



**ACAN - 9F023-20230329**  
**ROOFTOP, CARRIER VVT AND CONTROLS PREVENTATIVE MAINTENANCE SERVICES**

## 1. Advance Contract Award Notice (ACAN)

An ACAN is a public notice indicating to the supplier community that a department or agency intends to award a contract for goods, services or construction to a pre-identified supplier, thereby allowing other suppliers to signal their interest in bidding, by submitting a statement of capabilities. If no supplier submits a statement of capabilities that meets the requirements set out in the ACAN, on or before the closing date stated in the ACAN, the contracting officer may then proceed with the award to the pre-identified supplier.

## 2. Background

The Carrier BAS is fully dedicated to the control of the office ventilation (roof top unit and terminal dampers). The current Carrier BAS installed is a Carrier Comfort system running the i-Vu Pro 7.0 platform, installed in 2018. The system includes 96% of obsolete controllers. Carrier BAS: Originally installed from the Carrier Comfort platform and the Gen III and 3V controllers' family.

The Carrier BAS was originally installed in the early 2000s using the Carrier ComfortID platform and DDC controllers. As most of the BAS of the time, the controllers were communicating using the vendor proprietary protocols (i.e. CCN). Since the original BAS installation, new projects and defective controller replacement took place and modified the original BAS to its current form:

1. The original Carrier ComfortVIEW server was replaced with an i-Vu Pro 7.0 server.
2. CCN gateways were installed to integrate the old controllers to the new BACnet IP server.
3. A new BACnet MS/TP controller was installed to control RTU-11.

Controller Model	Type	Vendor	Field Level Communication Protocol	Controller Qty	I/O Qty
CIV-CR	Supervisory	Carrier Corporation	n/a	2	0
XT-RB	Supervisory	Carrier Corporation	n/a	1	0
33CSZC / 3V ZC	Field Level	Carrier Corporation	CCN	85	390
33CSBC / 3V BC	Field Level	Carrier Corporation	CCN	7	24
33CSVM	Field Level	Carrier Corporation	CCN	5	36
48/50PG	Field Level	Carrier Corporation	CCN	2	6
SysPilot	Field Level	Carrier Corporation	CCN	1	0
RTU Open	Field Level	Carrier Corporation	BACnet MS/TP	1	20



<b>Controller Model</b>	<b>Description</b>
CIV-CR (Supervisory)	<p>Carrier i-Vu CCN Router:</p> <p>The CIV-CR connects an ethernet-based Local Area Network (LAN) to the Carrier Comfort Network (CCN) and provides centralized building control through communication between field control devices and the PC Workstations.</p> <p>They are connected on the supervisory IP network of the Carrier BAS and communicates with the i-V server using the BACnet IP open protocol, via CAT5e cables.</p>
XT-RB (Supervisory Level)	<p>Carrier i-Vu Router BACnet:</p> <p>The XT-RB connects an ethernet-based Local Area Network (LAN), via BACnet IP or BACnet SC, to up to two (2) BACnet MS/TP networks and provides centralized building control through communication between field control devices and the PC Workstations.</p> <p>They are connected on the supervisory IP network of the Carrier BAS and communicates with the i-V server using the BACnet IP open protocol, via CAT5e cables.</p>
33CSZC / 3V ZC (Field Level)	<p>Pressure Dependent Zone Controller:</p> <p>The 33CSZC/3V ZC are configurable controllers equipped with a limited number of inputs/outputs and a built-in actuator to monitor and control a Variable Volume and Temperature system (VVT) to maintain the associated room conditions.</p> <p>The 33CSZC and 3V ZC are from different generations of controllers but play the same role and are interchangeable.</p> <p>They are connected on the CCN field level bus of an associated CIV-CR supervisory controller.</p>
33CSBC / 3V BC (Field Level)	<p>Bypass Zone Controller:</p> <p>The 33CSBC/3V BC are configurable controllers equipped with a limited number of inputs/outputs to monitor a constant speed RTU supply static pressure and control a bypass damper to maintain the duct supply static pressure at its setpoint. This is required when the associated VVT dampers are mostly closed because of a low heating/cooling demand.</p> <p>The 33CSBC and 3V BC are from different generations of controllers but play the same role and are interchangeable.</p> <p>They are connected on the CCN field level bus of an associated CIV-CR supervisory controller.</p>
33CSVM (Field Level)	<p>VVT Monitoring Controller:</p> <p>The 33CSVM are configurable controllers equipped with no inputs/outputs. When associated with Pressure Dependent Zone controllers (33CSZC/3V ZC), they can monitor the room conditions and control the heating and cooling stages of the associated roof top unit via standard signals to meet the building demand. They then send the result to external control board (Temp System Relay Pack – TSR-01W) equipped with inputs/outputs to control the RTU via standard thermostat signals (R, G, Y1, Y2, W1, W2).</p> <p>They are connected on the CCN field level bus of an associated CIV-CR supervisory controller.</p>




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48/50PG (Field Level)	<p><b>Rooftop Unit Controller:</b> The 48/50PG are Carrier rooftop unit factory mounted controllers. They play the same role as the Temp System Relay Pack used for the 33CSVM, as they receive commands from the System Pilot controller via CCN communication and control the RTU via standard thermostat signals (R, G, Y1, Y2, W1, W2). They are connected on the CCN field level bus of an associated CIV-CR supervisory controller.</p>
SysPilot (Field Level)	<p><b>System Pilot Controllers:</b> The system pilot serves the same purpose as the 33CSVM controller but uses 48/50PG controllers to interact with the rooftops instead of the Relay Packs. It is connected on the CCN field level bus of an associated CIV-CR supervisory controller.</p>
RTU Open (Field Level)	<p><b>Roof Top Controller:</b> The RTU Open is a configurable controller with enough CPU and input/output to control its own rooftop unit. It is not associated with any zone controllers at DFL. It is connected on the BACnet MSTP field level bus of the XT-RB supervisory controller.</p>

### 3. Definition of the requirement

The Canadian Space Agency (CSA) has a requirement to provide Carrier Variable Volume and variable Temperature (VVT) & Energy Monitoring & Control Systems (EMCS) maintenance services at the David Florida Laboratory (DFL) 3701 Carling Avenue, CP11490, Succ. H, Ottawa, Ontario, K2H 8S2. Provide preventative maintenance and weekly inspections of Rooftop units, VVT (controls and devices) and monitor Building Automation systems controlling these devices. Perform weekly repairs and adjustments to ensure that systems remain operational and within required setting limits at all times. Perform preventative maintenance and repairs on i-Vu automation system by manufacturer trained technician.

The work will involve the following:

1. Weekly verifications of all operating parameters and set points of each system and sub-compartments, recorded in a log for each unit. Any abnormalities should be reported to building engineer.
2. Review system operation and performance as compared to design and required performance. Report any anomalies to the building engineer.
3. Ensure that all critical points for each system are trended and all records are kept valid and readily accessible.
4. Back-up all systems and records on a monthly basis. Provide CD to the building engineer or their designated representative.
5. Obtain permission from the building manager prior to changing any set points or modifying any programming.



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6. Provide 24/7 emergency services with a maximum of 2hr response time upon detecting system failures or upon receiving call from Building Operations staff.
  7. Provide a written report after each emergency occurrence or corrective maintenance. File reports in designated on-site binders.
  8. As a minimum, once a week, perform a complete physical examination of all mechanical, electrical and control compartments to ensure their proper functionality and proper synchronization with the software values.
  9. Allow for a one-time, 40 hr full time, hands-on training to a designated client staff member to bring him/her up to speed on all system functions and operations.
  10. Calibrate all sensors once within three (3) months of commencement of this agreement. Submit calibration records in an annual commissioning report.
  11. Equipment covered under this agreement;
    - a. Carrier VVT Comfort works and related network, control panels, devices and connected equipment and Air Systems.
    - b. Eleven gas heating electric cooling roof top Heating Ventilating & Air Conditioning (HVAC) units as follows:
      - 3 – 20 ton Roof Top Unit (RTU)'s on roof of building 65;
      - 1 – 7.5 ton RTU's on roof of building 65;
      - 1 – 15 ton RTU's on roof of building 65;
      - 1 – 5 ton RTU on roof of building 65;
      - 3 - 10 ton RTU on roof of building 65
      - 1 – 25 ton RTU ground mounted at building 87;
      - 1 – 10 ton RTU ground mounted at building 80.
  12. Inspect, service and calibrate all of the above HVAC units in accordance with the manufacturer's instructions (maintenance manuals).
  13. Replace filters 4 times per year with 2" high efficiency pleated filters on the above HVAC units.
  14. Perform preventative maintenance tasks as indicated below at a minimum of 4 times per year to extend equipment life and assure proper operating condition and efficiency on all the above HVAC units. Typical activities include:
    - clean, align, calibrate, tighten, adjust, lubricate and paint equipment;
    - clean coil surfaces, fan impellers and blades; electrical contacts; burner orifices; passages and nozzles; pilot and igniters; cooling tower baffles, basin, sump and float; chillers, condenser and boiler tubes, etc;
    - align belt drives; drive couplings; air fins, etc;
    - calibrate safety controls; temperature and pressure controls etc;
    - tighten electrical connections; mounting bolts; pipe clamps; refrigerant piping fittings; damper sections etc;



- adjust belt tension; refrigerant charge; super heat; fan RPM; water chemical feed and feed rate; burner fuel/air ratios; gas pressure; set point of controls and limits; compressor cylinder unloaders; damper close-off; sump floats etc;
- lubricate motors; fan and damper bearings; valve stems; damper linkages; fan vane linkages etc;
- paint, for corrosion control, as directed by our scheduling system and on an as needed basis;
- pressure wash the condenser coils once per year.
- provide refrigerant leak test of all units (once per year) and issue certificates for each unit.
- Provide halocarbon testing for each unit once per year and submit reports for record purposes.

#### **4. Criteria for assessment of the Statement of Capabilities (Minimum Essential Requirements)**

Any interested supplier must demonstrate, by way of a statement of capabilities, that at least one technician meets the following requirements:

##### **A. Experience**

1. Demonstrated a minimum of five (5) years of experience in a variety of air handlers including high efficiency rooftop units.
2. Demonstrated five (5) years of experience with Rooftop units containing 20 or more VVT zones on a single system with Ottawa's (or similar geographic location) unique environmental conditions.
3. Demonstrated at least five (5) years of experience with the Carrier Comfort Network Architecture and associated hardware.

##### **B. License**

1. The proposed technician must be licensed in the refrigeration/air conditioning trade and gas fitter 1 trade for a minimum of five (5) years. Refrigeration/air conditioning license and gas fitter 1 license number must be provided.

The supplier shall provide, at a minimum, three (3) references that demonstrate its ability within the last five years, to perform work of a similar scale and scope as outlined in Section 2 - Definition of the requirement. The CSA reserves the right to contact the references for verification.

References to include the following:

1. Brief description of each project (year, description of equipment maintained, scope, size)
2. Brief description of the type of controls on each project (year, list manufacturer, the contractor involvement in the controls, programming and setup)
3. The client for whom the work was performed
4. Reference name, title, email and telephone number
5. Year in which the work was performed (Indicate if the contract is completed or ongoing)



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**5. Applicability of the trade agreement to the procurement**

This procurement is subject to the following trade agreement:

- Canadian Free Trade Agreement (CFTA)

**6. Set-aside under the Procurement Strategy for Indigenous Business**

Not applicable

**7. Comprehensive Land Claims Agreement(s)**

Not applicable

**8. Justification for the Pre-Identified Supplier**

The pre-identified supplier is the only capable supplier able to provide the specific services required at the DFL. The supplier has the unique technical expertise, training and the extensive knowledge and experience on both the i-Vu control system and the VVT and EMCS equipment at the DFL. The supplier has been servicing the equipment and have a strong support by Carrier manufacture with original parts. They are only supplier capable of troubleshooting the old/outdated equipment and the new equipment, based on their extensive background knowledge, using the Carrier i-Vu controls system which monitors the rooftop units and operates the VVT devices.

**9. Government Contracts Regulations Exception(s)**

The following exception to the *Government Contracts Regulations* is invoked for this procurement under subsection 6(d) – only one person is capable of performing the work.

**10. Exclusions and/or Limited Tendering Reasons**

Not applicable

**11. Ownership of Intellectual Property**

Not applicable

**12. Period of the proposed contract or delivery date**

The proposed contract is for a period of two (2) years, from July 1<sup>st</sup>, 2023 to June 30<sup>th</sup>, 2025.

**13. Option to extend the contract period**

The Contractor grants to government of Canada the irrevocable option to extend the term of this contract by five (5) years under the same terms and conditions. Government of Canada may



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exercise any or all option periods at any time by sending a notice to the Contractor at least 30 calendar days prior to the contract expiry date.

**14. Cost estimate of the proposed contract**

The estimated value of the contract, including options, is *\$270,000.00 before tax*.

Initial Contract Period: \$75,000.00 before tax (July 1<sup>st</sup>, 2023 to June 30<sup>th</sup>, 2025)

Option 1: \$38,000.00 before tax (July 1<sup>st</sup>, 2025 to June 30<sup>th</sup>, 2026)

Option 2: \$38,500.00 before tax (July 1<sup>st</sup>, 2026 to June 30<sup>th</sup>, 2027)

Option 3: \$39,000.00 before tax (July 1<sup>st</sup>, 2027 to June 30<sup>th</sup>, 2028)

Option 4: \$39,500.00 before tax (July 1<sup>st</sup>, 2028 to June 30<sup>th</sup>, 2029)

Option 5: \$40,000.00 before tax (July 1<sup>st</sup>, 2029 to June 30<sup>th</sup>, 2030)

**15. Name and address of the pre-identified supplier**

Modern Niagara Ottawa Inc.  
85 Denzil Doyle Court  
Kanata, Ontario  
K2M 2G8

**16. Suppliers' right to submit a statement of capabilities**

Suppliers who consider themselves fully qualified and available to provide the services described in the ACAN may submit a statement of capabilities in writing to the contact person identified in this notice on or before the closing date of this notice. The statement of capabilities must clearly demonstrate how the supplier meets the advertised requirements.

**17. Closing date for a submission of a statement of capabilities**

The closing date and time for accepting statements of capabilities is June 9<sup>th</sup>, 2023 at 2:00pm EDT.

**18. Inquiries and submission of statements of capabilities**

Inquiries and statements of capabilities are to be directed to:

Denise Chessie, Procurement Specialist  
Canadian Space Agency  
6767 route de l'Aéroport  
Saint-Hubert, QC  
Canada J3Y 8Y9

Telephone: 506-429-3478  
E-mail: [denise.chessie@asc-csa.gc.ca](mailto:denise.chessie@asc-csa.gc.ca)