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**Core 0A1 / Noyau 0A1**  
**Gatineau, Québec K1A 0S5**  
**Bid Fax: (819) 997-9776**

**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 A SECURITY**  
**REQUIREMENT**

**Vendor/Firm Name and Address**  
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**Issuing Office - Bureau de distribution**  
Science Procurement Directorate/Direction de  
l'acquisition de travaux scientifiques  
11 Laurier St. / 11, rue Laurier  
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Gatineau, Québec K1A 0S5

<b>Title - Sujet</b> Mercury Global Anchor Stations	
<b>Solicitation No. - N° de l'invitation</b> W8474-14MG25/A	<b>Amendment No. - N° modif.</b> 012
<b>Client Reference No. - N° de référence du client</b> W8474-14MG25	<b>Date</b> 2013-10-09
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$\$ST-006-26331	
<b>File No. - N° de dossier</b> 006st.W8474-14MG25	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2013-10-31</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Eastern Daylight Saving Time EDT
<b>F.O.B. - F.A.B.</b> <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> Thorsley, Mark	<b>Buyer Id - Id de l'acheteur</b> 006st
<b>Telephone No. - N° de téléphone</b> (819) 956-1772 ( )	<b>FAX No. - N° de FAX</b> (819) 997-2229
<b>Destination - of Goods, Services, and Construction:</b> <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> <b>Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<b>Telephone No. - N° de téléphone</b> <b>Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm</b> <b>(type or print)</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/</b> <b>de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

This amendment is raised to address the following:

- To respond to questions received during the solicitation period; and
- To revise the solicitation accordingly, as applicable.

## **Questions and Answers**

Q91 From A29:

"Beam information is as identified in the WGS Factsheet. Concentric uplink and downlink beams can be assumed.

1. Transponder # or transponder frequencies (The frequency band is military X- and Ka-band; use worst case frequencies as appropriate)
2. Transponder SFD or gain setting (Not available; use as deemed appropriate)
3. Input/output back-off (Not Available; use as deemed appropriate, transponders are linearised)
4. Transponder bandwidth (See WGS Fact Sheet DAB SOW, Appendix 1)
5. Transponder C/IM specification (Assume linearised transponder)"

These answers are insufficient, especially in light of the fact that any assumptions made here are *fundamental* to the analysis of a RATED requirement. How will CANADA be able to rate the solutions from different bidders when all have made a different set of assumptions in what is an inherently complex analysis? Our specific issues include:

- The comment that "concentric uplink and downlink beams can be assumed" implies that the station's location within the beam should be considered when A24 states "Edge of Coverage and End of Life" values are to be used. What is meant by the concentric beams comment?
- Transponder gain in dB for X-Band and Ka-Band links corresponding to the G/T in the WGS Factsheet is *crucial* in the link analysis. This is a value that cannot be assumed or estimated as it is *always* payload specific.
- The statements that "transponders are linearised" does not convey useful information. The intermod performance can only be estimated if the power levels with respect to saturation are known.
- Our carriers for a given mission are presumably not the only carriers on the satellite given that we are allocated a BRA of only 1.9%. The satellite's intermod performance will be substantially effected by other traffic.
- In 1), the satellite may be channelized such that there are multiple transponders within the military X- and Ka-band downlinks. Whether it is or not was not answered.

What is required to conduct this analysis is a defined set of numbers for at least the following:

- Defined values for satellite gain in dB and the corresponding satellite G/T (in dB/K) for both X-Band and Ka-Band
- A total intermod power value in dBW/Hz for both X-Band and Ka-Band that considers the net satellite loading, operating point, etc that are outside our control and influence (similar to the response in A28 iii).

- Additional information for the remote terminal types defined in Table 1-5 for which information is not publically available including:
  - o Supported MODCODs
  - o Eb/No values for each MODCOD (Needed as per the requirement in the Bid Evaluation Plan Section 4.2.1.1 B. b. ix.)

A91 In response to the issues that are raised:

1. "Concentric" term in previous response was specifically related to the WGS satellite beam (not the Anchor Station). The terminology suggests that, for any analysis, the uplink beam from the terminal and downlink beam from the WGS satellite cover the same geographic area, both with the same centre.
2. Transponder gain information, e.g., range and input-output relationships, are not available. However, a reasonable assumption is linear transponder operation. CANADA assumes that link analyses are primarily used by the Bidder to derive the DAB specifications. CANADA has no intention of evaluating the link analysis method and awarding points. Supporting link budget information would only be viewed in light of its appropriateness to those specifications.
3. This statement "transponders are linearised" implies that intermodulation performance via WGS transponders can be assumed to be minimised.
4. Canada's BRA will be spread across multiple channels and transponders, under linear operation.
5. Information on satellite gain relative to satellite G/T is not approved for dissemination, except the EIRP and G/T relationships shown on the Fact Sheet.
6. Canada does not think exact ModCods and Eb/No values are necessary to be stipulated. Rather, the bidder should use the appropriate combination it needs to design-justify its specifications even under the most stringent condition, given the outage definition, list of modems and notional terminals provided in the DAB SOW.

Q92 The DAB SOW Section 5.2.10.2 and Amendment 4 to the DAB SOW make references to Site Diversity as a mechanism to increase availability. CANADA has only conducted site surveys of the three primary Anchor Sites. If Site Diversity is an option, what are the proposed locations of the diversity sites so that diversity improvements in sun outage and rain fade can be analyzed? Would CANADA provide fiber links between the primary and diversity sites, or would separate sets of baseband equipment be required? Would Canada provide all civil works at these sites as per the baseline sites? What are the dates we can use for site readiness for scheduling purposes?

A92 If a Site Diversity option is being addressed, it must utilise the one or more of the Anchor Sites. Yes, back-haul connections would be provided by Canada between Anchor Sites. Any interfaces or connectivity requirements at the Anchor Sites should be part of the proposed Site Diversity solution and is the responsibility of the Contractor. Site readiness is as per the bid proposal.

Q93 Refer to Attachment 1, Appendix 8, Table 2-1 Submission Matrix, 2.3 Other DAB Plans, Reports and Documents, 2.3.4 In-service Support Transition Management Plan (pg. 71)

Refer to Annex G, ISS Statement of Work, A4.8 DID Transition Plan, DID ISS-PM-006 (pg. 102)

The reference to the Transition Management Plan is CDRL ISS-PM-005. The Transition Plan in Annex G Statement of Work ISS is referred to as ISS-PM-006 Transition Plan. Should the referenced at 2.3.4 (pg 71) be CDRL ISS-PM-006?

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- A93 We were unable to find the references in question to CDRL ISS-PM-005 in the DAB SOW. The correct CDRL number for the ISS Transition plan is ISS-PM-006.
- Q94 Refer to Attachment 1, Submission Matrix, 2.3 Other DAB Plans, Reports and Documents, (pg. 71).
- Then refer to Annex A Statement of Work, 3 Design and Build Statement of Work, 3.2.3 Reports and Documents at Bid, f. Data Requirement for Certification and Accreditation (CDRL-DAB-SE-012) (pg 19)
- And to Annex A Statement of Work, Appendix 4, CDRL List, DAB-SE-012, (pg 74)
- The references throughout the Statement of Work regarding DAB-SE-012 Data Requirement for Certification and Accreditation indicate that this is a submission requirement, yet reference to it does not appear as a submission requirement at Attachment 1, Submission Matrix 2.3 Other DAB Plans, Reports and Documents. Please confirm that it is a submission requirement.
- A94 Correct. This is a submission requirement.
- Q95 Refer to Annex A Statement Of Work, 4.2.9 WGS Certification. (pg. 23)
- The Contractor must deliver a WGS Certification Plan in accordance with CDRL DAB-SE-011
- The WGS Certification Plan within the SOW at page 131 is identified at CDRL DAB-SE-013. Should the applicable Plan reference at pg 23 at 4.2.9 be CDRL DAB-SE-013?
- A95 Correct. Annex A has been amended to CDRL DAB-SE-013 as per item 2 below.
- Q96 Refer to Annex A Statement of Work, Appendix 5, DID DAB-PP-001, 10 Quality Management, 1st paragraph (pg. 84)
- Then refer to Annex A Statement of Work, Appendix 5, DID DAB-PP-007, Quality Program Management Plan (pg. 98), b ii
- DID DAB-PP-001, 10 Quality Management refers to the contractor being in full compliance with ISO 9001:2000
- DID DAB-PP-007 indicates that the contractor must be in full compliance with 9001:2008.
- Should the reference at DAB PP-001 be 9001:2008?
- A96 Correct. The reference should be 9001:2008. Annex A has been amended as per item 3 below.
- Q97 Reference Annex G 1.13.5 Option 5: Telecom Shelter Maintenance Support.
- We find that the requirements for the services listed at 1.13.5.2 are fairly ambiguous and we would request the following clarifications:
- i. Electrical supply – is the Contractor expected to provide electricity to the site for the 17 year ISS contract. It is our understanding that Canada will provide electricity to the site, the Contractor, as part of the DAB will install the electrical system to the site and that DND would then supply and pay for all local power to the site. We do understand that a back-up generator system will be part of the DAB and will be maintained through the

- period (for emergency power only). Please confirm that our understanding of this requirement is correct. Also, are we required to provide electrician services for maintenance of the electrical system?
- ii. Water supply – is the contractor required to provide water to the site and if so why and for how much GFE and for how many DND/Government of Canada personnel? Or are we required to provide plumber services for a water supply system at the site?
  - iii. Garbage disposal – is there any garbage disposal requirement above and beyond the Contractor's personnel? If so for how many DND and Government of Canada personnel?
  - iv. Swage disposal – please clarify what source of sewage and how many personnel. We note that there are no toilets in the requirement for the shelters under the DAB. Is DND planning to have port-a-potties, etc for this?
  - v. Snow removal. We note that there are already contracted snow removal services on these sites. For each site please indicate the scope of the snow removal services you call up under this requirement. Is it from the nearest road/parking lot to the building, inside the wire, etc.? Or are we required to provide snow removal services of roads and parking areas as well?
  - vi. Telephone services. Please define. Our FST would have a cell phone and therefore would not need telephone services at the site. Are telephone services for DND/Government employees required?
  - vii. Security. Please define the level of security services envisioned under this requirement.
  - viii. Maintenance of Peripheral equipment. Please provide a list if GFE that falls under this requirement. You do mention surveillance cameras being installed by DND elsewhere in the SOW. What other equipment would we be required to provide maintenance support?
- A97 a. The electricity will be available by DND to the edge of the Anchor station site. The Contractor will have to connect it to the Anchor Station as required and then maintain it for the duration of the period identified in the option. Canada has not specified the requirement for a back-up generator. That is left to the bidder's technical solution, which may require an alternate power source to meet the Anchor Station availability requirements.
- b. Canada has no requirement for water as they will be unmanned sites.
  - c. Canada will be responsible for garbage disposal once the sites have been handed over to the DND.
  - d. Canada has no requirement for sewage disposal as they will be unmanned sites.
  - e. Canada will be responsible for snow removal once the sites have been handed over to the DND.
  - f. If required, Canada will add telephone services at the sites
  - g. Please see the MGAS Responsibility Matrix, issued to all bidders.
  - h. The Contractor is not being asked to maintain peripheral GFE in the Telecom Shelter(s).
- Q98 Can you provide the missing referenced information from Amendment 3, Appendix B - Surveys and Assessments (and any other information available such as geotechnical reports, etc,) relating to the sites?
- A98 All referenced information was made available via the Mercury Global Ground Stations listing on [www.buyandsell.gc.ca](http://www.buyandsell.gc.ca). Please refer to the attachment document <mg\_site\_information\_package.zip> available via the listing.
- Q99 Is there a requirement for a bathroom facility either in the building or provided near the building?
- A99 There is no requirement for a Contractor provided bathroom in, or near, the building.

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- Q100 Can you provide an update regarding the potential use of the Aldergrove site instead of Esquimalt?
- A100 Esquimalt is the only west coast site being considered at this time.
- Q101 Please confirm that for baseline RFP, the foundations for antennas (and other foundations?) are supplied by Canada as GFE. Does the Telecom shelter option include all site infrastructure including antenna foundations?
- A101 All foundations are a Contractor responsibility.
- Q102 Figure 5-1 of the DAB SOW shows forty RS-530 connections to the DND network. Does the connectivity to the modems via the Baseband Switching Matrix have to support any modem that supports this interface, or can we assume it is to a fixed subset of forty modems that would be defined by CANADA? This information is necessary to properly size the switch.
- A102 As an initial state, Canada will require no more than forty (this number could change over time) modems to be conncted to the Baseband Switching Matrix using the RS-530 serial interface(s). However, any of the one hundred twenty five (i.e. sixty identified modems plus sixty-five expansion modems) may be required to be included and/or excluded from this serial modem subset with little time and effort (e.g. pre-wired patch panel).
- Q103 Is the bidder required to provide the EIA-530 portion of the Baseband Switching Matrix to the Canada-supplied Packet and Serial Data Switching Matrix if all of the modems can be connected via Ethernet?
- A103 Yes. See previous answer Ref. RS-530 in Q102 above
- Q104 While GST and HST are excluded, is there a requirement to price in PST? This can be a very complex issue, particularly where real property is concerned (note that an antenna attached to a cement pad is typically considered real property).
- A104 The taxes referred to in the solicitation and resulting contracts are the taxes charged by a vendor in performance of the Contract. As per the terms and conditions of the resulting contracts, "Applicable Taxes" means the Goods and Services Tax (GST), the Harmonized Sales Tax (HST), and any provincial tax, by law, payable by Canada such as, the Quebec Sales Tax (QST) as of April 1, 2013. Canada is exempt from paying PST. The vendor must pay applicable provincial sales tax, ancillary taxes, and any commodity tax, on taxable goods or services used or consumed in the performance of the Contract (in accordance with applicable legislation), including for material incorporated into real property. These tax amounts paid by the vendor must be calculated as part of the price bid by a vendor.
- Q105 Milestone payments Section 6.3.1 1(b) of RFP page 17 of 63 – does the 90% apply to each of the milestones listed on page 44 thereby leaving a 10% holdback on each one? If not, how does the 90% limitation get applied?
- A105 A 10% holdback is not applicable to each milestone. A 10% holdback will be applied to the final 10% of the total amount to be paid under the Contract.
- Q106 ISS pricing table in section I6 page 35 of 63 of RFP – Is there an assumed number of hours in the all-inclusive per diem rate? This could result in a significant difference if 7.5 versus 8.0 hours are assumed.

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- A106 The per diem rate applies to a 7.5 hour work day. Attachment 2 - Financial Bid Presentation Sheet, Annex B - Basis of Payment - Design and Build and Annex H - Basis of Payment - In-Service Support have been updated as per item 4 below.
- Q107 In regards to A43 in Amendment 006, it was indicated that the DVB-RCS hub should be integrated into the Anchor Station. Do you mean that as part of the initial delivery, the MGAS shall contain a DVB-RCS hub, or is this something that would be added at a later date?
- A107 The Anchor Stations will act as a hub for our deployed users regardless of modem technology (i.e. FDMA, TDMA, DVB, etc.). In accordance with DAB SOW 5.2.6.2, Modem Deliverables, "the Contractor must supply ... 10 x DVB-S2 (Forward and Return)" modems, which are not expected to be incorporated into a DVB-RCS hub configuration. Further, from the same sub-section, "Canada's near-term and future modem requirements are in a state of flux, which means the MGAS modem solution cannot be established at this time. To address this challenge ... The initial MGAS Modem Solution will not be finalized until CDR." CANADA is interested in pursuing a DVB-RCS hub capability at the Anchor Stations and will do so with the Contractor prior to CDR. Bidders are encouraged to propose a solution, based on the identified IERs and Mission Sets, as a part of their RFP submission.
- Q108 If the DVB-RCS hub is required as part of the initial delivery, then what number of the required DVB-S2 modems would be incorporated into this hub or would additional modems be required for the hub? In order to properly size and configure a hub, we need to know the number of terminals that need to be supported, as well as the forward and return link bandwidth required. Does the hub need to support DVB-RCS2?
- A108 See previous answer Ref. DVB-RCS in Q108above
- Q109 If the DVB-RCS hub is not required as part of the initial delivery, are you expecting the DVB-S2 modems from the initial delivery to be incorporated into a DVB-RCS hub, since typically, a hub includes its own set of forward and return link modems?
- A109 See previous answer Ref. DVB-RCS in Q108 above
- Q110 What are the weights and dimensions of the early access spares allotment which must be stored at the Bidder's facility?
- A100 The early access spares will be stored at the terminal locations by Canada.

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### **Solicitation Revisions**

1. At Attachment 2 - Financial Bid Presentation Sheet:

INSERT: Following the table in I7, insert the following statement:

A work day is defined as 7.5 hours of work, exclusive of meal breaks. Payment shall be made for days actually worked, with no provision for annual leave, statutory holidays and sick leave. If time worked is more or less than a day, the per diem rate shall be prorated to reflect the actual time worked.

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2. At Annex A - Statement of Work - Design and Build - Section 4.2.9:

DELETE: CDRL DAB-SE-011

INSERT: CDRL DAB-SE-013

3. At Annex A - Statement of Work - Design and Build - Appendix 5, DID DAB-PP-001, Section 10.2, Item 10 - Quality Management:

DELETE: ISO 9001:2000

INSERT: ISO 9001:2008

4. At Annex H - Basis of Payment - In-Service Support

INSERT: Following Table H-4, H-11 and H-17, insert the following statement:

A work day is defined as 7.5 hours of work, exclusive of meal breaks. Payment shall be made for days actually worked, with no provision for annual leave, statutory holidays and sick leave. If time worked is more or less than a day, the per diem rate shall be prorated to reflect the actual time worked.

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ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME