

**RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:**

**Bid Receiving
PWGSC
33 City Centre Drive
Suite 480C
Mississauga
Ontario
L5B 2N5
Bid Fax: (905) 615-2095**

**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 SECURITY
REQUIRMENTS.

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

Issuing Office - Bureau de distribution
Public Works and Government Services Canada
Ontario Region
33 City Centre Drive
Suite 480
Mississauga
Ontario
L5B 2N5

| | |
|---|--|
| Title - Sujet Weather Radar Replacement Solution | |
| Solicitation No. - N° de l'invitation K3D33-141144/B | Amendment No. - N° modif. 010 |
| Client Reference No. - N° de référence du client K3D33-141144 | Date 2015-09-02 |
| GETS Reference No. - N° de référence de SEAG PW-\$TOR-018-6873 | |
| File No. - N° de dossier TOR-4-37044 (018) | CCC No./N° CCC - FMS No./N° VME |
| Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2015-09-30 | |
| 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: Pan, Long | Buyer Id - Id de l'acheteur tor018 |
| Telephone No. - N° de téléphone (905) 615-2076 () | FAX No. - N° de FAX (905) 615-2023 |
| Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: | |

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

K3D33-141144/B

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

K3D33-141144

Amd. No. - N° de la modif.

010

File No. - N° du dossier

TOR-4-37044

Buyer ID - Id de l'acheteur

tor018

CCC No./N° CCC - FMS No/ N° VME

Please see attached.

THE SOLICITATION AMENDMENT No. 010 IS RAISED TO MODIFY THE BID SOLICITATION AND ANSWER QUESTIONS FROM THE INDUSTRY.

Modification #011

Reference:

Appendix G: G3 to Annex A - SOW

Modification #011:

The Section 2.0 Environmental Conditions and the Table 2.1 – Outdoor Environment in Document G3 - General Environmental Conditions of Appendix G to Annex A – SOW, are hereby deleted and replaced with the following:

2.0 Environmental Conditions

Wind speed values provided in Table 2.1 represents EC’s expectations for all equipment and infrastructure not explicitly covered by the National Building Code or Tower Standard. The design of equipment and infrastructure must account for effects of combined conditions and include the necessary protection to prevent damage from falling/blowing ice and snow. EC has experienced damage to sites in the past from ice and snow falling from the tower onto equipment and infrastructure below.

For design calculations under the National Building Code or CSA S-37 Tower Standard, the following minimum values must be used:

- A minimum 1/50 wind pressure of $q=500\text{Pa}$
- A minimum load combination factor of $\psi=0.75$ to represent wind and ice acting together
- Serviceability calculations must use 1/50 wind pressure data

Table 2.1 - Outdoor Environment

| Condition | Temperature | Humidity | Wind Speed | Snow Load | Ice Accretion |
|---------------|---------------|-------------------------|---------------------------------------|---|--|
| Operating | -40°C – +40°C | 15 – 100% Condensing | Sustained: 125 km/h Gusts: 180km/h | Varies by location. Use local climate records. | Varies by location. Use local climate records. |
| Non-Operating | -60°C – +55°C | 10 – 100% Condensing | Sustained: 180km/h Gusts: 220km/h | Varies by location. Use local climate records. <i>For reference: 2m accumulation at 350kg/m² is not uncommon</i> | Varies by location. Use local climate records. <i>For reference: 0-10cm</i> |

QUESTIONS AND ANSWERS

Question # 075

Reference:

RFP Annex A Appendix G Document G4
RFP Annex A, Appendix A, Section 2.2.1 #40
RFP Annex A, Appendix G Document G3

Question #075:

Document G4 provides an example of calculating the 10, 30 and 50 yr hourly wind pressures for a 35 m tower at Marble Mountain NL. Mandatory Requirement 40 indicates that the tower must be "safe from structural failure while bearing the static and dynamic loads imposed by the radar system and environmental conditions. Bidders are then referred to Appendix G - G3; General Environmental Conditions". Document G3 Table 2.1 lists the wind speeds for operating conditions as sustained 170 km/hr, gusts 200 km/hr and non-operating as sustained - 200 km/hr and gusts of 250 km/hr. These wind speeds yield wind pressures that are up to eight times the pressures of 460 Pa, 550 Pa and 590 Pa calculated in Document G4. The Table 2.1 wind speeds appear to be excessive and will have a significant impact on the design of the tower and tower foundations.

PWGSC/EC is therefore requested to confirm the design wind speed data in Table 2.1 of Document G 3 is the design specification for the towers.

Answer #075:

Please refer to Modification # 011 in this amendment. For bidding purposes, the supplied example engineering climatology in document G4 should be used to allow for bid comparisons.

Question # 076

Reference:

RFP

Question #076:

According to the RFP Clause 3.3.2 Exchange Rate Fluctuation on page 7 of 31 (Part 3 of the main Section), the following SACC Clause has been quoted which does not allow for currency fluctuation. C3011T (2013-11-06), Exchange Rate Fluctuation.

As we know, the reality is that the C\$ is very volatile at this time and it is impossible to judge the Exchange Rate for the next 8 years. Therefore, we believe that SACC Clause C3010T (2014-11-27), which allows adjustment for currency fluctuation would be beneficial to both Canada and the Vendor.

Answer #076:

Canada consulted industry throughout the engagement process, addressing exchange rate fluctuations in Amendment No.06 to the Letter of Interest. The request to consider the inclusion of SACC Clause C3010T is hereby rejected.

Question # 077

Reference:

RFP

Question #077:

According to the RFP Clause 2.4.1 System Robustness, item 102 on page 36 of 71 (Appendix A to Annex A), The equipment Achieved Availability (Aa) must each be greater than 97%. Where Aa is expressed as a percentage by the following formula:

$Aa = (1 - (CM + PM) / Ts) \times 100$, where
Ts = specified operating time (8760 hours annually)
CM = Corrective Maintenance (annual hours)
PM = Preventive Maintenance (annual hours)

Given six (6) ten (10) hour days for preventive maintenance per year (PM = 60 hours/year) the radar will achieve > 97% availability with no more than six (6) days (CM = 144 hours/year) of corrective maintenance per year.

$$Aa = (1 - (60 + 144) / 8760) \times 100 = 97.67\%$$

But, According to RFP Clause 2.4.1 System Robustness, item 98 on page 36 of 71 (Appendix A to Annex A, The Radar system must have a MTBCF of greater than 15,000 hours while meeting sensitivity requirements with appropriate preventative maintenance.

In the Glossary, MTBCF is defined as -- the statistical mean time between critical failures (see definition of "critical failure").

Critical Failure is defined as -- A failure resulting in radar data loss or degradation (no useable standard products available) that cannot be repaired without a visit to the site.

The MTBCF requirement in item 98 seems to imply that no corrective maintenance can be performed on the radar system for over 15,000 hours.

Kindly clarify this issue.

Answer #077:

EC recognizes a significant difference between preventive maintenance and corrective maintenance (repair). Preventive maintenance is planned, can be adjusted to coincide with benign weather, and results in loss of data only when the technicians are performing the maintenance.

Corrective maintenance can take two forms; on site and remote access. Failures (outage or data degradation) that can be corrected through remote access are not considered "Critical Failures" by our definition, as they can be quickly resolved. Corrective maintenance of that nature is not a problem.

Failures that require travel to the site are considered critical due to the time and cost involved. Corrective maintenance of a critical failure is not planned and may occur during periods of significant weather. Data is compromised or missing for an extended period as technicians prepare and travel to the site, obtain required parts, and perform the repairs.

To summarize: the Mean Time Between Critical Failures (MTBCF) of 15,000 hours allows for preventive maintenance, and allows for non-critical failures and corrective maintenance of non-critical failures to occur. The SOW also states limits of required preventive maintenance (for example section 2.4.1 item 104) and overall data availability.

Question # 078

Reference:

RFP

Question #078:

The radar signal processor must produce user-selectable corrected data for at least, but not limited to, the following parameters: Z, Vr, W, SNR, SQI, KDP, ZDR, rhoHV, phiDP. The user must be able to configure the processor to apply corrections and adjustments including, but not limited to: Ground clutter rejection, multi-trip suppression, point filter, and attenuation correction. The user must be able to request uncorrected or corrected data, the difference, or all. These moments must be user configurable and available for both polarizations.

Questions:

- A. Do we understand correctly that for each given moment the user must be able to configure a moment specific definition of correction? An alternative interpretation could be that there is one definition of what "corrected" means and this definition applies to all moments.
- B. Do we understand correctly that for each given moment an additional data type that reflects the difference of the individual corrected/uncorrected data is requested?
- C. Does M20 also apply to additional data types that are requested under pointed rated requirements? So if LDR is offered as per R31 the M20 requirement must be met also for LDR?

Answer #078:

- A: You understand correctly that the requirement applies to each moment individually.
- B: It is requested that this be available and selectable. Also that, if requested by the user, all three of uncorrected, corrected and the difference can be made available.
- C: Yes.

ALL OTHER TERMS AND CONDITIONS OF THE BID SOLICITATION REMAIN UNCHANGED