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**11 Laurier St./ 11, rue Laurier
Place du Portage, Phase III
Core 0B2 / Noyau 0B2**

**Gatineau
Québec**

K1A 0S5

Bid Fax: (819) 997-9776

Revision to a Request for a Standing Offer

Révision à une demande d'offre à commandes

National Individual Standing Offer (NISO)

Offre à commandes individuelle nationale (OCIN)

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Offer remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'offre demeurent les mêmes.

Comments - Commentaires

This document contains a security requirement.

Ce document contient une condition de sécurité.

Vendor/Firm Name and Address

**Raison sociale et adresse du
fournisseur/de l'entrepreneur**

Issuing Office - Bureau de distribution

Maintenance & Professional Consulting Services
Division (FK)
11 Laurier St./ 11, rue Laurier
3C2, Place du Portage, Phase III
Gatineau
Québec
K1A 0S5

Title - Sujet SMART BUILDING SERVICES		
Solicitation No. - N° de l'invitation EN438-170958/A	Date 2017-01-19	
Client Reference No. - N° de référence du client 20170958	Amendment No. - N° modif. 014	
File No. - N° de dossier fk289.EN438-170958	CCC No./N° CCC - FMS No./N° VME	
GETS Reference No. - N° de référence de SEAG PW-\$\$FK-289-71747		
Date of Original Request for Standing Offer		2016-10-20
Date de la demande de l'offre à commandes originale		
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2017-01-31		Time Zone Fuseau horaire Eastern Standard Time EST
Address Enquiries to: - Adresser toutes questions à: Ghoumrassi(fk div), Hakim		Buyer Id - Id de l'acheteur fk289
Telephone No. - N° de téléphone (873) 469-4910 ()	FAX No. - N° de FAX (819) 956-3600	
Delivery Required - Livraison exigée		
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction:		
Security - Sécurité This revision does not change the security requirements of the Offer. Cette révision ne change pas les besoins en matière de sécurité de la présente offre.		

Instructions: See Herein

Instructions: Voir aux présentes

Acknowledgement copy required	Yes - Oui	No - Non
Accusé de réception requis	<input type="checkbox"/>	<input type="checkbox"/>
The Offeror hereby acknowledges this revision to its Offer. Le proposant constate, par la présente, cette révision à son offre.		
Signature	Date	
Name and title of person authorized to sign on behalf of offeror. (type or print) Nom et titre de la personne autorisée à signer au nom du proposant. (taper ou écrire en caractères d'imprimerie)		
For the Minister - Pour le Ministre		

This amendment 014 is raised 1/ to update Annex A-Statement of Requirement; 2/ to update Part 4 EVALUATION PROCEDURES AND BASIS OF SELECTION; 3/ to update Response 14 of RFSO Amendment 004; and 4/ to change 2.4 Enquiries - Request for Standing Offers.

1/ DELETE Annex A-Statement of Requirement in its entirety
 INSERT Attached Revised Annex A-Statement of Requirement.

2/ At Part 4, DELETE 4.3.1.4 Components and Services and 4.3.2 Point Rated Technical Requirements in their entirety AND REPLACE WITH:

4.3.1.4 Components and Services

The following table must be completed and included with the offer.

SOR Reference	Mandatory Technical Requirements	Referenced Section/ Page in Offeror's Proposal
3.1	Complete solution (as described in Statement of Requirements, Section 3.1 points A-F)	
3.1.1	Data collection from BAS at an interval of 5 minutes or less.	
3.1.2	Occupancy data collection at an interval of 60 minutes or less.	
3.1.3	Energy metering data collection in at least 15-minute intervals	
3.1.4.1	Automated Fault Detection and Diagnostics using analytics and based	
3.1.4.2	on data collected from the BAS system	
3.1.4.3	Notifications generated based on outputs of the FDD system with clear description of recommended actions	
3.1.4.3	Subject Matter Expert review of anomalies and/or flags before notifications/recommendations are issued	
3.1.4.4.A,B and C	Capability of building optimization including but not limited to operation sequences, set-points, etc. but without direct changes to BAS	
3.1.5		
3.1.6	User interface meeting or exceeding requirements of <i>User Interface</i> (Statement of Requirements, Section 3.1.6)	
3.1.7	Savings estimation on anomalies detected or recommended actions	
3.1.8	Manager dashboards & operator dashboards with information displayed as per <i>Data Visualisation</i> (Statement of Requirements, Section 3.1.8)	
3.1.9	Capability of monitoring building performance	
3.1.10	Capability of monthly reporting	
3.3.A	Minimum system availability: 99% during operating hours and 95% during other periods	
3.4.B	Collected data stored and maintained in Canada	
3.5	Collected data remains Canada's Intellectual Property	
3.6	Turn-key solution	

4.3.2 Point Rated Technical Requirements

Offers that meet all the mandatory technical criteria will be evaluated and scored as specified in the tables inserted below.

Offers that fail to obtain the required minimum number of points specified on each criterion will be declared non-responsive. Each point rated technical criterion should be addressed separately.

Each offer must obtain a minimum 180 points total in the Point Rated Technical Requirements to be considered responsive.

In order to qualify for the rating process, proposals must respond to the following rated requirements and include the referenced Section/Page contained in the offer.

The following table must be completed and included with the offer.

		Rating of Technical Requirements	Maximum points	Minimum passing points	Referenced Section/ Page in the offer
1	Installation and Deployment:	Installation requirements and limitations: <ul style="list-style-type: none"> • Are there any additional pieces of equipment required? • Are there any special building conditions required/expected? • Are there any special conditions/requirements on the building's BAS? • Is coordination with subcontractors included? • Any additional pre-requisites? 	10	6	
		Deployment plan (based on the virtual call-up), including major milestones <ul style="list-style-type: none"> • Time required to complete first implementation • Completeness of the implementation schedule 	5	3	
2	Platform	Platform: <ul style="list-style-type: none"> • What FDD and/or analytics services are performed by Offeror's staff, and which services are provided by 3rd party suppliers under Offeror's supervision? • What are the names and manufacturers of any products included in the solution? • Is the solution hardware, software, service or a combination of the above? 	25	15	
		Analytics - Fault Detection and Diagnostics (FDD): <ul style="list-style-type: none"> • How the analytics platform performs fault detection and diagnostics? • The level of automation of this system, vs. how much is manual? • At what point, if at all, the Subject Matter Experts are involved in evaluation of the diagnostics and notifications and in formulating the recommendations? • Is equipment performance analysis and recommendations for continuous commissioning included in the solution? 	40	24	
		Energy Analysis <ul style="list-style-type: none"> • type of energy analysis that is carried out and reports produced • methodology used to identify anomalies /deviations • practices with respect to making recommendations to Canada for any enhancement / changes 	40	24	

		Rating of Technical Requirements	Maximum points	Minimum passing points	Referenced Section/ Page in the offer
		System's capability to dispatch notifications for specific issues at the equipment and/or device level. <ul style="list-style-type: none"> ability to identify the issue through rule-based engines and analytics ability to document what was discovered clear, actionable advice to Canada facility management team and the service providers 	20	12	
		Measurement and Verification <ul style="list-style-type: none"> Verification and reporting on savings achieved Measurement and reporting, with respect to consumption, equipment performance, building comfort etc. Methods used to demonstrate how targeted savings are determined 	20	12	
		Continuous commissioning and building optimization <ul style="list-style-type: none"> Ability of the system to provide actionable recommendations for the building operators 	5	3	
		Content and quality of reporting	5	3	
3	Integration	System, integration, and connectivity <ul style="list-style-type: none"> Integration with the building's BAS and metering systems Expectations of how the building data provided by Canada will need to be configured and passed to Offeror's system, if any Network architecture Separation from Canada's networks on site Connectivity to the analytics engine Any requirements (pre-requisites) for connectivity between the BAS and the Offeror's analytics engine Security of the connectivity solution Flow chart showing how the proposed solution integrates with existing systems and data sources 	25	15	
		Limitations/exclusions on connectivity and BAS systems. <ul style="list-style-type: none"> Offeror's ability to provide connectivity to all systems listed in Statement of Requirements (p.3.2 Network and Integration) Any additional exclusions or limitations 	15	9	
		Availability of integration and data exchange with 3rd party applications (APIs, web services, access to collected data, access to notifications database)	10	6	

		Rating of Technical Requirements	Maximum points	Minimum passing points	Referenced Section/ Page in the offer
4	Services	Operations: <ul style="list-style-type: none"> service operation capacity of the organization including service call dispatch operations, service call communications with technical personnel, and internal process controls designed to ensure timely and closed loop performance information on systems and procedures for maintaining data integrity (e.g. security, backups, business continuity) 	10	6	
		Service levels and KPIs as proposed by the Offeror	5	3	
		Command Centre operations and support <ul style="list-style-type: none"> Hours of availability Subject Matter Expert availability Readiness to provide services, as required (e.g. facilities and personnel already in place) 	5	3	
		Ability to extend the solution to additional buildings (including integration)	10	6	
		Capability of providing additional services (e.g. customized analytics, dashboards) upon Canada's request.	5	3	
		Customer service <ul style="list-style-type: none"> standard response time to customer requests handling of customer complaints service levels and product quality 	5	3	
		Training availability (information on Offeror-provided initial training to building operation and maintenance staff for the proper maintenance of the system)	5	3	
		TOTAL TECHNICAL POINTS:	265		

3/ DELETE R14 from RFSO Amendment 004 AND REPLACE WITH:

R 14: This requirement no longer applies.

4/ DELETE 2.4 Enquiries - Request for Standing Offers in its entirety AND REPLACE WITH:

2.4 Enquiries - Request for Standing Offers

All enquiries must be submitted in writing to the Standing Offer Authority no later than **five (5)** calendar days before the Request for Standing Offers (RFSO) closing date. Enquiries received after that time may not be answered.

Offerors should reference as accurately as possible the numbered item of the RFSO to which the enquiry relates. Care should be taken by Offerors to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the questions or may request that Offerors do so, so that the proprietary nature of the question is eliminated,

and the enquiry can be answered with copies to all Offerors. Enquiries not submitted in a form that can be distributed to all Offerors may not be answered by Canada.

OTHER TERMS AND CONDITIONS REMAIN UNCHANGED.

1 Background

The Government of Canada is evaluating ways to improve its building operations and increase energy efficiency throughout its portfolio of properties by implementing Smart Building technologies.

2 Objective

The Government of Canada seeks an experienced Contractor for the purpose of providing building energy performance analytics, off-site monitoring, and building occupancy tracking for multiple buildings owned by Canada in order to realize operational efficiencies, reductions in Greenhouse Gas emissions, and energy savings associated with Smart Building technologies.

3 Scope of Work

The Contractor's solution to Canada must include all the service requirements of this Statement of Requirement (SoR).

All buildings selected for this project currently have Building Automation Systems (BAS) that generate data for use by proposed solutions. Canada will provide the Contractor, at the time of the call-up, information about the target buildings and a list of equipment to be monitored.

Buildings selected for this project may have a system used for collecting building occupancy data. If no system exists in the building at the time of the call up, the collection of building occupancy data will not be required at the time of installation, but may be exercised during the contract.

The Contractor must verify compatibility of the existing BAS with the Contractor's system and, if selected, will provide all necessary means to connect to the existing BAS. Canada does not guarantee or imply compatibility of any of the existing BAS with the Contractor's solution.

Canada will make the building occupancy data available and will provide the required integration with the building's BAS, or directly with the Contractor's solution.

The Contractor must verify availability of adequate power supply in the location where the solution is to be installed and, if necessary, must obtain a cost estimation of installing required power supply and include the cost in the total pricing.

Contractor must provide the expertise to advise Canada on the best solution to capture building occupancy data. This includes determining if existing buildings data can be used for this purpose or recommending a different solution in situations where required data is not available.

The Contractor must contact the relevant local utilities (electricity and natural gas) to determine the availability of conservation program incentives, rebates or grants that are applicable to this project. If such programs are available, the selected Contractor is required to fulfill all program requirements in order to obtain all applicable utility incentives on behalf of the Crown. This includes, but not limited to, providing the local utility application documents, technical specifications, pictures, supporting calculations, measurement and verification plan, disposal certificates, invoices and proof of payments.

3.1 Components and Services

The solution must include:

- A. All software, middleware, and hardware components necessary to capture, store, analyze and transmit existing building points data;
- B. Application Programming Interfaces (APIs) (usually implemented through Web services) for a third party to access collected energy meter data and all information regarding detected faults (and/or notifications/recommendations);
- C. Building Data Analytics and Fault Detection and Diagnostics (BDA/FDD) platform and services (detailed in 3.1.4);

- D. Initial installation and configuration of the system that will interface with the Building Automation Systems (BAS) and with the system used for collecting building occupancy data;
- E. All software, hardware, and firmware upgrades which may become available during the Contract period, including new modules that include features previously unavailable in the base product.
- F. All support services provided during the period of performance.

The components and services outlined above are described in detail in the subsequent sections.

3.1.1 Building Automation System (BAS) Data Collection

The Contractor must provide a flexible and scalable solution, including all necessary hardware, software, middleware, and technical support, to collect pertinent data from the existing Building Automation System (BAS) in the target building. This must include any and all connectivity to interface with the existing BAS (including, but not limited to, gateways, routers, wiring etc.) and for transferring collected data to the Contractor's data repository.

The BAS data collection must be on a real-time basis (24 hours per day and 7 days per week) and must be at an interval of 5 minutes or less.

3.1.2 Building Occupancy Data Collection

Building occupancy is defined as the quantity of people residing in a building at a given point in time.

The Contractor must provide a solution to capture and display the building occupancy data. The building occupancy data must be stored, trended and presented in easily understandable dashboards accessible to Canada stakeholders. The solution must be capable of collecting building occupancy data at intervals of 60 minutes or less. The dashboard must be capable of updating the building occupancy information at least once an hour.

3.1.3 Energy Metering Data Collection

The Contractor must provide a solution to capture and analyze energy meter data on a real-time basis. The energy meter data must include all of the following (if present in the building): electrical power, natural gas, steam, hot water, and chilled water. This real time energy consumption data must be stored, analyzed, trended and presented in easily understandable real-time dashboards accessible to Canada stakeholders. The energy metering data collection must be at an interval of 15 minutes or less.

If such energy meter data are available through a database owned by Canada, the Contractor needs to consider the cost for connection to this database. Otherwise, the Contractor must arrange integration of energy meters to the BAS and include the integration cost in the total pricing of the contract as a result of a call-up against the Standing Offer. Canada shall provide the appropriate contacts to get cost estimation for such energy meters integration during the RFP response phase arising from a call-up.

3.1.4 Building Data Analytics and Fault Detection and Diagnostics

- 3.1.4.1 The Contractor must provide Building Data Analytics and Fault Detection and Diagnostics (BDA/FDD) in conformance with this section.
- 3.1.4.2 The BDA/FDD must have the ability to mine vast amounts of data quickly and apply software-based algorithms to identify and define trends so that more proactive management of building systems can occur. The BDA/FDD must identify patterns that traditional BAS/BMS systems often overlook, draw conclusions, notify stakeholders and offer corrective measures for issues in building mechanical and control systems via proactive automated maintenance recommendations before they manifest themselves in ways that cause downtime or prolonged periods of inefficient operation.
- 3.1.4.3 Results of the building data analytics must be reviewed by the Contractor's Subject Matter Expert before being submitted to the building operator as a notification/recommendation. Such notification must include problem identification and recommended corrective measures and/or potential sources of the anomaly.
- 3.1.4.4 The BDA/FDD must provide:
- A. Ability to allow building managers to optimize on-going operations through a series of processes including, but not limited to, fault based analysis, continuous evaluation of zones, set points, schedules, competing air handlers, unbalanced airflows, control component degradation, sensor failures, valve leakage, and loose fan belts;
 - B. Advanced continuous commissioning strategies capable of taking into account fault detection prior to seasonal weather changes (proactive building maintenance based on geographical and seasonal variables);
 - C. A notification in a form of email in response to a detected fault, alarm, or operation anomaly;
 - D. Management exception reports, trigger alarms, or notifications and automated recommendations.
 - E. A summary of faults, alarms, or operation anomalies; and recorded distribution of notifications to Property Managers, Senior Property Managers, O&M Contractors, metering Contractors, specialized subject area engineers, and commissioning agents.

3.1.5 Continuous Commissioning and Building Optimization

The Contractor must establish an ongoing process to identify: operating problems, occupant comfort improvements, energy use optimization and potential retrofits to existing buildings and facilities. The process will ensure that the building, facilities and systems operate optimally. The solution must capture energy consumption/demand data on an ongoing basis and provide 24/7 monitoring of any situation that may lead to excessive energy consumption and carry out real-time data analysis to identify energy savings opportunities.

To ensure building optimization, the Contractor must work with the building operator on-site and remotely to verify and optimize scheduling and system operation to assure optimal performance from the BAS.

The proposed system will not be used for automatic changes to the BAS; rather any recommended changes must be provided, by electronic means, to the building operator, who would implement the changes at his discretion.

3.1.6 User Interface

The Contractor must provide a secure Web based User Interface (UI) in conformance with this Section with no client software required on end user workstations.

The following web browser version (minimum) will be required and have to be supported:

- A. Microsoft Internet Explorer – Version 11
- B. Google Chrome – current version as of September 2016
- C. Firefox – current version as of September 2016

The UI must:

- A. Display building information simultaneously in multiple formats (e.g. AHU graphic, temperatures and trends);
- B. Include information on energy utilization, building performance, performance of major building subsystems (e.g. AHUs, chillers, boilers), and building occupancy;
- C. Display all information in both official languages (English and French) and must offer the ability to select the language for the interface;
- D. Use the SI measurement units;
- E. Have tools that allow building engineers and stakeholders to create, analyze, view, and understand building system equipment trends;
- F. Have non-proprietary open protocol communication protocol;
- G. Have Administrative and User privileges based on distinctive user IDs that include the ability to restrict access to individual users to specific functions;
- H. Have the ability to create user defined alerts and notifications (e.g. email, pager) to building managers, engineers, and O&M Contractors to reinforce analysis discovered by the system;
- I. Have the ability to track and record the above alerts and notifications for future troubleshooting and historical analysis;
- J. Have an audit trail of notifications featured under a System Administrators workbench or System Administrator only UI.

3.1.7 Demonstration of Targeted Savings

The system must calculate and make available estimates of the opportunity cost associated with not correcting an identified fault or operational inefficiency. The opportunity cost (or cost savings if fault/operational inefficiency had been corrected) must be reported as that accrued over a one-year period.

3.1.8 Data Visualisation

The Contractor must provide a solution that is able to display building- and energy- related information in the form of dashboards. These dashboards must be customised and provide various level of information depending on the audience (building operators, building O&M service providers, property managers, subject area engineers, occupants etc.).

Information displayed must be updated at least once an hour and must include:

- A. History of notifications, recommendations and anomalies that have been flagged;
- B. Current notifications and recommendations (by priority and by cost/savings), including the time since the notification/recommendation was created;
- C. Energy consumption (compared to baseline, normalised to weather) in absolute values and as a ratio compared to baseline;
- D. Building occupancy;
- E. Energy savings per period (e.g. annual, since a specific date) in absolute values and as a ratio compared to baseline;
- F. Priority of notifications/recommendations (according to estimated targeted savings (as described in Section 3.1.7));
- G. Operations and Maintenance events occurring in the building; and
- H. Weather information.

3.1.9 Smart Building Service Performance Monitoring

The solution must provide measures to monitor and track the performance of the building by providing:

- A. A list of all equipment and all control points that are monitored under coverage of the contract resulting from each call-up;
- B. Records of every notification/recommendation issued during the term of the contract;
- C. The solution must be able to generate reports by campus (group of buildings in close proximity), individual building or by type of notification/recommendation (preventive maintenance, emergency service, etc.).
- D. The performance information must be captured electronically and stored in an electronic data repository for the term of any contract resulting from each call-up. Canada's personnel with proper credentials shall have real time access to this performance information through an Internet portal by use of a web browser.

3.1.10 Reporting

A summary of energy consumption, building occupancy, trends and analysis, building optimisation recommendations and any additional recommendations and inferences must be provided in a monthly report.

The report must include, as a minimum, the following:

- A. A summary of activities for the period covered
- B. A summary of energy savings incurred from activities for the period covered
- C. Recommended actions
- D. Summary of observations (anomalies) discovered

Monthly reporting will begin the month following implementation of the solution in a building and will be produced in the first week of the month providing a report for the previous month.

3.2 Network and Integration

The solution must be capable of integrating with the BAS systems used by Canada in order to retrieve data from the building systems.

Following is the minimum list of the systems with which the solution must be able to integrate:

- A. Alerton
- B. Andover
- C. Automated Logic
- D. Delta
- E. Honeywell
- F. Johnson Controls
- G. Reliable Controls
- H. Schneider Electric
- I. Siemens
- J. Trane
- K. VCI
- L. Walker

The solution must be capable of providing connectivity necessary for transferring building systems' data to the analytics engine for processing.

3.3 System Availability, Scalability, and Interoperability

The solution must:

- A. Have availability at least 99% during building operating hours and at least 95% during other periods, and have no outages for more than 3 consecutive days;

- B. Be scalable to monitor additional devices and meters, integrate additional sensors, and deploy to additional buildings as needed; and
- C. Allow integration with other existing open systems or third party applications.

3.4 System Security, Privacy, and Data Sovereignty

The solution must:

- A. Provide security and protection measures in compliance with Canada's security and privacy policies.
- B. Ensure all data collected from Canada buildings are stored and maintained within the territory of Canada.

3.5 Ownership and Retention of collected data

All data collected from Canada buildings remains Canada's property.

The Contractor must retain all data collected from Canada buildings for the length of the contract and make the data available to Canada at the end of and at any time during the contract in an electronic (machine readable) form, including the complete description of the collected data.

3.6 Turnkey Solution

The Contractor will be completely responsible for providing to Canada a turnkey solution that is appropriately commissioned and operational. This must include all site coordination, electrical installations, network wiring or cellular communication setup, energy meters integration as needed, testing signal strengths, system configuration, etc. The Contractor must establish and ensure stable connectivity between the existing BAS and the Contractor's platform.

3.7 System Maintenance

The Contractor must assure that the installed system is of the most current version and provide the on-going maintenance of the installed system for the duration of the contract. If the Contractor collects a monthly, quarterly or annual maintenance/service fee, the cost of the periodical upgrades of the system must be included in that fee.

3.8 Training

The Contractor must provide and arrange for training of facility managers and operating staff during the implementation to enable the proper operation of the solution, to impart the necessary skills to operate the systems efficiently. Training may be delivered through online applications.

3.9 Additional services

Notwithstanding statements in 3.6 – Turnkey Solution, the Contractor must be able to provide additional services related to the proposed solution as requested from time to time by Canada. Such services may be required, if substantial changes are made to the Canada's building systems or the BAS.

If such services are requested and authorised by Canada, the Contractor must be able to provide these services and will be paid in accordance with hourly rates identified in Annex B.

These additional services must not be considered for continuous maintenance or any system upgrades for the equipment and control points that are monitored under coverage of the proposed solution.

Once implemented, these changes must be included in the existing service contract without additional cost to the annual fees.