

**RETURN BIDS TO:**  
**RETOURNER LES SOUMISSIONS À:**  
Travaux publics et Services gouvernementaux  
Canada  
Place Bonaventure, portail Sud-Est  
800, rue de La Gauchetière Ouest  
7<sup>ème</sup> étage  
Montréal  
Québec  
H5A 1L6  
FAX pour soumissions: (514) 496-3822

**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

Vendor/Firm Name and Address  
Raison sociale et adresse du  
fournisseur/de l'entrepreneur

**Issuing Office - Bureau de distribution**  
Travaux publics et Services gouvernementaux Canada  
Place Bonaventure, portail Sud-Est  
800, rue de La Gauchetière Ouest  
7<sup>ème</sup> étage  
Montréal  
Québec  
H5A 1L6

|   |  |
|---|--|
| <b>Title - Sujet</b><br>Scanner Doppler Lidar   |  |
| <b>Solicitation No. - N° de l'invitation</b><br>K8D22-160161/A  | <b>Amendment No. - N° modif.</b><br>003      |
| <b>Client Reference No. - N° de référence du client</b><br>K8D22-16-0161  | <b>Date</b><br>2015-10-23                    |
| <b>GETS Reference No. - N° de référence de SEAG</b><br>PW-\$MTA-550-13446   |  |
| <b>File No. - N° de dossier</b><br>MTA-5-38073 (550)  | <b>CCC No./N° CCC - FMS No./N° VME</b>       |
| <b>Solicitation Closes - L'invitation prend fin</b><br><b>at - à 02:00 PM</b><br><b>on - le 2015-11-03</b>  |  |
| <b>F.O.B. - F.A.B.</b><br><b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/> |  |
| <b>Address Enquiries to: - Adresser toutes questions à:</b><br>Guernon (mta550), Émile  | <b>Buyer Id - Id de l'acheteur</b><br>mta550 |
| <b>Telephone No. - N° de téléphone</b><br>(514) 496-3585 ( )  | <b>FAX No. - N° de FAX</b><br>(514) 496-3822 |
| <b>Destination - of Goods, Services, and Construction:</b><br><b>Destination - des biens, services et construction:</b>   |  |

Instructions: See Herein

Instructions: Voir aux présentes

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

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**THIS REQUEST FOR PROPOSAL IS HEREBY AMENDED AS FOLLOWS:**

This modification is being raised to:

**A)**

**Extend the solicitation date for: 2015-11-03 at 02:00PM, HNE**

**AND**

**B)**

Published a new question received from the bidders and answer from Environment Canada.

**AND**

**C)**

**DELETE:**

Annex «C» Mandatory Technical Evaluation Criteria

**INSERT:**

New: Annex «C» Mandatory Technical Evaluation Criteria

**\*\*Refer to attached documents\*\***

**You are requested to submit a copy of this modification to your proposal.**

**All other terms and conditions remain unchanged.**

Response to RFP Questions

Q6: Regarding Requirement 1.2.2 HARDWARE, sub para. 1.2.2.2 Deployment, **is there flexibility in the requirement to exceed the physical dimensions of the scanner?** As presently configured, our scanners exceed these dimensions. I have provided our deployment dimensions for the scanners below, for reference.

| <b>DEPLOYMENT</b>               |  |
|---------------------------------|--|
| Overall dimensions<br>L x W x H | 1008 x 81 x 1365 mm<br>(system)                |
|                                 | 948 x 1204 x 1507 mm<br>(shipping case closed) |
|                                 | 948 x 2736 x 1905 mm<br>(shipping case opened) |
| Weight                          | 232 kg (system only)                           |
|                                 | 100 kg (shipping case only)                    |
|                                 | 370 kg (total with accessories)                |

A6: Yes there is flexibility. Those deployment dimensions are suitable. We have relaxed the restraints: the system (without the shipping case) must be less than 1.1 m x 0.9 m x 1.4 m.

# Appendix C: Mandatory Technical Evaluation Criteria

## 1. Mandatory Requirements

At bid closing time, the Bidder must:

- Comply with the following Mandatory Requirements; and
- Provide the documentation which may include but is not limited to discussion points, equipment specifications, charts and diagrams to support compliance.

Proposals will be evaluated first on the basis of the mandatory requirements. Failure on the part of the bidder to meet one (1) or more of the mandatory requirements will result in the proposal being deemed non-compliant and ineligible for further consideration or evaluation.

The bidder should indicate the page number and section for each criterion in their proposal.

### 1.1 Mandatory General Requirements

| ITEM # | MANDATORY MINIMUM REQUIREMENT  | IDENTIFY WHERE THE SUPPORTING DOCUMENTATION IS LOCATED IN THE PACKAGE (PAGE(S) NUMBERS) |
|--------|--|---|
| 1.1.1  | Operational Maturity<br><br>The proposed system design must have successfully been deployed in the field for at least two years, from the time of bid closing. A list of previous customers (with addresses and phone number), together with proof of purchase of the system, or a similar version can be used to validate this requirement. | PAGE(S) AND/OR SECTION NUMBER:<br>_____   |
| 1.1.2  | Must be a pulsed Doppler LiDAR system.   | PAGE(S) AND/OR SECTION NUMBER:<br>_____   |
| 1.1.3  | Must have de-polarisation capability.  | PAGE(S) AND/OR SECTION NUMBER:<br>_____   |

## 1.2 Mandatory Technical Specifications

| ITEM #                | ITEM                  | MANDATORY MINIMUM REQUIREMENT  | IDENTIFY WHERE THE SUPPORTING DOCUMENTATION IS LOCATED IN THE PACKAGE (PAGE(S) NUMBERS) |
|-----------------------|-----------------------|--|---|
| <b>1.2.1 GENERAL</b>  |                       |  |   |
| 1.2.1.1               | System Operations     | Once in operation, the system must be able to operate without operator intervention for an extended period of time (weeks). Operator must be able to start, stop LiDAR, configure scanning, display system and hardware parameters and data collection remotely (via internet connection) and locally.   | PAGE(S) AND/OR SECTION NUMBER:<br>_____   |
| 1.2.1.2               | System Maintenance    | Operator must be able to perform basic system maintenance (check disk usage, download data, delete and edit files) either remotely or locally.   | PAGE(S) AND/OR SECTION NUMBER:<br>_____   |
| 1.2.1.3               | Display Functionality | Operator must be able to view basic products (time range) at the LiDAR site and remotely.  | PAGE(S) AND/OR SECTION NUMBER:<br>_____   |
| 1.2.1.4               | Operating System      | The Lidar system must be compatible with Windows 7 (or newer) or Linux.  | PAGE(S) AND/OR SECTION NUMBER:<br>_____   |
| <b>1.2.2 HARDWARE</b> |                       |  |   |
| 1.2.2.1               | Environment           | The SDL hardware must be:<br>i) Weather proofed (system design must be such that electronics and sensors will be protected in precipitation, including freezing rain and strong wind conditions);<br>ii) Temperature stabilized;<br>iii) Include a minimum -25°C to maximum 40°C enclosure or better;<br>iv) Humidity minimum 10% to maximum 100% or better. | PAGE(S) AND/OR SECTION NUMBER:<br>_____   |
| 1.2.2.2               | Deployment            | <b>Must be less than 1.0 m x 0.7 m x 0.5 m with minimum or no assembly required for field deployment (e.g., no internal alignment, optical</b>   | <b>PAGE(S) AND/OR SECTION</b>   |

|                                |                     |   |  |
|--------------------------------|---------------------|---|--|
|                                |                     | <b>adjustments, or electronic assembly required).</b>   | <b>NUMBER:</b><br>_____                        |
| 1.2.2.3                        | Cooling             | Must include an active cooling unit.  | PAGE(S) AND/OR SECTION NUMBER:<br>_____        |
| 1.2.2.4                        | Power requirements  | Must be 110-240VAC 50-60Hz (with DC converter supplied if required) drawing <b>less than 275W.</b>  | <b>PAGE(S) AND/OR SECTION NUMBER:</b><br>_____ |
| 1.2.2.5                        | UPS                 | Must have a Universal Power Supply (UPS) to condition the input power and be sufficient to shut the system down.  | PAGE(S) AND/OR SECTION NUMBER:<br>_____        |
| 1.2.2.6                        | Internet Connection | Must provide at least one Ethernet / LAN port. connection   | PAGE(S) AND/OR SECTION NUMBER:<br>_____        |
| <b>1.2.3 TRANSMITTER</b>       |                     |   |  |
| 1.2.3.1                        | Eye safety          | Must be eye safe. Class 1M (IEC/EN 60825-1 compliant)   | PAGE(S) AND/OR SECTION NUMBER:<br>_____        |
| 1.2.3.2                        | Laser wavelength    | Must be between 1.4 to 2.2 $\mu\text{m}$ (maximum)  | PAGE(S) AND/OR SECTION NUMBER:<br>_____        |
| 1.2.3.3                        | Laser pulse energy  | Must be equal to or greater than 2 $\mu\text{J}$ (micro joule).   | PAGE(S) AND/OR SECTION NUMBER:<br>_____        |
| <b>1.2.4 SCANNER OPERATION</b> |                     |   |  |
| 1.2.4.1                        | Scanner Operation   | Must have an azimuth range of 0 to 360 degrees, must have an elevation range of 0° to 180°, and pointing accuracy must be 0.1°.   | PAGE(S) AND/OR SECTION NUMBER:<br>_____        |
| 1.2.4.2                        | Scanning modes      | Must have the following scan modes:<br><ol style="list-style-type: none"> <li>1. Stare (or line of sight, constant in azimuth and elevation);</li> <li>2. Plan Position Indicator (PPI, constant in elevation, scanning in azimuth);</li> <li>3. Wind Profiling (scan in a sequence of fixed azimuths and elevations; typically but not limited to east-west, north-south and vertical beams);</li> </ol> | PAGE(S) AND/OR SECTION NUMBER:<br>_____        |

|   |                               |  |  |
|---|-------------------------------|--|--|
|   |                               | 4. Range Height Indicator<br>(constant azimuth and scanning<br>in elevation).  |  |
| <b>1.2.5 PERFORMANCE</b>                              |                               |  |  |
| 1.2.5.1   | Data Acquisition<br>Range     | Range of the data acquisition must be a<br>minimum of 10 km line of sight.   | PAGE(S) AND/OR<br>SECTION NUMBER:<br>_____ |
| 1.2.5.2   | Radial wind<br>velocity range | The system must allow for the detection<br>of wind speeds of a minimum of 15 m/s.  | PAGE(S) AND/OR<br>SECTION NUMBER:<br>_____ |
| 1.2.5.3   | Wind velocity<br>accuracy     | The system must allow for the detection<br>of wind velocity with an accuracy equal<br>to less than 0.5 m/s.  | PAGE(S) AND/OR<br>SECTION NUMBER:<br>_____ |
| <b>1.2.6 LIDAR CONTROL / CONFIGURATION / PRODUCTS</b> |                               |  |  |
| 1.2.6.1   | Software                      | Must include software and license for off-<br>line user processing.  | PAGE(S) AND/OR<br>SECTION NUMBER:<br>_____ |
| 1.2.6.2   | Data Storage                  | Must be able to store 5 days of LiDAR<br>data and products on continuous<br>operation mode.  | PAGE(S) AND/OR<br>SECTION NUMBER:<br>_____ |
| 1.2.6.3   | Output                        | The LiDAR data file output must include<br>the following:<br><br>1. Scanner identification<br>2. Data acquisition time;<br>3. Beam position (azimuth and<br>elevation);<br>4. Range resolution information<br>5. Data moments:<br>a) Backscatter Intensity;<br>b) Radial wind speed. | PAGE(S) AND/OR<br>SECTION NUMBER:<br>_____ |
| 1.2.6.4   | LiDAR Control                 | Graphical interface for LiDAR control<br>must include :<br><br>1. Instrument scan control;<br>2. Scan configuration;<br>3. Data acquisition settings (range<br>resolution, maximum range, number<br>of samples, etc);<br>4. Display of diagnostics and alerts.                       | PAGE(S) AND/OR<br>SECTION NUMBER:<br>_____ |