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G1J 0C7

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

TPSGC/PWGSC

601-1550, Avenue d'Estimauville

Québec

Québec

G1J 0C7

Title - Sujet Flight motion simulator system	
Solicitation No. - N° de l'invitation W7701-176479/B	Amendment No. - N° modif. 003
Client Reference No. - N° de référence du client W7701-176479	Date 2019-01-10
GETS Reference No. - N° de référence de SEAG PW-\$QCL-042-17539	
File No. - N° de dossier QCW-7-40042 (042)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2019-02-05	Time Zone Fuseau horaire Heure Normale du l'Est HNE
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: Hamel, Jonathan	Buyer Id - Id de l'acheteur qcl042
Telephone No. - N° de téléphone (418) 649-2806 ()	FAX No. - N° de FAX (418) 648-2209
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

AMENDMENT 003

The purpose of this amendment is to provide answers to questions raised by the industry during the RFP period as well as to make changes to the clauses of the Request for Proposal.

1. Question raised by the industry during the request for proposal period

Q1: A high pressure nitrogen interface is required (5.2.3.4). What flow rate is expected?

A1: The flow rate (at specified pressure) should be at least 2 liters/minute.

Q2: It is required (6.3.5.1) that the mirrors configuration allows to manage a stand-off distance of 1050 mm or less. We would like to know if the mirrors degree of freedom must be such that this distance stays constant. More precisely, are two degree of freedom for each mirror sufficient, or do you also want translation degrees of freedom to preserve the stand-off distance? If so, could you specify the tolerance?

A2: Correction, this concerns item 5.3.6.1. Two rotation degrees of freedom for each mirror are sufficient.

Q3: It is required (5.3.6.2) that the mirrors configuration must redirect, without obscuration, the complete scene beam from the projector aperture to the UUT sensor aperture. We did not see other requirements concerning the necessary field of view. Should we consider that the only requirement concerning field of view is that the scene beam must never be obscured, whatever the movements of the flight motion simulator? Would a larger field of view be differentiating or desired?

A3: The requirement is that the scene beam is never obscured, and that the scene beam stays totally contained within the mirrors, whatever the movements of the Scene relay mount and UUT mount.

Q4: It is required (5.3.7.1) that the Scene relay mount produces an apparent angular movement of the scene as a function of real-time external commands. What is the required bandwidth? What latency and jitter are required?

A4.1: The requirement for the Scene relay mount is that apparent angular motions follow the performances specified in item 5.3.7.2.

A4.2: The system must respond to the minimal frame rate specified in item 5.4.2.3 (i.e. 2.5 kHz), in the limit of specified speeds and accelerations. Latency must then be lower than 0.2 ms.

A4.3: (Apparent) angular jitter must be lower than 0.0025° in order to respect the specified angular precision.

Q5: Concerning the scene relay and flight simulator. It is possible at low costs to propose higher angular ranges options. Should this be proposed as an option?

A5: The specified values are minimal acceptable values considering that a compromise must be made to accommodate the space required for the scene relay mount and the finite value of stand-off distance.

Q6: Section 2.1 of the request for proposal states: *The 2003 (2017-04-27) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.* Version 2017-04-27 has been superseded by version 2018-05-22. Which version applies to this requirement?

A6: Version 2017-04-27 applies.

Q7: It appears that a typo mistake at section 2.3 of the English version of the solicitation document.

A7: There is a typo mistake in the English version of the Solicitation document. It should be read: *All enquiries must be submitted in writing to the Contracting Authority no later than seven (7) calendar days before the bid closing date. Enquiries received after that time may not be answered.*

Q8: We noticed some contraction between the SOW and Supplemental general Conditions 4001. For examples: 4001 07 7. vs Annex A 6.4.5, 4001 12 1. vs Annex A 6.4.2, 4001 26.3. vs Annex A 6.6.1.

A8: The Supplemental general Conditions 4001 will be removed from the resulting contract clauses.

Q9: The maximum dimensions of the scene projector are not provided. Based on the required system compacity, it would be welcomed to have those. Could you please provide them?

A9: Refer to section 5.3.6.2 of Annex A.

Q10: Such system requires adequate site preparation including the construction of a concrete base, the adequate access to the site, and the supply of electric power. These requirements will be described in our technical bid. Is the Canada in charge of building such or the contractor? In case the contractor needs to provide these or part of these, a visit or a site description would help provide an adequate quote.

A10: The Canada will be in charge of preparing the site.

Q11: Would it please be possible to receive a site description including access configuration, stairs, slopes, door dimensions and other details relevant to the installation?

A11: Space will be laid by DRDC according to requirements, including installation of a specific concrete slab. Concerning access configuration for installation, there will be no slopes or stairs. Material will need to enter by a standard double door (72 inch wide x 80 inch high) located on the wall of a 72 inch wide corridor. Moving distance of the material from outside of the building to its final location will be approximately 35 ft.

Q12: Item 5.2.6.3 of Annex A defines the dynamic performances of the flight simulator. For example, for the pitch axis:

- Angular travel: ± 20 deg;
- Angular rate: ± 200 deg/s ;
- Angular acceleration: ± 1000 deg/s².

Item 5.4.2.1 of Annex A defines the dynamic performances to be realised during tests: "Maximum velocity sine wave response is defined as sinusoidal motion for the maximum travel range and reaching maximum velocity at the midpoint of travel". In the case of the pitch axis, we understand that item 5.4.2.1 implies that the frequency of the sine wave motion to produce during testing is 10 rad/s and then the maximal required acceleration would be 2000 deg/s², while the requirement expressed in item 5.2.6.3 is 1000 deg/s².

Could you confirm which requirement to take into account?

A12: Firstly, note that item 5.4.2.1 concerns specifically the power supply requirement. Secondly, it should be noted that the requirements defined in item 5.2.6.3 are minimal values for angular travel, rate, and acceleration. It is possible that one of these values have to be increased to accommodate for the others.

Q13: Please provide the general geometry (approx. dimensions would be helpful) of the scene projector. Due to the compact nature of the system we have some concerns regarding interference with the mirror positioner mechanism adjacent to the projector.

A13: We cannot provide full/exact projector geometry at this time. However, based on Figure 2, it can grossly be represented as a cylinder extending left from the scene projector aperture position, and extending 10 cm all around the scene projector aperture (i.e. diameter = 285mm+2*100mm=485mm).

Q14: Section 5.3.7.3, please further define the requirement making it possible to direct beam outside the of the UUT mount. Would this requirement be to include both mirrors in the optical path? Is there a defined optical path length for the calibration configuration?

A14: Yes, both mirrors must be used and stand-off-distance must stay the same. Based on Figure 2, the easiest and probably best solution would be to rotate mirror 2 (by 180deg. in azimuth, or -90deg. in elevation) in order to direct the beam on a calibration camera located opposite to the UUT aperture in the UUT mount, above the scene projector aperture. The beam would then go from the scene projector aperture to the calibration camera passing by the two mirrors, keeping the same stand-off-distance.

Q15: Section 5.3.7.1 Will the mirror motions be coordinated buy the motion controller or by the host? For example- the request from host to motion computer could be for desired scene beam angles with coordination performed in the motion controller or the host could command azimuth and elevation angles for both mirrors with coordination performed by host.

A15: Both solutions would be acceptable as long as a table relating scene beam angles to mirrors angles is provided if coordination is to be done by the host.

Q16: Can you clarify the meaning of 5.4.2.4?

A16: Given that DRDC's host computer provides commands at a given rate (up to values given in item 5.4.2.3), we want the control interface to adapt to this rate. We do not want the opposite, where the host computer would be forced to send commands at a rate fixed by the CI.

Q17: In 5.4.3.3, does the Host Simulation Computer output any of the time standards?

A17: Yes, it will output a time standard such as NTP or PTP.

Q18: In 5.4.3.15 it seems like some of the modes are redundant. How is the behavior of Position and Rate to Position different?

A18: Position mode: goes to commanded position as fast as possible. Rate to Position mode: goes to commanded position at commanded rate.

Q19: Reference the General Conditions 2030, section 26. Canada's liability cap is included into the agreement. We would also like a liability cap. We propose to add the following wording: "Notwithstanding the foregoing, and to the exclusion of injury, death or third party damages, it is agreed that the Contractor's liability for any act, breach or termination under the Contract shall be limited to 100% of the price of the Contract. Indirect and consequential damages are excluded."

A19: No limitation to the contractor's liability will be granted. General Conditions 2030 apply to and form part of the contract in its integrality

Q20: Questions were raised by the industry regarding discrepancies between the supplemental general conditions 4001 and Annex A – Statement of work.

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003
File No. - N° du dossier
QCW-7-40042

Buyer ID - Id de l'acheteur
QCL042
CCC No./N° CCC - FMS No./N° VME

A20: Supplemental General Conditions 4001 are hereby removed from the solicitation document.

Q21: Questions were raised by the industry regarding Applicable Taxes for foreign supplier and clause C2000C of the SACC Manual.

A21: To avoid confusion, clause C2000C is hereby removed from the solicitation document.

2. Amendment to the solicitation document

2.1 At Part 4, section 4.1.3 Financial Evaluation

INSERT

NOTE: The Contract will be awarded in Canadian currency. The rate given by the Bank of Canada in effect on the bid solicitation closing date will be applied as a conversion factor.

2.2 At Part 7, section 7.2.2 Supplemental General Conditions

DELETE

4001 (2015-04-01), Hardware Purchase, Lease and Maintenance, apply to and form part of the Contract.

2.3 At Part 7, section 7.10 Priority of documents

DELETE

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) the supplemental general conditions **4001 (2015-04-01)**, Hardware Purchase, Lease and Maintenance;
- (c) the supplemental general conditions **4003 (2010-08-16)**, Licensed Software;
- (d) the general conditions **2030 (2018-06-21)**, Higher Complexity – Goods;
- (e) Annex A, Statement of Work;
- (f) Annex B, Basis of Payment;
- (g) Annex C, Security Requirements Check List;
- (h) the Contractor's bid dated _____

INSERT

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) the supplemental general conditions **4003 (2010-08-16)**, Licensed Software;
- (c) the general conditions **2030 (2018-06-21)**, Higher Complexity – Goods;
- (d) Annex A, Statement of Work;
- (e) Annex B, Basis of Payment;
- (f) Annex C, Security Requirements Check List;
- (g) the Contractor's bid dated _____ .

2.4 At Part 7, section 7.12 SACC Manual Clauses

DELETE

C2000C (2007-11-30), Taxes – Foreign-based Contractor

2.5 At Annex A

DELETE

"Requirement"

INSERT

"Statement of Work"

DELETE

5.2.3.4 High pressure nitrogen interface:

- All metallic tubing;
- Allowable pressure: at least 3500psi;
- Connector format to be provided by DRDC.

INSERT

5.2.3.4 High pressure nitrogen interface:

- All metallic tubing;
- Allowable pressure: at least 3500psi;
- Flow rate: at least 2 liters/minute;
- Connector format to be provided by DRDC.

DELETE

5.3.7.3 The angular travel specified above is for simulation case, but it must also be possible to direct the projector's beam to a secondary sensor located outside of the UUT mount (e.g. to calibrate the scene projector).

INSERT

5.3.7.3 The angular travel specified above is for simulation case, but it must also be possible to direct the projector's beam to a secondary sensor located outside of the UUT mount (e.g. to calibrate the scene projector). In that case, both mirrors must be used and the stand-off-distance to the calibration camera location must stay the same.

INSERT

5.3.7.4 The mirrors motions corresponding to desired scene beam angle can be coordinated either by the motion controller or by the host computer. However, a table relating scene beam angles to mirrors angles is to be provided by the contractor if coordination is to be done by the host.

INSERT

6.4.1.1 Space will be laid by DRDC according to requirements, including installation of a specific concrete slab. Concerning access configuration for installation, there will be no slopes or stairs. Material will need to enter by a standard double door (72 inch wide x 80 inch high) located on the wall of a 72 inch wide corridor. Moving distance of the material from outside of the building to its final location will be approximately 35 ft.

INSERT

5.4.2.5 System latency must be lower than 0,2 ms.

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2.6 At Annex B

DELETE

1.2 Total Firm Price CAN \$ _____ \$
(Taxes extra, if applicable)

INSERT

1.2 Total Firm Price CAN \$ _____ \$
(Applicable Taxes extra, if applicable)

INSERT

4. Currency

If the financial bid is presented in a different currency other than Canadian Dollar (CAN \$), please indicate:
_____.

ALL OTHER TERMS AND CONDITIONS OF THE REQUEST FOR PROPOSAL REMAIN UNCHANGED