

DUQUESNE LIGHT

Act 129 Collaborative Exchange Meeting Commercial & Governmental Subgroup

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Act 129 Collaborative Exchange Meeting

April 21, 2009

Agenda

- I. Welcome/Introductions
- II. General Session
- III. Breakout Sessions
- IV. Subsequent Subgroup Meetings

General Session

General Session

- Review:
 - Requirements of Act 129
 - Forecast Results
- Sector and Sub-sector Statistics

What are the goals?

- The Act requires the achievement of 1.0% and 3.0% reductions in consumption in our service territory by May 31, 2011 and May 31, 2013 respectively, as measured against the June 2009 – May 2010 kWh sales forecast.
 - 140,885,117 kWh by 2011
 - 422,565,351 kWh by 2013
- The Act requires the achievement of a 4.5% reduction by May 31, 2013 in peak demand in our service territory as measured against the 2007 June – September average of the 100 hours of peak demand.
 - 113 MW in the summer of 2012
- Of these targets, 10% of the reductions must come from government, municipal, educational and non-profit accounts.

Where does the funding for the programs come from?

- Act 129 sets annual spending on the programs at 2% of the EDC's 2006 total retail revenue. For Duquesne that equates to a little under \$20 million per program year.
- Law provides for current recovery of these dollars from customers classes relative to the dollars expended on the programs for each class.
- Duquesne is also studying the stimulus package for opportunities to take advantage of funding for energy efficiency that would allow for a broader implementation of our programs and greater reductions in energy use and demand.

Which programs will qualify for inclusion in Duquesne's plan?

- Measures that will get PUC approval **MUST** be cost effective as measured by a Total Resource Cost Test, the particulars of which are being developed by the PUC.
- This test includes **ALL** expenditures on a program measure, both what the customer contributes and what Duquesne Light would contribute.
- The ultimate plan to be approved should represent an array of programs that optimize the available funding to achieve the greatest energy and peak demand savings.

Forecast Annualized Energy Efficiency Potential and Program Budgets

DLCo Forecast Annualized Energy Efficiency Potential and Program Budgets

	(2011) Sector Use kWh	Technical Potential kWh	Economic Potential kWh	Achievable Program Potential kWh	Achievable Life-Cycle Potential kWh	Achievable Program Potential kW	Program Costs	NPV Avoided Cost of Supply	TRC
Residential	4,276,840,291	464,548,955	263,784,114	57,019,772	916,942,563	27,927	\$5,072,989	\$55,777,299	4.2
Commercial	6,852,783,429	313,000,430	207,886,260	67,973,214	811,446,874	15,950	\$9,515,151	\$54,345,940	2.2
Industrial	2,914,124,575	853,866,072	703,725,145	32,056,756	320,625,105	4,951	\$3,984,097	\$20,728,167	3.6
Composite	14,043,748,296	1,631,415,457	1,175,395,519	157,049,742	2,049,014,542	48,828	\$18,572,237	\$130,851,406	3.0
				<i>% Annual Consumption</i>	1.1%				

		Annual kWh Use	Achievable kWh	Impact %	Program Funding	% Costs
Residential	30%	4,276,840,291	57,019,772	1.3%	\$5,072,989	27.3%
Commercial	49%	6,852,783,429	67,973,214	1.0%	\$9,515,151	51.2%
Industrial	21%	2,914,124,575	32,056,756	1.1%	\$3,984,097	21.5%
		14,043,748,296	157,049,742		\$18,572,237	

Customer Sector Information - Commercial

Commercial Building Stock

	<u>Energy (kWh)</u>	
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%
Large Offices	2,055,835,029	30.0%
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%
Small Offices	1,096,445,349	16.0%
Warehouses	130,202,885	1.9%
	6,852,783,429	100.0%

- **Industrial**

Office Buildings	—	Primary Mechanical	46.0%
Health Care	—	Chemicals	17.0%
Retail Stores & Restaurants			18.5%
Education (Colleges & Schools)			<u>10.5%</u>

- **Demand Response**

Commercial Sector Programs

Commercial Umbrella Program

- Provides a level of service available to *all* customer sectors
- Puts in-place standard terms, conditions, operating processes and incentive levels (prescriptive and custom)

Sub-Programs (specialized programs focused on overcoming participation barriers of the major market segments)

- Office Buildings
- Health Care
- Retail Stores & Restaurants
- Education
- Local Government Agencies

Breakout Sessions

Breakout Sessions

- Introduction (Customers and Service Providers)
- Review Section/Sub-sector Statistics
 - Energy Consumption
 - Program Descriptions
 - Implementation Approach
 - Delivery process
 - Measures
 - Estimated Funding Goals & Budgets (incentives/administration)
- Receive and Record Comments

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- **Demand Response**

High-Level Description of Sub-Programs

- Program Services
 - No cost energy audits
 - Retrofit recommendations and assistance with program applications
 - Incentives

Prescriptive Incentives

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

Preliminary Custom Incentives

Lighting	\$0.11
HVAC	\$0.28
Refrigeration	\$0.21
Office Equipment	\$0.12

- Market segment specific measure focus
- Project oversight, technical assistance and operations training
- Sub-Program Implementation
 - Door to door outreach by implementers with market segment expertise
 - Development and dissemination of specific marketing materials (direct mail, email and internet).
 - Implementer networking with trade associations, chambers of commerce, etc

Implementation Approach

EE Sector	Program	Implementation
Residential	Residential Rebate Program Low-Income Weatherization	Core Team (or Contractor) Sub-program Contractor
Commercial	Commercial Rebates (umbrella) Office Buildings Healthcare Retail Stores & Restaurants Education Public Agency Program (10%)	Core Team (or Contractor) Sub-program Contractor Sub-program Contractor Sub-program Contractor Sub-program Contractor Core Team (or Contractor)
Industrial	Industrial Rebates (umbrella) Primary Metals Chemicals Industrial Rebates (Mixed)	Core Team (or Contractor) Sub-program Contractor Sub-program Contractor Sub-program Contractor
Demand Response Programs	Utility Interface Residential DR Small/Mid Commercial DR Large C/I Curtailable Load	Core Team (or Contractor) Sub-program Contractor Sub-program Contractor Sub-program Contractor

Commercial Sector Measures

Lighting Measures

- CFLs (4-Sizes / hard-wired and screw-in)
- Interior Metal Halide (4-Sizes)
- Exterior Pulse Start Metal Halide (3-Sizes)
- Linear Fluorescent T5/T8 (4-foot and 8-foot / fixture / lamp / ballast retrofit)
- High-Output T5 4-Lamp Hi-Bay fixture
- Reflectors with Delamping, (4 and -foot lamp removed)
- Interior High-Intensity Discharge (HID) Fixtures (3-Sizes)
- Exterior Metal Halide
- Exterior Pulse Start Metal Halide
- Photocell Control / Time Clock
- Electronic Ballast, Dimming (w/daylighting)
- LED Exit Sign
- Occupancy Sensor - (lighting and plug-load)

Space Cooling Measures

- Single Package AC <65 kBtuh, SEER 14 - Base SEER 13
- Split-System AC <65 kBtuh, SEER 14 - Base SEER 13
- SS/SP AC & HP 65-135 kBtuh, EER 12.0 - Base EER 10.1
- SS/SP AC & HP 135-240 kBtuh, EER 12.0 - Base EER 9.7
- SS/SP AC & HP 240-760 kBtuh, EER 14.0 - (W/C) Base EER 10.1
- SS/SP AC & HP >760 kBtuh, EER 10.8 - Base EER 9.3
- HE Chiller - 0.51 kW per Ton, 500 Tons, Base 5.8 kW/Ton
- Cooling Cir. Pumps - VSD
- Cool Roof (DX and Chiller)
- Reflective Window Film
- Programmable Thermostat
- HVAC Tune Up and Diagnostics (DX and chillers)
- Evaporative Pre-Cooler (DX)
- Air Handler Variable Speed Drives

Refrigeration Measures

- Replace Single Line Compress System w/Multiplex system
- Permanent-Split Capacitor (PSC) Evaporator Fan Motor
- Electronically Commutated (ECM) Evaporator Fan Motor
- Efficient Low Temperature Compressor EER ≥ 5.2
- Efficient Condenser Added to Standard Multiplex System
- Electronically Commutated (ECM) Evaporator Fan Motor, Walk-in Cooler
- Anti-Sweat Heater Controls - Low Temp Glass Door Case
- New Glass Doors w/ECM Fan Motor, T8 Lamps and Electronic Ballasts
- Floating Head Pressure Controller - Multiplex Compress
- Night Covers for Vertical and Horizontal Display Cases
- Strip Curtail on Walk-in Cooler Doorway
- Evaporator Fan Motor Controller for Walk-in Cooler

Office Equipment

- Power Management Enabling
- Purchase LCD Monitor
- Network Power Management Enabling
- Power Management Enabling
- External Hardware Control
- Nighttime Shutdown

Estimated Goals & Budgets

	Program Budgets				Program Impacts Energy (kWh)			
	2009	2010	2011	2012	2009	2010	2011	2012
Commercial								
Commercial Rebates (umbrella)	\$594,894	\$601,212	\$606,202	611234	1,103,076	4,412,303	4,448,925	4,485,851
Office Buildings	\$3,420,640	\$3,456,970	\$3,485,662	3514594	6,342,686	25,370,743	25,581,320	25,793,645
Healthcare	\$1,375,692	\$1,390,303	\$1,401,842	1413478	2,550,863	10,203,451	10,288,140	10,373,531
Retail Stores & Restaurants	\$1,264,150	\$1,277,576	\$1,288,180	1298871	2,344,036	9,376,144	9,453,966	9,532,434
Education	\$780,799	\$789,091	\$795,640	802244	1,447,787	5,791,148	5,839,214	5,887,680
Public Agency Program (10%)	\$2,000,000	\$2,000,000	\$2,016,600	2033338	3,204,856	12,819,425	12,925,826	13,033,111

	2010		
Commercial	Administration	Incentives	Total
Commercial Rebates (umbrella)	\$120,242	\$480,970	\$601,212
Office Buildings	\$691,394	\$2,765,576	\$3,456,970
Healthcare	\$278,061	\$1,112,242	\$1,390,303
Retail Stores & Restaurants	\$255,515	\$1,022,061	\$1,277,576
Education	\$157,818	\$631,273	\$789,091
Public Agency Program (10%)	\$400,000	\$1,600,000	\$2,000,000
Total	\$1,903,030	\$7,612,122	\$9,515,152

Discussion, Comments & Recommendations

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