



CUSTOMER ENERGY SOLUTIONS EXISTING BUILDING COMMISSIONING PROGRAM REQUIREMENTS

MONTH, DAY, YEAR

PROJECT NUMBER

PROJECT NAME

CUSTOMER NAME

SITE ADDRESS

EXISTING BUILDING COMMISSIONING (EBCX) PROGRAM INFORMATION:

The Existing Building Commissioning (EBCx) program provides incentives for Retro-commissioning or recommissioning of your building’s existing systems. The commissioning process optimizes building systems to improve occupant comfort and energy efficiency.

Program Goals:

- Optimization of existing facility systems to improve operations and maximize efficiency; not major upgrades of equipment.
- Maintain long-term operational improvements and ensure persistence of savings by providing training and tools for operations staff, occupants and owners.

The EBCX program has multiple program phases. The completion of the entire process can take 16-24 months:

EBCX Program Phase	Typical Duration	Incentive
Application, initial eligibility screen	1 – 2 months	-
Assessment Phase	1 – 3 months	100% of assessment cost (Up to \$4,000/ Bldg.)
City Light decision based on assessment results: Offer commissioning, performance incentives? If yes:		
Commissioning phase	3 – 9 months	\$0.25/Ft ² conditioned space (Up to 75% of Commissioning Provider’s costs)
Hand-off / Training phase	1 – 2 months	
Performance phase	12 months	\$0.05/ kWh for electric savings >7% up to 15% (Up to 100% of Commissioning costs and implementation costs)

This program provides incentives for assessing the applicability of an existing building (Retro) commissioning process to improve the operations and efficiency of the participant’s building(s). After completion of the assessment phase, if there exists ample savings potential in the facility, Seattle City Light (SCL) may offer additional incentives for implementation of commissioning activities, and for exceptional performance beyond stated savings targets.

ELIGIBILITY:

- Participating buildings must have at least 50,000 Ft² conditioned space
 - Multiple buildings can be combined into a single EBCX project

- 75% or more of building space is occupied
- Building is equipped with a Direct Digital Control (DDC) building automation system (BAS) capable of trending control points,
- Building(s) have a dedicated facility operations staff

QUALIFICATION:

Eligible buildings are screened by SCL Energy Management Analysts (EMA's) to determine if they qualify for assessment and commissioning incentives based on their potential electricity savings.

Factors used to determine if buildings qualify include:

- Building has a high Energy Use Index (EUI); ~5%-10% above median consumption for the building type
- Age and condition of mechanical and controls systems, such that the best solution is not the replacement of major components of building or control system.
- Expectation of achieving energy savings primarily through improvements to operation of existing equipment
- Facility has not been commissioned within the past 5 years
- Persistent occupant comfort issues
- Previous changes in building use without adjustments to building systems
- Building use is expected to remain stable for the next 5-7 years (no major renovations, changes in use, or demolition)
- Annual energy use in the building can be statistically correlated with weather conditions, occupancy, or other significant variables to allow for use of whole-building regression analysis to measure baseline consumption, determine energy savings, and calculate performance incentives.
- Building owner is willing to invest up to \$0.10 (Electric only incentives); \$0.15 (Electric & gas incentives) per square foot of conditioned space for commissioning improvements (After utility incentives of \$0.25 - \$0.35 per square foot).
- Owner willing to commit approximately 30 - 50 hours of facility staff time for coordination with commissioning provider and efficient operations training for the project.
- Owner willing to utilize the services of a third-party commissioning provider that will provide documentation and program commissioning requirements appropriate for SCL evaluation of valid energy savings.

The qualification process determines if eligible buildings are good candidates for a successful Retro-Commissioning process. Screening eligible buildings helps the utility evaluate if the building has a reasonable expectation of achieving at least 8-10% annual energy savings and whether this savings will last (persist) for up to 7 years. Retro-Commissioning is typically not capital-intensive, however, it does require a significant commitment of personnel resources, and investment in the services of an experienced third-party commissioning provider to be successful.

Facilities that qualify initially could be offered an incentive of up to \$4,000 (per building) for an initial EBCX building assessment. The purpose of the EBCX building assessment is to examine the building's operations, determine if commissioning the building's systems will improve operations, estimate potential energy savings, and develop a commissioning plan.

The commissioning (Cx) plan will identify potential energy efficiency improvements and shall include high-level estimates of potential energy savings. The Cx plan must also include a rough estimate of implementation costs. The Cx plan is subject to review and approval from SCL to determine if incentives may be offered for the commissioning and performance phases. The review will also confirm the commitment required by each party for the commissioning process if SCL offered commissioning incentives.

SCL retains sole discretion to determine if the assessment report and deliverables have been met and to authorize payment of the assessment incentive.

Buildings that don't qualify for participation in the EBCX program may be eligible to qualify for other SCL energy conservation incentive offerings such as simple rebates, custom incentives, or the Deep Retrofit Pay-For-Performance program.

PARTICIPATION OBLIGATIONS:

I. APPLICATION

1. Submit SCL Application form
2. Indicate if you intend to pursue incentives for natural gas savings and want SCL to coordinate with Puget Sound Energy
3. Complete data sharing agreement if you wish to allow SCL to communicate and share consumption data with designated parties for the duration of the EBCX project
4. Complete the pre-screen facility survey to document facility characteristics, identify the building's mechanical and electrical equipment, provide basic operational schemes, and detail known issues with building operations.
5. Submit qualifications for your selected commissioning provider (See sections VII & VIII for details)

II. ASSESSMENT DELIVERABLES

The commissioning (Cx) provider conducts building walk-through and simple analysis to see if significant operational savings are likely. Cx provider sends the utility the Assessment Report including:

1. Documentation of building's energy use by energy type & end-use
2. High level estimate of building potential savings
3. Initial ideas of where and how energy savings will be achieved
4. Documentation of quick fixes discovered and implemented
5. Recommendation whether to proceed with commissioning process
6. Commissioning Plan with basic approach to investigation of efficiency measures
7. Estimate of Commissioning costs
8. Updates to Assessment Report based on utility representative review

III. ASSESSMENT INCENTIVE PAYMENT

Once assessment report and deliverables have been accepted by the building owner and approved by SCL, the assessment incentive may be issued. Documentation required for payment of the assessment incentive:

1. Final copy of the assessment report and commissioning plan provided to utility
2. Invoice(s) documenting cost
3. Owner's acknowledgment of final assessment incentive amount and utility's decision regarding eligibility for additional commissioning (base and performance) incentives.

Base Incentive and Performance Deliverables are only required if Participant has been given a formal Notice of Eligibility for the Building Commissioning Phase from Seattle City Light.

- The eligibility notice will include an estimate of the base and performance incentives specific to the customer's facility.

A EBCX Notice of eligibility confirms if the building(s) have qualified for commissioning incentives from Seattle City Light after completion of the Building Assessment Phase.

The following conditions must be met for qualified buildings to receive Base and Performance incentives.

IV. BASE INCENTIVE DELIVERABLES

1. Hold Commissioning Project Kickoff meeting
 - a. Attended by Owner's representative, commissioning provider, SCL energy management analyst
 - b. Review program documentation requirements, implementation schedule and deliverables
 - c. Discuss energy savings target and if projected savings meets criteria for whole-building regression analysis, or if savings verification will be dependent on utility analysis of individual Energy Efficiency Improvements.
 - d. Review and utilize Building Commissioning Association Best Practices in Commissioning Existing Buildings during the commissioning process
2. Acceptance of Investigation Report which includes
 - Final commissioning plan
 - Details of investigation and results
 - Recommended improvements with reasonable estimated savings and costs
3. Acceptance of Final Commissioning Report which includes:
 - Verification of improvements
 - Reasonable final estimated savings and detailed calculations
4. EBCX "Customer Implementation Costs Tracking Report"
 - Report details that all improvements with a Simple payback of 2 years or less have been implemented.
 - Customer is expected to invest up to \$0.10/ SqFt (Electric incentives only) or up to \$0.15/ SqFt (Electric and gas incentives) in addition to base incentive funding (\$/SqFt) provided by utility incentives.
5. Copy of the Facility Guide/ Systems Manual created for the operations staff
6. Documentation of training provided to facility staff
 - "EBCX Training documentation" and "EBCX O&M Staff Time Tracking Report" forms

V. PERFORMANCE INCENTIVE

The following deliverables must be submitted prior to payment for the 1st year performance incentive

1. EBCX 1st Year Performance: "Persistence Checks" form
 - a. Documents that Energy Efficiency Improvements are still in place and operational
2. EBCX Facility (Non-Commissioning) Energy Use Changes Tracking Form submitted and accepted by SCL
3. Documentation of additional costs related to the Retro-Commissioning project:
 - a. Commissioning Provider(s) costs during performance year
 - b. Implementation costs
 - i. Building system upgrade costs
 - ii. Equipment repairs/ upgrades

VI. DOCUMENTATION REQUIREMENTS:

Required documents and forms are available from your Energy Management Analyst or in the Program Guide available at: <https://energysolutions.seattle.gov/CX>

Assessment Report

	<i>Documents / Required Deliverables</i>	<i>Form Name</i>	<i>Form Req'd?</i>	<i>Notes on Document Requirements</i>
1.	Executive Summary	None		See Manual for what to include
2.	Eligibility Report (update)	Pre-Screen form submitted with application	Yes	Provide more detail; good candidate?
3.	CX Plan	EBCX CX plan.doc	No	Must include all info on form
4.	CX Schedule	EBCX CX Schedule v1.xls	No	Must include all info on form
5.	Initial Findings and Quick Fixes	None		Document pre and post improvements with savings

Investigation Report (Update of Assessment Report)

	<i>Documents / Required Deliverables</i>	<i>Form Name</i>	<i>Form Req'd?</i>	<i>Notes on Document Requirements</i>
1.	Executive Summary	None		See Manual for what to include
2.	Description of facility	None		Update from CX plan - systems, occupancy, use
3.	Owner's Requirements			
a.	Current Facility Requirements	None		See Manual for what to include
b.	Training Requirements	None		See Manual for what to include
c.	Facility Guide Approach	None		See Manual for what to include
6.	CX Plan (update)	Same as Assessment	No	Update what was investigated
7.	CX Schedule (update)	Same as Assessment	No	
8.	Investigation Details	EBCX Investigation Details - XX.doc XX= System Types Applicable to building {AHU; VAV boxes; EF; HX; Chiller Plant; Boiler Plant; DHW Plant; Radiant heating/cooling; Lighting; Envelope; Energy Data}	Partial	What was tested, how, and results by system; includes capital improvements. Provide at least checklist items and then reference where other information is provided. Must include all info on form.
9.	Energy Efficiency Improvements (EEI) Details Narrative	EBCX EEI Details.doc	No	Provide full description of EEI with pre and post conditions; includes capital measures. Must include all info on form.
10.	EEI Details Workbook:	EBCX Documentation Requirements		See EBCX DocumentationRequirements.xlsx
a.	EEI Summary Table	EBCX EEI Summary Table.xls	Yes	

b.	EEI Savings Calculations	None	Yes	1 worksheet for each EEI which requires savings calc.
11.	Pre-Documentation for each EEI	None		See EBCX Document Requirements.xls; per list provided in PSE EBCX EEI Details Narrative
12.	Training & O&M Time Documentation	EBCX Training and O&M Time.doc	Yes	Informal training; staff time provided by owner

Final Report (Update of Investigation Report)

	<i>Documents / Required Deliverables</i>	<i>Form Name</i>	<i>Form Req'd?</i>	<i>Notes on Document Requirements</i>
1.	Executive Summary (update)	None		See Manual for what to include
2.	Description of facility (update)	None		Update as needed from final tune-up
3.	Current Facility Requirements (update)	None		See Manual for what to include
4.	Training Recommendations	None		See Manual for what to include
5.	CX Plan (update)	Same as Investigation Report	No	Update what was investigated
6.	CX Schedule (update)	Same as Investigation Report	No	actual final dates including bonus
7.	Investigation Details (update)	Same as Investigation Report	Yes	Update for any further Investigation that occurred
8.	EEI Details Narrative (update)	Same as Investigation Report	No	Update for any changes; add how it was verified
9.	EEI Details Workbook (update):			Same as Investigation
a.	EEI Summary Table (update)	Same as Investigation Report	Yes	Update for any changes; put in final costs
b.	Savings Calculations (update)	None		Update savings based on final state
10.	Pre (update) & Post Documentation for each EEI	None		Update pre as needed, add post documentation, per list in EEI Details Narrative
11.	Training & O&M Time Documentation (update)	EBCX Training and O&M Time.doc	Yes	All training - formal and informal; staff time provided by owner
12.	Performance Bonus Description	None		General requirements, grant, savings required

13.	Implementation Cost	EBCX Implementation Costs.xls	Yes	PROVIDED BY OWNER along with invoices
14.	Non -CX Energy Use Changes	EBCX Energy Use Changes.xls	Yes	Changes since start of CX process (changes that affect energy use significantly but were not part of CX)

Facility Guide/Systems Manual

	<i>Documents / Required Deliverables</i>	<i>Form Name</i>	<i>Form Req'd?</i>	<i>Notes on Document Requirements</i>
1.	Index	None		See Manual for Guidelines on what to include
2.	How Systems Work (efficiently)	None		Descriptions of systems/ sequences, photos, diagram, tables
3.	Current Facility Requirements Update	None		Same as Final Report
4.	Parameters for Tuned Buildings	None		
5.	On-Going CX Plan	None		
6.	On-Going Training Plan	None		
7.	Energy Tracking & Benchmarks	None		
8.	1st Year Performance Checks	EBCX Performance Checks.doc	Yes	Checks to assure persistence of EELs
9.	Other content to keep building efficient	None		Ideas: labels or charts on equipment or in equip room; additions to DDC graphical interface

1st Year Performance - PROVIDED BY OWNER

	<i>Documents / Required Deliverables</i>	<i>Form Name</i>	<i>Form Req'd?</i>	<i>Notes on Document Requirements</i>
1.	1st Year Performance Checks (update)	Same as Facility Guide/Systems Manual	Yes	Dates and Results of Checks by O&M Staff
2.	Performance Documentation	None		Per Performance Check form in Facility Guide
3.	Non -CX Energy Use Changes (update)	Same as Final Report	Yes	Changes during performance period (changes that affect energy use significantly but were not part of CX)

Provide 24 months of consumption data for all non-electric energy sources (SCL will provide historical electrical data)

VII. Commissioning Provider Professional Experience

SCL has adopted the EBCx incentive program framework developed by Puget Sound Energy (PSE). Customers receiving EBCx incentives only from SCL may use any experienced commissioning provider. PSE maintains an approved provider list for PSE-funded EBCx projects. Customers pursuing incentives from both SCL and PSE will be required by PSE to use a commissioning provider on the PSE approved provider list to receive PSE incentives. Providers on the PSE commissioning provider list have documented that their experience meets or exceeds SCL's required level of experience and may be used for EBCx projects incentivized by SCL.

Commissioning Provider Experience Requirementsⁱ

1. Commissioning providers must meet the qualifications of a Tune-Up Specialist as defined by the Seattle Office of Sustainability & Environment Directors Rule 2016-01.
2. Providers must have current technical knowledge and extensive recent hands-on field experience equal to that of a Professional Engineer regarding:
 - a. Existing Building Commissioning including functional testing, diagnostics, trending, energy calculations, and implementing improvements
 - b. Building system performance and interaction with a focus on building automation control systems
 - c. Troubleshooting common installation, maintenance and operational pitfalls for building systems
3. Commissioning Provider for at least two (2) other commissioning projects of a similar nature

SCL recommends that customers solicit bids from several commissioning providers and check references. SCL makes no recommendations, guarantees, or warranties for any commissioning provider. Reports and program documentation provided for review to SCL is subject to approval and evaluation for validation of energy savings. The following commissioning provider information shall be submitted to SCL with the EBCx project application:

VIII. Provider Experience Submittals

The customer's commissioning provider(s) shall submit the following documentation:

1. Submit a copy of their resume(s) detailing relevant professional experience and a current credential qualifying them as a Seattle Building Tune-Up Specialist.
2. Provide references from customers or other utility commissioning programs from two (2) commissioning projects similar to the customer's proposed project. Specifically provide samples or documentation of:
 - a. Existing Building Commissioning Plans
 - b. Investigation Tests
 - c. Verification Tests
 - d. Recommendations List
 - e. Energy saving and cost-effectiveness estimates/calculations
 - f. Systems Manual
 - g. Investigation Report Executive Summary
 - h. Report on Actual Energy Savings Results
 - i. Process / Approach to facility operations training

ⁱ Based on guidelines from the California Commissioning Collaborative