes	No	Rate (Yes)
V1- Participation Rate	35	34	1	97.1%
V2 – Installation Rate	35	32	2	91.4%

Step 6 Program Realization Rate: Because all PY 2009 measure savings impacts resulted from the implementation of TRM deemed savings measures with stipulated savings and because the ISRs are also either stipulated in the deemed savings protocol or verified to be 100%, program realization rates presented herein are a function of participant projects meeting the program qualification requirements (QR - Step 3) and verification of program participation (PR - Step 5).

Table 8: REEP Program Year 2009 Verified Impacts

	DSA Savings	QR	PR	Net Savings	Realization Rate
kWh	766,512	100.0%	97.1%	744,612	97.1%
kW	25.5	100.0%	97.1%	24.8	97.1%

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2.2 Residential School Energy Pledge Program

2.2.1 Program Overview

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 a family's *commitment to install*, the participating school receives an incentive of \$25.

In PY 2009 SEP provided 4,750 SEP EE Kits comprised of two kit variants identified below by kit provider, Niagara Conservation, Item No.:

Table 9: PY 2009 SEP EE Kit Distribution

Item No.	Delivery Dates	Qty
YDL02	2/1/2010 - 4/14/2010	1,517
YDL04	4/14/2010 - 5/31/2010	3,233
Total		4,750

Kit Item No. YDL02 Contents

Qty	DESCRIPTION
5	13 Watt CFL
2	Night Light (Lime Light)
1	Furnace / Air Filter Whistle
1	Door / Window Weather Strip
1	Energy Wheel
1	Description / Installation Sheet

Kit Item No. YDL04 Contents

Qty	DESCRIPTION
3	13 Watt CFL
1	20 Watt CFL
1	23 Watt CFL
2	Night Light (Lime Light)
1	Door / Window Weather Strip
1	Furnace / Air Filter Whistle
1	Energy wheel
1	Description / Installation Sheet

Duquesne Light reports savings impacts for CFLs, night lights and furnace whistle.

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Table 10: Duquesne Light Program Claims 2009

Measure	Units Qty	Unit kWh	Unit kW	Ext kWh	Ext kW
SEP EE Kits (YDL02)	1,517	365	0.294	553,705	446.0
SEP EE Kits (YDL04)	3,233	416	0.083	1,344,928	268.3
Total	4,750			1,898,633	714.3

2.2.2 Verification Approach

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:

Step 1 – Verification Checklist: A verification checklist 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 following is a checklist of *qualification, savings verification and installation verification* activities applicable to the SEP:

(Measure/Project Qualification)

- 13. Participant has a valid utility account number
- 14. Measure is part of the applicable rebate catalog or approved measure list
- 15. Proof of purchase identifies qualifying measure and is dated within the period being verified.
- 16. Rebate payment date is within the evaluation period (this date may occur after closure of the current program year based on proof of purchases verified within the evaluation period).

(Deemed Savings Verification)

- 17. Deemed Savings Verification
 - a. Tracking system unit kWh and kW are correct for when compared to adopted and referenced deemed savings values or partially deemed savings protocols.

(Installation Verification)

- 18. Telephone Installation Verification - Measure was actually installed at the customer site (telephone survey for basic level of rigor). If adopted deemed savings values and/or protocols include-service rates (ISR), verification shall confirm program participation and customer’s purchase or otherwise taking possession of the relevant energy efficiency products (in the case of give-away EE kits).

Step 2 – Random Sampling: Simple random sample of participants selected from the PMRS.

All energy efficiency measures delivered by the SEP have deemed savings specified in the TRM or interim updates to the TRM approved/adopted by the Statewide Evaluator (SWE). Based on low project-level variability simplified random sampling (EM&V Plan Section 2.8.1) is employed to achieve the desired level of confidence and precision (relative error).

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The sample size meets or exceeds the Audit Plan and Evaluation Framework for Pennsylvania Act 129 Energy Efficiency and Conservation Programs (Audit Plan) Table 3-35: Desired Confidence and Relative Precision for M&V Activities by Program Type. Using a Microsoft Excel random number generator function program participants were selected randomly. The planned sample size is statically valid to produce confidence/precision of 90/9.7% given minimum program participation of 85% of sampled participants.

Measure	Participants	Sample Size
Residential Deemed Savings Measures	4,750	35

Step 3 – Measure/Project Qualification: The evaluation team reviewed and confirmed relevant documentation for check list criteria item 1 through 4 described under Step 1 from PMRS, or other hardcopy documentation obtained for each sampled PMRS record.

1. Participant has a valid utility account number:
All sampled participants had active Duquesne Light account numbers (these were found to be validated in PMRS via linkage to the Customer Information System).
2. Measure is on approved list:
All sampled project measures were confirmed to be either listed in Duquesne Light's residential rebate catalog containing approved measures or provided by Duquesne Light in a community outreach energy efficiency kit.
3. Proof of Purchase:
Of the 35 sampled participants, all received SEP EE Kits. Invoices from Niagara Conservation for Item YDL02 and YDL04 (described above) confirmed cost, delivery, shipping dates of kits Duquesne Light distributed. Duquesne Light payment vouchers dated and signed, referencing Niagara Conservation invoice numbers were obtained and reviewed and checked against invoice costs and descriptions.
4. Rebate payment date is within the program year being verified:
Not applicable for this program.

Step 4 - Deemed Savings Verification: All energy efficiency measures delivered by the SEP have deemed savings specified in the TRM or interim updates to the TRM approved/adopted by the Statewide Evaluator (SWE). The fifth check list criterion described under Step 1, above, is addressed through comparison of PMRS tracking system unit kWh and kW with TRM or interim TRM update deemed savings values. SEP deemed savings verification bases are provided in Appendix E. Variances between tracking system savings values and adopted TRM deemed savings values are identified below as a census of all PY 2009 SEP EE Kits reflecting the FY 2009 SEP Program Deemed Savings Adjustments (DSA). Overall SEP 2009 verified deemed savings were found to be 100.8% of tracking system energy savings values (kWh) and 8.7% of tracking system demand values (kW).

Variances between tracking system savings values and adopted TRM deemed savings values can be linked to adoption of deemed savings during and after program implementation. Generally, SEP energy savings estimates were conservative (specifically for night lights and furnace whistles). However adopted deemed savings provide for no demand reductions associated with

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these measures as well as incorporating severed reductions in CFL demand impacts through adoption of 5% residential lighting coincident factors. Deemed savings verification for SEP EE Kits delivered in PY 2009 are summarized in the following table:

Table 11: SEP EE Kit Deemed Savings Adjustments

Kit Description	2009	Unit PMRS		Unit Deemed		Total PMRS		DSA Adjusted		
	EE Kit Qty	kWh	kW	kWh	kW	kWh	kW	kWh	kW	
YLD02	1,517	365	0.294	379	0.0118	553,705	446.0	574,943	17.9	
YLD04	3,233	416	0.083	414	0.0137	1,344,928	268.3	1,338,462	44.3	
Total	4,750					1,898,633	714.3	1,913,405	62.2	
<i>Deemed Savings Adjustment</i>						<i>100.8%</i>	<i>8.7%</i>			

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)⁷. The SEP telephone interview survey (Appendix F) of each sampled customer confirmed participation in the program and receipt of a SEP EE Kit. Kit content installation rates are recorded at the kit level but lack measure specific detail. Installation rates are taken from TRM, or adopted interim updates to the TRM, deemed savings values and/or protocols incorporating in-service rates (ISR); The primary function of the verification survey is to confirm program participation and participant receipt of the SEP EE Kit.

Generally, the survey serves multiple impact verification, customer satisfaction, process evaluation and potentially net-to-gross related research objectives. Questions directly applicable to this report follow:

Table 12: SEP EE Kit Recipient Survey Participation / Installation Rates

SEP Energy Efficiency Kit Recipient Survey Questions	Number
(V1 – Participation Rate)	
Q1. Do you recall the program? (if yes go to Q3)	
Yes	34
No	1
(V2 – Kit Content Installation Rate)	
Q3. Can we report that you installed the energy efficiency products that were contained in the Kit?	
Yes	31
No (1-No, 3 Partial)	4

Survey Results	Total	Yes	No	Rate (Yes)
V1- Participation Rate	35	34	1	97.1%
V2 – Installation Rate	35	31	4	88.6%

Note: Results are not discounted for V2 because deemed savings adopt an in-service rate for EE kit components (CFL: 84%, Night Lights 87% and Furnace Whistle 47.4%)

⁷ Duquesne Light EM&V Plan Section 2.5.1 Verification of Gross Savings for Deemed Measures and Section 2.5.1.1 Basic Level of Verification Rigor Step 6.

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Step 6 Program Realization Rate: Because all PY 2009 measure savings impacts resulted from the implementation of TRM deemed savings measures with stipulated savings and because the ISRs are also either stipulated in the deemed savings protocol or verified to be 100%, program realization rates presented herein are a function of participant projects meeting the program qualification requirements (QR - Step 3) and verification of program participation (PR - Step 5).

Table 13: SEP Program Year 2009 Verified Impacts

	DSA Savings	QR	PR	Net Savings	Realization Rate
kWh	1,913,405	100.0%	97.1%	1,858,736	97.1%
kW	62.2	100.0%	97.1%	60.4	97.1%

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3.3 Residential: Refrigerator/Freezer Recycling Program

3.3.1 Program Overview

The Residential Refrigerator (& Freezer) Recycling Program (RRRP) 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, RRRP offers incentives for eligible refrigerators (\$35) and freezers (\$35). In addition, RRRP 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).

Table 14: Duquesne Light Program Claims 2009

Measure	Units Qty	Unit kWh	Unit kW	Ext kWh	Ext kW
Recycled Refrigerator or Freezer	252	1,728	0.237	452,736	62.1

3.3.2 Verification Approach

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:

Step 1 – Verification Checklist: A verification checklist 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 following is a checklist of *qualification, savings verification and installation verification* activities applicable to the RRRP:

(Measure/Project Qualification)

- Participant has a valid utility account number
- Measure qualification:
 - ✓ Unit in working condition (tested prior to pick-up)
 - ✓ Unit meets size requirement which is 10 cu ft - 30 cu ft.
- Energy savings impact occurred within the evaluation period (surrogate for EE rebate proof of purchase date); unit must have been removed within the evaluation period.
- Rebate payment date is within the evaluation period (this date may occur after closure of the program year providing unit removal (savings impact) occurred within the evaluation period)

(Deemed Savings Verification)

- Deemed Savings Verification

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a. Tracking system unit kWh and kW are correct for each listed measure
(Installation Verification)

- Telephone Installation Verification - Measure was actually installed at the customer site (telephone survey for basic level of rigor - for this program means the appliance was actually picked up and recycled)

Step 2 – Random Sampling: Simple random sample of participants selected from the PMRS.

All energy efficiency measures delivered by the RRRP have deemed savings specified in the TRM.. Based on low project-level variability simplified random sampling (EM&V Plan Section 2.8.1) is employed to achieve the desired level of confidence and precision (relative error).

The sample size meets or exceeds the Audit Plan and Evaluation Framework for Pennsylvania Act 129 Energy Efficiency and Conservation Programs (Audit Plan) Table 3-35: Desired Confidence and Relative Precision for M&V Activities by Program Type. Using a Microsoft Excel random number generator function program participants were selected randomly. The planned sample size is statically valid to produce confidence/precision of 90/9.1% given minimum program participation of 85% of sampled participants.

Measure	Participants (Through 5/31/2010)	Sample Size
Recycle Refrigerator or Freezer	252	35

Step 3 – Measure/Project Qualification: Relevant documentation for item #1 through #4 from PMRS, or other hardcopy documentation is then obtained for each sampled PMRS record.

1. Participant has a valid utility account number
Participant Duquesne Light account numbers are validated in PMRS via linkage to the Customer Information System.
2. Measure is on approved list (Refrigerators/freezers qualify for Recycling when):
 - ✓ In working condition
Verification addressed under Step 5 – Participation and Installation Verification
 - ✓ Meets the size requirement which is 10 cu ft - 30 cu ft.
See Appendix H: JACO data request “SizeCuFt” field
3. Proof of Purchase: Not applicable for this program, appliance pick-up date was checked to ensure it was within the evaluation period.
PMRS records indicates pick-up dates were within the evaluation period, cross-checked with JACO response to data request (Appendix H), and participant survey addressed under Step 5 – Participation and Installation Verification.
4. Rebate payment date is within the program year being verified
Rebate payment dates N/A, defer to appliance pick-up date for verification of impact within the evaluation period.

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Step 4 - Deemed Savings Verification: All energy efficiency measures delivered by the RRRP have deemed savings specified in the current TRM. The fifth check list criterion described under Step 1, above, 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. Unit savings are defined as below:

$$\text{Electricity Impact (kWh)} = \text{ESav}_{\text{RetFridge}}$$

$$\text{Demand Impact (kW)} = \text{DSav}_{\text{RetFridge}} \times \text{CF}_{\text{RetFridge}}$$

Term definition:

$\text{ESav}_{\text{RetFridge}}$ = Gross annual energy savings per unit retired appliance

$\text{DSav}_{\text{RetFridge}}$ = Summer demand savings per retired refrigerator/freezer

$\text{CF}_{\text{RetFridge}}$ = Summer demand coincidence factor

(TRM) Table 3-1: Refrigerator/Freezer Recycling – References

Component	Type	Value
$\text{ESav}_{\text{RetFridge}}$	Fixed	1,728 kWh
$\text{DSav}_{\text{RetFridge}}$	Fixed	0.2376 kW
$\text{CF}_{\text{RetFridge}}$	Fixed	1

The aforementioned deemed savings values were compared with PMRS tracking system data for the RRRP sample projects and found to be 100% consistent where deemed savings values are 100% of tracking system energy savings values (kWh) and 100% of tracking system demand savings values (kW); there is no Deemed Savings Adjustment (DSA) indicated.

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)⁸. RRRP telephone interview surveys (Appendix I) were 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 (per Step 1, criterion 2). RRRP telephone survey questions addressing this activity follows:

⁸ Duquesne Light EM&V Plan Section 2.5.1 Verification of Gross Savings for Deemed Measures and Section 2.5.1.1 Basic Level of Verification Rigor Step 6.

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Table 15: RRRP Participant Survey Participation / Installation Rates

Refrigerator /Freezer Recycling Program Participant Survey Questions	Number
Q3. Our program records indicate that you received an incentive of [amount of program incentive] for pickup of [quantity of refrigerator, freezer] around [date of pickup]. Do you recall having your [refrigerator, freezer] picked up by JACO Environmental?	
Yes	35
No	0
Q8. Do you recall if the representative from JACO Environmental tested the refrigerator, freezer] before taking it away?	
Yes	34
No	1

Confirmation of participation requires both questions 3 and 8 be answered in the affirmative; a negative response to either of the questions constitutes failure of the participation test.

Survey Results	Total	Yes	No	Rate (Yes)
Participation Rate	35	34	1	97.1%

Step 6 Program Realization Rate: Because all PY 2009 measure savings impacts resulted from the implementation of TRM deemed savings measures with stipulated savings and because the ISRs are also either stipulated in the deemed savings protocol or verified to be 100%, program realization rates presented herein are a function of participant projects meeting the program qualification requirements (QR - Step 3) and verification of program participation (PR - Step 5).

The **PR** (Participation Rate) is a function of project verification undertaken in function of Step 1 and Step 5.

- The participant is a current Duquesne Light customer
- Verification (via telephone survey) the customer participated in the program.
- Measure qualifies under program requirements:
 - ✓ Unit in working condition (tested prior to pick-up)
 - ✓ Unit meets size requirement which is 10 cu ft - 30 cu ft.

Participant telephone surveys found one participant had unplugged a refrigerator prior to the contractor's arrival to remove the unit. Based on this finding the evaluation team concludes it could not have been tested and thereby failed the participation test resulting in participation verification of 34 out of 35 participants sampled resulting in a participation rate of 97.14%

Table 16: RRRP Program Year 2009 Verified Impacts

	Gross Savings	QR	PR	Net Savings	Realization Rate
kWh	452,736	100.0%	97.1%	439,801	97.1%
kWh	62.1	100.0%	97.1%	60.3	97.1%

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3.4 Residential: Low Income Energy Efficiency Program (LIEEP)

3.4.1 Program Overview

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 2009 the LIEEP savings by income qualifying customers were delivered by the Residential Energy Efficiency Program (REEP), the Residential School Energy Pledge Program (SEP) and the Residential Refrigerator/Freezer Recycling Program (RRRP).

Table 17: Duquesne Light Program Claims 2009

Category	Delivery Program	Measure	Projects	Units Qty	Unit kWh	Unit kW	Ext kWh	Ext kW
EE Kits	REEP	Allegheny Court House Kit	33	33	248.00	0.0070	8,184	0.231
	REEP	APTMetroPGI Kit	4	4	248.00	0.0070	992	0.028
	REEP	Beaver County Home & Garden Show Kit	15	15	248.00	0.0070	3,720	0.105
	REEP	DLC Employee Kit	13	13	142.00	0.0050	1,846	0.065
	REEP	DLC Employee Kit - Electric Water Heater	3	3	568.00	0.0950	1,704	0.285
	REEP	Friendship Folk Festival Kit	2	2	248.00	0.0070	496	0.014
	REEP	Hilltop Kit	2	2	248.00	0.0070	496	0.014
	REEP	Home & Garden Show Kit	76	76	248.00	0.0070	18,848	0.532
	REEP	Kane Regional Center Kit	45	45	248.00	0.0070	11,160	0.315
	SEP	School Energy Program Kit (YDL02)	256	256	365.00	0.2940	93,440	75.264
		School Energy Program Kit (YDL04)	812	812	416.00	0.0830	337,792	67.396
		Subtotal		1,261	1,261			478,678
Appliances	REEP	Energy Star Dehumidifiers RA1	5	5	214.00	0.0090	1,070	0.045
	REEP	Energy Star Refrigerator RA3	3	3	86.00	0.0125	258	0.036
	RRRP	Refrigerator Recycling	11	13	1,728.00	0.2370	22,464	3.083
		Subtotal		19	21			23,792
Lighting	REEP	Compact Fluorescent Lamp: Screw-In >= 26W RL2	7	71	(multiple)	(multiple)	4,311	0.195
	REEP	Energy Star Outdoor Fixture RL5	5	5	135	0.0050	675	0.025
		Subtotal		12	76			4,986
Space Conditioning	REEP	Programmable Thermostat RS5	4	4	119.00	0.1130	476	0.440
Total			1,296	1,362			507,932	148.073

3.4.2 Verification Approach

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:

Step 1 – Verification Checklist: A verification checklist includes data downloaded from PMRS and/or taken from hardcopy documentation for each participant installation or can be obtained by

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telephone or on-site visit. The following is a checklist of *qualification, savings verification and installation verification* activities applicable to the LIEEP:

(Measure/Project Qualification)

1. Participant has a valid utility account number
2. Measure is part of the applicable rebate catalog, approved measure list or provided free of charge by Duquesne Light. Where savings were delivered by the RRRP, measure qualification include:
 - ✓ Unit in working condition (tested prior to pick-up)
 - ✓ Unit meets size requirement which is 10 cu ft - 30 cu ft.
3. Proof of purchase identifies qualifying measure and is dated within the period being verified. Where EE kits were provided free of charge, or refrigerators or freezers were removed for recycling, verifying the date energy savings impact occurs shall serve as a surrogate for EE rebate proof of purchase date.
4. Rebate payment date is within the evaluation period (this date may occur after closure of the program year providing):
 - ✓ Proof of purchase is dated within the evaluation period
 - ✓ RRRP unit removal occurs within the evaluation period

(Deemed Savings Verification)

5. Deemed Savings Verification
 - a. Tracking system unit kWh and kW are correct for when compared to adopted and referenced deemed savings values or partially deemed savings protocols.

(Installation Verification)

6. Telephone Installation Verification - Measure was actually installed at the customer site (telephone survey for basic level of rigor). If adopted deemed savings values and/or protocols include-service rates (ISR), verification shall confirm program participation and customer's purchase or otherwise taking possession of the relevant energy efficiency products (in the case of give-away EE kits).

Step 2 – Random Sampling: Simple random sample of participants selected from the PMRS.

All energy and demand savings reported for PY 2009 LIEEP result from the implementation of measures with deemed savings specified in the TRM or interim updates to the TRM approved/adopted by the Statewide Evaluator (SWE). Based on low project-level variability simplified random sampling (EM&V Plan Section 2.8.1) is employed to achieve the desired level of confidence and precision (relative error).

The sample size meets or exceeds the Audit Plan and Evaluation Framework for Pennsylvania Act 129 Energy Efficiency and Conservation Programs (Audit Plan) Table 3-35: Desired Confidence and Relative Precision for M&V Activities by Program Type. Using a Microsoft Excel random number generator function program participants were selected randomly. The planned sample size is statically valid to produce confidence/precision of 90/9.6% given minimum program participation of 85% of sampled participants.

Measure	Participants	Sample Size
Residential Deemed Savings Measures	1,296	35

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Step 3 – Measure/Project Qualification: The evaluation team reviewed and confirmed relevant documentation for check list criteria item 1 through 4 described under Step 1 from PMRS, or other hardcopy documentation obtained for each sampled PMRS record.

1. Participant has a valid utility account number:
All sampled participants had active Duquesne Light account numbers (these were found to be validated in PMRS via linkage to the Customer Information System).

2. Measure is on approved list:
97% of projects implemented (1,261 out of 1,296) by income qualifying customers resulting in savings reported by the PY 2009 LIEEP came from measures provided by Duquesne Light in an EE Kit or SEP EE Kit. Random selection of 35 sample projects resulted in a sample set comprised of 12 EE Kits and 23 SEP EE Kits. The following table provides definition of the EE Kits or SEP EE kits sampled:

Table 18: EE Kit and SEP EE Kit Content

Kit Type	Item	Sampled	Kit Content	Qty
EE Kit	YDUQ001-01	12	13 Watt CFL	2
			20 Watt CFL	1
			Fumace Whistle	1
			Description / Installation Sheet	1
SEP EE Kit	YDL02	23	13 Watt CFL	5
			Night Light (Lime Light)	2
			Fumace Whistle	1
			Door / Window Weather Stripping	1
			Energy Wheel	1
			Description / Installation Sheet	1

All sampled project measures were provided by Duquesne Light and are qualifying measures.

3. Proof of Purchase:
As related above, random selection of 35 sample projects result in a sample set comprised of 12 EE Kits and 23 SEP EE Kits.

EE kits: Invoices from Niagara Conservation for Item YDUQ001-01 EE Kits confirmed cost, delivery, shipping dates of kits Duquesne Light distributed at nine community outreach events identified in Table 12, above. Duquesne Light payment vouchers dated and signed, referencing Niagara Conservation invoice numbers were obtained and reviewed and checked against invoice costs, descriptions and event dates.

Exhibit 1 to Annual Report

SEP EE Kits. *Invoices from Niagara Conservation for Item YDL02 (described above) confirmed cost, delivery, shipping dates of kits Duquesne Light distributed. Duquesne Light payment vouchers dated and signed, referencing Niagara Conservation invoice numbers were obtained and reviewed and checked against invoice costs and descriptions.*

3. Rebate payment date is within the program year being verified
Not applicable for the sampled projects.

Step 4 - Deemed Savings Verification: Measures implemented by income qualifying customers resulting in savings reported by the PY 2009 LIEEP came from measures with deemed savings specified in the TRM or interim updates to the TRM approved/adopted by the Statewide Evaluator (SWE). The fifth check list criterion described under Step 1, above, is addressed through comparison of PMRS tracking system unit kWh and kW with TRM or interim TRM update deemed savings values. LIEEP deemed savings verification bases are provided in Appendix K. Table 19 summarizes variances found between tracking system savings values and adopted TRM deemed savings values and bases for the FY 2009 LIEEP Deemed Savings Adjustments (DSA). The table expands the comparison from 35 sampled sites to compare PMRS tracking system data to deemed savings data for all EE Kits, SEP EE Kits, Duquesne Light Employee Kits, and Refrigerator Recycling activity provided income qualifying participants reported under LIEEP. This activity comprises a near census of LIEEP claimed savings: 1,274 projects out of 1,296 reported projects (98%); 501 MWh out of 507 MWh claimed savings (99%).

Table 19: Comparison of EE Kit Tracking System Savings with Adopted Deemed Savings

Kit Description	2009 EE Kit Qty	Unit PMRS		Unit Deemed		Total PMRS		DSA Adjusted		
		kWh	kW	kWh	kW	kWh	kW	kWh	kW	
YDUQ001-01	177	248	0.007	248	0.0075	43,896	1.2	43,914	1.3	
YLD02	256	365	0.294	379	0.0118	93,440	75.3	97,024	3.0	
YLD04	812	416	0.083	414	0.0137	337,792	67.4	336,168	11.1	
Employee Kit 1	13	142	0.005	120	0.0051	1,846	0.1	1,558	0.1	
Employee Kit 2	3	568	0.095	581	0.0511	1,704	0.3	1,743	0.2	
Refrig Recycling	13	1728	0.237	1728	0.237	22,464	3.1	22,464	3.1	
Total	1,274					501,142	147.3	502,870	19	
<i>Deemed Savings Adjustment Factors</i>						<i>100.3%</i>	<i>12.7%</i>			

Table 20 applies the DSA calculated above to total claimed savings (tracking system values) for the PY 2009 LIEEP DSA Savings:

Table 20: Deemed Savings Adjusted Savings

	Gross Savings	DSA	DSA Savings
kWh	507,932	100.3%	509,684
kWh	148.1	12.7%	18.9

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Overall LIEEP 2009 deemed savings were found to be 100.4% of tracking system energy savings values (kWh) and 10.8% of tracking system demand savings values (kW). Variances between tracking system savings values and adopted TRM deemed savings values can be linked to adoption of deemed savings during and after program implementation. Generally, energy savings estimates were conservative (specifically for night lights and furnace whistles). However adopted deemed savings provide for no demand reductions associated with these measures as well as incorporating severed reductions in CFL demand impacts through adoption of a 5% residential lighting coincident factor.

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)⁹. Of the 35 sampled LIEEP participant projects, 12 are EE kits and 23 are SEP EE Kits. Telephone surveys were tailored to the product promotion and include questions designed to verify participants obtained the EE products. Appendix B contains the EE Kits recipient survey and Appendix F contains the SEP EE Kit recipient survey. Kit content installation rates are recorded at the kit level but lack measure specific detail. Installation rates are taken from TRM, or adopted interim updates to the TRM, deemed savings values and/or protocols incorporating in-service rates (ISR); The primary function of the verification survey is to confirm program participation and participant receipt of the EE Kit of SEP EE Kit.

Generally, the survey serves multiple impact verification, customer satisfaction, process evaluation and potentially net-to-gross related research objectives. Questions directly applicable to this report follow:

Table 21: REEP Energy Efficiency Kit Recipient Survey Participation / Installation Rates

LIEEP Energy Efficiency Kit Recipient Survey Questions	Number
(V1 – Participation Rate)	
Q1. Do you recall receiving the energy savings kit at the [EVENT]?	
Yes	12
No	0
(V2 – Installation Rate)	
Q3. Can we report that you installed the energy efficiency products that were contained in the Kit?	
Yes	11
No (1-partial)	1

LIEEP - SEP Energy Efficiency Kit Recipient Survey Questions	Number
(V1 – Participation Rate)	
Q1. Do you recall the program? (if yes go to Q3)	
Yes	23
No	0
(V2 – Kit Content Installation Rate)	
Q3. Can we report that you installed the energy efficiency products that were contained in the Kit?	
Yes	23

⁹ Duquesne Light EM&V Plan Section 2.5.1 Verification of Gross Savings for Deemed Measures and Section 2.5.1.1 Basic Level of Verification Rigor Step 6.

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No	0
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Survey Results	Total	Yes	No	Rate (Yes)
V1- Participation Rate	35	35	01	100.0%
V2 – Installation Rate	35	34	1	97.1%

Step 6 Program Realization Rate: Because all PY 2009 measure savings impacts resulted from the implementation of TRM deemed savings measures with stipulated savings and because the ISRs are also either stipulated in the deemed savings protocol or verified to be 100%, program realization rates presented herein are a function of participant projects meeting the program qualification requirements (QR - Step 3) and verification of program participation (PR - Step 5).

The **PR** (Participation Rate) is a function of project verification undertaken in function of Step 1 and Step 5. If any of the following tests fail, verified program impacts are set to zero:

1. The participant is a current Duquesne Light customer
2. The measure is included in REEP
3. The measure was obtained during the program period
4. Verification (via telephone survey) the customer participated in the program.

The **IR** (Installation Rate) is a function of project verification under taken in Step 5 wherein participants are asked if they installed the item purchased or received (in the case of community outreach EE Kits). The IR is a percentage of the items obtained that were reported to be installed. All REEP rebate recipients surveyed confirmed an IR of 100%.

Table 22: LIEEP Program Year 2009 Verified Impacts

	DSA Savings	QR	PR	Net Savings	Realization Rate
kWh	509,684	100.0%	100.0%	509,684	100.0%
kW	18.9	100.0%	100.0%	18.9	100.0%

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Appendix A – REEP Deemed Savings Verification Bases

Project(s)	Description	ID	Qty	Unit kWh	Unit kW	Ext. kWh	Ext. kW	
3000687639.10.01	Programmable Thermostat RS5	RL1	1	119	0.11	119	0.1100	PMRS
9000310618.10.02			1	66	0	66	0.0000	Deemed
						-44.3%	-100.0%	

Residential Programmable Thermostats

Algorithms

Source: File: SBT_res only_071510.xlsx received from SWE (Inwin Kim) 8-4-2010 as in final stages of approval
 This version of the protocol reduced ESFCool for, 3.6% to 2.0% and Cooling only savings from 119.4 kWh to 66.3 kWh.

$$\text{Energy Impact (kWh)} = (\text{CAP}_{\text{COOL}} \times (12 / (\text{EER}_{\text{COOL}} \times \text{Eff}_{\text{duct}})) \times \text{EFLH} \times \text{ESF}_{\text{COOL}}) + (\text{CAP}_{\text{HEAT}} \times (1 / (\text{EER}_{\text{HEAT}} \times 3.41 \times \text{Eff}_{\text{duct}})) \times \text{EFLH} \times \text{ESF}_{\text{HEAT}})$$

$$\text{Peak Demand Savings Impact (kW)} = \text{none}$$

Input Variable	Default Value *	Metric
CAP _{COOL}	3	Tons
EER _{COOL}	10	SEER
EER _{HEAT}	1	electric furnace COP
Eff _{DUCT}	0.8	fixed
ESF _{COOL}	2.0%	
ESF _{HEAT}	3.6%	
CAP _{HEAT}	36	kBtu/hr
EFLH Cooling	737	Hours
EFLH Heat	2380	Hours

Cooling Only	66.3
Electric Heating Only	1,130.7
Combined	1,197.0

* Default values provided in the proposed TRM protocol 1.1 Definitions, Table __; Residential Electric HVAC - References

Project(s)	ID	Qty	Unit kWh	Unit kW	Ext. kWh	Ext. kW	
PMRS Public Outreach Kits - Applicable to the Following Measure Descriptions:	EE Kit	1	248	0.007	248	0.0070	PMRS
Allegheny Court House Kit		1	248.1	0.0075	248	0.0075	Deemed
Beaver County Home & Garden Show Kit		4					
[Pittsburgh] Home & Garden Show Kit		19					
Kane Regional Center Kit		3					

Niagara Conservation Item YDUQ001-01

Qty	DESCRIPTION
2	13W CFL
1	20W CFL
1	Furnace Whistle

CFLs:

4.2.1.1 ENERGY STAR CFL Bulbs

$$\text{Electricity Impact (kWh)} = ((\text{CFL}_{\text{watts}} \times (\text{CFL}_{\text{hours}} \times 365)) / 1000) \times \text{ISR}_{\text{CFL}}$$

$$\text{Peak Demand Impact (kW)} = (\text{CFL}_{\text{watts}}) \times \text{Light CF}$$

CFL_{watts}: TRM Appendix C v12 Prescriptive Table

Line Item	POST-INSTALLATION			PRE-INSTALLATION			Change in Connected Load
	Upgrade Fixture	Post Fixture Code	Post Watts / Fixture	Existing Fixture	Pre Fixture Code	Pre Watts / Fixture	
67	Screw-In CFL 13W	CFC13/1	13	Incandesce	I60/1	60	47
70	Screw-In CFL 20W	CFC20/1	20	Incandesce	I75/1	75	55

Annual Operating Hours

CFL _{hours} :	TRM Table 4-3:	3.0
ISR _{CFL} :	TRM Table 4-3:	84%
Light CF:	TRM Table 4-3:	5.0%

CFL TRM Based Savings	kWh	kW
13W	43.2	0.00235
20W	50.6	0.00275

Exhibit 1 to Annual Report

Furnace Whistle:

Program deemed savings are verified using adopted interim TRM updates for this measure.

Savings estimates are based on reduced furnace blower fan motor power requirements.

Electricity Impact (kWh) = MkW X EFLH X EI X ISR

Definition of Terms

MkW = Average motor full load electric demand (kW)

EFLH = Estimated Full Hours (Heating and Cooling)

BkWh = Base kWh

EI = Efficiency Improvement

ISR = In-service Rate

Component	Type	Value
MkW	Fixed	0.5 kW
EFLH	Fixed	3117
EI	Fixed	15%
ISR	Fixed	0.474

The following table presents the assumptions and the results of the deemed savings calculations:

Electricity Savings = $0.5 \times 3117 \times 0.15 \times 0.474 = 110.8$ rounded to 111 kWh

	Blower Motor kW	Pittsburgh EFLH	Clean Annual kWh	Dirty Annual kWh	Furnace Whistle Savings	ISR	Estimated Savings (kWh)
Heating	0.5	2380	1190	1368.5	178.5	0.474	84.609
Cooling	0.5	737	369	424	55	47.4%	26
Total		3,117	1,559	1,792	234		111

Outreach EE Kit Deemed Savings	Measure	Qty	Unit Savings		Kit (Total) Savings	
			kWh	kW	kWh	kW
	13W CFL	2	43.2	0.00235	86.4612	0.0047
	20W CFL	1	50.6	0.00275	50.6	0.00275
	Furnace Whistle	1	111	0	111	0
	Total				248.1	0.0075

Project(s)	Description	ID	Qty	Unit kWh	Unit kW	Ext. kWh	Ext. kW	
3000249049.10.01	Energy Star Dehumidifiers	RA1	1	233	0.01	233	0.0100	PMRS
			1	297	0.0098	297	0.0098	Deemed
						27.5%	-2.0%	

Unit is verified to be a Frigidaire LAD504TDL 50-Pint Dehumidifier

4.1.1.1 ENERGY STAR Dehumidifiers

Electricity Impact (kWh) = $ES_{v_{DH}}$

Demand Impact (kW) = $DS_{v_{DH}} \times CF_{DH}$

$ES_{v_{DH}}$	TRM Table 4-2:	297
$DS_{v_{DH}}$	TRM Table 4-1:	0.0098
CF_{DH}	TRM Table 4-1:	1.0

TRM Table 4-2

Measure	Energy Savings
Dehumidifier	
1-25 pints/day	54 kWh
25-35 pints/day	117 kWh
35-45 pints/day	213 kWh
45-54 pints/day	297 kWh
54-75 pints/day	342 kWh
75-185 pints/day	374 kWh

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Project	Description	ID	Qty	Unit kWh	Unit kW	Ext. kWh	Ext. kW	PMRS
6000202734.10.02	Residential Screw-In CFL 5-25 Watts	RL1	30	49	0.002333	1,470	0.0700	Deemed
	Verified Wattages	9W	2	45	0.002	1,345	0.0731	
		14W	24			-8.5%	4.4%	
		23W	4					

4.2.1.1 ENERGY STAR CFL Bulbs

$$\text{Electricity Impact (kWh)} = ((\text{CFL}_{\text{watts}} \times (\text{CFL}_{\text{hours}} \times 365)) / 1000) \times \text{ISR}_{\text{CFL}}$$

$$\text{Peak Demand Impact (kW)} = (\text{CFL}_{\text{watts}}) \times \text{Light CF}$$

CFL_{watts}: TRM Appendix C v12 Prescriptive Table

Line Item	POST-INSTALLATION			PRE-INSTALLATION			Change in Connected Load (Watts)
	Upgrade Fixture	Post Fixture Code	Post Watts / Fixture	Existing Fixture	Pre Fixture Code	Pre Watts / Fixture	
65	Screw-In CFL 9W	CFC9/1	9	Incandesce	I34/1	34	25
67	Screw-In CFL 13W	CFC13/1	13	Incandesce	I60/1	60	47
N/A	Screw-In CFL 14W	CFC14/1	14	Incandesce	I60/1	60	46
68	Screw-In CFL 15W	CFC15/1	15	Incandesce	I60/1	60	45
69	Screw-In CFL 23W	CFC23/1	23	Incandesce	I100/1	100	77

Annual Operating Hours

CFL _{hours} :	TRM Table 4-3:	3.0
ISR _{CFL} :	TRM Table 4-3:	84%
Light CF:	TRM Table 4-3:	5.0%

CFL TRM Based Savings	Unit kWh	Unit kW	Qty	Ext. kWh	Ext. kW
9W	23.0	0.00125	2	46	0.0025
14W	42.3	0.0023	24	1,015	0.0552
23W	70.8	0.00385	4	283	0.0154
Wt. Avg.	44.8	0.0024	30	1,345	0.0731

Project	Description	ID	Qty	Unit kWh	Unit kW	Ext. kWh	Ext. kW	PMRS
6000642983.10.01	Interior CFL Fixture, 5-25 Watts	RL3	1	49	0.002	49	0.002	Deemed
						43.9	0.002435	

4.2.1.3 ENERGY STAR Indoor Fixture

$$\text{Electricity Impact (kWh)} = ((\text{IF}_{\text{watts}} \times (\text{IF}_{\text{hours}} \times 365)) / 1000) \times \text{ISR}_{\text{IF}}$$

$$\text{Peak Demand Impact (kW)} = (\text{IF}_{\text{watts}}) \times \text{Light CF}$$

IF _{watts} :	TRM Table 4-3:	48.7
IF _{hours} :	TRM Table 4-3:	2.6
ISR _{IF} :	TRM Table 4-3:	95.0%
Light CF:	TRM Table 4-3:	5.0%

IF Savings: (kWh)	43.9
IF Savings (kW)	0.002435

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Project	Description	ID	Qty	Unit kWh	Unit kW	Ext. kWh	Ext. kW	PMRS
4000123429.10.01	Energy Star Refrigerator	RA3	1	86	0.012	86	0.012	PMRS
						80	0.0125	Deemed

Unit is verified to be an 18 cu. Ft. ES Qualified Refrigerator; Top Mounted Freezer without door ice
 PMRS data shows savings as an average of the range 72 - 100 kWh = 86 kWh savings

4.1.1.1 ENERGY STAR Refrigerators

Electricity Impact (kWh) = $ESav_{REF}$

Demand Impact (kW) = $DSav_{REF} \times CF_{REF}$

$ESav_{REF}$	TRM Table 4-2:	80
$DSav_{REF}$	TRM Table 4-1:	0.0125
CF_{REF}	TRM Table 4-1:	1.0

TRM Table 4-2

Measure	Energy Savings
Refrigerator	
Manual Defrost	72 kWh
Partial Automatic Defrost	72 kWh
Top mount freezer without door ice	80 kWh
Side mount freezer without door ice	95 kWh
Bottom mount freezer without door ice	87 kWh
Top mount freezer with door ice	94 kWh
Side mount freezer with door ice	100 kWh

Project	Description	ID	Qty	Unit kWh	Unit kW	Ext. kWh	Ext. kW	PMRS
8000350759.10.01	CFL: Screw-In 5-25 watts	RL1	9	49	0.002222	441	0.0200	PMRS
			9	43.2	0.0024	389	0.0212	Deemed

Units verified as (9) 13W CFLs

CFLs:

4.2.1.1 ENERGY STAR CFL Bulbs

Electricity Impact (kWh) = $((CFL_{watts} \times (CFL_{hours} \times 365)) / 1000) \times ISR_{CFL}$

Peak Demand Impact (kW) = $(CFL_{watts}) \times Light\ CF$

CFL_{watts} : TRM Appendix C v12 Prescriptive Table

Line Item	POST-INSTALLATION			PRE-INSTALLATION			Change in Connected Load (Watts)
	Upgrade Fixture	Post Fixture Code	Post Watts / Fixture	Existing Fixture	Pre Fixture Code	Pre Watts / Fixture	
67	Screw-In CFL 13W	CFC13/1	13	Incandesce	160/1	60	47

Annual Operating Hours

CFL_{hours} :	TRM Table 4-3:	3.0	
ISR_{CFL} :	TRM Table 4-3:	84%	
Light CF:	TRM Table 4-3:	5.0%	
CFL TRM Based Savings		kWh	kW
	13W	43.2	0.0024

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Project	Description	ID	Qty	Unit kWh	Unit kW	Ext. kWh	Ext. kW	
8000040617.10.01	CFL: Screw-In >= 26 watts	RL2	2	81	0.0035	162	0.007	PMRS
	Units verified as (2) 27W CFLs		2	67.1	0.0037	134	0.0073	Deemed

Literature search shows initial light output of 1,750 lumens advertised to replace a 100 W Incandescent selected as basecase

CFLs:

4.2.1.1 ENERGY STAR CFL Bulbs

Electricity Impact (kWh) = ((CFL_{watts} X (CFL_{hours} X 365))/1000) X ISR_{CFL}

Peak Demand Impact (kW) = (CFL_{watts}) X Light CF

CFL_{watts}: TRM Appendix C v12 Prescriptive Table

Line Item	POST-INSTALLATION			PRE-INSTALLATION			Change in Connected Load (Watts)
	Upgrade Fixture	Post Fixture Code	Post Watts / Fixture	Existing Fixture	Pre Fixture Code	Pre Watts / Fixture	
N/A	Screw-In CFL 27W	CFC27/1	27	Incandesce	I100/1	100	73

Annual Operating Hours

CFL _{hours} :	TRM Table 4-3:	3.0		
ISR _{CFL} :	TRM Table 4-3:	84%		
Light CF:	TRM Table 4-3:	5.0%		
CFL TRM Based Savings		kWh	kW	
27W		67.1	0.0037	

Exhibit 1 to Annual Report

Appendix B – REEP Sample Set Survey & Deemed Savings Adjustment Results

ACT 129 REEP

PMRS - Summary of Sampled Completed Projects
Completed Between: 12/1/2009 - 5/13/2010

Random Number	Sample Count	Project No.	Participant Name	Account #	Phone #	Measure Name	Survey	V1	V2	PMRS kWh	PMRS kW	Deemed kWh	Deemed kW
1588	1	3000687639.10.01	JORDAN SHELIA M	7001142000002	7243210168	Programmable Thermostat RS5	REEP Product Rebate (1)	yes	yes	119	0.11	1,130.7	0
1721	2	9000351886.13.01	HALL WILLIAM	2000403264001	7248430385	Beaver County Home & Garden Show Kits	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075
2080	3	8000351976.13.01	KENNEDY MICHAEL D	1000209134002	4126505612	Kane Regional Centers	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075
3015	4	3000249049.10.01	HUGHES DAVID	4000285088001	412632561	Energy Star Dehumidifiers RA1	REEP Product Rebate	yes	yes	233	0.01	297	0.0098
4253	5	4000171924.13.01	MOORE DANIEL R	5000965106004	4126286999	Kane Regional Centers	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075
4502	6	2000180005.13.01	SWEENEY TIMOTHY M	5000885754001	4124610880	Home & Garden Show Kit	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075
4545	7	1000287473.13.01	MOORE MARIAN L	5001411178002	4127588716	Allegheny Court House Kits	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075
4900	8	6000202734.10.02	DUSCHÉID R L	0000233200001	4128648376	Compact Fluorescent Lamp: Screw-In 5-25 watts RL1	REEP Product Rebate	yes	yes	1470	0.07	1345	0.0731
5045	9	5000345032.13.01	SPADAFORA ANN	2000395722005	4124869344	Home & Garden Show Kit	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075
6057	10	8000842983.10.01	TAKACS EDWARD	0001153082002	4126530143	Interior Compact Fluorescent Fixture, 5 - 25 watts RL3	REEP Product Rebate	yes	yes	49	0.002	43.9	0.0024
8118	11	8000434151.13.02	DODSON RONALD M	7001194488003	4127728235	Home & Garden Show Kit	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075
8801	12	9000310818.10.02	FRITSCH GLEN T	5000355750001	4123690912	Programmable Thermostat RS5	REEP Product Rebate	yes	yes	119	0.11	86.3	0
7804	13	9000185915.13.01	KRAUS LORI	2000190147001	4126785084	Kane Regional Centers	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075
8270	14	3000219685.13.01	BROWN MARY E	3000811737004	4122662013	Home & Garden Show Kit	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075
10527	15	5000312556.13.01	NEEDHAM ROBERT M	7001101975001	4128496090	Home & Garden Show Kit	REEP EE Kit Give-Away	no (2)	n/a	248	0.007	0	0
11287	16	9000625090.13.01	BAKOSH EDWARD	5000211213002	4124662958	Home & Garden Show Kit	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075
12288	17	4000123429.10.01	GEORGE JOSEPH	9001599424001	4122438774	Energy Star Refrigerator RA3	REEP Product Rebate	yes	yes	88	0.012	80	0.0125
12466	18	8000350759.10.01	PATTAK ALAN	1000401603001	4123432714	Compact Fluorescent Lamp: Screw-In 5-25 watts RL1	REEP Product Rebate	yes	yes	441	0.020	389	0.0212
12621	19	6000667443.13.01	SCHMIDT MARY M	6000779214002	4123960126	Home & Garden Show Kit	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075
13288	20	8000040617.10.01	MANENTI ANGELO	8001075413005	4125989982	Compact Fluorescent Lamp: Screw-In == 26 watts RL2	REEP Product Rebate	yes	yes	162	0.007	134.3	0.0073
15730	21	3000619264.13.01	HILINSKI JOSEPH P	5000544067004	4122130897	Home & Garden Show Kit	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075
15834	22	3000484334.13.01	MORROW ALLYN A	7001041304001	4126950322	Home & Garden Show Kit	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075
21057	23	2000363889.13.01	TUCKER JOYCE E	7000849438001	7244958396	Beaver County Home & Garden Show Kits	REEP EE Kit Give-Away	yes	no (3)	248	0.007	248.1	0.0075
21142	24	5000384883.13.01	JASPER WILLIAM B	8000417240001	4127419749	Home & Garden Show Kit	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075
21322	25	5000249928.13.01	TELEP LARRY	0000286073003	4125310270	Home & Garden Show Kit	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075
26422	26	9000386976.13.01	DORNICK JOSEPH M	8000441343001	7243783740	Home & Garden Show Kit	REEP EE Kit Give-Away	yes	no (4)	248	0.007	248.1	0.0075
26592	27	6000301514.13.01	ROBINSON DORMAN	7000345815001	7248690138	Beaver County Home & Garden Show Kits	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075
37091	28	1000232524.13.01	SMILAK DELBERT A	5000287180001	7248465273	Beaver County Home & Garden Show Kits	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075
37414	29	9000403892.13.01	OSMANSKI GERALD	9000460184001	7244957673	Home & Garden Show Kit	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075
39662	30	9000139633.13.01	MURPHY LISA C	4001598869001	4128741732	Home & Garden Show Kit	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075
46943	31	0000283754.13.01	BOLLING JACQUELINE M	5001073251001	4127779633	Home & Garden Show Kit	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075
49682	32	0000217459.13.01	STEVENSON MELISSA	3001584968002	4124453576	Home & Garden Show Kit	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075
50484	33	1000422431.13.01	ALLENBAUGH DAVID H	8000090577002	4128359782	Home & Garden Show Kit	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075
53387	34	9000340039.13.01	BROWN ROBERT P	1000390335001	4128218186	Home & Garden Show Kit	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075
55108	35	2000418437.13.01	HOMER RONALD	8000476883001	4124866234	Home & Garden Show Kit	REEP EE Kit Give-Away	yes	yes	248	0.007	248.1	0.0075

(1) Dwelling heating/cooling type not documented on application, PMRS default set to 3.6% A/C only savings impact (119 kWh) for programmable thermostats. Verification confirms an American Standard Heat Pump in use since home was built, accompanied by a request for 400 amp service, very high winter usage and annual energy consumption 31,408 kWh. Savings are adjusted to reflect electric heating per adopted deemed savings calculations: 1130.7 kWh.

(2) Attended the Home and Garden Show but never received a kit (verified/deemed savings impacts set to zero)

(3) Will replace incandescent lamps with CFLs as they burn out; deemed savings adopt an in-service rate for EE kit components (CFL: 84%, Furnace Whistle 47.4%)

(4) Forgot to install the kit items committed to install ASAP; deemed savings adopt an in-service rate for EE kit components (CFL: 84%, Furnace Whistle 47.4%)

Participation Rate 97.1% 8,375 0.5300 9,937 0.3213

Deemed Savings Adjustment Factor 100.0% 60.6%

	Gross Savings	DSA	DSA Savings
kWh	73,172	106.0%	76,512
kWh	42.1	60.6%	25.5

Exhibit 1 to Annual Report

Appendix C – REEP Energy Efficiency Kit Recipient Survey

DUQUESNE LIGHT COMPANY

ACT 129 REEP Residential Kit Program (Program Year 2009)

DO NOT LEAVE MESSAGES.
MESSAGES.

DO NOT LEAVE 3RD PARTY CALLBACK

IF NO ONE IS HOME THAT CAN SPEAK TO THIS EVENT, ADVISE WE WILL TRY BACK AT A LATER TIME.

ACCOUNT HOLDER'S NAME _____

ACCOUNT NUMBER _____

LOG THE TIME THIS CALL WAS MADE _____

NAME OF EVENT _____

EVENTS:

- Pittsburgh Home and Garden Show
- Allegheny Court House Employee Energy Saving Event
- Beaver County Home & Garden Show
- Kane Regional Centers
- APT MetroPGH
- Duquesne Light Employee Energy Savings Event
- Hill Top

Why are you doing this study: Studies like this help Duquesne Light and the Pennsylvania Public Service Commission better understand how well the energy conservation programs are working and what changes need to be made to these programs.

Additional questions about the program: If you would like to talk to someone from Duquesne Light or receive additional information, feel free to contact Colleen Mackin at 412-393-6014 or visit the Duquesne WATT Choices website at <http://www.duquesnelight.com/wattchoices/>

INTRODUCTION

May I please speak with [contact name]?

[IF CONTACT IS A MINOR, ASK TO SPEAK TO A HEAD OF THE HOUSEHOLD]

[IF CONTACT NOT AVAILABLE, DETERMINE CALL-BACK DATE/TIME]

Hello. This is <INTERVIEWER NAME> calling on behalf of Duquesne Light Company regarding the [EVENT] in the spring of this year. We are calling because you or someone at your household attended this event and received an Energy Savings Kit containing compact fluorescent light bulbs, some insulation and other energy saving products.

Q1. Do you recall receiving the energy savings kit at the [EVENT]?

0. No
1. Yes [SKIP TO Q3]
2. Don't know
3. Refused

Exhibit 1 to Annual Report

Q2. The Energy Savings Kit promotion was sponsored by Duquesne Light Company and you would have received the Energy Savings Kit for free. You may have also signed a form and provided your contact information. Do you remember the event?

- 0. No
- 1. Yes
- 2. Don't know
- 3. Refused

If Q2 answer is not = 1. THANK AND TERMINATE: That's okay. Thank you for your time.

Q3. We appreciate your participation in the energy saving program. Can we report that you installed the energy efficiency products that were contained in the Kit?

- 0. No
- 1. Yes [SKIP TO Q6.]
- 2. Don't know
- 3. Refused

If Q3 answer is = 2 OR 3. THANK AND TERMINATE: That's okay. Thank you for your time.

Q4. May I ask the reason why you did not install the energy saving products?

- 0. No
- 1. Yes [RECORD REASONS IN SPACE BELOW]
- 2. Don't know
- 3. Refused

REASONS PRODUCTS WERE NOT INSTALLED:

Q5. Will you install the products in the kit to begin saving energy as soon as possible?

- 0. No
- 1. Yes
- 2. Don't know
- 3. Refused

THANK AND TERMINATE: Thank you for your time today.

Q6. Did you find these products helpful or useful to you and your home energy use?"

- 0. No

Exhibit 1 to Annual Report

1. Yes
2. Don't know
3. Refused

Q7. Would you be interested in receiving more information about energy saving programs offered by Duquesne Light?

0. No
1. Yes
2. Don't know
3. Refused

THANK AND TERMINATE: Thank you for your time today and thank you for helping conserve energy.

Exhibit 1 to Annual Report

Appendix D – REEP Rebate Recipient Survey

DUQUESNE LIGHT COMPANY
ACT 129 Residential Energy Efficiency Rebate Program (REEP)
(Program Year 2009)

DO NOT LEAVE MESSAGES.

DO NOT LEAVE 3RD PARTY CALLBACK MESSAGES.

IF NO ONE IS HOME THAT CAN SPEAK TO THIS EVENT, ADVISE WE WILL TRY BACK AT A LATER TIME.

ACCOUNT HOLDER'S NAME _____

ACCOUNT NUMBER _____

LOG THE TIME THIS CALL WAS MADE _____

Why are you doing this study: Studies like this help Duquesne Light and the Pennsylvania Public Service Commission better understand how well the energy conservation programs are working and what changes need to be made to these programs.

Additional questions about the program: If you would like to talk to someone from Duquesne Light or receive additional information, feel free to contact Colleen Mackin at 412-393-6014 or visit the Duquesne WATT Choices website at <http://www.duquesnelight.com/wattchoices/>

INTRODUCTION

May I please speak with [contact name]?

[IF CONTACT IS A MINOR, ASK TO SPEAK TO A HEAD OF THE HOUSEHOLD]

[IF CONTACT NOT AVAILABLE, DETERMINE CALL-BACK DATE/TIME]

Hello. This is <INTERVIEWER NAME> calling on behalf of Duquesne Light Company regarding Duquesne Light's Residential Energy Efficiency Rebate Program. The program provides rebates for purchasing energy efficiency products such as compact florescent light bulbs, programmable thermostats and Energy Star appliances. We are contacting customers who recently applied for a cash rebate available through this program for purchasing energy saving products.

Q1. Are you the person who was most involved in purchasing the energy saving products through this program?

4. No

Exhibit 1 to Annual Report

5. Yes [SKIP TO Q3]
6. Don't know
7. Refused

Q2. May I speak to the person who would know the most about purchasing the energy saving products?

4. No
5. Yes
6. Don't know
7. Refused

If Q2 answer is not = 1. THANK AND TERMINATE: **That's okay. Thank you for your time.**

Q3. We are conducting a study to evaluate Duquesne Light's Residential Energy Efficiency Rebate Program and would like to include your opinions. This is required by the Pennsylvania Public Utilities Commission and will be used to verify the effectiveness of the program and make improvements.

Our program records indicate that you purchased [quantity of product] around [date of purchase] and applied for a rebate.

Do you recall purchasing [quantity of product]?

4. No
5. Yes
6. Don't know
7. Refused

If Q3 answer is = 0, 2 OR 3.

THANK AND TERMINATE: **That's okay. Thank you for your time.**

Q4. How did you hear about the rebate available as part of Duquesne Light's Residential Energy Efficiency Rebate Program?

1. Advertising – radio, newspaper, trade journal, billboard, TV
2. Bill insert, newsletter, or other mailing
3. Website
4. Email

Exhibit 1 to Annual Report

- 5. Retail store
- 6. Other (SPECIFY)

Q5. Without this program, would you have likely purchased the [energy saving product]?

- 1. Yes
- 2. No
- 3. DON'T KNOW
- 4. REFUSED

Q6. We appreciate your participation in the energy saving program. Can we report that you installed or are using the energy efficiency products that you purchased?

- 1. Yes [SKIP TO Q9]
- 2. No
- 3. DON'T KNOW
- 4. REFUSED

If Q6 answer is = 3 OR 4. THANK AND TERMINATE: That's okay. Thank you for your time.

Q7. May I ask the reason why you did not install the energy saving products?

- 1. Yes [RECORD REASONS IN SPACE BELOW]
- 2. No
- 3. DON'T KNOW
- 4. REFUSED

REASONS PRODUCTS WERE NOT INSTALLED:

Exhibit 1 to Annual Report

Q8. For the energy saving products in purchased but not used, when do you think you will install or start using them?

Would you say within the next 3 months, 3 to 6 months from now, 6 to 12 months from now, more than a year from now, or never?

1. Within the next 3 months
2. 3 to 6 months from now
3. 6 to 12 months from now
4. More than a year from now
5. Never
6. DON'T KNOW
7. REFUSED

PROGRAM SATISFACTION

Q9. From the time you purchased your products, how long did you take before applying for your rebate?

1. Record approximate number of days _____

Q10. From the time you applied for your rebate, how long did it take to receive your rebate?

1. Record approximate number of days _____

Q11. On a scale of 1 to 10, with 10 being the highest, how pleased were you with the program? How could the program be improved?

1. Record the ranking (1-10) _____
2. Record suggested improvements

Q12. Did you find these products helpful or useful to you and your home energy use?"

Exhibit 1 to Annual Report

1. Yes
2. No
3. DON'T KNOW
4. REFUSED

Q13. Would you be interested in receiving more information about energy saving programs offered by Duquesne Light?

1. Yes
2. No
3. DON'T KNOW
4. REFUSED

THANK AND TERMINATE: Thank you for your time today and thank you for helping conserve energy.

Exhibit 1 to Annual Report

Appendix E – SEP Deemed Savings Verification Bases

School Energy Pledge Program (SEP) Energy Efficiency Program Deemed Savings References

PMRS School Energy Pledge Program EE Kit	Project(s)	ID	Qty	Unit kWh	Unit kW	Ext. kWh	Ext. kW	PMRS
	35	SEP EE Kit	1	365	0.294	365	0.2940	PMRS
	Niagara Conservation Kit YDL02	13 Watt CFL	5	43.2	0.00235	216.2	0.0118	Deemed
		Nightlight (Lime Light)	2	26	0	52.0	0.0%	Deemed
		Furnace Whistle	1	111	0	111	0	Deemed
		Total Kit				379.2	0.0118	Deemed

CFLs:

4.2.1.1 ENERGY STAR CFL Bulbs

$$\text{Electricity Impact (kWh)} = ((\text{CFL}_{\text{watts}} \times (\text{CFL}_{\text{hours}} \times 365)) / 1000) \times \text{ISR}_{\text{CFL}}$$

$$\text{Peak Demand Impact (kW)} = (\text{CFL}_{\text{watts}}) \times \text{Light CF}$$

CFL_{watts}: TRM Appendix C v12 Prescriptive Table

Line Item	POST-INSTALLATION			PRE-INSTALLATION			Change in Connected Load (Watts)
	Upgrade Fixture	Post Fixture Code	Post Watts / Fixture	Existing Fixture	Pre Fixture Code	Pre Watts / Fixture	
67	Screw-In CFL 13W	CFC13/1	13	Incandesce	160/1	60	47

Annual Operating Hours

CFL _{hours} :	TRM Table 4-3:	3.0
ISR _{CFL} :	TRM Table 4-3:	84%
Light CF:	TRM Table 4-3:	5.0%

CFL TRM Based Savings	kWh	kW
13W	43.2	0.00235

Night Lights

July 28, 2010 received file of "approved" interim measures form SWE (Tom Londos)

LED Nightlight

Assumes a 1 Watt LED nightlight replaces a 7 Watt incandescent nightlight. The nightlight is assumed to operate 10 hours per day, 365 days per year; estimated useful life is five years (manufacturer cites 11 years 100,000 hours). Savings are calculated using the following algorithm:

$$\text{Electricity Impact (kWh)} = ((\text{NL}_{\text{watts}} \times (\text{NL}_{\text{hours}} \times 365)) / 1000) \times \text{ISR}$$

Definition of Terms

NL_{watts} = Average delta watts per LED Nightlight

NL_{hours} = Average hours of use per day per Nightlight

ISR = In-service rate

Component	Type	Value	Sources
NL _{watts}	Fixed	6 Watts	Data Gathering
NL _{hours}	Fixed	10	Mfg cites 8-10 hrs
ISR	Fixed	0.87	PA CFL ISR value

$$\text{Electricity Savings} = ((6 \times (10 \times 365)) / 1000) \times 0.87 = 19.05 \text{ kWh (rounded to 19 kWh)}$$

Adopted deemed savings identify 1 Watt LED night lights as the base case. Verification shows night lights distributed were not LED variants, but Electroluminescent night lights, Niagara Conservation item number N1202, with 0.25 Watts. This increases NL_{watts} from 6 Watts to 6.75 Watts. Assumed day operating hours were changed from 10 to 12 in response to guidance from the SWE on 8/12/2010 and referencing SCE Workpaper WPSCRELG0029 Rev-1, 2/4/2009

$$\text{Electricity Savings} = ((6.75 \times (12 \times 365)) / 1000) \times 0.87 = 25.7 \text{ kWh (rounded to 26 kWh)} \quad 25.72155$$

All other deemed savings algorithm inputs held constant, the revised base case produces annual kWh savings:

Exhibit 1 to Annual Report

Furnace Whistle:

Savings estimates are based on reduced furnace blower fan motor power requirements.

Electricity Impact (kWh) = MkW X EFLH X EI X ISR

Definition of Terms

MkW = Average motor full load electric demand (kW)

EFLH = Estimated Full Hours (Heating and Cooling)

BkWh = Base kWh

EI = Efficiency Improvement

ISR = In-service Rate

Component	Type	Value
MkW	Fixed	0.5 kW
EFLH	Fixed	3117
EI	Fixed	15%
ISR	Fixed	0.474

The following table presents the assumptions and the results of the deemed savings calculations:

Electricity Savings = $0.5 \times 3117 \times 0.15 \times 0.474 = 110.8$ rounded to 111 kWh

	Blower Motor kW	Pittsburgh EFLH	Clean Annual kWh	Dirty Annual kWh	Furnace Whistle Savings	ISR	Estimated Savings (kWh)
Heating	0.5	2380	1190	1368.5	178.5	0.474	84,609
Cooling	0.5	737	369	424	55	47.4%	26
Total		3,117	1,559	1,792	234		111

PMRS School Energy Pledge Program EE Kit	Project(s)	ID	Qty	Unit kWh	Unit kW	Ext. kWh	Ext. kW	
	35	SEP KIT NC YDL04	1	416	0.0830	416	0.0830	PMRS
		13 watt cfl	3	43.2	0.00235	129.7	0.0071	Deemed
		20 watt cfl	1	50.6	0.00275	50.6	0.0028	Deemed
	Niagara Conservation Kit YDL04	23 watt cfl	1	70.8	0.00385	70.8246	0.0039	Deemed
		Lime light	2	26	0	52	0.0000	Deemed
		Furnace Whistle	1	111	0	111	0.0000	Deemed
						414.1	0.0137	Deemed

4.2.1.1 ENERGY STAR CFL Bulbs

Electricity Impact (kWh) = $((CFL_{watts} \times (CFL_{hours} \times 365)) / 1000) \times ISR_{CFL}$

Peak Demand Impact (kW) = $(CFL_{watts}) \times \text{Light CF}$

CFL_{watts}: TRM Appendix C v12 Prescriptive Table

Line Item	POST-INSTALLATION			PRE-INSTALLATION			Change in Connected Load (Watts)
	Upgrade Fixture	Post Fixture Code	Post Watts / Fixture	Existing Fixture	Pre Fixture Code	Pre Watts / Fixture	
67	Screw-In CFL 13W	CFC13/1	13	Incandescent	I60/1	60	47
70	Screw-In CFL 20W	CFC20/1	20	Incandescent	I75/1	75	55
71	Screw-In CFL 23W	CFC23/1	23	Incandescent	I100/1	100	77

Annual Operating Hours

CFL _{hours} :	TRM Table 4-3:	3.0
ISR _{CFL} :	TRM Table 4-3:	84%
Light CF:	TRM Table 4-3:	5.0%

CFL TRM Based Savings	Unit kWh	Unit kW
13W	43.2	0.00235
20W	50.6	0.00275
23W	70.8	0.00385

Exhibit 1 to Annual Report

Night Lights

July 28, 2010 received file of "approved" interim measures form SWE (Tom Londos)

LED Nightlight

Assumes a 1 Watt LED nightlight replaces a 7 Watt incandescent nightlight. The nightlight is assumed to operate 10 hours per day, 365 days per year; estimated useful life is five years (manufacturer cites 11 years 100,000 hours). Savings are calculated using the following algorithm:

$$\text{Electricity Impact (kWh)} = ((NL_{\text{watts}} \times (NL_{\text{hours}} \times 365)) / 1000) \times \text{ISR}$$

Definition of Terms

NL_{watts} = Average delta watts per LED Nightlight

NL_{hours} = Average hours of use per day per Nightlight

ISR = In-service rate

Component	Type	Value	Sources
NL_{watts}	Fixed	6 Watts	Data Gathering
NL_{hours}	Fixed	10	Mfg cites 8-10 hrs
ISR	Fixed	0.87	PA CFL ISR value

$$\text{Electricity Savings} = ((6 \times (10 \times 365)) / 1000) \times 0.87 = 19.05 \text{ kWh (rounded to 19 kWh)}$$

Adopted deemed savings identify 1 Watt LED night lights as the basecase. Verification shows night lights distributed were not LED variants, but Electroluminescent night lights, Niagara Conservation item number N1202, with 0.25 Watts. This increases NL_{watts} from 6 Watts to 6.75 Watts. Assumed day operating hours were changed from 10 to 12 in response to guidance from the SWE on 8/12/2010 and referencing SCE Workpaper WPSCRELG0029 Rev-1, 2/4/2009

$$\text{Electricity Savings} = ((6.75 \times (12 \times 365)) / 1000) \times 0.87 = 25.7 \text{ kWh (rounded to 26 kWh)} \quad 25.72155$$

All other deemed savings algorithm inputs held constant, the revised base case produces annual kWh savings:

Furnace Whistle:

Savings estimates are based on reduced furnace blower fan motor power requirements.

$$\text{Electricity Impact (kWh)} = \text{MkW} \times \text{EFLH} \times \text{EI} \times \text{ISR}$$

Definition of Terms

MkW = Average motor full load electric demand (kW)

EFLH = Estimated Full Hours (Heating and Cooling)

BkWh = Base kWh

EI = Efficiency Improvement

ISR = In-service Rate

Component	Type	Value
MkW	Fixed	0.5 kW
EFLH	Fixed	3117
EI	Fixed	15%
ISR	Fixed	0.474

The following table presents the assumptions and the results of the deemed savings calculations:

$$\text{Electricity Savings} = .5 \times 3117 \times .15 \times .474 = 110.8 \text{ rounded to 111 kWh}$$

	Blower Motor kW	Pittsburgh EFLH	Clean Annual kWh	Dirty Annual kWh	Furnace Whistle Savings	ISR	Estimated Savings (kWh)
Heating	0.5	2380	1190	1368.5	178.5	0.474	84,609
Cooling	0.5	737	369	424	55	47.4%	26
Total		3,117	1,559	1,792	234		111

Exhibit 1 to Annual Report

Appendix F – SEP Program Participant Survey

DUQUESNE LIGHT COMPANY ACT 129 SCHOOL ENERGY PLEDGE PROGRAM (Program Year 2009)

DO NOT LEAVE MESSAGES.

DO NOT LEAVE 3RD PARTY CALLBACK MESSAGES.

IF NO ONE IS HOME THAT CAN SPEAK TO THIS EVENT, ADVISE WE WILL TRY BACK AT A LATER TIME.

ACCOUNT HOLDER'S NAME _____

ACCOUNT NUMBER _____

LOG THE TIME THIS CALL WAS MADE _____

Why are you doing this study: Studies like this help Duquesne Light and the Pennsylvania Public Service Commission better understand how well the energy conservation programs are working and what changes need to be made to these programs.

Additional questions about the program: If you would like to talk to someone from Duquesne Light or receive additional information, feel free to contact Colleen Mackin at 412-393-6014 or visit the Duquesne WATT Choices website at <http://www.duquesnelight.com/wattchoices/>

INTRODUCTION

May I please speak with [contact name]?

[IF CONTACT IS A MINOR, ASK TO SPEAK TO A HEAD OF THE HOUSEHOLD]

[IF CONTACT NOT AVAILABLE, DETERMINE CALL-BACK DATE/TIME]

Hello. This is <INTERVIEWER NAME> calling on behalf of Duquesne Light Company regarding the Duquesne School Energy Pledge Program in the Fall of 2009. We are calling because your family was involved with our School Energy pledge program where Duquesne Light agreed to pay to your child's school \$25 in return for your pledge to install energy saving products in your home.

Q1. Do you recall the program?

1. No
2. Yes [SKIP TO Q3]
3. Don't know
4. Refused

Q2. The School Energy Pledge Program is sponsored by Duquesne Light Company and implemented through Pittsburgh area schools. Under the Program, your child attended an

Exhibit 1 to Annual Report

assembly at [school name] and learned about how to save energy. Your child was provided a pledge form to take home to his parent or guardian. As indicated on the Pledge form, Duquesne Light agrees to pay [school name] \$25 in exchange for your pledge to install energy saving products contained in a kit mailed to the house. Our records indicate you signed the pledge form. Do you recall completing the pledge to install the energy efficiency measures?

1. No
2. Yes
3. Don't know
4. Refused

If Q2 answer = 1. THANK AND TERMINATE: That's okay. Thank you for your time.

Q3. We appreciate your participation in the program. Duquesne Light honored its commitment and paid the \$25 to [school name], this call is to confirm you honored your pledge to install the energy efficiency products mailed to you. Can we report that you installed the energy efficiency products?

1. No
2. Yes
3. Don't know
4. Refused

If Q3 answer is = 2 OR 3. THANK AND TERMINATE: That's okay. Thank you for your time.

Q4. May I ask the reason why you did not install the energy saving products?

1. No
2. Yes [RECORD REASONS IN SPACE BELOW]
3. Don't know
4. Refused

REASONS PRODUCTS WERE NOT INSTALLED:

Q5. Will you install the products in the kit to begin saving energy as soon as possible?

1. No
2. Yes
3. Don't know
4. Refused

Exhibit 1 to Annual Report

THANK AND TERMINATE: Thank you for your time today.

Q6. Did you find these products helpful or useful to you and your home energy use?"

1. No
2. Yes
3. Don't know
4. Refused

Q7. Did you and your child like the Program?

1. No
2. Yes
3. Don't know
4. Refused

Q8. Do you have any suggestions for how the Program could be improved?

1. No
2. Yes [RECORD SUGGESTIONS BELOW]
3. Don't know
4. Refused

SUGGESTIONS FOR IMPROVING THE PROGRAM:

THANK AND TERMINATE: Thank you for your time today and thank you for helping conserve energy.

Exhibit 1 to Annual Report

Appendix G - SEP Sample Set Survey & Deemed Savings Adjustment Results

PMRS - Summary of Completed Projects
Completed between: 12/1/2009 - 5/31/2010

Random Number	Sample Count	Project No.	Participant Name	Account #	Phone #	Measure Name	Survey	V1	V2	PMRS kWh	PMRS kW	Verified kWh	Verified kW
5565	1	6000031083.11.01	LANG DAVID	8000031689001	7244432598	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
5616	2	5000471991.11.01	VOGEL STEPHEN E	7000390334002	4124864997	EP KIT NC YDL	SEP Survey	yes	yes (1)	365	0.294	379.2	0.0118
6352	3	4000615807.11.01	SALAS GRETCHEN	8001359825001	7246255681	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
11303	4	0000184981.11.01	SIFORD MARK J	3000212626001	4124618132	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
11793	5	4000291248.11.01	COOPER RICHARD R	6000434123002	4127615009	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
12638	6	8000636232.11.01	MILANO AMY	8000405452006	7249346406	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
15623	7	0000024359.11.01	CHATMAN LAMONT	4001490006001	4129083746	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
18324	8	0000055462.11.01	MALONEY MARY P	4000060813002	4124415501	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
19232	9	2000295612.11.01	ROMANO LOUIS J	400033372002	7244432063	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
19564	10	8000617317.11.01	BURNHAM MICHAEL C	7000659455002	7246256603	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
25883	11	5000443071.11.01	FASSINGER CHRISTOPHEJ	3000982042002	4124642499	EP KIT NC YDL	SEP Survey	yes	yes (2)	365	0.294	379.2	0.0118
30446	12	6000191934.11.01	GOULD AMY M	6001195763001	7244571148	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
34774	13	7000137825.11.01	WOOD WILLIAM G	2000158033001	4124213384	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
35475	14	2000662615.11.01	QUINN ANGELA	6001303240001	4124927502	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
35668	15	0000264448.11.01	ASH JOSEPHINE J	9001501850001	4127515861	EP KIT NC YDL	SEP Survey	No	No	365	0.294	0.0	0.0000
35680	16	6000347117.11.01	SAMPSON KAREN E	1000832068002	4124920336	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
37692	17	6000259946.11.01	RAYMER TERRY	5000297605001	7244434482	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
39378	18	1000017919.11.01	POILLUCCI AMY M	8000850917002	4126212502	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
48680	19	8000138399.11.01	ZITELLI NICOLAS C	9001052989002	4124007723	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
51951	20	6000622791.11.01	JONES DAVID S	1000643036002	7244432373	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
54623	21	5000617402.11.01	GOERTLER ROBERT J	6000540335002	7249349316	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
55285	22	4000366579.11.01	FOUSE PAM J	4000993480001	7244435968	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
59032	23	3000364136.11.01	BOLAND DIANA	4001523839001	4127841930	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
60474	24	1000601591.11.01	FOWKES ALLEN R	2000303443002	7244432745	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
61542	25	4000373531.11.01	WERNER III LOUIS J	6000865627002	4127816568	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
63252	26	4000664104.11.01	SUPPA JOSEPH A	4000924348003	4129731786	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
64081	27	6000634711.11.01	STEPHENSON DONNA M	0001125778001	7246258079	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
66150	28	8000187859.11.01	PATTON JR LEONARD G	0000862636001	4124623857	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
64224	29	1000038253.11.01	JENNINGS CHERYL L	7000087416002	4127981001	EP KIT NC YDL	SEP Survey	yes	yes (3)	365	0.294	379.2	0.0118
67148	30	5000610462.11.01	BUSS JEFFREY J	2001555532001	7249340347	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
69862	31	4000055521.11.01	LASKOWSKI MICHAEL	5000060961001	4126619352	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
73949	32	2000552457.11.01	FONZI JOAN	2001153769001	7244430341	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
74206	33	0000038368.11.01	VUCHO NANCY M	8001149446001	4127935488	EP KIT NC YDL	SEP Survey	yes	yes (4)	365	0.294	379.2	0.0118
75763	34	3000662701.11.01	ROBINSON JOHN D	4000929566003	4124921169	EP KIT NC YDL	SEP Survey	yes	yes	365	0.294	379.2	0.0118
79655	35	1000381361.11.01	NIST LAWRENCE	4000435233001	4124874536	EP KIT NC YDL	SEP Survey	yes	yes (5)	365	0.294	379.2	0.0118

Note: Results are not discounted for V2 because deemed savings adopt an in-service rate for EE kit components (CFL: 84%, Furnace Whistle 47.4%)

Survey verifies program enrollment, commitment and receipt of EE Kit.

- (1) Installed lamps and weather stripping only
- (2) Received kit but did not install/promised.
- (3) Installed lamps only
- (4) Installed lamps only
- (5) Installed lamps only and furnace whistle only

Participation Rate	97.1%	12,775	10,2900	12,891	0.3995
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Deemed Savings Adjustments 100.9% 3.9%

Exhibit 1 to Annual Report

Appendix H – JACO Data Request Response

Residential Refrigerator/Freezer Recycling Program

JACO Data Request Random Sample Period Ending 5/31/2010																
CustomerName	Address	City	UtilCustID	HomePhone	PickupDate	Units	Model Number	Type	TypeDetail	Defrost Type	IceMaker	SizeCuFt	EstVintag	Amps	LocPrior	
ABELS, CHERYL	02157 LUCINA AVE	PITTSBURGH	1242686001	412-882-5577	3/30/2010 0:00	2	KTRS20**W**0*	REF	Top Freezer	Frost Free	NO	20	1990	7	1st Fl	
BILOTTA, FRANK	00045 N EUCLID AVE	PIITTSBURGH	6000350465001	412-761-8605	2/13/2010 0:00	1	UNKNOWN	REF	Single Door	Manual	NO	12	1950	7	Basement	
BOCK, ANDREW	04614 LOLLY DR	MONROEVILLE	70552001	724-553-5616	3/2/2010 0:00	1	UNKNOWN	REF	Single Door	Manual	NO	14	1955	8	Garage	
BONAROTI, NANCY	01330 LINCOLN DR	MONACA	5000482587001	724-775-1546	2/20/2010 0:00	1	TBF18BV	REF	Top Freezer	Frost Free	NO	18	1977	5	Garage	
CLEMENIC, J	00721 BROADWAY AVE	EAST MCKEESPORT	112307001	412-760-0377	2/20/2010 0:00	1	HMG21090	REF	Side-by-Side	Frost Free	NO	21	1991	12	Basement	
COLLMAN, CHARLOTTE	01040 GREENLAWN DR	PITTSBURGH	8000401317001	412-921-3125	2/20/2010 0:00	1	UNKNOWN	REF	Single Door	Manual	NO	19	1975	9	Basement	
CONDON, DAVID	00367 WALNUT ST	PITTSBURGH	2001592122001	412-828-0924	2/20/2010 0:00	1	TBX14AM	REF	Top Freezer	Frost Free	NO	14	1990	5	Porch	
DEGIDIO, DOMINIC	06229 TUSCARAWAS RD	INDUSTRY	7000037296001	724-643-6882	3/31/2010 0:00	1	RT14DC*V*0	REF	Top Freezer	Frost Free	NO	14	1989	7	Garage	
DORSEY, JOHN	00261 KNICKERBOCKER DR	PITTSBURGH	7000506816001	412-373-2025	2/13/2010 0:00	1	UNKNOWN	REF	Top Freezer	Frost Free	NO	16	1980	9	Basement	
FATH, ELIZABETH	00911 CHERRY ST	ALIQUPPA	4000109436001	724-375-6739	2/13/2010 0:00	1	UNKNOWN	REF	Top Freezer	Frost Free	NO	12	1970	5	Basement	
FLAHERTY, MARYANN	01926 KIRKALFY AVE	PITTSBURGH	7000702367001	412-341-6206	2/20/2010 0:00	1	UNKNOWN	REF	Top Freezer	Frost Free	NO	19	1980	11	Garage	
GOSSETT, DONALD	00945 LINDSAY RD	CARNEGIE	3000435947001	412-279-6808	3/2/2010 0:00	1	FRT18CRC*0	REF	Top Freezer	Frost Free	NO	18	1997	9	Basement	
HALFHILL, H	00022 PYRENEES RD	PITTSBURGH	1000478810001	724-327-7436	3/2/2010 0:00	1	UNKNOWN	REF	Top Freezer	Frost Free	NO	19	1970	9	Basement	
HAROUSE, DAVID	00081 CLIFFORD DR	PITTSBURGH	3000907090001	412-853-3681	3/2/2010 0:00	1	UNKNOWN	REF	Top Freezer	Frost Free	NO	18	1977	9	Garage	
HIGGINBOTHAM, THOMAS	00539 SUNNYFIELD DR	MONROEVILLE	6000075413002	412-374-8283	2/20/2010 0:00	1	GTS 18	REF	Top Freezer	Frost Free	NO	18	1984	12	Basement	
JANUSEK, JENNIFER	00377 CAVAN DR	PITTSBURGH	2001557640001	412-714-4965	2/20/2010 0:00	1	UNKNOWN	REF	Top Freezer	Frost Free	NO	17	1950	11	Garage	
KREMMELE, ALBERT	205 LEE AVE	PITTSBURGH	6000414675001	412-364-1428	2/20/2010 0:00	1	CTF15	REF	Top Freezer	Frost Free	NO	15	1978	5	Garage	
LEGAL, DAVID	00033 SEMINOLE CT	PITTSBURGH	477888001	412-793-7436	2/20/2010 0:00	1	UNKNOWN	REF	Single Door	Manual	NO	14	1960	9	Basement	
MARSH, EDWIN	00115 CREST DR	BEAVER	1000438518001	724-775-8867	2/20/2010 0:00	1	UNKNOWN	REF	Single Door	Frost Free	NO	14	1960	5	Basement	
MCKNIGHT JR, H R	114 NORTHVIEW CIR	BEAVER	6000409002001	724-775-4745	2/13/2010 0:00	1	UNKNOWN	REF	Top Freezer	Frost Free	NO	20	1980	5	Garage	
MOLS, THOMAS	00112 BONITA CT	MCKEESPORT	4000174791001	412-310-8067	2/20/2010 0:00	1	UNKNOWN	REF	Side-by-Side	Frost Free	YES	19	1990	12	Garage	
MONTINI, ROBERT	105 MAPLEWOOD AVE	ALIQUPPA	5000049627002	724-375-9516	3/2/2010 0:00	1	106.76862	REF	Top Freezer	Frost Free	NO	20	1980	5	Garage	
PIERCE, JAMES	01716 RIDGE AVE	NORTH BRADDOCK	4000658915001	412-292-3416	3/30/2010 0:00	1	SSD11CGB	REF	Single Door	Manual	NO	11	1985	5	1st Fl	
POPE, MARLENE	06527 APPLE AVE	PITTSBURGH	4000070474001	412-661-0594	3/2/2010 0:00	1	UNKNOWN	REF	Top Freezer	Frost Free	NO	18	1980	5	Basement	
SCHMITT, JEROME	00506 WIMER CIR	PITTSBURGH	2000486865001	412-366-2743	2/20/2010 0:00	1	UNKNOWN	REF	Single Door	Frost Free	NO	14	1960	5	Basement	
SCHNEIDER, RICHARD	00549 EDGEWOOD AVE	OAKMONT	6000477136001	412-828-5762	2/13/2010 0:00	1	WRT21	REF	Top Freezer	Frost Free	NO	12	2000	11	Basement	
SCHOLL, ALEXIS	00217 MINOOKA ST	PITTSBURGH	7000419997001	412-882-8946	3/13/2010 0:00	1	UNKNOWN	REF	Top Freezer	Frost Free	NO	12	1976	5	Basement	
SHAWGO, JEFFREY	01429 ORCHARDVIEW DR	PITTSBURGH	4000967031002	412-341-4111	2/20/2010 0:00	1	RT171F1*LGA	REF	Top Freezer	Frost Free	NO	17	1981	11	1st Fl	
SIMMONS, STEVEN	01905 LEOLYN ST	PITTSBURGH	6000229570001	412-884-4881	3/13/2010 0:00	1	UNKNOWN	REF	Top Freezer	Frost Free	NO	16	1980	5	1st Fl	
STAMERRA, LOUIS	01523 GREENCREST DR	PITTSBURGH	3001298252001	412-848-1041	2/13/2010 0:00	1	UNKNOWN	REF	Top Freezer	Frost Free	NO	16	1969	5	Garage	
TAYLOR, LESLIE A	2006 LOUISE DR	GLENSHAW	3000560952002	412-877-1952	3/13/2010 0:00	1	TBF165V	REF	Top Freezer	Frost Free	NO	16	1977	5	Basement	
VOLAS, BARBARA	01304 SUMMITT ST	MCKEESPORT	6000175040001	412-678-1937	2/20/2010 0:00	1	UNKNOWN	REF	Single Door	Manual	NO	14	1970	9	Basement	
WASHBURN, JODI	00241 WOODHAVEN DR	PITTSBURGH	5001614366001	412-708-5963	3/13/2010 0:00	1	TBF16TB	REF	Top Freezer	Frost Free	NO	16	1979	5	Basement	
WIKERT, SHARON	00526 HAVERHILL RD	PITTSBURGH	3000273661001	412-344-5538	3/30/2010 0:00	1	EHT171HK	REF	Top Freezer	Frost Free	NO	17	1982	7	1st Fl	
ZAJDEL, JANE	03915 MAIN ST	MCKEESPORT	9000177202001	412-951-8167	3/13/2010 0:00	1	UNKNOWN	REF	Top Freezer	Frost Free	NO	16	1960	5	Basement	

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Appendix I – Refrigerator/Freezer Recycling Program Participant Survey

DUQUESNE LIGHT COMPANY

ACT 129 Residential Refrigerator/Freezer Recycling Program (Program Year 2009)

DO NOT LEAVE MESSAGES.

DO NOT LEAVE 3RD PARTY CALLBACK MESSAGES.

IF NO ONE IS HOME THAT CAN SPEAK TO THIS EVENT, ADVISE WE WILL TRY BACK AT A LATER TIME.

ACCOUNT HOLDER'S NAME _____
ACCOUNT NUMBER _____
LOG THE TIME THIS CALL WAS MADE _____

Why are you doing this study: Studies like this help Duquesne Light and the Pennsylvania Public Service Commission better understand how well the energy conservation programs are working and what changes need to be made to these programs.

Additional questions about the program: If you would like to talk to someone from Duquesne Light or receive additional information, feel free to contact Colleen Mackin at 412-393-6014 or visit the Duquesne WATT Choices website at <http://www.duquesnelight.com/wattchoices/>

INTRODUCTION

May I please speak with [contact name]?

[IF CONTACT IS A MINOR, ASK TO SPEAK TO A HEAD OF THE HOUSEHOLD]

[IF CONTACT NOT AVAILABLE, DETERMINE CALL-BACK DATE/TIME]

Hello. This is <INTERVIEWER NAME> calling on behalf of Duquesne Light Company regarding Duquesne Light's Appliance Recycling Program in the spring of this year. In the program, a service person comes out to the house, performs tests on the appliance to make sure it qualifies and then takes it away to be recycled. We are contacting customers who recycled refrigerators and freezers through this program.

RECALL OF PARTICIPATION

Q1. Are you the person who was most involved and most familiar with deciding to recycle the [refrigerator, freezer] through this program?

5. No
6. Yes [SKIP TO Q3]
7. Don't know
8. Refused

Exhibit 1 to Annual Report

Q2. May I speak to the person who would know the most about recycling the [refrigerator, freezer]?

8. No
9. Yes
10. Don't know
11. Refused

If Q2 answer is not = 1. THANK AND TERMINATE: That's okay. Thank you for your time.

Q3. We are conducting a study to evaluate Duquesne Light's appliance recycling program and would like to include your opinions. This is required by the Pennsylvania Public Utilities Commission and will be used to verify the effectiveness of the program and make improvements.

Our program records indicate that you received an incentive of [amount of program incentive] for pickup of [quantity of refrigerator, freezer] around [date of pickup]. Do you recall having your [refrigerator, freezer] picked up by JACO Environmental?

8. No
9. Yes
10. Don't know
11. Refused

If Q3 answer is = 0, 2 OR 3.

THANK AND TERMINATE: That's okay. Thank you for your time.

SOURCE OF PROGRAM INFORMATION AND APPLIANCE DESCRIPTIONS

Q4. How did you hear about the rebate available as part of Duquesne Light's appliance recycling program?

7. Advertising – radio, newspaper, trade journal, billboard, TV
8. Bill insert, newsletter, or other mailing
9. Website
10. Email
11. Appliance retailer
12. Other (SPECIFY)

Q5. Without this program, what would you have most likely done with your old [refrigerator, freezer]?

1. Sold it
2. Gave it away
3. Took it to a recycling center or dump
4. Disposed of it by some other means
5. Kept it
6. Something else (SPECIFY)

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7. DON'T KNOW
8. REFUSED

Q6. (ASK IF Q5 is < 5?) How soon would you have disposed of you old [refrigerator, freezer]? Would you have disposed of it within a year of when the program took it, or more than a year later?

1. Within a year of when the program took it
2. More than a year later
3. DON'T KNOW
4. REFUSED

Q7. What was the condition of the appliance? Would you say...? (READ LIST AND INDICATE ONE RESPONSE)

1. It worked and was in good physical condition
2. It worked but needed minor repairs (like a door seal or handle)
3. It worked but had some problems (like it wouldn't defrost)
4. It didn't work
5. DON'T KNOW
6. REFUSED

Q8. Do you recall if the representative from JACO Environmental tested the [refrigerator, freezer] before taking it away?

1. Yes
2. No
3. DON'T KNOW
4. REFUSE

Q9. During the time just before you decided to get rid of it, was the [refrigerator, freezer] used as your main [refrigerator, freezer] or as a secondary or spare?

1. Main (SKIP TO Q12)
2. Secondary or spare
3. DON'T KNOW
4. REFUSED

Q10. How long had it been a secondary or spare?

1. Months ____ (1-11)
2. Years ____ (1-50)

Exhibit 1 to Annual Report

3. DON'T KNOW
4. REFUSED

Q11. For how many years might it have kept running as a secondary or spare?

1. Years ____ (1-50)
2. Until it broke, indefinitely
3. DON'T KNOW
4. REFUSE

Q12. Do you know approximately how much money it would cost each month to run the [refrigerator, freezer] that was picked up?

1. Nothing
2. \$1-\$5 per month
3. \$6 to \$10
4. \$11 to \$15
5. \$16-\$20
6. \$21-\$25
7. More than \$25
8. Don't pay electric bill
9. DON'T KNOW
10. REFUSED

PROGRAM SATISFACTION

Q13. From the time you called to have your appliance recycled, how long did it take to get it picked up?

2. Record approximate number of days _____

Q14. From the time your appliance was picked up, how long did it take to receive your incentive payment?

2. Record approximate number of days _____

Q15. On a scale of 1 to 10, with 10 being the highest, how pleased were you with the program? How could the program be improved?

3. Record the ranking (1-10) _____
4. Record suggested improvements

Exhibit 1 to Annual Report

Q16. Have you seen any savings on your electric bill from disposal of your appliance?

1. Yes
2. No
3. DON'T KNOW
4. REFUSED

Q17. Have you participated in any other energy saving programs offered by Duquesne Light because of your experience with the Appliance Recycling Program?

5. Yes
6. No (SKIP TO Q19)
7. DON'T KNOW (SKIP TO Q19)
8. REFUSED (SKIP TO Q19)

Q18. Which programs did you participate in because of your experience with this program?

1. Yes - Record response

2. DON'T KNOW
3. REFUSED

Q19. Do you think you are more likely to take energy efficient actions in the future to help further reduce your energy use?

1. Yes
2. No
3. DON'T KNOW
4. REFUSED

THANK AND TERMINATE: Thank you for your time today and thank you for helping conserve energy.

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Appendix J – RRRP Sample Set Survey & Deemed Savings Adjustment Results

RRRP Summary of Surveyed Projects
Random Sample Set Drawn from PMRS 12/1/2009 - 5/31/2010

Random Number	Sample Count	Project No.	Participant Name	Account No.	Phone No.	Measure Name	Survey	V1	V2	Units	PMRS kWh	PMRS kW	Deemed kWh	Deemed kW
23317	1	6000350266.12.01	COLLMAN CHARLOTTE	8000401317001	4129213125	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
81976	2	6000152924.12.01	VOLAS BARBARA	6000175040001	4126781937	Refrigerator Recycling	Appliance Recycling	yes	no (1)	1	1,728	0.2376	1,728	0.2376
97995	3	0000384392.12.01	MARSH EDWIN	1000438518001	7247758967	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
175337	4	3000367493.12.01	SCHOLL ALEXIS	7000419997001	4128828946	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
210055	5	8000382002.12.01	GOSSETT DONALD	3000435947001	4122796808	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
221918	6	1000099163.12.01	CLEMENIC J	0000112307001	4128232109	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
256415	7	6000426888.12.01	SCHMITT JEROME	2000486965001	4123662743	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
273699	8	0000420179.12.01	HALFHILL H	1000478610001	7243277436	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
277478	9	4000419331.12.01	LEGAL DAVID	0000477888001	4127937436	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
307265	10	0000154880.12.01	ZAJDEL JANE	9000177202001	4126735959	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
310384	11	4000217331.12.01	ABELS CHERYL	0001242698001	4128825577	Refrigerator Recycling	Appliance Recycling	yes	yes	2	3,456	0.4752	3,456	0.4752
362816	12	9000096536.12.01	FATH ELIZABETH	4000109436001	7243756739	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
402009	13	5000443665.12.01	DORSEY JOHN	7000506816001	4123732025	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
486588	14	5000418648.12.01	SCHNEIDER RICHARD	6000477136001	4128285762	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
514293	15	6000357280.12.01	MCKNIGHT JR H R	6000409002001	7247754745	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
546241	16	9000305795.12.01	BILOTTA FRANK	6000350465001	4127618605	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
556334	17	9000305792.12.01	DEGIDIO DOMINIC	7000037296001	7246436682	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
603163	18	9000238332.12.01	WIKERT SHARON	3000273661001	4123445538	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
625337	19	3000616508.12.01	HAROUSE DAVID	3000907090001	4128353642	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
651087	20	2000227327.12.01	STAMERRA LOUIS	3001298252001	4128481041	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
666178	21	1000564911.12.01	PIERCE JAMES	4000658915001	4128235190	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
695511	22	1000348485.12.01	CONDRON DAVID	2001592122001	4128280924	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
709484	23	4000372783.12.01	JANUSEK JENNIFER	2001557640001	4123945676	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
717164	24	2000463845.12.01	MONTINI ROBERT	5000049627002	7243759516	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
720224	25	9000243825.12.01	WASHBURN JODI	5001614365001	4127085963	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
754490	26	7000062820.12.01	BOCK ANDREW	0000070552001	4123728833	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
766880	27	4000365721.12.01	HIGGINBOTHAM THOMAS	6000075413002	4123728283	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
788497	28	3000255884.12.01	FLAHERTY MARYANN	7000702367004	4123416206	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
838954	29	4000251659.12.01	SHAWGO JEFFREY	4000967031002	4123414111	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
861473	30	5000423473.12.01	BONAROTI NANCY	5000482587001	7247751546	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
861520	31	9000333173.12.01	TAYLOR LESLIE A	30005608952002	4124922028	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
943137	32	2000362476.12.01	KREMMEL ALBERT	6000414675001	4123641428	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
963242	33	3000199422.12.01	SIMMONS STEVEN	6000229570001	4128844881	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
972943	34	4000062752.12.01	POPE MARLENE	4000070474001	4126610594	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376
976249	35	3000152687.12.01	MOLS THOMAS	4000174791001	4126720411	Refrigerator Recycling	Appliance Recycling	yes	yes	1	1,728	0.2376	1,728	0.2376

(1) Participant reports to have had the refrigerator running but unplugged it prior to JACO's arrival to pick it up; fails participation test.

97.1%	62,208	8.6	62,208	8.6
Participation Rate	100%		100%	
	Deemed Savings Adjustments			

Exhibit 1 to Annual Report

Appendix K – LIEEP Deemed Savings Verification Bases

PMRS Public Outreach Kits - EE Kits	Sampled	ID	Qty	Unit kWh	Unit kW	Ext. kWh	Ext. kW	
Niagara Conservation Item YDUQ001-01		EE Kit	1	248	0.007	248	0.0070	PMRS
Allegheny Court House Kit	1							
Beaver County Home & Garden Show Kit	2	13W CFL	2	43.2	0.00235	86.4612	0.0047	Deemed
[Pittsburgh] Home & Garden Show Kit	6	20W CFL	1	50.6	0.00275	50.6	0.00275	Deemed
Kane Regional Center Kit	3	Furnace Whistle	1	111	0	111	0	Deemed
	12	Total				248.1	0.0075	Deemed

CFLs:

4.2.1.1 ENERGY STAR CFL Bulbs

Electricity Impact (kWh) = ((CFL_{watts} X (CFL_{hours} X 365))/1000) X ISR_{CFL}

Peak Demand Impact (kW) = (CFL_{watts}) X Light CF

CFL_{watts}: TRM Appendix C v12 Prescriptive Table

Line Item	POST-INSTALLATION			PRE-INSTALLATION			Change in Connected Load
	Upgrade Fixture	Post Fixture Code	Post Watts / Fixture	Existing Fixture	Pre Fixture Code	Pre Watts / Fixture	
67	Screw-In CFL 13W	CFC13/1	13	Incandesce	160/1	60	47
70	Screw-In CFL 20W	CFC20/1	20	Incandesce	175/1	75	55

Annual Operating Hours

CFL _{hours} :	TRM Table 4-3:	3.0
ISR _{CFL} :	TRM Table 4-3:	84%
Light CF:	TRM Table 4-3:	5.0%

CFL TRM Based Savings	kWh	kW
13W	43.2	0.00235
20W	50.6	0.00275

Furnace Whistle:

Savings estimates are based on reduced furnace blower fan motor power requirements.

Electricity impact (kWh) = MkW X EFLH X EI X ISR

Definition of Terms

- MkW = Average motor full load electric demand (kW)
- EFLH = Estimated Full Hours (Heating and Cooling)
- BkW = Base kWh
- EI = Efficiency Improvement
- ISR = In-service Rate

Component	Type	Value
MkW	Fixed	0.5 kW
EFLH	Fixed	3117
EI	Fixed	15%
ISR	Fixed	0.474

The following table presents the assumptions and the results of the deemed savings calculations:

Electricity Savings = .5 X 3117 X .15 X .474 = 110.8 rounded to 111 kWh

	Blower Motor kW	Pittsburgh EFLH	Clean Annual kWh	Dirty Annual kWh	Furnace Whistle Savings	ISR	Estimated Savings (kWh)
Heating	0.5	2380	1190	1368.5	178.5	0.474	84.609
Cooling	0.5	737	369	424	55	47.4%	26
Total		3,117	1,559	1,792	234		111

Exhibit 1 to Annual Report

PMRS School Energy Pledge Program EE Kit	Sampled	ID	Qty	Unit kWh	Unit kW	Ext. kWh	Ext. kW	
	23	SEP EE Kit	1	365	0.294	365	0.2940	PMRS
Niagara Conservation Kit YDL02		13 Watt CFL	5	43.2	0.00235	216.2	0.0118	Deemed
		Nightlight (Lime Light)	2	26	0	52.0	0.0%	Deemed
		Furnace Whistle	1	111	0	111	0	Deemed
		Total Kit				379.2	0.0118	Deemed

CFLs:

4.2.1.1 ENERGY STAR CFL Bulbs

Electricity Impact (kWh) = ((CFL_{watts} X (CFL_{hours} X 365))/1000) X ISR_{CFL}

Peak Demand Impact (kW) = (CFL_{watts}) X Light CF

CFL_{watts}: TRM Appendix C v12 Prescriptive Table

Line Item	POST-INSTALLATION			PRE-INSTALLATION			Change in Connected Load (Watts)
	Upgrade Fixture	Post Fixture Code	Post Watts / Fixture	Existing Fixture	Pre Fixture Code	Pre Watts / Fixture	
67	Screw-In CFL 13W	CFC13/1	13	Incandesce	I60/1	60	47

Annual Operating Hours

CFL _{hours} :	TRM Table 4-3:	3.0
ISR _{CFL} :	TRM Table 4-3:	84%
Light CF:	TRM Table 4-3:	5.0%
CFL TRM Based Savings	kWh	kW
13W	43.2	0.00235

Night Lights

July 28, 2010 received file of "approved" interim measures form SWE (Tom Londos)

LED Nightlight

Assumes a 1 Watt LED nightlight replaces a 7 Watt incandescent nightlight. The nightlight is assumed to operate 10 hours per day, 365 days per year; estimated useful life is five years (manufacturer cites 11 years 100,000 hours). Savings are calculated using the following algorithm:

Electricity Impact (kWh) = ((NL_{watts} X (NL_{hours} X 365))/1000) X ISR

Definition of Terms

NL_{watts} = Average delta watts per LED Nightlight

NL_{hours} = Average hours of use per day per Nightlight

ISR = In-service rate

Component	Type	Value	Sources
NL _{watts}	Fixed	6 Watts	Data Gathering
NL _{hours}	Fixed	10	Mfg cites 8-10 hrs
ISR	Fixed	0.87	PA CFL ISR value

Electricity Savings = ((6 X (10 X 365))/1000) X 0.87 = 19.05 kWh (rounded to 19 kWh)

Adopted deemed savings identify 1 Watt LED night lights as the basecase. Verification shows night lights distributed were not LED variants, but Electroluminescent night lights, Niagara Conservation item number N1202, with 0.25 Watts. This increases NL_{watts} from 6 Watts to 6.75 Watts. Assumed day operating hours were changed from 10 to 12 in response to guidance from the SWE on 8/12/2010 and referencing SCE Workpaper WPSCRELG0029 Rev-1, 2/4/2009

Electricity Savings = ((6.75 X (12 X 365))/1000) X 0.87 = 25.7 kWh (rounded to 26 kWh) 25.72155

All other deemed savings algorithm inputs held constant, the revised base case produces annual kWh savings:

Exhibit 1 to Annual Report

Furnace Whistle:

Savings estimates are based on reduced furnace blower fan motor power requirements.

Electricity Impact (kWh) = MkW X EFLH X EI X ISR

Definition of Terms

MkW = Average motor full load electric demand (kW)

EFLH = Estimated Full Hours (Heating and Cooling)

BkWh = Base kWh

EI – Efficiency Improvement

ISR = In-service Rate

Component	Type	Value
MkW	Fixed	0.5 kW
EFLH	Fixed	3117
EI	Fixed	15%
ISR	Fixed	0.474

The following table presents the assumptions and the results of the deemed savings calculations:

Electricity Savings = $0.5 \times 3117 \times 0.15 \times 0.474 = 110.8$ rounded to 111 kWh

	Blower Motor kW	Pittsburgh EFLH	Clean Annual kWh	Dirty Annual kWh	Furnace Whistle Savings	ISR	Estimated Savings (kWh)
Heating	0.5	2380	1190	1368.5	178.5	0.474	84.609
Cooling	0.5	737	369	424	55	47.4%	26
Total		3,117	1,559	1,792	234		111

Exhibit 1 to Annual Report

Duquesne Light Employee EE Kit - Basic

ID	Qty	Unit kWh	Unit kW	Ext. kWh	Ext. kW	
EE Kit	1	142	0.005	142	0.0050	PMRS
13W CFL	1	43.2	0.00235	43.2306	0.00235	Deemed
20W CFL	1	50.6	0.00275	50.6	0.00275	Deemed
Limelight Night L	1	26	0	26	0	Deemed
Total				119.8	0.0051	Deemed

CFLs:

4.2.1.1 ENERGY STAR CFL Bulbs

Electricity Impact (kWh) = ((CFL_{quantity} X (CFL_{hours} X 365))/1000) X ISR_{CFL}.

Peak Demand Impact (kW) = (CFL_{watts}) X Light CF

CFL_{watts}: TRM Appendix C v12 Prescriptive Table

Line Item	POST-INSTALLATION			PRE-INSTALLATION			Change in Connected Load (Watts)
	Upgrade Fixture	Post Fixture Code	Post Watts / Fixture	Existing Fixture	Pre Fixture Code	Pre Watts / Fixture	
67	Screw-In CFL 13W	CFC13/1	13	Incandescent 60W	I60/1	60	47
70	Screw-In CFL 20W	CFC20/1	20	Incandescent 75W	I75/1	75	55

Annual Operating Hours

CFL _{hours} :	TRM Table 4-3:	3.0
ISR _{CFL} :	TRM Table 4-3:	84%
Light CF:	TRM Table 4-3:	5.0%

CFL TRM Based Savings	kWh	kW
13W	43.2	0.00235
20W	50.6	0.00275

Electroluminescent night lights (limelights).

Protocol Submitted to SWE August 17, 2010

Electricity Impact (kWh) = ((NL_{watts} X (NL_{hours} X 365))/1000) x ISR

NL_{watts} = Average delta watts per LED Nightlight

NL_{hours} = Average hours of use per day per Nightlight

ISR = In-service rate

Component	Type	Value	Sources
NL _{watts}	Fixed	6.75	Data Gathering
NL _{hours}	Fixed	12	Mfg cites 8-10 hrs
ISR	Fixed	0.87	PA CFL ISR value

Electricity Savings = ((6.75 X (12 X 365))/1000) X 0.87 = 25.7 kWh (rounded to 26 kWh)

PMRS Employee EE Kit - Electric Water Heater

ID	Qty	Unit kWh	Unit kW	Ext. kWh	Ext. kW	
EE Kit	1	568	0.095	568	0.0950	PMRS
13W CFL	1	43.2	0.0024	43.2306	0.00235	Deemed
20W CFL	1	50.6	0.0028	50.6	0.00275	Deemed
Limelight Nigh	1	26	0	26	0	Deemed
L-F Showerher	1	461.2	0.046	461	0.046	Deemed
Total				581.0	0.0511	Deemed

For CFL values see above Basic kit deemed savings calculations (above); Low-Flow Showerhead is addressed below:

Exhibit 1 to Annual Report

Low-Flow Shower Showerhead

Received from SWE (Tom Londres) 7/17/2010 -

Low flow showerhead – agreed to raise hot water temp to 120 F from 105 F, results in savings of 461 kWh per showerhead; question of whether kW/kWh ratio is too high-FE, Allegheny, Duquesne, PPL

461 kWh * .0001 = 0.046 kW at time of Summer peak (updated)

Energy Savings Algorithm

If electric domestic hot water heater:

$$\text{kWh savings} = \left(\frac{((\text{GPMbase} - \text{GPMlow}) / \text{GPMbase}) * \# \text{ people} * \text{gals/day} * \text{days/year}}{\text{F/home}} \right) * \text{lbs/gal} * (\text{TEMPft} - \text{TEMPin}) / 1,000,000 / \text{WH Recovery Efficiency} / 0.003412$$

Where:

GPMbase = Gallons Per Minute of baseline for showers =	2.5	
GPMlow = Gallons Per Minute of low flow for showers =	1.5	40%
# people = Average number of people per household =	2.48	0.99
gals/day = Average gallons of hot water used by shower per day =	11.6	
days/year = Number of days per year =	365	4200.1
F/home = Average number of showers in the home =	1.6	2625.1
lbs/gal = Pounds per gallon =	8.3	21788.2
TEMPft = Assumed temperature of water used by faucet =	120.0	
TEMPin = Assumed temperature of water entering house =	55.0	1416231
WH Recovery Efficiency = Recovery efficiency of electric hot water heater =	90%	1.5736
0.003412 = Constant to converts MMBtu to kWh		461.2
Annual kWh savings per fixture =	461	

Summer Coincident Peak kW Savings Algorithm

$$\Delta \text{kW} = \Delta \text{kWh} * \text{CF}$$

Where:

ΔkWh = Annual kWh savings =	461
CF = Summer Peak Coincidence Factor for measure =	0.0002
ΔkW = Summer Peak kW savings =	0.0922 This appears to be an error referring to the factor below:

Energy-to-Demand-Factor: Ratio of average Noon to 8 PM usage during summer peak to annual energy usage (solar water heater interim protocols)

Factor:	0.0009172
---------	-----------

Peak Demand Impact 0.0423 kW
Compares well with SWE provided value, apply SWE value

Exhibit 1 to Annual Report

Appendix L - LIEEP Sample Set Survey & Deemed Savings Adjustment Results

Exhibit 1 to Annual Report

ACT 129 Low Income Residential EE Program (LIEEP)

PMRS - Summary of Completed Projects

Completed between: 12/1/2009 - 5/13/2010

Random Number	Sample Count	Project No.	Name	Account #	Phone #	Measure Name	Survey	V1	V2	PMRS kWh	PMRS kW	Deemed kWh	Deemed kW
9301	1	0000338870.14.01	GALATI STACIE L	1000952107004	4122522179	SEP EE Kit (YLD02)	SEP EE Kit	yes	yes	365.0	0.2940	379.2	0.0118
10419	2	8000323819.14.01	ZABRUCKY JOHN A	4000370613001	7242668639	SEP EE Kit (YLD02)	SEP EE Kit	yes	yes	365.0	0.2940	379.2	0.0118
15518	3	7000477076.14.01	ROCKYMORE TURQUOISE D	3601123953001	4127583531	SEP EE Kit (YLD02)	SEP EE Kit	yes	yes	365.0	0.2940	379.2	0.0118
21672	4	8000347376.14.01	LAZARO PHILIP A	8000398174002	4127811222	SEP EE Kit (YLD02)	SEP EE Kit	yes	yes	365.0	0.2940	379.2	0.0118
37657	5	8000325208.14.01	ARLET TIMOTHY R	6000372310002	4123225824	EE Kit (YDUQ001-01)	REEP EE Kit	yes	yes	248.0	0.0070	248.1	0.0075
44414	6	1000388611.14.01	GILBERT AILEEN	5000443177001	7243780271	EE Kit (YDUQ001-01)	REEP EE Kit	yes	yes	248.0	0.0070	248.1	0.0075
62481	7	9000264649.14.01	MCCALLA TA'LAURA	3001517859003	4125278375	SEP EE Kit (YLD02)	SEP Survey	yes	yes	365.0	0.2940	379.2	0.0118
73936	8	5000058765.14.01	TOLBERT LISA M	6000050257003	4122471287	EE Kit (YDUQ001-01)	REEP EE Kit	yes	yes(1)	248.0	0.0070	248.1	0.0075
81897	9	4000130468.14.01	BILLINGSLEY CATHIE	9000909738016	4129693047	EE Kit (YDUQ001-01)	REEP EE Kit	yes	yes	248.0	0.0070	248.1	0.0075
85370	10	3000373188.14.01	MOORE DIANA L	7000801309003	4127846728	SEP EE Kit (YLD02)	SEP Survey	yes	yes	365.0	0.2940	379.2	0.0118
86739	11	4000284338.14.01	FORTSON NAJAI M	6001238208002	4129228746	SEP EE Kit (YLD02)	SEP Survey	yes	yes	365.0	0.2940	379.2	0.0118
105717	12	8000160524.14.01	CONRAD RACHEL L	0001230068001	4128965420	EE Kit (YDUQ001-01)	REEP EE Kit	yes	yes	248.0	0.0070	248.1	0.0075
113202	13	8000263906.14.01	BAUMAN MARTHA	4001410960006	4124033620	SEP EE Kit (YLD02)	SEP Survey	yes	yes	365.0	0.2940	379.2	0.0118
130346	14	0000341559.14.01	BARIE PAMELA S	1000768681002	4124865721	SEP EE Kit (YLD02)	SEP Survey	yes	yes	365.0	0.2940	379.2	0.0118
131550	15	3000340449.14.01	NEWMAN AMY L	5001009399003	4128215494	SEP EE Kit (YLD02)	SEP Survey	yes	yes	365.0	0.2940	379.2	0.0118
136674	16	0000362670.14.01	LITTLE YVONNE	5000811957006	7247282547	EE Kit (YDUQ001-01)	REEP EE Kit	yes	yes	248.0	0.0070	248.1	0.0075
154297	17	0000339379.14.01	MICHALEK BEVERLY	9001368667001	4122523580	SEP EE Kit (YLD02)	SEP Survey	yes	yes	365.0	0.2940	379.2	0.0118
160035	18	3000411146.14.01	BERGAMASCO KIMBERLY A	8000773873006	4127981006	SEP EE Kit (YLD02)	SEP Survey	yes	yes	365.0	0.2940	379.2	0.0118
169178	19	1000160416.14.01	DYER CATHY	4000183624002	4128961191	EE Kit (YDUQ001-01)	REEP EE Kit	yes	yes	248.0	0.0070	248.1	0.0075
173717	20	5000554776.14.01	ROHE JENNIFER	3001487830002	7244430925	SEP EE Kit (YLD02)	SEP Survey	yes	yes	365.0	0.2940	379.2	0.0118
177176	21	5000089565.14.01	DOWDY J L	7000541973004	4123108083	EE Kit (YDUQ001-01)	REEP EE Kit	yes	yes	248.0	0.0070	248.1	0.0075
195350	22	5000602622.14.01	DEASY JOSEPH P	1000750144001	4128972652	SEP EE Kit (YLD02)	SEP Survey	yes	yes	365.0	0.2940	379.2	0.0118
202332	23	9000343015.14.01	POOLE BERNADETTE	3000389539002	4129990063	SEP EE Kit (YLD02)	SEP Survey	yes	yes	365.0	0.2940	379.2	0.0118
205866	24	1000091307.14.01	HUMBERT LAURA L	1000987546001	7243754726	SEP EE Kit (YLD02)	SEP Survey	yes	yes	365.0	0.2940	379.2	0.0118
218240	25	4000336141.14.01	DRZEMIECKI DIANE	0000744688001	4123216473	SEP EE Kit (YLD02)	SEP Survey	yes	yes	365.0	0.2940	379.2	0.0118
237878	26	6000488888.14.01	ULLRICH BARBARA	0000563238001	4128814781	EE Kit (YDUQ001-01)	REEP EE Kit	yes	yes	248.0	0.0070	248.1	0.0075
249527	27	4000080991.14.01	PENN DARLENE	0001347834001	4123781362	EE Kit (YDUQ001-01)	REEP EE Kit	yes	yes	248.0	0.0070	248.1	0.0075
291017	28	2000477052.14.01	BROWN JAMILLIA	8001185402004	4123770916	SEP EE Kit (YLD02)	SEP Survey	yes	yes	365.0	0.2940	379.2	0.0118
305559	29	7000263545.14.01	MILES MONIQUE A	4001283713002	4126084631	SEP EE Kit (YLD02)	SEP Survey	yes	yes	365.0	0.2940	379.2	0.0118
318422	30	7000156363.14.01	LOOS DANA	2001280283004	4128724249	EE Kit (YDUQ001-01)	REEP EE Kit	yes	yes	248.0	0.0070	248.1	0.0075
352525	31	5000186045.14.01	KLOSE SUZANNE	0000821340003	4124621954	SEP EE Kit (YLD02)	SEP Survey	yes	yes	365.0	0.2940	379.2	0.0118
359193	32	1000417012.14.01	CARR JASON M	4001093140001	4124622131	SEP EE Kit (YLD02)	SEP Survey	yes	yes	365.0	0.2940	379.2	0.0118
428715	33	2000395657.14.01	SMITH MELISSA L	2000914511005	4127821311	SEP EE Kit (YLD02)	SEP Survey	yes	yes	365.0	0.2940	379.2	0.0118
483696	34	1000340435.14.01	LANE ROBERT	7000390764001	4128211369	SEP EE Kit (YLD02)	SEP Survey	yes	yes	365.0	0.2940	379.2	0.0118
546282	35	3000438576.14.01	CAMPBELL W P	8000500816001	7248693816	EE Kit (YDUQ001-01)	REEP EE Kit	yes	yes	248.0	0.0070	248.1	0.0075

Note: Results not discounted for V2 because deemed savings incorporate an in-service rate for kit components (CFL: 84%, Night Lights: 87% and Furnace Whistle 47.4%)

(1) Reports to have only received CFLs (indicates partial installation)

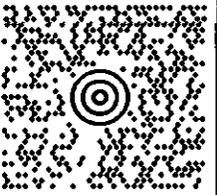
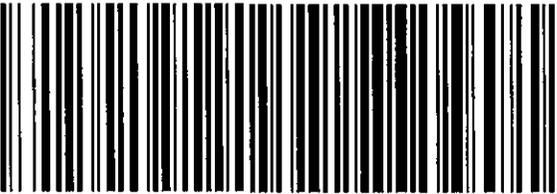
100%	11,371.0	6,8460	11,697.7	0.3603
Participation Rate	103%	5%	Deemed Savings Adjustments (partial)	

Kit Description	2009 EE Kit Qty	Unit PMRS		Unit Deemed		Total PMRS		DSA Adjusted		
		kWh	kW	kWh	kW	kWh	kW	kWh	kW	
YDUQ001-01	177	248	0.007	248	0.0075	43,896	1.2	43,914	1.3	
YLD02	256	365	0.294	379	0.0118	93,440	75.3	97,024	3.0	
YLD04	812	416	0.083	414	0.0137	337,792	67.4	336,168	11.1	
Employee Kit 1	13	142	0.005	120	0.0051	1,846	0.1	1,558	0.1	
Employee Kit 2	3	568	0.095	581	0.0511	1,704	0.3	1,743	0.2	
Refrig Recycling	13	1728	0.237	1728	0.237	22,464	3.1	22,464	3.1	
Total	1,274					501,142	147.3	502,870	19	
<i>Deemed Savings Adjustment Factors</i>						<i>100.3%</i>	<i>12.7%</i>			

UPS CampusShip: View/Print Label

1. **Print the label(s):** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.
 2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.
 3. **GETTING YOUR SHIPMENT TO UPS Customers without a Daily Pickup**
Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
Hand the package to any UPS driver in your area.
Take your package to any location of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliances (Office Depot® or Staples®) or Authorized Shipping Outlet near you. Items sent via UPS Return ServicesSM (including via Ground) are also accepted at Drop Boxes.
To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
- Customers with a Daily Pickup**
Your driver will pickup your shipment(s) as usual.

FOLD HERE

GARY A. JACK 412393154J DUQUESNE LIGHT 411 SEVENTH AVENUE, MAIL DROP PITTSBURGH PA 15219		3 LBS	PAK	1 OF 1
SHIP TO: ROSEMARY CHIAVETTA, SECRETARY 000-000-0000 PA PUBLIC UTILITY COMMISSION 2ND FLOOR COMMONWEALTH KEYSTONE BUILDING 400 NORTH STREET HARRISBURG PA 17120				
		PA 171 9-20 		
UPS NEXT DAY AIR		1		
TRACKING #: 1Z 0X8 71V 01 9990 5697				
				
BILLING: P/P				
Cost Center: 492				
CS 12.8.05.		WXP1E70 06 0A 07/2010		