

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:
Bid Receiving - PWGSC / Réception des soumissions -
TPSGC
11 Laurier St./11 rue Laurier
Place du Portage, Phase III
Core 0A1 / Noyau 0A1
Gatineau, Québec K1A 0S5

SOLICITATION AMENDMENT MODIFICATION DE L'INVITATION

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

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

Comments - Commentaires

THIS DOCUMENT CONTAINS A SECURITY
REQUIREMENT

Vendor/Firm Name and Address

Raison sociale et adresse du
fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution

Construction Services Division/Division des services de
construction
11 Laurier St./11 Rue Laurier
3C2, Place du Portage
Phase III
Gatineau, Québec K1A 0S5

Title - Sujet Automation Sys/Sys l'immotique	
Solicitation No. - N° de l'invitation EP067-141725/A	Amendment No. - N° modif. 003
Client Reference No. - N° de référence du client 20141725	Date 2014-01-17
GETS Reference No. - N° de référence de SEAG PW-\$\$FG-340-64207	
File No. - N° de dossier fg340.EP067-141725	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2014-01-23	
Time Zone Fuseau horaire Eastern Standard Time EST	
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Brouillet, Richard	Buyer Id - Id de l'acheteur fg340
Telephone No. - N° de téléphone (819) 956-0457 ()	FAX No. - N° de FAX (819) 956-8335
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: PUBLIC WORKS AND GOVERNMENT SERVICES CANADA SIR WILLIAM LOGAN BUILDING 580 BOOTH STREET OTTAWA, ON K1A 0Y7	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date

Solicitation No. - N° de l'invitation

EP067-141725/A

Amd. No. - N° de la modif.

003

Buyer ID - Id de l'acheteur

fg340

Client Ref. No. - N° de réf. du client

20141725

File No. - N° du dossier

fg340EP067-141725

CCC No./N° CCC - FMS No/ N° VME

**AMENDMENT 3 IS RAISED TO ATTACH ADDENDUM 2 AND TO ATTACH
SECTION 01 91 13**

CLAUSES AND CONDITIONS REMAIN THE SAME

Project Name: Building Automation System Consolidation

Project Number: R.041796.002

Date: January 16, 2014

Note: Delete Addendum No. 1 in its entirety.

The following changes in the tender documents are effective immediately. This addendum will form part of the contract documents.

Drawings

- 1 M02 – Basement Floor Plan Controls dated 2013-12-06

Drawing note located at bottom of drawing:

EXISTING GROUND FLOOR PERIMETER HEATING CONTROL VALVE
C/W ELECTRONIC ACTUATOR TO REMAIN EXISTING TEMPERATURE SENSOR OR
THERMOSTAT ON GROUND FLOOR. SEE M03 (TYPICAL)

To be replaced by:

REPLACE EXISTING PNEUMATIC CONTROL VALVE WITH NEW CONTROL VALVE C/W
ELECTRONIC ACTUATOR. FOR TEMPERATURE SENSOR OR THERMOSTAT ON
GROUND FLOOR. SEE M03 (TYPICAL).

- 2 M50 – Mechanical Points List Part 9 dated 2013-12-06

Change I/O Point Summary Table, VAV's and Induction Units (Typical) Point #4 to read:

REMOTE DISPLAY FOR INDUCTION UNIT SETPOINT ADJUSTMENT

- 3 M3-M23 dated 2013-12-06

Add general note 3: existing pneumatic valves to be replaced are 13 mm.

Specifications

1 Section 01 79 00 – DEMONSTRATION AND TRAINING

- .1 Delete article 1.1 entirely.
- .2 Delete article 1.2.3.3 entirely.

2 Section 25-05-01 – EMCS: GENERAL REQUIREMENTS

- .1 Replace the article 1.9.1 with the following:
 - .1 Remove all existing low voltage control wiring (under 70 volts) and install all new control wiring. All new control wiring shall be installed in EMT conduit in all areas except for the office area ceiling spaces where plenum-rated cabling (FT-6) may be utilized. Existing conduit systems to be reused (including mechanical and electrical rooms).

3 Section 25-30-02 – EMCS: FIELD CONTROL DEVICES

- .1 Replace the article 2.38.1 with the following:
 - .1 For communications cabling (under 70 volts) use FT-6 plenum rated wiring where such wiring is not run in conduit by Section 25 05 01, paragraph 1.9.1. Otherwise use FT4 wiring in conduit. Wiring not run in conduit to be installed tight to underside of floor above. There are to be no dips or sags in the wiring. Installation to be neat.
- .2 Replace the article 3.1.6.5 with the following:
 - .5 For any new communication wiring that is installed in conduit:
- .3 Replace the article 2.31.1.2 with the following:
 - .2 Flow factor (CV): 1.6.
- .4 Replace the article 2.31.1.7 with the following:
 - .7 Close-off pressures: 820 kPA (120 psi)
- .5 Delete item 2.2.2.2 Room temperature sensors, which include the removal of 2.2.2.2.1 and 2.2.2.2.2.
Bid as per plans and specifications section 25 30 02 item 2.2.2.1 and M31.

- .6 Re-insulate all piping up to but not including the valve with pre-finished mineral fiber insulation nominal 25 mm thick.

- 4 Entire Section 01 91 13 has been added see attached document

- 5 Section 26-05-00 –COMMON WORK RESULTS- ELECTRICAL

- .1 Delete the article 1.7.1.
- .2 Replace the “Division 23” with “Division 25” in article 1.7.2.

- 6 Section 26-05-21 –WIRES AND CABLES 0-1000 V
- .1 Replace the article 3.1.1 with the following:
 - .1 Install power wiring as follows:
- .2 Replace the article 3.2.1 with the following:
 - .1 All new control wiring shall be installed in EMT conduit in all areas except for the office area ceiling spaces where plenum-rated cabling (FT-6) may be utilized. Existing conduit systems to be reused (including mechanical and electrical rooms).

PART 1 - GENERAL

- 1.1 SUMMARY .1 Section Includes:
- .1 General requirements relating to commissioning of project's components and systems, specifying general requirements to PV of components, equipment, sub-systems, systems, and integrated systems.
 - .2 Related Requirements
 - .1 Section 01 33 00 - Submittal Procedures
 - .2 Section 01 78 00 - Closeout Submittals
 - .3 Section 25 01 11 - EMCS: Start-up, Verification and Commissioning
- .2 GENERAL .1 Cx is a planned program of tests, procedures and checks carried out systematically on systems and integrated systems of the finished Project. Cx is performed after systems and integrated systems are completely installed, functional and Contractor's Performance Verification responsibilities have been completed and approved. Objectives:
- .1 Verify installed equipment, systems and integrated systems operate in accordance with contract documents and design criteria and intent.
 - .2 Ensure appropriate documentation is compiled into the BMM.
 - .3 Effectively train O&M staff.
- .2 Contractor assists in Cx process, operating equipment and systems, troubleshooting and making adjustments as required.
- .1 Systems to be operated at full capacity under various modes to determine if they function correctly and consistently at peak efficiency. Systems to be interactively with each other as intended in accordance with Contract Documents and design criteria.
 - .2 During these checks, adjustments to be made to enhance performance to meet environmental or user requirements.
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- 1.3 COMMISSIONING OVERVIEW
- .1 Cx to be a line item of Contractor's cost breakdown.
 - .2 Cx activities supplement field quality and testing procedures described in relevant technical sections.
 - .3 Departmental Representative will issue Interim Acceptance Certificate when:
 - .1 Completed Cx documentation has been received, reviewed for suitability and approved by Departmental Representative.
 - .2 Equipment, components and systems have been commissioned.
 - .3 O&M training has been completed.
- 1.4 NON-CONFORMANCE TO PERFORMANCE VERIFICATION REQUIREMENTS
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- .1 Should equipment, system components, and associated controls be incorrectly installed or malfunction during Cx, correct deficiencies, re-verify equipment and components within the unfunctional system, including related systems as deemed required by Departmental Representative, to ensure effective performance.
 - .2 Costs for corrective work, additional tests, inspections, to determine acceptability and proper performance of such items to be borne by Contractor. Above costs to be in form of progress payment reductions or hold-back assessments.
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- 1.5 PRE-CX REVIEW
- .1 Before Construction:
 - .1 Review contract documents, confirm by writing to Departmental Representative.
 - .1 Adequacy of provisions for Cx.
 - .2 Aspects of design and installation pertinent to success of Cx.
 - .2 During Construction:
 - .1 Co-ordinate provision, location and installation of provisions for Cx.
 - .3 Before start of Cx:
 - .1 Have completed Cx Plan up-to-date.
 - .2 Ensure installation of related components, equipment, sub-systems, systems is complete.
 - .3 Fully understand Cx requirements and procedures.
 - .4 Have Cx documentation shelf-ready.
 - .5 Understand completely design criteria and intent and special features.
 - .6 Submit complete start-up documentation to Departmental Representative.
 - .7 Have Cx schedules up-to-date.
 - .8 Ensure systems have been cleaned thoroughly.
 - .9 Complete TAB procedures on systems, submit TAB reports to Departmental Representative for review and approval.
 - .10 Ensure "As-Built" system schematics are available.
 - .4 Inform Departmental Representative in writing of discrepancies and deficiencies on finished works.
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1.6 CONFLICTS

- .1 Report conflicts between requirements of this section and other sections to Departmental Representative before start-up and obtain clarification.
- .2 Failure to report conflict and obtain clarification will result in application of most stringent requirement.

1.7 ACTION AND
INFORMATIONAL
SUBMITTALS

- .1 Submittals: in accordance with Section 01 33 00 - Submittal Procedures.
 - .1 Submit no later than 2 weeks after award of Contract:
 - .1 Draft Cx documentation.
 - .2 Preliminary Cx schedule.
 - .2 Request in writing to Departmental Representative for changes to submittals and obtain written approval at least 8 weeks prior to start of Cx.
 - .3 Submit proposed Cx procedures to Departmental Representative where not specified and obtain written approval at least 8 weeks prior to start of Cx.
 - .4 Provide additional documentation relating to Cx process required by Departmental Representative.

1.8 COMMISSIONING
DOCUMENTATION

- .1 Departmental Representative to review and approve Cx documentation.
 - .2 Provide completed and approved Cx documentation to Departmental Representative
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1.9 COMMISSIONING
SCHEDULE

- .1 Provide detailed Cx schedule as part of construction schedule.
- .2 Provide adequate time for Cx activities prescribed in technical sections and commissioning sections including:
 - .1 Approval of Cx reports.
 - .2 Verification of reported results.
 - .3 Repairs, retesting, re-commissioning, re-verification.
 - .4 Training.

1.10 COMMISSIONING
MEETINGS

- .1 Convene CX meetings following project meetings.
 - .2 Continue Cx meetings on regular basis until commissioning deliverables have been addressed.
 - .3 At 60% construction completion stage Departmental Representative to call a separate Cx scope meeting to review progress, discuss schedule of equipment start-up activities and prepare for Cx. Issues at meeting to include:
 - .1 Review duties and responsibilities of Contractor and subcontractors, addressing delays and potential problems.
 - .2 Determine the degree of involvement of trades and manufacturer's representatives in the commissioning process.
 - .4 Thereafter Cx meetings to be held until project completion and as required during equipment start-up and functional testing period.
 - .5 Meeting will be chaired by Contractor, who will record and distribute minutes.
 - .6 Ensure subcontractors and relevant manufacturer representatives are present at
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1.10 COMMISSIONING MEETINGS (Cont'd)	.6	(Cont'd) 60% and subsequent Cx meetings and as required.
1.11 STARTING AND TESTING	.1	Contractor assumes liabilities and costs for inspections. Including disassembly and re-assembly after approval, starting, testing and adjusting, including supply of testing equipment.
1.12 WITNESSING OF STARTING AND TESTING	.1	Provide 14 days notice prior to commencement.
	.2	Departmental Representative to witness of start-up and testing.
1.13 PROCEDURES	.1	Verify that equipment and systems are complete, clean, and operating in normal and safe manner prior to conducting start-up, testing and Cx.
	.2	Conduct start-up and testing in following distinct phases: .1 Included in delivery and installation: .1 Verification of conformity to specification, approved shop drawings and completion of PI report forms. .2 Visual inspection of quality of installation. .2 Start-up: follow accepted start-up procedures. .3 Operational testing: document equipment performance. .4 System PV: include repetition of tests after correcting deficiencies. .5 Post-substantial performance verification: to include fine-tuning.
	.3	Correct deficiencies and obtain approval from Departmental Representative after distinct phases have been completed and before commencing next phase.

1.13 PROCEDURES
(Cont'd)

- .4 Failure to follow accepted start-up procedures will result in re-evaluation of equipment by an independent testing agency selected by Departmental Representative . If results reveal that equipment start-up was not in accordance with requirements, and resulted in damage to equipment, implement following:
- .1 Minor equipment/systems: implement Corrective measures approved by Departmental Representative.
 - .2 Major equipment/systems: if evaluation report concludes that damage is minor, implement corrective measures approved by Departmental Representative.
 - .3 If evaluation report concludes that major damage has occurred, Departmental Representative shall reject equipment.
 - .1 Rejected equipment to be remove from site and replace with new.
 - .2 Subject new equipment/systems to specified start-up procedures.

1.14 START-UP
DOCUMENTATION

- .1 Assemble start-up documentation and submit to Departmental Representative for approval before commencement of commissioning.
- .2 Start-up documentation to include:
- .1 Factory and on-site test certificates for specified equipment.
 - .2 Pre-start-up inspection reports.
 - .3 Signed installation/start-up check lists.
 - .4 Start-up reports,
 - .5 Step-by-step description of complete start-up procedures, to permit Departmental Representative to repeat start-up at any time.
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| <u>1.15 OPERATION AND
MAINTENANCE OF
EQUIPMENT AND
SYSTEMS</u> | .1 | After start-up, operate and maintain equipment and systems as directed by equipment/system manufacturer. |
| | .2 | With assistance of manufacturer develop written maintenance program and submit Departmental Representative for approval before implementation. |
| | .3 | Operate and maintain systems for length of time required for commissioning to be completed. |
| | .4 | After completion of commissioning, operate and maintain systems until issuance of certificate of interim acceptance. |
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| <u>1.16 TEST RESULTS</u> | .1 | If start-up, testing and/or PV produce unacceptable results, repair, replace or repeat specified starting and/or PV procedures until acceptable results are achieved. |
| | .2 | Provide manpower and materials, assume costs for re-commissioning. |
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| <u>1.17 START OF
COMMISSIONING</u> | .1 | Notify Departmental Representative at least 14 days prior to start of Cx. |
| | .2 | Start Cx after elements of building affecting start-up and performance verification of systems have been completed. |
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| <u>1.18 INSTRUMENTS /
EQUIPMENT</u> | .1 | Submit to Departmental Representative for review and approval:
.1 Complete list of instruments proposed to be used.
.2 Listed data including, serial number, current calibration certificate, calibration date, calibration expiry date and calibration accuracy. |
| | .2 | Provide the following equipment as required:
.1 2-way radios.
.2 Ladders.
.3 Equipment as required to complete work. |
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- 1.19 COMMISSIONING .1 Carry out Cx:
PERFORMANCE
VERIFICATION
- .1 Under actual operating conditions, over entire operating range, in all modes.
 - .2 On independent systems and interacting systems.
 - .2 Cx procedures to be repeatable and reported results are to be verifiable.
 - .3 Follow equipment manufacturer's operating instructions.
 - .4 EMCS trending to be available as supporting documentation for performance verification.
- 1.20 WITNESSING .1 Departmental Representative to witness
COMMISSIONING activities and verify results.
- 1.21 AUTHORITIES .1 Where specified start-up, testing or
HAVING JURISDICTION commissioning procedures duplicate verification requirements of authority having jurisdiction, arrange for authority to witness procedures so as to avoid duplication of tests and to facilitate expedient acceptance of facility.
- .2 Obtain certificates of approval, acceptance and compliance with rules and regulation of authority having jurisdiction.
 - .3 Provide copies to Departmental Representative within 5 days of test and with Cx report.
- 1.22 EXTRAPOLATION .1 Where Cx of weather, occupancy, or
OF RESULTS seasonal-sensitive equipment or systems cannot be conducted under near-rated or near-design conditions, extrapolate part-load results to design conditions when approved by Departmental Representative in accordance with equipment manufacturer's instructions, using manufacturer's data, with manufacturer's assistance and using approved formulae.
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1.23 EXTENT OF
VERIFICATION

- .1 Elsewhere:
 - .1 Provide manpower and instrumentation to verify up to 30 % of reported results, unless specified otherwise in other sections.
- .2 Number and location to be at discretion of Departmental Representative.
- .3 Conduct tests repeated during verification under same conditions as original tests, using same test equipment, instrumentation.
- .4 Review and repeat commissioning of systems if inconsistencies found in more than 20% of reported results.
- .5 Perform additional commissioning until results are acceptable to Departmental Representative.

1.24 REPEAT
VERIFICATIONS

- .1 Assume costs incurred by Departmental Representative for third and subsequent verifications where:
 - .1 Verification of reported results fail to receive Departmental Representative's approval.
 - .2 Repetition of second verification again fails to receive approval.
 - .3 Departmental Representative deems Contractor's request for second verification was premature.

1.25 SUNDRY CHECKS
AND ADJUSTMENTS

- .1 Make adjustments and changes which become apparent as Cx proceeds.
 - .2 Perform static and operational checks as applicable and as required.
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<u>1.26 DEFICIENCIES, FAULTS, DEFECTS</u>	.1	Correct deficiencies found during start-up and Cx to satisfaction of Departmental Representative.
	.2	Report problems, faults or defects affecting Cx to Departmental Representative in writing. Stop Cx until problems are rectified. Proceed with written approval from Departmental Representative.

<u>1.27 COMPLETION OF COMMISSIONING</u>	.1	Upon completion of Cx leave systems in normal operating mode.
	.2	Except for warranty and seasonal verification activities specified in Cx specifications, complete Cx prior to issuance of Interim Certificate of Completion.
	.3	Cx to be considered complete when contract Cx deliverables have been submitted and accepted by Departmental Representative.

<u>1.28 ACTIVITIES UPON COMPLETION OF COMMISSIONING</u>	.1	When changes are made to baseline components or system settings established during Cx process, provide updated Cx form for affected item.
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<u>1.29 MAINTENANCE MATERIALS, SPARE PARTS, SPECIAL TOOLS</u>	.1	Supply, deliver, and document maintenance materials, spare parts, and special tools as specified in contract.
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<u>1.30 INSTALLED INSTRUMENTATION</u>	.1	Use instruments installed under Contract for TAB and PV if: .1 Accuracy complies with these specifications. .2 Calibration certificates have been deposited with Departmental Representative.
	.2	Calibrated EMCS sensors may be used to obtain performance data provided that sensor calibration has been completed and accepted.

1.31 PERFORMANCE VERIFICATION TOLERANCES	.1	Instrument accuracy tolerances: .1 To be of higher order of magnitude than equipment or system being tested.
	.2	Measurement tolerances during verification: .1 Unless otherwise specified actual values to be within +/- 2 % of recorded values.

1.32 OWNER'S PERFORMANCE TESTING	.1	Performance testing of equipment or system by Departmental Representative will not relieve Contractor from compliance with specified start-up and testing procedures.
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PART 2 - PRODUCTS

2.1 NOT USED	.1	Not Used.
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PART 3 - EXECUTION

3.1 NOT USED	.1	Not Used.
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