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**SOLICITATION ADMENDMENT
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

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Space Programs Directorate (MTD Division)
6767 route de l'Aéroport
Longueuil, Quebec, Canada
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Titre – Sujet Multi-mission Antenna Reservation System (ARS) for the Canadian Space Agency (CSA)	
Solicitation No. - N° de l'invitation 9F044-14-0394	Amendment No. - N° modif. 005
Client Reference No. - N° de référence du client 9F044-14-0934	Date September 3rd, 2015
GETS Ref. No. - N° de réf. de SEAG PW-15-00690227	
File No. - N° de dossier 9F044-14-0934	CCC No./N° CCC - FMS No/N° VME N/A
Solicitation Closes - L'invitation prend fin : at - à 2:00 pm On - le Thursday, September 24, 2015	Time Zone Fuseau horaire Eastern Daylight Time (EDT)
F.O.B - F.A.B. Plant-Usine : <input type="checkbox"/> Destination : <input type="checkbox"/> Other-Autre : <input checked="" type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Pierre Letendre	Buyer Id - Id de l'acheteur 205mtd
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Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Canadian Space Agency 6767 route de l'Aéroport Longueuil, Quebec, Canada J3Y 8Y9	

Instructions : See Herein
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Signature	Date

PROJECT TITLE

Multi-mission Antenna Reservation System (ARS) for the Canadian Space Agency (CSA)

This Amendment 005 provides answers to additional questions raised by potential Bidders as of September 2, 2015.

ALL OTHER TERMS AND CONDITIONS OF THE RFP REMAIN UNCHANGED.

AMENDMENT 005 - ANSWERS TO QUESTIONS RECEIVED

19. Assuming an ARS Delivery date of November 30, 2016, the twelve (12) month warranty period runs December 1, 2016 until November 30, 2017. This period warrants both the deliverable hardware and software. In regards to support, our understanding is that the Hardware Maintenance Service is included in the 12 month warranty period, but that Software Support Services are optional and are not included in the 12 month warranty period. That is, if Canada wishes to have Software Support Services (as described in 4004 05) available to them during the 12 month warranty period, they will need to take the Option 1 of the Maintenance and Support Services. Is this understanding correct?

Answer:

- a) *Hardware Maintenance Services are indeed included in the 12 month warranty period as per the Supplemental General Conditions 4001 (article 25, as modified through contract clause 7.2.2.1);*
- b) *"Contractor-owned" Software Support Services are also included in the 12 month warranty period as per the Supplemental General Conditions 4002 (article 12, as modified through contract clause 7.2.2.2). This applies to the custom-made ARS software portion of the ARS solution;*
- c) *"Licensed" Software Support Services are also included in the 12 month warranty period as per the Supplemental General Conditions 4003 (article 15, as modified through contract clause 7.2.2.3). This applies to any "Commercial Off-The-Shelf" software not owned by the bidder and that would be used as part of the proposed ARS solution;*
- d) *With respect to the Optional Maintenance and Support Services for "Custom Software" meaning the bidder-owned custom-made ARS software portion of the proposed ARS solution as covered by the Supplemental General Conditions 4004 (and as modified through contract clause 7.2.2.4): this Option is intended to be exercised by Canada only if Canada decides not to maintain and support the custom-made ARS software on its own beyond the 12 month warranty period due to some constraints on internal resources. Given that Canada is procuring a full and unrestricted access to all of the Source Code pertaining to such custom-made ARS Software, Canada will be able to perform such Maintenance and Support on its own, which is the current intent.*

20. Does Intellectual Property ownership means unrestricted use of the software is allowed? For example, can the Contractor use/distribute / sell pre-existing software and custom developed software to other customers?

Answer: Yes. Canada is not retaining the Intellectual Property Ownership of any custom-made ARS software that would be part of the proposed ARS solution. Canada is procuring an unrestricted license to use all the Foreground Intellectual Property (FIP) (in relation to the contractor-owned custom-developed ARS software portion) and its associated Background Intellectual Property (BIP) (in relation to any pre-existing contractor-owned software component on which the custom-developed ARS software is built upon) for its own usage (Government of Canada wide use).

Such license includes a full and unrestricted to all of the Source Code pertaining to such resulting ARS software. This intellectual property ownership model will allow the chosen ARS contractor to sell the ARS solution to any potential customers outside of the Government of Canada.

Detailed licensing conditions are found in the Contract, in the General Conditions 2040 for Research and Development and in the Supplemental General Conditions 4001, 4002, 4003 and 4004 as specified in the RFP package.

21. Is there a requirement to validate the Backup system functionality on a routine operational basis? Additionally, is there a time requirement for handing operations from Backup system back to the Primary system?

Answer: No and no.

22. At several points in the CONOPS and Requirements documents, there is the statement regarding operator direct scheduling modifications "Note that modification and admittance is made in accordance with operational procedures and directives from the Mission Control Board in order to insure proper operation of the ARS." Are there any sample directives or scenarios which need to be accounted for in the proposal?

Answer: No sample directives or scenarios are to be accounted for in the proposal.

- 23. Is it expected that different satellite missions will require different minimum notification times for contact changes (e.g., mission that uplinks once a day v. mission that uplinks once an orbit)?**

Answer: Yes, refer to the mission configuration ARS40.

- 24. [AD1- page 17]: Does the Time Window covered within a given schedule need to include unchanged future contacts occurring before the Time Window start? Meaning, if a contact occurs in 5 hours, and the Time Window starts in 6 hours, does the distributed schedule include the T-5 hour contact? Should "imminent" contacts (contacts that are no longer modifiable per mission tasking) be placed in a LOCKED state?**

Answer: *Yes, the schedule includes all passes in the time window, regardless of update. / No, lock is an operator prerogative.*

- 25. [AD1- page 34]: Should Fast-Tasking-capable facilities be weighted higher than non-capable facilities to reduce the (re)scheduling iterations required as non-capable responses are received?**

Answer: *Weightings are to be configurable and will be adjusted through the life cycle of the ARS system.*

- 26. [AD2- page 15]: Is the Operator's Daily Availability Time Window intended for 7/365 operations or does it need to be broken down by Day of Week?**

Answer: *No, 7/365 continued operations must be assumed.*

- 27. [AD2- page 25]: "Also, at any time, the Operator can manually abort and start the computation of a Preliminary Schedule and make changes to Configurations, thus forcing the re-execution of the Sequence from Event 2, Event 5 or Event 7." Should this be interpreted to mean that the operator needs the ability to abort any on-going task (contact scheduling, configuration change, TLE propagation, etc.) and discard the on-going process in favor of a manual Preliminary Schedule generation or that the operator needs to be able to abort and (then)/or start Preliminary Schedule generation at any point in PS generation specifically?**

Answer: *When the process is aborted, the operator can restart the process after any modifications are made. As needed, the operator may manually select and lock any passes from the compliant satellite contact list and re-launch the process to create a new preliminary schedule to avoid losing those passes in the subsequently generated schedule.*

28. [AD2- page 28]: Is the Daily Operational Time Window for Mission Configuration a "Mission support personnel window" (so planning cannot change outside that window) or a period of daily Satellite availability?

Answer: It is a mission support personnel window.

29. [AD2- page 41]: Are all performance requirements assuming single-task operations? Meaning, performance timeline satisfaction is not required to account for unsolicited request or file receipt (IE, parallel TLE updating).

Answer: The system is multi-tasking but the generation of the schedule is a sequential process. The system will accept unsolicited request or file reception without affecting the performance. The process of generating the schedule will not be interrupted or affected by unsolicited requests.

30. [AD2- page 41 /ARS391]: There are several basic performance features which have a corresponding maximum timeline requirement (e.g., generate file in 10 minutes) and a "goal" timeline requirement (e.g., goal of generating the file in 5 minutes). For this requirement (ARS 391), there is a single goal to compute and return a 7-day schedule in less than 10 minutes, but there is no corresponding maximum duration requirement. Is there a desired maximum duration for generating a 7-day schedule given the same assumptions of the goal requirement?

Answer: No.

31. [AD2- page 42 /ARS390, ARS360, ARS375]: This requirement (ARS390) is named “Satellite Contact/Time Request overall processing time (48 hours Schedule Time Window)” and explains that the intent of the requirement is to ensure a 15 minute total turnaround time for a schedule response. The reference to ARS360 relates to the time/load requirement to propagating orbits and generating a contact list for 10 satellite / 25 facilities in less than 1 minute per day, yet the time referenced in ARS390 is for 48 hours.

- a) Is it correct and desired to extrapolate the 48 hours performance expectation linearly (I.e., 2 minutes for 48 hours) and that ARS390’s reference to it regards predominantly the 10 satellites/25 facilities loading?**

Answer: Yes

- b) Is there a need to interpret ARS390 as a 3-minute requirement for all other contact request processing (<10 minutes minus 5 minutes for schedule generation timeout and <2 minutes for 48 hours propagation) or is only the end-to-end case which includes propagation and schedule generation valid?**

Answer: ARS390 is the end-to-end case which includes propagation and schedule generation.

- d) Is it required to re-propagate orbits upon contact request receipt if there is no change to current TLE information?**

Answer: No, if no inputs affecting the propagator have changed (TLE, configurations, facility unavailability etc...).

- e) Should this requirement be interpreted to include all potential paths within a combined scenario of Use Cases 9.1 (propagation) and 9.4 (contact request) in AD1?**

Answer: No, it must include only the nominal case (for instance, it assumes that the facility will accept all antenna access requests).

*****END OF AMENDMENT 005*****