

2012 Retro-Commissioning (RCx) Program



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Retro-Commissioning (RCx) Program	Energy assessment targeting low cost/no cost measures, cash incentives for implementation
Commercial Standard Offer Program (CSOP)	Cash incentives for capital expenditures
Advanced Lighting Program	Cash incentives for replacement of exterior lighting with approved Light Emitting Diode (LED) fixtures
Load Management Program	Cash incentives for peak load curtailment during designated events

RCx Program Summary

Program Type	Market Transformation Program
Incentive Type	Services (in-depth energy assessment) Cash Incentives (Energy Conservation Measure (ECM) implementation)
ECM Type	Low-cost / No cost (typically ≤ 3 yr SPB)
Program Duration	2004 – Present
Types of Projects	Office Buildings Healthcare K-12 schools Universities / Colleges Hotels Entertainment Complexes Manufacturing Etc.

Total Projects completed and verified since 2004	45
Current Active Projects	28
Total Program Savings	> 18,500 kW Peak Demand > 56,000,000 kWh/yr
Average Program % Savings	~ 10% kW Peak, Up to 15% kWh/yr
Average Energy Cost Savings	~ \$110,000/yr based on 740,000 ft ² /project
Average Owner Implementation Costs	~ \$38,000 based on 532,000 ft ² /project
Average Program Simple Payback	< 1 year

Free Comprehensive Energy Assessment

Demand Reduction and
Annual Energy Savings

Operating Cost
Savings

Cash Incentives for
Implementation

Low Implementation
Cost, Short Payback

Equipment Life
Enhancement

Non-Residential Customers in CenterPoint Energy's electric service territory,

AND

Non-Transmission Customers (< 69KV service),

OR

Non-Profit / Educational / or Governmental Transmission Customers ***

- $\geq 400,000 \text{ ft}^2$ (Full) or $150,000 \text{ ft}^2$ (Fast-Track)**
- High Energy Use Intensity (EUI) – kWh/ft²**
- Significant Baseline kWh/yr**
- Significant Baseline Peak kW**
(June – Sept, M-F, 1-7pm, excluding federal holidays)
- Controls System - preferably Direct Digital Control (DDC)**

RCx Agents are critical members of the RCx team; their responsibilities include:

- ▶ Working with Owner's facility staff to collect all necessary information and discuss potential ECMs
- ▶ Perform comprehensive on-site assessments for each facility
- ▶ Preparing detailed reports with facility descriptions, ECM descriptions, savings calculations, and cost estimates

Facility Owners may select an RCx agent from the approved list on CenterPoint's Energy Efficiency website

Companies interested in becoming approved RCx agents may download an RFQ from CenterPoint's Energy Efficiency website.

- ❑ New laws passed in last session of Texas Legislature that call for amendments to the current energy efficiency rules.
- ❑ Public Utility Commission has interpreted the new laws and released a 'Staff Strawman Rule' which is still being discussed in workshops by utilities, interveners, PUC staff, etc.
- ❑ Substantive rules could be amended by mid-year, which **may or may not** impact current programs, incentives paid, etc.

Program Changes 2012



New Owner Incentives

- Owner incentives rates are now at \$25/kW and \$0.01/kWh

Preliminary Assessment Phase

- RCx Full projects to have streamlined Preliminary Assessment Phase instead of Planning Phase
- Summary: Facility Description, ECM list w/Savings & Cost Estimates

Verification Process

- Following Implementation Phase approval, submit Verification Plan, based on verification guidance document
- Following Owner implementation, submit Verification Report

- \$25 per kW and \$0.01 per kWh based on implemented and verified ECMs**

- Up to maximum of \$10,000 - RCx Full**
\$5,000 for kW, \$5,000 for kWh/yr

- Up to maximum of \$5,000 - RCx Fast Track**
\$2,500 for kW, \$2,500 for kWh/yr

Program Phases – RCx Full

Application Screening Phase

- Nexant screens application
- Contracts are executed

Preliminary Assessment Phase

- Agent performs Initial Walk-through
- Agent completes Summary: Brief Facility Description, Preliminary ECM List with Savings & Cost Estimates
- Owner Signs Owner Selection Table (OST)

Investigation Phase

- Agent performs In-Depth Site Assessment
- Agent Completes Report with Detailed ECM Savings Calculations, Master List of Findings, etc.
- Owner Signs OST

Implementation Phase

- Owner implements their selected ECMs
- Owner co-ordinates with the agent for verification visit

Verification Phase

- Agent submits Verification Plan
- Agent conducts verification visit of implemented ECMs
- Agent completes VP report with verified savings

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Typical RCx Measures

HVAC Controls Optimization	HVAC scheduling, temperature reset, chiller sequencing, etc.
Outside Air Optimization	Demand control ventilation, rebalancing, etc.
Variable Frequency Drives (VFDs)	Adding or optimizing VFDs (pumps, fans, etc.)
System Repairs	Control valves, damper actuators, sensors, compressed air leaks, insulation, etc.
Lighting Controls	Occupancy sensors, daylighting, time clocks, etc.
Miscellaneous	De-lamping, carbon monoxide (CO) sensor control of parking garage exhaust fans, re-commissioning old thermal energy storage systems, etc.

Ineligible Measures



Equipment Replacements	Chillers, air handling units (AHU's), motors, etc.
Lighting Retrofits	T12s to T8s, metal halides to LEDs
New DDC System	Adding a full scale DDC unit
Plug Loads	Lamps, kitchen appliances, laptops, etc.



Sample Owner Selection Table

CenterPoint Energy Retro-Commissioning Program - Owner Selection Table

Project:	Sample Project
RCx Agent:	Sample Agent
Phase:	Investigation Phase - RCx Full
Date:	5/2/2012
Estimated 2012 Budget Allocated for Participation in Program:	\$50,000
Expected Payback on Investment:	3.0

Measure Description			Owner Selected Measures							
Select measure by entering	No.	Measure Description	Peak Period Reductions		Annual Savings			Implementation Cost	Simple Payback	Estimated Completion Date
			kW	kWh	kW	kWh	\$ Electricity	\$	Years	
Y	M-1	Re-Balance Outside Air	54.0	27,864		136,890	\$ 13,689	\$ 5,000	0.4	8/15/2012
Y	M-2	HVAC Occupancy Scheduling	77.4	39,921		212,418	\$ 21,242	\$ -	-	6/20/2011
Y	M-3	Add VFD's - SCHW Pumps	22.0	11,368		129,832	\$ 12,983	\$ 15,000	1.2	10/15/2012
N	M-4	Add VFD's - AHU's	17.9	9,238		260,682	\$ 26,068	\$ 70,000	2.7	
Y	M-5	Dynamic SCHW dP Reset	2.5	1,267		19,153	\$ 1,915	\$ 1,200	0.6	8/15/2012
Y	M-6	Chiller Sequencing	7.5	3,870		87,750	\$ 8,775	\$ -	-	8/15/2012
Y	M-7	DCV - Reduced OA w/CO2 Sensors	11.1	5,747		23,523	\$ 2,352	\$ 12,000	5.1	10/15/2012
Y	M-8	Garage Exh Reduction w/CO Sensors	10.1	5,197		51,322	\$ 5,132	\$ 12,000	2.3	10/15/2012
Y	M-9	Supply Air Temperature Reset	5.5	2,838		72,072	\$ 7,207	\$ -	-	10/15/2012
Y	M-10	Dynamic CW Temperature Reset	4.4	2,250		57,140	\$ 5,714	\$ 2,000	0.4	8/15/2012
N	M-11	Lighting - Occupancy Sensors	2.4	1,238		13,104	\$ 1,310	\$ 2,500	1.9	
Y	M-12	Lighting - De-Lamping	6.4	3,302		27,955	\$ 2,796	\$ -	-	7/15/2012
Y	M-13	Lighting - Daylighting Photocell	0.5	248		1,404	\$ 140	\$ 750	5.3	
Totals (For all Selected (Y) values only)			201	103,872	0	819,458	\$81,946	\$47,950	0.59	
Table Total (All Measures Combined)			222	114,348	0	1,093,245	\$109,324	\$120,450	1.10	

What is Current Estimated Potential Owner Incentives for Selected Measures?

\$10,000.00

Opportunity



RCx program has had many successful projects over the years



Planning to promote some of these past projects on CenterPoint's Energy Efficiency website



Case Studies & Testimonials



Anyone interested in contributing to this effort, please contact Jennifer Varnau

For more information on CenterPoint's energy efficiency programs, please visit:
www.centerpointefficiency.com

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