

# CenterPoint Energy

## **Building Retro-Commissioning Program**

Commercial Demand-Side  
Management

## **Request for Qualification**

Prepared by:

**Resource Innovations, Inc.**

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# 1. Retro-Commissioning Program Overview

The CenterPoint Energy Retro-Commissioning (RCx) Program provides assessments to owners and operators of commercial facilities to aid the identification of low-to-no-cost energy and demand savings opportunities with payback periods of less than 1.5 years. To secure RCx service providers (RCx Agents) for the program, Resource Innovations, the program administrator (PA), is issuing this request for qualification (RFQ).

The RCx Program is intended to encourage and assist CenterPoint Energy customers in increasing the operating efficiency of their existing energy-consuming equipment and lowering their peak demand. Proposals are sought from qualified RCx Agents to identify and implement low-to-no-cost energy and demand savings measures for participating customers. Successful respondents will contract with Resource Innovations to provide services for the program.

The RCx Program is built upon the following premises:

- Energy consuming equipment in buildings often uses more energy than is necessary to perform as intended.
- A systematic evaluation of building systems often identifies significant, otherwise undetected, opportunities to make existing equipment/systems operate more efficiently with little to no capital investment.
- Many customers do not have the time or in-house expertise to perform the detailed energy-efficiency analysis required to identify these opportunities. If aided in overcoming these hurdles, they are often willing to implement the recommended measures.
- The benefits to CenterPoint Energy justify CenterPoint's investment in the program.

## 1.1 Service Provider Eligibility

RCx Agents are expected to be competent in identifying low-to-no-cost energy and demand savings opportunities (RCx measures). The incentives and project timelines are structured to encourage Agents to effectively focus their efforts on RCx measures to the exclusion of longer-term capital improvement measures. Successful Agents will be those firms who can showcase significant experience dealing specifically with RCx measures. Agents may be national or local entities but must demonstrate an understanding of the climate and commercial building market in CenterPoint Energy's service territory.

The RCx agent performing or supervising energy audits must be able to demonstrate possession in good standing of at least one of the minimum qualifications set forth in this section or an equivalent qualification at the discretion of CenterPoint and its PA.

- Licensed Engineer and at least two years of experience performing energy audits of similar scope and complexity.
- Association of Energy Engineers (AEE) Certified Energy Manager or Certified Energy Auditor and at least two years of experience performing energy audits of similar scope and complexity.
- At least 10 years of experience as a building operating engineer or at least five years of experience as a chief operating engineer and at least one of the following:
  - Building Operator Certification
  - International Union of Operating Engineers Certified Energy Specialist

Accepted Agents who fail to have at least one project reach at least one payment milestone in a given program year may, at the discretion of CenterPoint and PA, be released from the program

and may be required to reapply to participate in future years. Reapplication will be especially likely if qualified staff who formed the key basis of the original Agent acceptance are no longer serving in those roles, i.e. if there is significant turnover in the Agent's staff providing RCx services.

## **1.2 Facility and Customer Eligibility**

Facilities must reside within CenterPoint Energy's service territory (Appendix A).

Customers must commit \$5,000 to implement the identified RCx measure bundle with a payback of less than 1.5 years (or the total cost of such measures if less than \$5,000). Customers who fail to fulfill the implementation commitment must repay to CenterPoint Energy the cost of the RCx assessment (\$0.05/kWh of savings identified in the Investigation Phase Report) incurred by the Program but without the expected resulting savings. Agents will not incur a direct penalty for a customer's lack of implementation, but excessive numbers of projects that stall at the implementation phase will be a negative factor in ongoing Agent evaluations.

If the implementation phase timeline exceeds 12 months from the Investigation Phase approval, the PA reserves the right to cancel the project, and the customer will be required to reimburse the full cost of the study, and the associated program administration costs as stated above.

If it is determined by the PA's sole discretion that the customer is unable or unwilling to complete the investigation phase, the customer will be required to repay the cost of the engineering services at the Agent's time and material.

## **1.3 Process**

The PA will market the program through outreach to professional organizations and direct customer contact, but RCx Agents are encouraged to identify projects on their own. If an approved RCx Agent is identified in an approved application, that RCx Agent will be assigned to that project. For applications where no preferred Agent is listed, the PA will assign RCx Agents based on RCx agent expertise with a specific market sector, agent availability, etc.

The project lifecycle is broken into the following principal phases:

- Application
- Investigation
- Implementation (customer's responsibility)
- Verification
- Monitoring (Monitoring Based Commissioning Track Only)

### **1.3.1 Application Phase**

The Application phase begins when a complete application is received by program staff. PA will review the application submitted by the customer and determine if savings potential is sufficient to justify acceptance of the project. If no RCx agent is specified on the application, PA will select an approved agent for the project.

### **1.3.2 Investigation Phase**

The Investigation Phase includes a site assessment to develop an in-depth understanding of the building systems. The operational and functional data are collected to assess equipment operation and document baseline operating conditions. A master list is then developed to catalogue deficiencies and potential improvements.

The agent is expected to have discussions with the owner about the findings and the things that can be improved upon without impacting the comfort level of the people utilizing the building.

The agent provides the customer a price and timeline to perform the repairs/corrections. The customer signs the Owner Selection Table (OST) agreeing that he knows what needs to be done and agrees to complete the improvements as quickly as possible. Detailed calculations are completed to estimate the demand and energy impacts and simple payback period of the measures selected by the owner. The detail calculation is not required for measures which are not selected by the owner.

An implementation schedule for each measure must be provided by the customer on the Owner Selection Table. Projects will not be approved at this stage without this schedule, and projects that later fail to meet this schedule of implementation will be at risk of being cancelled.

Information gathered and recommendations for implementation are presented in an Investigation Report completed by the Agent. Upon approval of the Investigation Report by the PA, the Agent will receive the Investigation Phase payment.

### **1.3.3 Implementation Phase**

The Implementation Phase begins after approval of the Investigation Report. The customer is responsible for implementing all the measures selected in the Owner Selection Table. Work may be completed by in-house staff or by third parties, and in-house costs may be quantified and counted toward the customer's required implementation commitment (see Section 1.2).

While the customer is responsible for implementation, Agents are expected to maintain biweekly communication with the customer to ensure projects are still on schedule and to notify the PA if and when they fall behind. Projects that do not progress according to the implementation schedule included in the Owner Selection Table are at risk of being cancelled.

### **1.3.4 Verification Phase**

Once the work is complete, the Agent will first inform the PA of its planned verification methods (metering, visual inspection, etc.) for each implemented measure. Upon approval by the PA, the Agent executes the verification plan. After verification activities, the Agent compiles the findings and savings estimates into the Verification Report submitted to the PA. The Verification Phase payment will be made upon the PA's approval of this report.

### **1.3.5 Monitoring Phase**

For the Monitoring Based Commissioning (MBCx) Track of the RCx Program, there is an additional phase that takes place after the verification phase has been completed. This will include three meetings spread 4 months apart in order to ensure the on-going commitment from the agent and customer to review their energy consumption and implemented measures. It is also possible that during this review period, new measures have been identified, and they could be eligible for additional incentives.

## **1.4 Correspondence**

Questions about the RCx Program are always welcomed and can be directed to the PA.

Email: [CenterPointEnergyRCx@resource-innovations.com](mailto:CenterPointEnergyRCx@resource-innovations.com)

## **2. Scope of Services (Standard RCx Track)**

The RCx Agent will plan, manage, perform and report on the RCx activities, utilizing the reporting formats and standardized forms provided by CenterPoint Energy whenever requested. Compilation of an equipment inventory, system troubleshooting, data trends and analysis, demand and energy savings calculations, implementation cost estimates, etc. will be conducted by the Agent, in association with the building operations staff (OS). The Agent will submit deliverable reports to the PA according to the schedule set by the RCx Agent and agreed upon by CenterPoint Energy, the PA, and the customer.

All RCx tasks must be conducted transparently and should directly involve the building engineer and OS whenever possible. This will help ensure the recommendations made by the Agent are adopted by the OS, which will in turn help maximize savings persistence.

The following sections describe the primary tasks that will be required of the Agent in the RCx process.

### **2.1 Scope of Analysis**

Savings are realized through the systematic evaluation of building systems and implementation of low-cost and no-cost measures targeted to reduce the electrical peak demand and energy consumption of the facility. The scope and complexity of the analysis associated with identifying savings opportunities will vary depending on the building size, use, type of equipment, and other factors.

Using ASHRAE's audit levels as a point of reference, the program generally expects a Level 2+ for engineering rigor. Level 1 analyses will rarely be accepted as sufficient. IPMVP Options A and B, with appropriate trend data, are the generally expected M&V approaches. More detailed guidance on engineering and M&V is provided in the Calculation and M&V Guidelines being introduced to the program in 2019.

### **2.2 Deliverables**

Each project includes two deliverable reports from the RCx Agent: the Investigation Report, which details findings and recommendations, and the Verification Report, which provides the measurement and verification details supporting the achieved savings.

Agents are encouraged to deliver concise reports that focus solely on those measures the program seeks – low-to-no-cost electric savings measures with paybacks less than five years that result in a total measure bundle payback of less than 1.5 years. The level of detail and rigor applied to each measure should be commensurate with the level of savings and the expected simple payback. The requirement that measure price quotes be included in IP reports is meant to encourage Agents to work closely with customers early in the process to focus fieldwork and analysis efforts on those measures a customer plans to implement.

#### **2.2.1 Investigation Report**

After completing the Investigation Phase, the RCx Agent delivers to the PA a report summarizing the investigation activities, findings, and recommendations. This report documents investigation activities, presents detailed engineering calculations and supporting data behind the savings estimates, and demonstrates the quality of the services provided.

The Investigation Report includes the following principal components.

- Master List of findings customer is interested in pursuing.

- Summary of functional test results, field observations, monitored data, etc. used to assess equipment operation and to support savings calculations.
- Engineering calculations estimating the potential peak electrical demand and energy savings associated with each master list item having significant savings potential.
- Engineering calculations estimating the potential annual energy and demand cost savings associated with each master list item with paybacks under five years.
- Measure implementation quotes from 3<sup>rd</sup> party contractor for all recommended measures to correct identified opportunities and corresponding simple payback period based on annual electricity cost savings.

### **2.2.2 Verification Report**

The verification report is prepared by the RCx Agent and submitted to the PA and the building owner once implementation verification is completed.

This report summarizes the implemented measures, documents estimated project demand and energy savings, and verifies that the measures were properly implemented. The report lists the implemented measures and discusses any insufficiencies found. If implementation was not as outlined in the Investigation Report, the RCx Agent must provide updated savings estimates in the Verification Report, based on the actual implementation.

## **2.3 Program Quality Control**

In order to maintain high quality in the RCx services provided to customers, an Agent performance rating system will be used. Throughout the program year, individual projects will be scored for things like report quality and customer satisfaction. Agents will receive feedback from the PA throughout the year regarding their overall performance ratings as indicated by these metrics, described in detail in the following sections.

A standard measure calculator that covers common RCx measures was launched in 2019. This reduces analysis workload, enabling Agents to cost-effectively focus time on other aspects of their work and ensuring uniform quality and rigor across the program.

A standard reporting template was also launched in 2019, further reducing level of effort. The goal of these initiatives is to enable Agents to spend more time collaborating with customers early in the process to achieve Agent-Customer alignment resulting in higher VP-to-IP conversion ratios.

### **2.3.1 Project Delivery Quality**

By participating in the RCx program, the RCx Agent agrees to perform high quality work and deliver thorough reports that address the needs of the customer and meet the goals of the program within relevant time frames.

Report time frames shall be defined as follows:

- Investigation Phase reports shall be submitted to the PA for review within two months of the site survey.
- Verification Phase reports shall be submitted to the PA for review within one month of the site survey.

The PA will review each report and provide feedback to the Agent. The Agent will be expected to correct any deficiencies and resubmit the report within two weeks of receiving comments from the PA. Multiple iterations may ensue until a satisfactory report is delivered.

New RCx Agents will be supported by the PA in the development of their first project's reports. The first project's reports will be graded according to the criteria in Table 1. Feedback will be provided by the PA, but the score will not be recorded for the purpose of ongoing Agent

evaluations. Beyond the first project, Agents will be expected to deliver satisfactory reports with minimal input from the PA, and all project reports will be graded according to Table 1 and recorded for Agent evaluation purposes.

The report grading will be based on the following scoring system:

- Acceptable
  - Quality issues in the initial submission are within the grading allowances (Table 1) AND
  - Report is approved after no more than three submission to the PA AND
  - Project achieved 65% or greater savings harvest rate AND
  - Report is completed according to the timeline in Table 1 AND
  - Customer provides positive feedback about project.
- Needs Improvement
  - Quality issues of initial submission are beyond the grading allowance OR
  - More than three submissions are required for report approval OR
  - Savings harvest rate is less than 65% OR
  - Initial report is not submitted according to the timeline in Table 1 OR
  - Customer provides negative feedback about the project experience.

**Table 1. Grading Criteria for RCx Agent Reports**

Criteria	Allowance
Calculation Errors	Less than 25% of EEMs have calculation errors in initial report submission.
Report Completeness	All sections must be included and complete.
Timeliness	Two months from site visit to initial submission of Investigation Phase report. One month from site visit to initial submission of Verification Phase report.
Savings Harvest Rate	Verification Phase energy and demand savings at least 65% of Investigation Phase savings.
Customer Satisfaction	PA receives positive feedback from customer.

### **2.3.2 Ongoing Agent Evaluation**

Overall RCx Agent performance will be evaluated throughout the program year. Satisfactory Agent performance on project delivery will be defined according to Table 2. If the maximum number of allowed NI grades is exceeded, the PA will meet with the Agent to discuss the causes of and possible solutions for the deficient performance. The PA and the Agent will together develop an improvement plan, and the PA will continually monitor progress. If the next two projects do not show substantial improvement demonstrated by ratings of Acceptable, the PA reserves the right to remove the Agent from the program.



**Table 2 RCx Agent Performance Standards**

<b>Agent Completed Report Quantity</b>	<b>Allowance</b>
5 reports	No more than 2 reports graded NI
6 – 10 reports	No more than 3 reports graded NI
> 11 reports	No more than 4 reports graded NI

It is the intent of the PA to maintain a pool of Agents who are actively engaged with the program and whose core competencies and routine business offerings include qualified RCx services. As mentioned previously, Agents determined to be inactive during a given program year may be removed from the program and required to submit a new RFQ response to participate in the program in future years.

## **2.4 Project Fees and Schedule**

### **2.4.1 Agent Project Fees**

The RCx Agent will receive a payment for RCx services based on the verified energy savings found at each stage, to be paid on a milestone schedule. This payment breakdown presented in Table 3 below is subject to change at the sole discretion of Resource Innovations and CenterPoint Energy.

**Table 3. Agent Fee Structure**

<b>Project Deliverable</b>	<b>Agent Fee</b>
Investigation Report	\$0.04/kWh
Verification Report	\$0.04/kWh

The energy savings to be used for calculating these fees are those from measures that meet the following criteria:

- Measures are RCx in nature and not capital-intensive replacements;
- All simple paybacks of individual measures are less than 5.0 years; and
- The combined simple payback of the entire recommended measure bundle is less than 1.5 years.

It is expected that Agents will focus their fieldwork, analysis, and report writing on measures that meet these criteria. Measures outside this scope whose potential is significant and obvious as determined during fieldwork may be mentioned as a courtesy to building owners, but Agents are expected to minimize such efforts to ensure profitability for their RCx projects under this performance based fee structure.

## 2.4.2 Agent Payment Caps

A cap on reported IP savings of 15% of total building consumption is introduced in 2019. This payment structure will put an upper limit on the IP savings used for agent payments at IP. The potential missing IP payment will be a true-up at VP if the verified savings beyond 15%.

A total project cap for agent payments of \$0.08/kWh has been in effect since 2019. At the Verification Phase (VP), with payment based on verified savings, the program will compute the maximum \$0.08/kWh and cap the agent verification fee based on the IP payment already made.

## 2.4.3 Agent Bonus Payment

A bonus structure (on top of the \$0.08/kWh cap) is being introduced to incent achievement of two important project goals: quick implementation and a high VP-to-IP savings ratio. Table 4 shows the breakdown for the agent bonus.

**Table 4. Agent Bonus Structure**

	100+%	95-100%	90-95%	85-90%	<85%
1 mo	\$0.03	\$0.03	\$0.03	\$0.03	\$0.00
3 mo	\$0.03	\$0.03	\$0.03	\$0.03	\$0.00
6 mo	\$0.03	\$0.03	\$0.02	\$0.02	\$0.00
9 mo	\$0.03	\$0.02	\$0.02	\$0.02	\$0.00

*Values are \$-per-verified-kWh. Percentages are the ratio of verified savings at VP to reported savings at IP. Durations are the time between IP completion (IP report approval) and customer announcement of completed implementation (allowing Agent to schedule VP site visit within two weeks of announcement).*

The implementation duration starts after IP report approval. It ends when either the implementation email is received or VP report is received, whichever is earlier. Customer announcement of completed implementation must include allowance for Agent to perform VP site visit work within the following two weeks. If an Agent determines during their site visit that implementation is not completed, the project implementation duration will be extended to the time at which the Agent confirms measures are actually completed.

## 2.4.4 Agent Payment Example

As an example, a project with 1-month implementation, Investigation Report savings of 1,100,000 kWh (12% of annual consumption) and Verification Report savings of 850,000 kWh would achieve the following Agent fees:

Phase	kWh	\$/kWh	\$
Investigation Report	1,100,000	0.04	\$44,000
Verification Report	850,000	0.04 <sup>1</sup>	\$24,000 <sup>2</sup>
Agent Bonus	850,000	0.03 <sup>3</sup>	\$25,500
Agent Total Payment			\$93,500

### 2.4.5 Sample Project Timeline

The schedule for RCx projects is anticipated to roughly follow that outlined in Table 5. The timetable indicates expected duration of project phases and not manpower requirements.

It should be noted that portions of the investigation phase might need to coincide with the building peak-demand period (i.e. hot summer days or cold winter days). This should be kept in mind when scheduling project tasks. Also, the implementation of RCx measures is the duty of the building owner and not the RCx Agent. The duration noted in the table is only an estimate.

**Table 5. Sample Project Timeline**

Dates	Activity and/or Milestone
<i>Application Phase</i>	
Week 1-2	PA review of application, analysis of utility bills, and screening
Weeks 3	If approved, notice to agent to proceed to Investigation Phase; agent schedule kick-off meeting;
<i>Investigation Phase</i>	
Weeks 4-12	On-site interviews and fieldwork; engineering calculations; prepare and issue Investigation Phase Report
Week 13	PA review and comment on report
Week 14	Agent addresses review comments
Week 15	PA reviews and approves revised Investigation Phase Report, initiates Investigation Phase payment

<sup>1</sup> Agent VP fee is \$0.04/kWh

<sup>2</sup> The VP payment is capped by \$0.08/verified kWh which is 850,000 kWh.

<sup>3</sup> \$0.03 is based on 1 month implementation and <85% IP-to-VP ratio

Week 16	Presentation to customer; customer agrees to implement identified EEMs and provides implementation schedule
Week 17	Agent informs PA of planned verification methodology
<i>Implementation Phase</i>	
Weeks 18-23	Client implements EEMs; Agent tracks progress against schedule
<i>Verification Phase</i>	
Weeks 24-28	Agent performs site verification and issues Verification Phase Report
Week 29	PA review and comment on report
Week 30	Agent addresses review comments
Week 31	PA reviews & approves revised Verification Report, initiates Verification Phase payment
Week 32	Final wrap up meeting

### **3. Scope of Services (MBCx Track)**

As the Monitoring Based Commissioning (MBCx) Track is part of the Retro-Commissioning Program the majority of the scope of services shall remain the same with some changes that will reflect the MBCx Track.

The RCx Agent will plan, manage, perform and report on the RCx activities, utilizing the reporting formats and standardized forms provided by CenterPoint Energy whenever requested. Compilation of an equipment inventory, system troubleshooting, data trends and analysis, demand and energy savings calculations, implementation cost estimates, etc. will be conducted by the Agent, in association with the building operations staff (OS). The Agent will submit deliverable reports to the PA according to the schedule set by the RCx Agent and agreed upon by CenterPoint Energy, the PA, and the customer.

All RCx tasks must be conducted transparently and should directly involve the building engineer and OS whenever possible. This will help ensure the recommendations made by the Agent are adopted by the OS, which will in turn help maximize savings persistence.

The following sections describe the primary tasks that will be required of the Agent in the RCx process.

#### **3.1 Scope of Analysis**

Savings are realized through the systematic evaluation of building systems and implementation of low-cost and no-cost measures targeted to reduce the electrical peak demand and energy consumption of the facility. The scope and complexity of the analysis associated with identifying savings opportunities will vary depending on the building size, use, type of equipment, and other factors.

Using ASHRAE's audit levels as a point of reference, the program generally expects a Level 2+ for engineering rigor. Level 1 analyses will rarely be accepted as sufficient. IPMVP Options A and B, with appropriate trend data, are the generally expected M&V approaches. More detailed guidance on engineering and M&V is provided in the Calculation and M&V Guidelines being introduced to the program in 2019.

#### **3.2 Deliverables**

During the application phase, the project must also demonstrate the facility's capability of data trending. If no data trending is currently able, there must be a vendor quote, and a commitment to implement the necessary hardware or software to meet the minimum trending capabilities.

Each project includes two deliverable reports from the RCx Agent: the Investigation Report, which details findings and recommendations, and the Verification Report, which provides the measurement and verification details supporting the achieved savings.

Agents are encouraged to deliver concise reports that focus solely on those measures the program seeks – low-to-no-cost electric savings measures with paybacks less than five years that result in a total measure bundle payback of less than 1.5 years. The level of detail and rigor applied to each measure should be commensurate with the level of savings and the expected simple payback. The requirement that measure price quotes be included in IP reports is meant to encourage Agents to work closely with customers early in the process to focus fieldwork and analysis efforts on those measures a customer plans to implement.

##### **3.2.1 Trending Capabilities**

In the MBCx track, there is a minimum requirement to be able to capture the applicable trending data through the Building Automation System (BAS) or Energy Management System (EMS). In

addition to the trending capabilities, remote access into the facility's BAS or EMS will also need to be demonstrated. In the table below is a list of the minimum required trending capability.

If the facility is not currently able to demonstrate the trending capabilities required, a vendor quote and commitment to implement the hardware or software to get to the minimum level will be necessary.

**Table 6. Trending Capabilities Required**

<b>System</b>	<b>Equipment</b>	<b>Trend Data Required</b>
AHU	General	Duct Static Pressure and setpoint
		Supply Air Temperature and setpoint
		Return Air Temperature
		Outside Air Temperature/enthalpy
		Outside Air Damper Positions/CFM Reading
		Mixed Air Temperature
		Economizer Setpoint
		Supply Air Damper/CFM Reading
		Return Air Damper Positions/CFM Reading
		Cooling Coil Valve Command
	Heating Coil Valve Command	
	Supply Fan	Supply fan real power (kWh)
		Supply Fan VFD Speed
Return Fan (if applicable)	Return Fan real power (kWh)	
	Return Fan VFD Speed	
Cooling	Chiller	Chiller real power (kWh) / load (current)
		Chiller status
		Chiller flow (gpm)
		Supply chilled water temp. and setpoint
		Return chilled water temp. and setpoint
		Supply condenser water temp. and setpoint
	Return condenser water temp. and setpoint	
	Cooling Tower	Outside Wet Bulb
		Cooling tower power (kWh)
		Cooling tower VFD Speed and setpoint
	CHW Pump	Cooling tower fan status
		CHW pump power (kWh)
		CHW pump VFD Speed
		CHW dP/dP setpoint
	CW Pump	Pump status (for each individual pump)
		Condenser water pump VFD speed
		Condenser water pump power (kWh)
CW dP/dP setpoint		
Pump status (for each individual pump)		
Heating	HW Pump	Hot water pump VFD Speed
		Hot water pump power (kWh)
		HW Pump dP/dP setpoint
		Hot water supply temperature and setpoint
		Hot water return temperature and setpoint
Pump status (for each individual pump)		

		Zone Temperature and setpoint
		VAV Box Damper Position
		Reheat Valve Position (if supply air reheated at zone)
Zone	General	Re-cool valve position (if supply air re-cooled at zone)
		Zone CFM and setpoint
		Zone discharge air temperature and setpoint
		Fan status or fan command (for fan-powered boxes)

### 3.2.2 Investigation Report

After completing the Investigation Phase, the RCx Agent delivers to the PA a report summarizing the investigation activities, findings, and recommendations. This report documents investigation activities, presents detailed engineering calculations and supporting data behind the savings estimates, and demonstrates the quality of the services provided.

The Investigation Report includes the following principal components.

- Master List of findings customer is interested in pursuing.
- Summary of functional test results, field observations, monitored data, etc. used to assess equipment operation and to support savings calculations.
- Engineering calculations estimating the potential peak electrical demand and energy savings associated with each master list item having significant savings potential.
- Engineering calculations estimating the potential annual energy and demand cost savings associated with each master list item with paybacks under five years.
- Measure implementation quotes from 3<sup>rd</sup> party contractor for all recommended measures to correct identified opportunities and corresponding simple payback period based on annual electricity cost savings.

### 3.2.3 Verification Report

The verification report is prepared by the RCx Agent and submitted to the PA and the building owner once implementation verification is completed.

This report summarizes the implemented measures, documents estimated project demand and energy savings, and verifies that the measures were properly implemented. The report lists the implemented measures and discusses any insufficiencies found. If implementation was not as outlined in the Investigation Report, the RCx Agent must provide updated savings estimates in the Verification Report, based on the actual implementation.

### 3.2.4 Monitoring Period

The monitoring period is the 12-months after the Verification Report has been approved. During this time Resource Innovations, Agent, and Customer will have three scheduled 1-hour long “checkpoint” meetings in 4-month intervals. Resource Innovations will provide the results of ASHRAE Guideline 14 modeling to agents and customers, and will also perform some engineering analysis of the available trend data. Agents will then be expected to also review the trend data and provide input on measure savings persistence and possible remedies for underperforming measures.

During this monitoring period, if any additional low-cost/no-cost measures are identified, they can skip the identification phase since trending data, and consumption data should already be present. These measures can be incentivized on their verified savings (at \$0.04/kWh), granted that they are completely unrelated to already implemented measures.

### **3.3 Program Quality Control**

In order to maintain high quality in the RCx services provided to customers, an Agent performance rating system will be used. Throughout the program year, individual projects will be scored for things like report quality and customer satisfaction. Agents will receive feedback from the PA throughout the year regarding their overall performance ratings as indicated by these metrics, described in detail in the following sections.

A standard measure calculator that covers common RCx measures was launched in 2019. This reduces analysis workload, enabling Agents to cost-effectively focus time on other aspects of their work and ensuring uniform quality and rigor across the program.

A standard reporting template was also launched in 2019, further reducing level of effort. The goal of these initiatives is to enable Agents to spend more time collaborating with customers early in the process to achieve Agent-Customer alignment resulting in higher VP-to-IP conversion ratios.

#### **3.3.1 Project Delivery Quality**

By participating in the RCx program, the RCx Agent agrees to perform high quality work and deliver thorough reports that address the needs of the customer and meet the goals of the program within relevant time frames.

Report time frames shall be defined as follows:

- Investigation Phase reports shall be submitted to the PA for review within two months of the investigation site survey.
- Verification Phase reports shall be submitted to the PA for review within one month of the verification site survey.

The PA will review each report and provide feedback to the Agent. The Agent will be expected to correct any deficiencies and resubmit the report within two weeks of receiving comments from the PA. Multiple iterations may ensue until a satisfactory report is delivered.

New RCx Agents will be supported by the PA in the development of their first project's reports. The first project's reports will be graded according to the criteria in Table 7. Feedback will be provided by the PA, but the score will not be recorded for the purpose of ongoing Agent evaluations. Beyond the first project, Agents will be expected to deliver satisfactory reports with minimal input from the PA, and all project reports will be graded according to Table 1 and recorded for Agent evaluation purposes.

The report grading will be based on the following scoring system:

- Acceptable
  - Quality issues in the initial submission are within the grading allowances (Table 1) AND
  - Report is approved after no more than three submission to the PA AND
  - Project achieved 65% or greater savings harvest rate AND
  - Report is completed according to the timeline in Table 1 AND
  - Customer provides positive feedback about project.
- Needs Improvement
  - Quality issues of initial submission are beyond the grading allowance OR
  - More than three submissions are required for report approval OR
  - Savings harvest rate is less than 65% OR
  - Initial report is not submitted according to the timeline in Table 1 OR
  - Customer provides negative feedback about the project experience.



**Table 7. Grading Criteria for RCx Agent Reports**

<b>Criteria</b>	<b>Allowance</b>
Calculation Errors	Less than 25% of EEMs have calculation errors in initial report submission.
Report Completeness	All sections must be included and complete.
Timeliness	Two months from investigation site visit to initial submission of Investigation Phase report.
	One month from verification site visit to initial submission of Verification Phase report.
Savings Harvest Rate	Verification Phase energy and demand savings at least 65% of Investigation Phase savings.
Customer Satisfaction	PA receives positive feedback from customer.

**3.3.2 Ongoing Agent Evaluation**

Overall RCx Agent performance will be evaluated throughout the program year. Satisfactory Agent performance on project delivery will be defined according to Table 8. If the maximum number of allowed NI grades is exceeded, the PA will meet with the Agent to discuss the causes of and possible solutions for the deficient performance. The PA and the Agent will together develop an improvement plan, and the PA will continually monitor progress. If the next two projects do not show substantial improvement demonstrated by ratings of Acceptable, the PA reserves the right to remove the Agent from the program.

**Table 8. RCx Agent Performance Standards**

<b>Agent Completed Report Quantity</b>	<b>Allowance</b>
5 reports	No more than 2 reports graded NI
6 – 10 reports	No more than 3 reports graded NI
> 11 reports	No more than 4 reports graded NI

It is the intent of the PA to maintain a pool of Agents who are actively engaged with the program and whose core competencies and routine business offerings include qualified RCx services. As mentioned previously, Agents determined to be inactive during a given program year may be removed from the program and required to submit a new RFQ response to participate in the program in future years.

### 3.4 Project Fees and Schedule

#### 3.4.1 Agent Project Fees

The RCx Agent will receive a payment for RCx services based on the verified energy savings found at each stage, to be paid on a milestone schedule. This payment breakdown presented in Table 9 below is subject to change at the sole discretion of Resource Innovations and CenterPoint Energy.

**Table 9. Agent Fee Structure**

<b>Project Deliverable</b>	<b>Agent Fee</b>
Investigation Report	\$0.04/kWh
Verification Report	\$0.04/kWh

The energy savings to be used for calculating these fees are those from measures that meet the following criteria:

- Measures are RCx in nature and not capital-intensive replacements;
- All simple paybacks of individual measures are less than 5.0 years; and
- The combined simple payback of the entire recommended measure bundle is less than 1.5 years.

It is expected that Agents will focus their fieldwork, analysis, and report writing on measures that meet these criteria. Measures outside this scope whose potential is significant and obvious as determined during fieldwork may be mentioned as a courtesy to building owners, but Agents are expected to minimize such efforts to ensure profitability for their RCx projects under this performance-based fee structure.

#### 3.4.2 Agent Payment Caps

A cap on reported IP savings of 15% of total building consumption is introduced in 2019. This payment structure will put an upper limit on the IP savings used for agent payments at IP. The potential missing IP payment will be a true-up at VP if the verified savings beyond 15%.

A total project cap for agent payments of \$0.08/kWh has been in effect since 2019. At the Verification Phase (VP), with payment based on verified savings, the program will compute the maximum \$0.08/kWh and cap the agent verification fee based on the IP payment already made.

#### 3.4.3 Agent Bonus Payment

The Standard RCx Track bonus structure (on top of the \$0.08/kWh cap) is being repurposed in the MBCx Track in an effort to keep Agents engaged through the monitoring phase of the project. The Agent Bonus will be adjusted from the sliding table of the standard RCx track to a fixed \$0.02/kWh of verified savings to be paid out at three 4-month intervals extending 1 year past the Verification Report approval. This Agent Bonus is subject to the same minimum VP-to-IP ratio as before, requiring a minimum of 85% verified savings to identified savings.

During these “Checkpoint” meetings, Resource Innovations will provide the results of ASHRAE 14 Guideline 14 modeling to Agents and Customers, and will perform some engineering analysis of the available trending data. Agents will then be expected to also review the trend data and provide input on savings persistence and possible remedies for underperforming measures via at least two 1-hr conference calls involving Resource Innovations, Agents, and Customers.

### 3.4.4 Agent Payment Example

As an example, a project with 1-month implementation, Investigation Report savings of 1,100,000 kWh (12% of annual consumption) and Verification Report savings of 850,000 kWh would achieve the following Agent fees:

Phase	kWh	\$/kWh	\$
Investigation Report	1,100,000	0.04	\$44,000
Verification Report	850,000	0.04 <sup>4</sup>	\$24,000 <sup>5</sup>
Agent Bonus 1 (1 <sup>st</sup> at Approval)	850,000	0.01	\$8,500
Agent Bonus 2	850,000	0.01	\$8,500
Agent Bonus 3	850,000	0.01	\$8,500
Agent Total Payment			\$93,500

### 3.4.5 Sample Project Timeline

The schedule for RCx projects is anticipated to roughly follow that outlined in Table 5. The timetable indicates expected duration of project phases and not manpower requirements.

It should be noted that portions of the investigation phase might need to coincide with the building peak-demand period (i.e. hot summer days or cold winter days). This should be kept in mind when scheduling project tasks. Also, the implementation of RCx measures is the duty of the building owner and not the RCx Agent. The duration noted in the table is only an estimate.

**Table 5. Sample Project Timeline**

Dates	Activity and/or Milestone
<i>Application Phase</i>	
Week 1-2	PA review of application, analysis of utility bills, and screening
Weeks 3	If approved, notice to agent to proceed to Investigation Phase; agent schedule kick-off meeting;
<i>Investigation Phase</i>	

<sup>4</sup> Agent VP fee is \$0.04/kWh

<sup>5</sup> The VP payment is capped by \$0.08/verified kWh which is 850,000 kWh.

Weeks 4-12	On-site interviews and fieldwork; engineering calculations; prepare and issue Investigation Phase Report
Week 13	PA review and comment on report
Week 14	Agent addresses review comments
Week 15	PA reviews and approves revised Investigation Phase Report, initiates Investigation Phase payment
Week 16	Presentation to customer; customer agrees to implement identified EEMs and provides implementation schedule
Week 17	Agent informs PA of planned verification methodology
<i>Implementation Phase</i>	
Weeks 18-23	Client implements EEMs; Agent tracks progress against schedule
<i>Verification Phase</i>	
Weeks 24-28	Agent performs site verification and issues Verification Phase Report
Week 29	PA review and comment on report
Week 30	Agent addresses review comments
Week 31	PA reviews & approves revised Verification Report, initiates Verification Phase payment
Week 32	Final wrap up meeting
<i>Monitoring Phase</i>	
Week 48	First Checkpoint meeting with Resource Innovations, Agent, Customer with analysis of post-verification trending data
Week 66	Second Checkpoint meeting with Resource Innovations, Agent, Customer with analysis of post-verification trending data
Week 84	Third Checkpoint meeting with Resource Innovations, Agent, Customer with analysis of post-verification trending data

# Appendix A – Proposal Stipulations

Review, sign, and submit the following Proposal Stipulations as part of the proposal.

## Acceptance and Rejection of Qualifications

CenterPoint Energy reserves the right to open qualifications privately, unannounced and to reject any and all proposals and waive irregularities and informalities in any proposal that is submitted and to be the sole and final judge of all qualifications. CenterPoint Energy reserves the right to discontinue its evaluation of proposals from any respondents who submits false, misleading, or incorrect information.

## Interpretation of Scope of Work

It is the respondent’s responsibility to advise Resource Innovations, the program administrator, of conflicting requirements or omissions in the RFQ that describe proposal requirements or scope of work before submission. Resource Innovations will resolve acknowledged omissions and questions through electronic correspondence. It is the respondent’s responsibility to contact Resource Innovations if they did not receive the anticipated electronic correspondence.

## Preparation Costs

The costs incurred by a respondent in the preparation of this proposal, attendance at information sessions, or in contract negotiation will not be reimbursed.

## Contract Award

This RFQ does not commit CenterPoint Energy to award a contract. CenterPoint Energy reserves the right to modify or withdraw this Request for Qualification. CenterPoint Energy also reserves the right to reject program applications.

## Orientation Meeting

Successful bidders will be required to meet with Resource Innovations to cover program administration issues, provide an overview of the savings calculations, further describe required project deliverables, and answer any remaining questions that the approved RCx Agent may have.

## Contract Requirements

The Service Contract that will be used to secure services by Resource Innovations will be provided after the RFQ is accepted. As noted in the Service Contract, contractors of CenterPoint Energy and their subcontractors must meet minimum insurance requirements. The respondents must agree to abide these provisions to participate as an RCx Agent in the program.

## Notice of Exceptions to the Service Contract

List in this section exceptions the respondent has to accepting the terms of the Service Contract.

## Acceptance of Proposal Stipulations

Respondents’ must sign in the space provided below to acknowledge acceptance of the proposal stipulations outlined above. In addition, the respondent, by signing below, acknowledges that they have read and understand all sections of this RFQ. Please submit an original signed copy of this sheet with your proposal.

CONTRACTOR \_\_\_\_\_ Title: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Name: \_\_\_\_\_ Date: \_\_\_\_\_

Phone: \_\_\_\_\_

E-mail: \_\_\_\_\_

## **Appendix B – Proposal Submittal Forms**

Please contact program administrator to get the electronic version of the Appendix B - Proposal Submittal Forms. Please complete all sections. Expand the space provided to answer questions as needed.

## General Information

Company Name		Contact Person, Title	
Address	City	State/Prov	Zip/Postal
Telephone	Fax	E-Mail	

### Description of business

**Describe your Houston office, and staffing. If located out of the area, how does your firm propose to complete on-site Retro-Commissioning work over an extended period of time?**

### Affiliation with specific equipment suppliers, distributors and product brand names

#### Retro-Commissioning Activities

Percentage of overall business devoted to Retro-Commissioning services \_\_\_\_\_ %

How long has the firm offered Retro-Commissioning services \_\_\_\_\_ years

Average number of Retro-Commissioning projects performed each year \_\_\_\_\_ projects

Number of registered professional engineers on staff who have directed Retro-Commissioning projects \_\_\_\_\_ engineers

Number of CenterPoint Energy Retro-Commissioning Program projects firm would be available to complete in this program year \_\_\_\_\_ projects

**Systems or technologies for which firm has provided Retro-Commissioning services (check all that apply)**

Pkg. or split HVAC

Electrical, emerg. power

- Chiller system
- Boiler system
- Energy Mgmt. Sys.
- Variable Freq. Drives
- Lighting Controls
- Daylighting
- Electrical, general

- Envelope
- Fire/Life Safety
- Plumbing
- Commercial refrigeration
- Telecommunications
- Thermal Energy Storage
- Labs & Clean Rooms
- Other: \_\_\_\_\_

The firm has provided Retro-Commissioning services in the following: **(check all that apply)**

<u>Building Sector</u>	<u>New Construction/ Major Renovation</u>	<u>Existing Building Tune-up</u>	<u>Equipment Replacement</u>
Office or retail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grocery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hospitals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Laboratories	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Schools or universities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Industrial / Manufacturing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Special purpose—prisons, museums, libraries, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



## **Technical Approach**

Please complete the questions below, using additional space as required.

1. Describe your firms general approach to Retro-Commissioning.
2. Describe your firms approach to achieve maximum peak demand savings.
3. Describe your approach for prioritizing Retro-Commissioning services.
4. Indicate the data gathering methods and tools used to measure performance (i.e. field observations, spot measurements, EMS reports, trend logs, etc.).
5. List of datalogging equipment your firm uses.
6. List of EMCSs your firm is experienced with.
7. List of automated software tools your firm uses.
8. Describe methods used to calculate achieved savings.
9. Provide examples of checklists or special documentation used in your work.

## **Relevant Work Experience**

Please complete the questions below, using additional space as required.

10. **List relevant projects, identify any demand-side management projects.**
  
11. **Provide examples of prior projects energy savings achieved (kW, kWh, CCF/MCF, BTUs, cost).**
  
12. **Provide a brief description of relevant experience and training of staff you would assign to the project, attach resumes of key personnel.**
  
13. **Identify optional services you offer beyond energy system Retro-Commissioning.**
  
14. **Provide an example of your work (i.e. report prepared for a client).**

## Reference Projects

Please complete the table below and provide references and descriptions for three projects your firm has completed.

	Project 1	Project 2	Project 3
<p><b>Project</b> (Name, Date, Bldg Size, Type, new or existing)</p>			
<p><b>Project Contact</b> (Title, City, State, and Phone)</p>			
<p><b>Name &amp; Role of Persons(s) Assigned to Project by Firm</b> (identify any sub-consultants)</p>			
<p><b>Systems Recommissioned</b> (Identify if tested by sub-consultants)</p>			

(Enter "X" if by own firm, "S" if by sub-consultant)

<b>Retro-Commissioning Tasks Performed</b>	Wrote the Retro-Commissioning plan			
	Wrote functional test procedures			
	Calculated demand or energy savings			
	Witnessed and documented functional tests			
	Performed functional tests (hands-on)			
	Used data loggers or EMS trend logs for testing			
	Developed or approved staff training			
	Reviewed completed O&M manuals			

<b>Management</b>	Retro-Commissioning service provider was part of the firm			
	Supervised a consultant Retro-Commissioning service provider to our firm.			
	Worked with a Retro-Commissioning service provider hired by others			