

SCHEDULE

1. Funding

1.1 Subject to the terms of this Schedule, BC Hydro will pay funding to the Applicant towards the Applicant's cost of retaining the Service Provider to perform the Investigation, Hand-off and Post Project phases of the Program Services, as follows:

(a) the Service Provider's fees, calculated based on time spent by the Service Provider personnel in performing the applicable Program Services, in accordance with the following:

NAME AND/OR POSITION	HOURLY RATE
	\$
	\$

(b) the Service Provider's expenses and other external costs reasonably incurred in connection with the performance of the applicable Program Services including, without limitation, computer use, travel costs, reproduction and duplicating services and materials, communication costs, field office and services costs;

(the "Funding").

1.2 The maximum amount of Funding under this Agreement is **\$Maximum Amount** plus any applicable GST/HST, and BC Hydro shall not pay or otherwise be liable to the Applicant for any funding or financial contribution in excess of such amount. For greater certainty, the Funding does not include funding in relation to the Implementation Phase of the Program Services.

1.3 The Funding will be advanced according to the table below, and on BC Hydro's receipt and approval of evidence of the Applicant's cost of retaining the Service Provider, including copies of invoices with proof of payment for costs incurred in connection with the conduct of the Program Services, and preparation of the Program Deliverables (the "Evidence"):

Phase	Funding	Schedule
Investigation	100% of time spent by qualified service provider and subcontractors	Paid upon review and approval of the Master List of Findings and the RCx Investigation Report , prepared according to Program templates and guidelines.
Hand-off	100% of time spent by qualified service provider and subcontractors	Paid upon review and approval of the Field Review Report, Training Completion Form , and updated Master List of Findings with Implementation Summary Table prepared according to Program templates and guidelines.
Post Project	100% of time spent by qualified service provider	Paid upon review and approval of all four quarterly Coaching Summary Reports .

1.4 The Applicant must submit the Evidence within 90 days of BC Hydro's approval of the Program Deliverables for each phase.

- 1.5 The following time restrictions will apply to this Agreement:
- (a) the Investigation Phase must be completed by the Service Provider and the *RCx Investigation Report* must be submitted to BC Hydro for review within 12 months of:
 - (i) the date of completion of the EMIS software installation pursuant to section 2.1(a) of this Schedule, which date will be notified by BC Hydro; or
 - (ii) the date of execution of this Agreement if the EMIS software has been pre-installed in accordance with the terms of a Continuous Optimization Program EMIS Installation Agreement entered into by the Applicant and BC Hydro (the “EMIS Installation Agreement”).

A Baseline Data Collection Phase (starting with the installation of the EMIS, and typically conducted in parallel with the Investigation Phase) of minimum nine months period (including a heating and cooling season, and representing all significant occupancy periods (e.g. school holidays)) must be completed prior to implementation of any conservation measures discovered during the Investigation Phase. The Applicant will refrain from any project activity in the Facility, except with the permission of the Program, during the Baseline Data Collection Phase.

- (b) after the Investigation Phase is complete and the *RCx Investigation Report* has been reviewed and approved by BC Hydro, the Applicant will have the remainder of its then current fiscal year plus one additional fiscal year to complete the Implementation Phase and the Hand-off Phase and submit the *Field Review Report* (with completed Training Completion Form) to BC Hydro for review.
 - (c) after the Hand-off Phase is complete and the *Field Review Report* (with completed Training Completion Form) is reviewed and approved by BC Hydro, the Applicant will have **one year** to complete and submit four quarterly *Coaching Summary Reports* for the Post Project Phase. The first quarterly *Coaching Summary Report* is due **three months from the training completion date**.
- 1.6 BC Hydro will not pay the Funding to the Applicant if the Applicant has engaged the Service Provider to perform the Program Services before the effective date of this Agreement, without the prior written consent of BC Hydro.
- 1.7 BC Hydro will not be responsible for any tax liability imposed on the Applicant as a result of the Funding.
- 1.8 If the Applicant receives contributions in relation to the Program Services through financial incentive programs from organizations other than BC Hydro (“Third Party Contributions”), then the Applicant will notify BC Hydro and provide full particulars.
- 1.9 If the total of the Funding and any Third Party Contributions (the “Total Funding”) exceeds 100% of the actual cost of the Program Services (the “Actual Cost”), then the Applicant will, upon demand by BC Hydro, repay BC Hydro for the full amount of the difference between the Total Funding and the Actual Cost, up to the amount of the Funding.

2. Program Requirements

2.1 BC Hydro Responsibilities

- (a) BC Hydro will provide and pay for an Energy Management Information System (“EMIS”) software package for a single electric meter (typically the BC Hydro revenue meter), which will allow the Applicant to view electrical energy data and perform various types of energy management activities over the internet. BC Hydro will retain an EMIS software provider (the “EMIS Provider”) to provide the EMIS software. BC Hydro reserves the right to designate the EMIS Provider, and to subsequently change the EMIS Provider to meet Program requirements. As part of this provision, BC Hydro will:
 - (i) provide interval data from BC Hydro’s Smart Meter and Infrastructure (“SMI”) system or upgrade the Applicant’s primary BC Hydro revenue meter, if required;
 - (ii) provide additional pulse monitoring equipment as required (the “Additional Equipment”) to capture and relay the pulse information to the EMIS Provider;
 - (iii) pay EMIS software licensing costs; and
 - (iv) assist with training the Applicant and setting up the EMIS software.
- (b) ownership of any Additional Equipment provided by BC Hydro shall remain with BC Hydro. If the Program or Agreement is terminated for any reason, or if the Agreement expires, then the Applicant will return any Additional Equipment provided by BC Hydro in the same condition as it was provided (except for reasonable wear and tear).
- (c) BC Hydro will provide the Applicant with exception reports, via the EMIS software, to indicate to the Applicant when energy consumption for the building is outside of the expected range. This is an important element of the program, and the Applicant’s response to the exception reports will directly impact the Facility’s tenure in the Program (refer to Applicant Responsibilities (2.2 (g))).

2.2 Applicant Responsibilities

- (a) Applicant will assign a designated staff member to be BC Hydro’s point of contact. This point of contact will be responsible for working with BC Hydro and ensuring that all Program requirements are being met in a timely fashion.
- (b) Applicant will provide power, communications (e.g. internet connection), and pulse meter connections to the EMIS hardware if required.
- (c) Applicant will pay for EMIS software data collection services (e.g. internet, cell or landline phone charges for daily updates) if such services are required by Applicant.
- (d) if the Facility has no BC Hydro electric meter, Applicant will install their own metering hardware at the whole building level, at Applicant’s cost, subject to Program review and approval. If the Facility has multiple BC Hydro electric meters, BC Hydro will support only the meter deemed to be most affected by the Program Services.
- (e) Applicant may choose to connect additional meters (electric, gas, water, steam, etc.) to the EMIS software by paying the full incremental cost.

- (f) Applicant agrees to designate appropriate facility staff and staff hours to participate in the Continuous Optimization process and project meetings, including assistance to the Service Provider during their work, access to pertinent facility areas and systems, and training given by the Service Provider at the project end. Costs associated with the Applicant's facilities staff shall be at the Applicant's expense.
- (g) Applicant agrees to pay for any reasonable ancillary expenses that may be incurred during the course of the Program, including copying or re-creation of plans or facility documentation, access to equipment, security access, and documentation of contractor work (e.g. programming changes) for implemented measures, etc.
- (h) the Applicant agrees to respond in a timely manner to the exception reports provided by the EMIS software. Within two weeks of receiving an exception report, the Applicant will respond with a plan and timeline for investigating the cause of the exception. If the cause of the exception is related to the failure, alteration or modification of an energy conservation measure that had been implemented prior to the exception report, then the Applicant will allocate appropriate resources to repair or otherwise reinstate the energy conservation measure within a reasonable timeframe. If the Applicant fails to respond to the exception reports in a timely manner, then BC Hydro reserves the right to terminate the Program and this Agreement.
- (i) the Applicant shall ensure, and shall instruct all of its personnel having access to the EMIS software to ensure, that no "personal information", as defined in the BC *Freedom of Information and Protection of Privacy Act* is entered into the EMIS software.
- (j) upon completion of the Investigation Phase, Applicant and Service Provider, along with BC Hydro, will review the findings and select a bundle of reasonable retro-commissioning measures for implementation. Reasonable retro-commissioning measures (the "Bundle of Measures") are defined as those that do not adversely affect occupant/tenant comfort and/or the operation of the Facility. The Applicant is required to implement the Bundle of Measures that pays back in two years or less. The Bundle of Measures may contain individual measures that have a simple payback greater than two years, as long as the cumulative simple payback of the overall Bundle of Measures remains less than two years). The Bundle of Measures will be derived from all energy sources (e.g. electricity plus other fuels).
- (k) for implementing the Bundle of Measures, Applicant's required investment responsibility will not exceed **\$Amount**.
- (l) the Applicant will repay BC Hydro, on demand, the full amount of any Funding paid to the Applicant in relation to the Investigation Phase if the Applicant fails to implement the Bundle of Measures in relation to the Implementation Phase.
- (m) major retrofit measures identified by the Program may be eligible for other funding. In these cases, BC Hydro will assist the Applicant in determining whether other potential programs provide funding for these measures and if the Facility and/or the Applicant are eligible for those programs/incentive/funding.
- (n) in order to ensure that the Bundle of Measures is implemented safely and reliably, and that site drawings, records, and manuals are maintained, the Applicant shall retain the Service Provider to produce and execute an Implementation Plan and provide subsequent field reviews for all measures. A completed field review summary document will be submitted to BC Hydro as proof of completed implementation of the Bundle of Measures. This work is to

be at Applicant's cost as part of their Implementation responsibilities, and no additional incentives or funding will be available for this work. The cost of this work is to be fully incorporated into the calculation of the Bundle of Measures, so the project retains a true two year simple payback.

- (o) the Applicant shall be responsible for all aspects of implementing the Bundle of Measures as part of the Implementation Phase, which includes, but is not limited to, getting bids, negotiating scope of work, paying for materials and labor and approving the completed product. BC Hydro will assist the Applicant in this process, however the Applicant is solely responsible for carrying out the Implementation Phase.
- (p) Applicant agrees to give BC Hydro and its contractor's access to Applicant's Facility, operating data, and facility documentation in order to perform work for this Program and evaluate facility operations both before and after measure implementation of the Bundle of Measures.
- (q) Applicant agrees that BC Hydro will have the right to access and export EMIS data from the electric meter for which the EMIS has been provided, and use such data for BC Hydro's internal research and analysis purposes only.

2.3 Any obligation of BC Hydro contained in this Agreement that has already been performed by BC Hydro under the EMIS Installation Agreement will be deemed to have been performed and satisfied by BC Hydro for the purposes of this Agreement.

3. Program Deliverables

- 3.1 The Program Deliverables include the following items, prepared in accordance with the Program templates and guidelines:
- (a) Investigation Phase
 - (i) Findings Workbook (Master List of Findings); and
 - (ii) RCx Investigation Report.
 - (b) Hand-off Phase
 - (i) *Field Review Report* (with Training Completion Form and updated Findings Workbook with Implementation Summary Table).
 - (c) Post Project Phase
 - (i) Coaching Session Reports.

(the "Program Deliverables").

4. Service Provider Scope of Work

This Scope of Work sets forth the professional services and technical assistance the Service Provider will supply for the BC Hydro Continuous Optimization for Commercial Buildings Program.

4.1 Investigation Phase

The Service Provider will conduct a rigorous and comprehensive on site investigation and analysis of the building operations, seeking to identify deficiencies and potential optimization in the operation of the building energy consuming systems and related controls. Although the

identification of major retrofits is encouraged, the goal of the Program is to optimize existing equipment with minimal repairs and upgrades.

The tasks include, without limitation:

- (a) arrange a kick-off meeting with the Applicant and appropriate facility staff to discuss any facility access and security issues, and to communicate the approach for the investigation process, including data acquisition. Coordinate the meeting with BC Hydro's Program Representative.
- (b) gather information to define the Facility's Owner's Operating Requirements (OOR), including operational schedules, implementation limitations, etc. (template provided by the Program). Gather operational and maintenance information (template provided by the Program). Gather facility documentation (plans, equipment schedules, schematic flow diagrams, specifications, equipment lists etc.) to help understand the original design intent and it's relevancy to the Applicant's current operating requirements.
- (c) investigate, and analyze the general types of systems:
 - (i) Central Plant(s) including the following general types of equipment:
 - Chillers
 - Cooling towers
 - Boilers
 - Pumps
 - Control systems
 - (ii) Central Air Handler(s)
 - Fans
 - Chilled water coils and valves
 - Hot water coils and valves
 - Dampers
 - Control systems, including VFDs and outside air and economizer control
 - (iii) Zonal HVAC
 - HVAC delivery to the space (air and/or water distribution, whether dual duct, VAV terminals with re-heat, hydronic, etc.)
 - Control systems for HVAC delivery and zonal temperature control
 - (iv) Major Unitary Systems
 - Water source heat pumps
 - Rooftop package units (15 tons or over)
 - Controls
 - (v) Lighting Systems
 - Interior lighting controls
 - Exterior lighting controls
 - (vi) Refrigeration Systems
 - Controls
 - (vii) Domestic Hot Water Systems
 - Heaters/boilers
 - Controls

For similar equipment having similar operating schedules and serving similar occupancy types, sampling may be used for purposes of problem identification and baseline documentation/data collection (for sampling procedures see the *Investigation Guidelines* provided by the Program).

- (d) gather operational and functional performance data to assess equipment operation and to identify deficiencies and measures for improvement. Gather data to quantify building operation, and deficiencies using the appropriate methods for the building including the building automation system to trend data, monitoring with portable data loggers, and on-site measurements. Obtain baseline data for identified measures, according to the Program's *Documentation Guidelines* provided by the Program for Optimization Measures. Any costs associated with this process are the responsibility of the Applicant.
- (e) track investigation activities using the *Findings Workbook* provided by the Program and report progress to BC Hydro and the Applicant (bi-monthly during investigation).
- (f) use engineering calculations or simulation models to estimate the potential energy and demand impacts of implementing the identified measures for each utility (electricity, gas, steam, etc.), according to the Program's *Documentation Guidelines*.
- (g) record and track investigation findings using the *Findings Workbook*. From the *Findings Workbook*, produce a *Master List of Findings*, including potential measures for implementation, energy savings, estimated implementation costs, and initial payback calculations.
- (h) submit *Master List of Findings* to the BC Hydro Program Representative. Support each finding with data that clearly indicates the deficiency or problem, including engineering calculations, trend or portable logger data plots and files, functional test results, site visit reports, and photographs, as appropriate. These should be generated during the investigation process.
- (i) meet with the Applicant and the BC Hydro Program Representative to present the *Master List of Findings*, and assist the Applicant in selecting measures for implementation.
- (j) using the Program's template, produce the *RCx Investigation Report*, further detailing the actual measures that were selected for implementation. The *RCx Investigation Report* should provide information to assist the Applicant with implementation, including: recommendations for how to implement the selected measures, budget estimates or bid costs from contractor(s) for the selected measures, proposed Service Provider assistance (if chosen by Applicant), and the appropriate methods for verifying measures are operating as intended (refer to *Documentation Guidelines*).

4.2 Implementation Phase

Note: Program funding is not available for activities undertaken during the Implementation Phase.

- (a) the Service Provider shall develop an Implementation Plan, to establish the level of additional Service Provider assistance desired or warranted for each potential measure. Additional implementation assistance may include: preparing detailed scopes of work, writing detailed control sequences and schematics, working with in-house staff to implement and optimize measures, or providing full turn-key implementation services. As appropriate, total estimated costs should detail out Applicant contractor costs and Service

Provider implementation assistance costs. It is encouraged that the basis for cost calculations be documented.

- (b) prior to work starting, review the contractor bids ensuring that the contractor scope of work adequately reflects the intent of the original recommendations developed by the Applicant and Service Provider, and include verification of performance sufficient to meet the Applicant's requirements for proof of improvement. If needed, answer questions that arise during implementation and provide clarification or advice on measures being implemented.
- (c) provide field review for all implemented conservation measures.

4.3 **Hand-off Phase**

The tasks for the Hand-off Phase include, without limitation:

- (a) verify completion of each measure and update *Findings Workbook* with final implemented measures including final savings, costs, and payback calculations. To support the *Implementation Summary Table* (included in the *Findings Workbook*), selected measures with significant savings potential should have verification data demonstrating that the measures are operating as intended along with updated savings calculations. When feasible, verification data should include trends or functional test results, though other methods, such as copies of invoices, site visit reports, and before/after photos, may be acceptable.
- (b) conduct an in-house training presentation for the Applicant and the appropriate building operations personnel covering the new documentation, measures that were implemented, and requirements for ongoing maintenance and monitoring. Document the attendance of the building operations staff.
- (c) submit a *Training Completion Form* according to the *Documentation Guidelines*.
- (d) submit the *Field Review Report* to document the implemented measures, including, but not limited to: date of completion of each measure, new or improved sequences of operation, the energy savings impact of the measures, the requirements for ongoing maintenance and monitoring of the measures, and contact information for the Service Provider, in-house staff, and contractors responsible for implementation.

4.4 **Post Project Phase**

The tasks include, without limitation:

- (a) conduct quarterly coaching sessions for the first year following the implementation of the optimization measures for a total of four coaching sessions. The session goals are to help ensure that the staff or service contractors responsible for the measures' continued performance are informed as to how each measure is expected to perform and understand how to operate and maintain each measure so the benefits last. Any additional effort required to correct deficient measures discovered as a result of the coaching sessions will not be reimbursed by BC Hydro.
- (b) submit a *Coaching Summary Report* to the BC Hydro Program Manager after each quarterly coaching session.