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**RETOURNER LES SOUMISSIONS À:**

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**11 Laurier St. / 11, rue Laurier**

**Place du Portage, Phase III**

**Core 0B2 / Noyau 0B2**

**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**

**Vendor/Firm Name and Address**

**Raison sociale et adresse du  
fournisseur/de l'entrepreneur**

**Issuing Office - Bureau de distribution**

Electrical & Electronics Products Division  
11 Laurier St./11, rue Laurier  
7B3, Place du Portage, Phase III  
Gatineau, Québec K1A 0S5

<b>Title - Sujet</b> Strategic Antenna	
<b>Solicitation No. - N° de l'invitation</b> W8484-178689/A	<b>Amendment No. - N° modif.</b> 003
<b>Client Reference No. - N° de référence du client</b> W8484-178689	<b>Date</b> 2017-04-28
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$\$HN-460-72685	
<b>File No. - N° de dossier</b> hn460.W8484-178689	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2017-05-05</b>	<b>Time Zone</b> Fuseau horaire 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> Guertin, Benoit	<b>Buyer Id - Id de l'acheteur</b> hn460
<b>Telephone No. - N° de téléphone</b> (819) 420-0331 ( )	<b>FAX No. - N° de FAX</b> ( ) -
<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/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

This amendment (3) seeks to make the following changes as well as answer questions from vendors.

1) Extend the end date to 2017-05-05.

2) At Part 3, section II, add the following

1.3 Electronic Payment of Invoices – Contract

The Contractor accepts to be paid using any of the following Electronic Payment Instrument(s):  
(Check off all boxes that apply)

- ☐ Direct Deposit (Domestic and International);
- ☐ Electronic Data Interchange (EDI);
- ☐ Wire Transfer (International Only);
- ☐ Large Value Transfer System (LVTS) (Over \$25M)

3) At Part 7, point 6.3 Electronic Payment of Invoices, delete in its entirety and replace with the following:

6.3 Electronic Payment of Invoices – Contract

The Contractor accepts to be paid using any of the following Electronic Payment Instrument(s):

(as per vendors bid)

- a. Direct Deposit (Domestic and International);
- b. Electronic Data Interchange (EDI);
- c. Wire Transfer (International Only);
- d. Large Value Transfer System (LVTS) (Over \$25M)

4) At Annex “A”, delete Appendix 4 and Appendix 5 in their entirety and replace them with Appendix 4 and 5 attached hereto.

5) At Annex “C”, delete in its entirety and replace with Annex “C” attached hereto.

6) Questions and answers

Q3: Can you send us the specifications and drawings as per Appendix 4, item #13 (f)

A3: The specifications and drawings will be defined only when a Task Authorization is submitted for each work task.

Q4: Who currently fulfills this Service Contract

A: Please see listing on the Buyandsell website: <https://buyandsell.gc.ca/procurement-data/contract-history/W8484-116591-001-HN>

Q5: Clause 6.4 Discretionary Audit: Given that this is a competitive solicitation I am not sure why this clause is included. Please clarify the intent here.

A5: If there is more than one compliant bid, this clause will not be used. However, if there is only one compliant bidder, this clause could be used.

Q6: Clause 6.5 Travel and Living Expenses: Can you provide a copy of the Appendices B, C and D of the National Joint Council Travel Directive?

A6: <https://www.njc-cnm.gc.ca/directive/d10/en>

Q7: Clause 6.5. I understand that there is no cost markup on travel. However I note that some of the sites are remote and given that there is a 48 hour response time to be onsite as per the RFP that some locations are 18 hours flight time so booking the day before we may incur large airline flight costs for those flights.

A7: The 48 hr response time is for an 'Emergency Response' -- it is only invoked when the operational risk requirement for repair out weights the cost.

Q8: Can you also identify if these travel costs are to be included in the overall contract value amount?

A8: The cost shall be included in the task authorization travel & living cost

Q9: Clause 8.1 (c) Level of Effort quote from the contractor to the PA. Do you have a typical timeframe that the response to the SOW for each Task Authorization is required by?

A9: typical time frame should be 3 days 'typical' with a-typical negotiated between TA/PA/Contractor

Q10: Clause 10: CLCA When is feasible, the contractor is encourage to utilize local indigenous business or employee to perform the work in the settlement area. Does DND have a list of Indigenous Suppliers that would have the necessary skillsets that could be contacted?

A10: Not at the moment.

Q11: Annex A 3.5.2 Contractor must reimburse DND for the services or facilities used by his personnel at rates that may be specified by local DND regulations. Will these expenditures be reimbursed as part of the expenses?

A11: Where no local accommodations is available only Military facilities available such as Alert, the Contractor will need to reimburse the meals as per the Base Commander meal plans or other plans. This information will be provided with the Task Authorization terms and conditions.

Q12: Appendix 4 -4.1.2. Can you provide a view on which sites do not have local AC power?

A12: most sites have local AC power –however if the power should fail while the contractor is

on site the contractor would be expected to have his own power source to perform tests. This is to notify the Contractor to not depend on DND to provide power for his test equipment.

Q13: Evaluation Criteria Annex B: R&O Experience on Antenna Systems and Past Performance –

Q13a: 1.d (i) How was the value of \$500,000 established? Is this a product supply or R&O Services calculated?

A13a: Value was established by the TA as a baseline indication of R&O experience of the Contractor on requirements such as this. This is not calculated rather a baseline indication of previous R&O experience of the Contractor.

Q13b: Isn't the skillsets to be able to repair the antennas the most important element?

A13b: skill sets to be able to repair the antenna cost effectively is important

Q13c: Relevant contracts and \$ value: Does this have to be the PRIME Contractor contracts or can subcontractors/partners be used here as well? Can experience at a prior company count as part of this?

A13c: There is only the Prime Contractor as far as the TA/DND is concerned. This is an assessment of the Prime Contractor's experience.

Q14: Evaluation Criteria Annex B: e The bidder must provide a detailed description of the field crew that must address a minimum of 80% of the following items:

Q14a: explanation of how crew interacts (this quantifies composition) What is expected as documentation to show compliance here

A14a: an explanation of the crew makeup, size, skills, and how they interact to accomplish an Antenna R&O. The Contractor must demonstrate they have the capability to fulfill the obligation.

Q14b: additional information that provides explanation for crew work efficiency, What is expected as documentation to show compliance here?

A14b: Project Management and other crew support features the Contractor may have to affect cost effective R&O

Q14c: response time: notification to site reporting and emergencies, The company has standard response times for site reporting and emergencies. However, getting on site in a place like Alert, NU would require logistical coordination including flights that are subject to availability. Based on this what is the expectation of information to show compliance to this point?

A14c: Contractor is to use CFB Trenton as the site to calculate response time for Alert.

Q15: Annex B, 4: R&O capability. Can the in-house R&O be provided by a partner organization (such as an antenna design and manufacturing company?)

A15: The Bidder may partner within the industry

Q16: Annex B: c. Source and Availability of Common Pole Line Hardware and Rigger Kits.

Q16a- Does DND have a list of equipment that is no longer available?

A16a: DND does not maintain a list of no longer available parts.

Q16b: - Or alternatively can you provide a single example on which a supplier is to propose a solution to?

A16b: TA resists providing a single example as it may mislead the Bidder –the question asks the Bidder how the Bidder would replace no longer available parts with original parts, or engineer, design and fabricate a better than original substitute.

Q16c- Can this capability be provided by a subcontractor / partner (such as a tower rigging company)?

A16c: The Bidder may partner with industry

Q17: Evaluation Criteria no. 5 Annex B: d. Field Repair and Overhaul. What is expected to provide compliance with this?

A17: To demonstrate compliance the Bidder shall attest that personnel, tools and vehicles will be available at a site when requested.

Q18: Evaluation Criteria no. 5 Annex B: Training, instructional support. Can this be provided via a subcontractor / partner?

A18: The Bidder may partner with industry.

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

## **D ANTENNA MAINTENANCE WORK SPECIFICATION FOR INSPECTION, TESTING AND MINOR REPAIR**

### **1.0 SCOPE**

**1.1      General** It is the intent of this specification that all equipment and components of the antenna system be inspected, adjusted and/or repaired in accordance with the terms and conditions of the contract, and is therefore not limited to the basic specific requirements listed hereunder.

**1.2      Task Final Report** On completion of tasked work a final report will be prepared by the contractor which shall include a narrative description with checklists for each antenna system. The report will also contain sufficient detailed information including adequate photographic evidence to assist in the assessment of the condition of each antenna system, including recommendations and details for overhaul so that any additional maintenance deemed necessary may be defined by the Technical Authority (TA) for appropriate action.

### **1.3      Work Definitions**

- a. “inspection” is the initial visit to a site authorized by a DND626 issued against the Contract and includes inspection, adjustment, minor repairs and the preparation of a detailed report as specified in this “Work Specification for Antenna Maintenance”;
- b. “repairs” is that work over and above the work defined and authorized during the initial visit to a site for safety or operational purposes, and “minor repair” is that work arising from and authorized by a DND 626 as required; and
- c. “overhaul” is that work “major repair” subsequently authorized by a separate DND 626 to implement all or part of the recommendations made in the Contractor’s detailed report submitted upon the completion of work at any site.

### **2.0 GENERAL**

**2.1** Listed below are typical requirements. Additional or supplementary checks and adjustments may be necessary. It is intended that the inspection shall return the antenna system in question to the status defined in the specification for the antenna type provided by DND in the DND626, within the limits and parameters as defined in para 3 (Specific Requirements).

**2.2** Definition of Antenna System is defined as the antenna(s), radiating elements, supporting structure(s), base(s), anchor(s), feeder line(s) and their associated structure(s), grounding system(s), obstruction lighting, matching and terminating device(s) and phased coaxial cables.

**2.3** This specification presupposes that the system was functioning prior to the inspection and that major repairs are not required, if during the course of the inspection it is determined that the extent of repair and/or adjustment is beyond the scope of this specification, it shall be reported for further action under the terms of para 1.3b, or 1.3c. A rigger may be required to go down halyards and supporting elements on a bosun's chair or similar apparatus if the requirements of this Specification cannot be met by other means.

### **3.0 SPECIFIC REQUIREMENTS**

**3.1** The following requirements are generally applicable to all antenna systems. Additional requirements applicable to specific systems may be required.

**3.2** All materiel required shall be contractor furnished. Materiel shall be equal to or better than the original equipment manufacturer (OEM). In the event of any variations required, the procedures of DND 677 (Design Change Procedure) shall apply. The inspection and adjustment of all tensions or sag/tensions of antenna or guy wires of towers and supporting structures, shall be performed in accordance with this specification, including Log Periodic antennas, notwithstanding the inherent complex adjustment that some Log Periodic and other antennas require.

**3.3** Methods specified on drawings or in maintenance manuals and specifications shall be adhered to. Where methods are not considered adequate or available, the Contractor prior to proceeding with the work will submit the proposed standard(s) of performance and reliability to which he proposes to perform to the DND TA for prior approval with info copies to the DND PA.

### **4.0 TEST REQUIREMENTS**

#### **4.1 VSWR Testing**

**4.1.1** On arrival at site and if DND operational requirements allow, all initial VSWR and visual inspections of all antenna systems called up in the DND626 will be performed prior to commencement of any inspection, tensioning or repair. This initial VSWR testing may only be waived by the TA. Final VSWR tests will also be performed on all antenna systems upon completion of work. VSWR testing shall be performed at the Antenna Matching Device, and shall include, as the first trace, a VSWR sweep covering the antenna frequency range terminated by a precision 50 ohm load.

**4.1.2** If local AC power for test equipment is not available near any antenna downloads, the contractor will be required to provide an Auxiliary Power Unit or arrange a suitable power source to perform VSWR tests.

**4.1.3** DND will not provide test equipment or the services of a technician to perform VSWR measurements except as provided in para 4.6 and 4.7.

**4.2** Prior to the inspection of antenna systems, the following systems and antenna VSWR checks will be made and results recorded:

- a. Antennas designed for a single operating frequency shall be tested at their centre-designed frequency; and  $\pm 10\%$ .
- b. Antennas designed for broadband operation shall be swept across their designated range. As a minimum, tests shall be performed at their lower, centre and upper frequencies.
- c. On complex antennas the coax cable and balun/coupling unit will be considered part of the antenna.

NOTE: Maximum upper HF frequency is 30 MHz.

**4.3** The electronic test equipment used to evaluate the VSWR parameters on HF antennas must provide a simultaneous sweep display normally through the 2.0 to 30.0 MHz range of frequencies or return loss at specified frequencies within the range of interest. The form of the display should be suitable for producing a permanent calibrated record either by diskette, X-Y recorder or photographic. The record shall be linear and calibration markers not exceed 5 MHz intervals.

**4.4** On completion of an inspection and prior to returning an antenna to service, the following VSWRs will be taken and recorded:

- a. at the antenna downloads, including the impedance matching device, sweep the antenna over its design frequency range, maximum frequency not to exceed 30 MHz. Record results; and
- b. disconnect the feeder system from the equipment and terminate in its characteristic impedance (i.e., 50 or 75 ohm non-inductive resistor), sweep the feeder system to establish VSWR. Record results.

NOTE: The terminated line should be swept at the highest possible frequency range to provide extra information on minor discontinuities in the line.

**4.5** The antenna will be required to be within the VSWR tolerance specified at the time antenna was installed. This information will be provided in the DND626. It is deemed that any calibrated test equipment designed for taking VSWR measurements in the frequency range of interest should not cause any significant change in the VSWR results. Errors enter when the test equipment is improperly calibrated, unproven test methods are used or when the operator does not have the required skills for using the test equipment. A  $\pm 5\%$  tolerance will be allowed in results.

**4.6** Prior to inspection of an LF transmit antenna, the following checks will be made and results recorded:



- a. request station personnel tune the Antenna Tuning Unit (ATU) and the contractor record the VSWR from the transmitter;
- b. on completion of the inspection and prior to returning the antenna to service, request station personnel to re-check tuning ATU and provide VSWR from transmitters and contractor to record; and
- c. where major work has been performed, i.e., base insulator changes or a significant change has occurred in the initial settings, the antenna base impedance will be measured and recorded in the same manner as the original acceptance.

**4.7** Prior to and upon completion of the inspection of an LF receive antenna, the systems serviceability shall be checked by monitoring an LF source.

## **5.0 ANTENNA MAINTENANCE**

- a. Inspect, adjust and record initial and final tensions;
- b. Inspect condition of all insulators, record defects and report for further work under Item 2 of the contract;
- c. Inspect condition of all elements and record defects;
- d. Inspect condition of catenaries, supporting ropes, insulating rods and capacitors and record defects;
- e. Inspect galvanized parts and other hardware where accessible from the ground, tower, or pole and record condition. Where items on any given antenna have deteriorated to a degree that replacement is necessary for immediate safety and/or operational requirements, they will be immediately reported and recommended for replacement or overhaul;
- f. Inspect and correct antenna form – i.e., (sag/tension, parallel elements etc.) applicable to specific antenna type and record initial and final tension(s);
- g. Inspect and adjust all accessible mechanical and electrical connections;
- h. Ensure that turnbuckles are properly adjusted and locked (i.e. approx 50% of total adjustment);
- i. Inspect and adjust antenna downleads for good form;
- j. Inspect coupling and terminating units and record those in poor condition (i.e., connectors, seals, gaskets, insulators and associated hardware). Record type, manufacturer, part number or other relevant information; and

- k. Inspect all halyards and associated hardware including pulley blocks, winches, counterweights and lubricate as necessary. Where counterweights are installed, check tension on halyard and record.

## **6.0 TOWERS AND SUPPORTING STRUCTURE**

- a. inspect, adjust and record initial and final guy wire tensions;
- b. inspect and adjust the plumb of towers and poles. It may be necessary to excavate and/or fill and Compact around pole base;
- c. inspect and record the tower and pole paint condition;
- d. inspect condition of guy wire and base insulators and record conditions;
- e. all obstruction lights shall be replaced during the inspection visit unless site records indicate recent replacement. Replacement shall be in accordance with current Canadian Aviation Regulations and Transport Canada's specifications or as authorized by the TA
- f. inspect general condition of tower electrical system and record defects, i.e., junction boxes, connections, isolation transformers, lightning arrestors, static drain lines etc.;
- g. inspect galvanized parts and other hardware from ground, tower or pole, using binoculars or transit where necessary, and record condition. Where items on any given supporting structure have deteriorated to a degree that replacement is necessary for immediate safety or performance requirements, they will be immediately reported and recommended for replacement or overhaul;
- h. inspect guy grips and record defects;
- i. check turnbuckles, ensure they are properly adjusted and locked;
- j. inspect poles for deterioration and report all defects; and
- k. measure and record guy & tower ground resistance.

## **7.0 BASE AND ANCHORS**

**7.1** Check visible portion of concrete bases and anchors, perform repairs to cracks, including grout under base plates. If surface condition indicates possible deterioration, it should be reported for further action.

## **8.0 GROUND Systems**

## APPENDIX 4 to ANNEX A to W8484-178689

- a. inspect, clean and tighten connections to tower or antenna, and make necessary repairs to ensure good mechanical and electrical connections, measure and record; and
- b. check and repair obvious broken ground radials by approved method (i.e., solder, crimp, cadweld, etc.). If surface condition indicates possible deterioration it should be reported for further action.

### **9.0 FEEDER SYSTEMS (OPEN WIRE)**

- a. inspect and adjust guy wire tension;
- b. inspect and adjust plumb of poles. To obtain and maintain plumb, it may be necessary to excavate, provide cribbing or fill and tamp around pole base;
- c. inspect and adjust sag and/or tension and record in accordance with Appendix 4;
- d. inspect and tighten cross arm hardware;
- e. inspect and replace damaged stand off and spacing insulators;
- f. inspect visually for good mechanical connections, all splice joints in wire and repair as necessary and record;
- g. inspect galvanized parts and other hardware associated with feeder system. Replace defective items and record. Replacement of feeder system hardware includes guys used on down leads and transmission line poles; and
- h. inspect poles for deterioration and report defects.

### **10.0 FEEDERS (COAXIAL)**

- a. examine visible portion of coax feeders (above ground) for structural damage or deterioration, examine and repair connectors (i.e., seals, gaskets, pins) and record other defects. Replace outer seal after visual inspection and testing as applicable;
- b. check that pressurization is being maintained on air dielectric coax cable and record pressure at dehydrator and termination point where pressure gauges are installed, compare pressure(s) over an 8 hour interval; and
- c. check and report on condition of dehydrator unit or other equipment used for this purpose and record make, model number, etc. of equipment.

### **11.0 ANTENNA CONTROL SYSTEMS AND LIKE AMPLIFIERS**

- a. the inspection of control systems associated with satellite dishes, rotatable antennas and tunable whip antennas will only include the electrical interface panels and mechanical part of the control system and NOT the electronic control. Of the control system. The depth of inspection and minor repair will be limited to FITCAL (feel, inspect, tighten, clean, local/manual alignment of systems and lubricate) replace and record; and
- b. the inspection and minor repair of line amplifiers will be limited to FITCAL and record.

## **12.0 SPECIAL REQUIREMENTS – EXAMPLES**

**12.1** In addition to the above specific requirements, the following additional or deleted checks are required on the referenced antenna types:

- a. AN/FRD – 10A Antenna
  - (1) Inspection repair and overhaul shall be in accordance with section 4 Maintenance of EO 35BA-15FRD10A-2 except for the following items which are deleted:
    - (a) 4.4.1(c) any aluminum welding,
    - (b) 4.4.1(e) replacement of base insulators,
    - (c) 4.4.3(d) any required welding,
    - (d) 4.5.1(d) filling cracks with plastic wood and treating of beams with pentachlorophenol,
    - (e) 4.5.2(e) changing glasstrand guys,
    - (f) 4.5.4(e) any required welding,
    - (g) 4.6.4 routine water proofing of antennas,
    - (h) 4.6.1(b) fitting new vibration dampers,
    - (i) 4.7.1(d) filling cracks with plastic wood and treating of beams with pentachlorophenol, and
    - (j) 4.7.3(e) any required welding.
  - (2) Inspect ground mat cover, perimeter ditch and general drainage system for erosion and blockage and record.

b. Plessey Multiple Beam H.F. Antenna System Model PVS1120A

- (1) Inspection repair and overhaul and testing shall be in accordance with Chapter 4, Maintenance, paragraphs 1 to 13 of Service Manual Publications numbers 336 and 337 contained in CFTO C-61-108-A00/ME-000.

NOTE: VSWR Testing

The requirement for taking VSWR measurements as called up under Testing, Appendix 4, para 4. Testing of this Work Specification shall be waived for the foregoing two antennas and the following requirement substituted:

- (a) Prior to inspection, request the station personnel to test all antennas for VSWR and record all defects; and
- (b) Upon completion of the inspection and prior to returning the antenna to service, request station personnel to re-check all antennas for VSWR and record the results.

c. Rotatable Log Periodic Antennas

- (1) The LPH-89E/J antenna shall be lowered and inspected in accordance with CFTO C-63-249-000/MS-000
- (2) The Andrew 1730-24K antenna shall be lowered and inspected in accordance with CFTO C-63-210-000/ME-000
- (3) Andrew 2731 shall be lowered and inspected in accordance with CFTO 63-222-000/MB-000
- (4) The MAS-1 antenna shall be lowered and inspected in accordance with CFTO C-63-313-000/MS-000

**13.0 APPLICABLE SPECIFICATIONS AND RELATED DOCUMENTS**

- a. **Purposefully Left Blank**
- b. MOT recommendations for lighting obstructions;
- c. CSA Electrical code C22-1 with Supplement R;
- d. CSA Material and Construction A23-1;
- e. C-63-020-001/MF-000. NDHQ Antenna Farms Inspection and Maintenance Manual;

#### APPENDIX 4 to ANNEX A to W8484-178689

- f. Specifications and drawings as defined in DND626 as applicable to each work task.
- g. Tension shall not exceed 50% of the breaking strength of the wire under environment conditions of 90 MPH wind with ½ inch radial ice or 100 MPH wind, no ice, at 0°F;
- h. **Purposefully Left Blank**
- i. C-63-060-000/MF-001. Antenna Maintenance Information Booklet.

#### **14.0 ANTENNA SYSTEMS AND LOCATIONS**

Appendix 2 to Annex A

## **SPECIFICATIONS AND APPLICABLE MAINTENANCE DOCUMENTATION**

1. **Documents.** The following documents, of the issue on the date of invitation for bids or request for proposal, form a part of the SOW to the extent specified herein. Copies of specifications, standards, handbooks, drawings and publications required by the contractor in connection with specified R&O functions should be obtained from the procuring activity or as directed by the contracting officer.
2. **Precedence of Documents.** In the event of a conflict between the contract, this SOW, or the referenced documents, the following precedence shall apply:
  - a. The contract and its attachments shall have precedence over any specification or referenced documents;
  - b. This SOW shall have precedence over all reference documents; and
  - c. D-02-002-002/SG-000 and D-02-002-003/SG-000 form the basis for this SOW and as such have precedence over all other referenced documents. Any deviation from, or exception to, any portion of the specification shall be approved in writing by the Technical Authority.

<b>CFTO/DRAWINGS</b>	<b>REMARKS</b>
EO 35BA-15FRD10A-2 Dwg No 409898 Dwg No 409899	Gander, sheets 1-16 Masset, sheets 1-15
<b>CFTO/Drawing C-56-010-004/TP-002 Deleted</b>	
C-63-103-000/ME-000	Millard Masts AB5015, AB5016, AB5017
C-63-104-000/ME-000	Millard Masts AB5018 and AB5019
C-63-105-000/ME-000	AL60P Mast
C-63-118-000/ME-000	1507 LPA
C-63-125-000/ME-000	VLPA 747V Model 50
C-63-129-000/ME-000	237C-1, 237C-2, 237D-1A LP Ant
C-63-132-000/ME-000	LPA 726-2 NOTE: Dwg Pkg as per DDL C66F26139-3 incl
C-63-133-000/ME-000	Model 747 CB

APPENDIX 5 to ANNEX A to W8484-178689

CFTO/DRAWINGS	REMARKS
C-63-172-000/ME-000	780-3K Horz LP Antenna
C-63-174-000/ME-000	Ant Kit Rhombic
C-63-175-000/MJ-000	System Manual for CFS Aldergrove
<b>CFTO/Drawing C-63-189-000/ML-000 Deleted</b>	
C-63-190-000/ME-000	System Manual for CFS Mill Cove
C-63-191-000/MJ-000	Ant AS-5088/FRC, Coupler CU-5091/FRC
C-63-193-000/MJ-000	Service Manual for 1794 Series, c/w Dwg Pkgs
C-63-198-000/ME-000	Inst Manual for TCI-613-1 Alert
C-63-203-000/MB-000	MOD 530-4-N, c/w Dwg Pkgs
C-63-204-000/ME-000	Vertical Ant VRA-5, 6 and 7
C-63-210-000/ME-000	Technical Manual for 1730-24K
C-63-210-001/ME-000	Technical Manual for 1730-17K RLPA
C-63-222-000/MB-000	Technical Manual for 2731 RLPA
C-63-227-000/MS-000	Technical Manual for SPR2301 Log Spiral
C-63-228-000/ME-000	Technical Manual for OE-5014/FRT
C-63-230-000/MS-000	Technical Manual for 630-4-03LR
C-63-234-000/MS-000	Technical Manual for 2001 LPA (Series)
C-63-249-000/MS-000	Technical Manual for LPH-89E/J RLPA
C-63-267-000/MS-000	Technical Manual for Delta Ant Load Resistor
C-63-268-000/MS-000	Technical Manual for Delta Ant Matching XFMR
C-63-282-000/MS-000	Steerable Beverage Installation Maintenance & Parts List
C-63-288-000/MS-000	LF Vertical Antenna 149.2m Handbook (42SR Series Tower)



APPENDIX 5 to ANNEX A to W8484-178689

CFTO/DRAWINGS	REMARKS
	Used with 25KW 137 KHz Low Frequency Transmitter
C-63-289-000/MS-000	Technical Manual for HF Spiral Antenna SPQ230/SS
C-63-291-000/MS-001	Technical Manual for HF Spiral Antenna SPQ 230-43/1
C-63-293-000/MS-001	Instruction Manual TCI Model SSO Single Tower
C-63-294-000/MS-001	Technical Manual for HF Spiral Antenna SPQ 330-A
C-63-297-000/ME-001	Beverage Antenna Generic
C-63-298-000/ME-001	Operating & Servicing Manual Granger Model 3065 Series HF Broadband Dipole Antenna
C-63-300-000/MS-001	Granger Model 747 CD Transportable Antenna
C-63-317-000/MS-001	Max Tower Self Support 60 ft and 100 ft
C-63-313-000/MS-001	Antenna MAS-1
C-63-314-000/MS-001	Antenna MPS-10M/2A
C-63-315-000/MS-001	Antenna TA-103
Dwg Pkg as per DDL 821577	Canadian Forces Antenna Site Layouts
Dwg Pkg as per DDL C68F250064-1	HF Broadband Double Doublet Ant
RCAF Dwg 50471	Typical Rock and Earth Anchors
RCAF Dwg 50472	Typical Mast Base and Pole Sitting Methods
RCAF Dwg 05-001-00	3 Wire Tilted Dipole
RCAF Dwg C64F25651	Dipole, 3 Wire Folded

ANNEX "C" PRICE LIST									
Note: Bidders must provide a price for every items listed in this Annex, for both the firm and the optional years, in order to be found compliant									
R&O LABOUR COST AT THE CONTRACTOR PLANT									
Item 1	For pre-Authorized in Plant Repairs – at the firm hourly rates specified below:								
Item	DESCRIPTION (Labour categories)	Year 1	Year 2	Year 3	Option year 1	Option year 2	Option year 3	Option year 4	
001-001	Foreman								
001-002	QA/Technician								
001-003	Electronic Technician								
001-004	Quality control specialist								
001-005	Rigger								
Average rate= sum column / 5									
001-TOT	Evaluation price = Average rate X 1000 Hrs (To be reported to page 7)								
TECHNICAL INVESTIGATION ENGINEERING SUPPORT LABOUR COST (TIES)									
Item 2	When pre-Authorized – for Technical Investigations and Engineering Support – at firm hourly rates specified below.								
Item	DESCRIPTION (Labour categories)	Year 1	Year 2	Year 3	Option year 1	Option year 2	Option year 3	Option year 4	
002-001	Engineer								
002-002	Technician								
002-003	Draftsman								
002-004	Rigger								
002-005	Typist/Clerical								
002-006	QC Inspector								
002-007	Tech/Foreman								
Average rate= sum column / 7									
002-TOT	Evaluation price = Average rate X 500 Hrs. (To be reported to page 7)								

Item 3	MRP LABOUR COST DURING REGULAR FIELD HOURS									
When pre-Authorized – for Mobile Repair Parties (see SOW paragraph 3.3.1 and 3.3.2 ) during normal business hours, normal business hours being 10.00 hrs a day at 6 days/week, at firm hourly rates specified below. The rate include but is not limited to general test equipment, general work tools, trucks local transportation.										
Item	DESCRIPTION (labour categories)	Year 1	Year 2	Year 3	Option year 1	Option year 2	Option year 3	Option year 4		
003-001	Crew Foreman									
003-002	Rigger									
003-003	Rigger/Electronic Technician									
003-004	Quality Control Specialist									
Average rate= sum column /4										
003-TOT	Evaluation price = Average rate X 5000 Hrs (To be reported to page 7)									

Item 4	MRP LABOUR COST OUTSIDE REGULAR FIELD HOURS								
When pre-Authorized – for Mobile Repair Parties (see SOW paragraph 3.3.1 and 3.3.2.) outside normal business hours, at firm hourly rates specified below. The rate include but is not limited to general test equipment, general work tools, trucks local transportation.									
Item 4	DESCRIPTION (Labour categories)	Year 1	Year 2	Year 3	Option year 1	Option year 2	Option year 3	Option year 4	
004-001	Crew Foreman								
004-002	Rigger								
004-003	Rigger/Electronic Technician								
004-004	Quality Control Specialist								
Average rate= sum column /4									
004-TOT	Evaluation price = Average rate X 300 Hrs (To be reported to page 7)								

When pre-authorized – Mobile Repair Parties loss of time due to factors over which the contractor has no control, the contractor shall be paid at firm hourly rates specified below. The rate include but is not limited to general test equipment, general work tools, trucks local transportation.										
Item	DESCRIPTION (Labour categories)	Year 1	Year 2	Year 3	Option year 1	Option year 2	Option year 3	Option year 4		
005-001	Crew Foreman									
005-002	Rigger									
005-003	Rigger/Electronic Technician									
005-004	Quality Control Specialist									
Average rate= sum column /4										
005-TOT	Evaluation price = Average rate X 300Hrs (To be reported to page 7)									

Item 6	Travel cost											
When pre-Authorized – for travel during normal business hours, normal business hours being 10.00 hrs a day at 6 days/week, at firm hourly rates specified below. The rate include but is not limited to general test equipment, general work tools, trucks local transportation. The bidder must quote a travel cost by hour and quote a number of hour by location from a pre-determined contractor site. These rates for labour and travel duration (one way) will be used for each categories used when traveling.												
Item	DESCRIPTION (Labour categories) Cost / hour	Year 1	Year 2	Year 3	Option year 1	Option year 2	Option year 3	Option year 4				
006-001	Crew Foreman											
006-002	Rigger											
006-003	Rigger/Electronic Technician											
006-004	Quality Control Specialist											
		Travel cost = a X b										
		Year 1	Year 2	Year 3	Option year 1	Option year 2	Option year 3	Option year 4				
	Site location	Contractor service site departure location name (eg. Ottawa)	(b) Time required (hours)	Total (a)								
1	Great Village											
2	Masstown, N.S.											
3	Newport Corner, N.S.											
4	Mill Cove, N.S.											
5	Point Petre, ON.											
6	Carrying Place, ON.											
7	Leitrim, ON.											
8	Ottawa, ON. (Walkley Rd.)											
9	Cardiff, AB.											
10	Riverbend, AB.											
11	Aldergrove, B.C.											
12	Masset, B.C.											
13	Gander, NF											
14	Matsqui, B.C.											
15	Albert Head, B.C.											
16	Alert, NT											
17	Yellowknife, NT											
18	Inuvik, NT											
19	Iqaluit, NT											
20	Rankin Inlet, NT											
21	Resolute, NT											
22	Cold Lake, AB											
006-TOT	Evaluation cost = sum item 1 - 22 (To be reported to page 7)											

Item 7

CONTRACTOR FURNISHED MATERIAL, SUB-CONTRACTED WORK AND SPECIAL EQUIPMENT RENTAL MARK-UP

For ongoing procurement and manufacture of spares, sub-contracted services and equipment rental such as special tools and special purposes vehicles, the Contractor will be paid actual laid-down cost plus a mark-up thereon of:

Item	DESCRIPTION	Year 1	Year 2	Year 3	Option year 1	Option year 2	Option year 3	Option year 4
007-TOT	Mark-Up	%	%	%	%	%	%	%
007-TOT	Evaluation cost = \$300,000.00 X Mark-up (To be reported to page 7)							

TOTAL BID PRICE

Item	DESCRIPTION (Labour categories)	Year 1	Year 2	Year 3	Option year 1	Option year 2	Option year 3	Option year 4
001-TOT	R&O AT THE CONTRACTOR PLANT							
002-TOT	TECHNICAL INVESTIGATION ENGINEERING SUPPORT (TIES)							
003-TOT	MRP DURING REGULAR FIELD HOURS							
004-TOT	MRP OUTSIDE REGULAR FIELD HOURS							
005-TOT	MRP, PAYMENT FOR DELAYS							
006-TOT	TRAVEL COST							
007-TOT	CONTRACTOR FURNISHED MATERIAL, SUB-CONTRACTED WORK AND SPECIAL EQUIPMENT RENTAL MARK-UP							

CUMULATIVE YEARLY EVALUATION COST

i)	ii)	iii)	iv)	v)	vi)	vii)
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TOTAL BID PRICE (TOTAL OF ALL SEVEN (7) CUMULATIVE YEARLY EVALUATION COST = i+ii+iii+iv+v+vi+vii)

\$

Note :Bidders must provide a price for every items listed in this Annex, for both the firm and the optional years, in order to be found compliant

Note 1: ITEM 3, 4, 5 must include all miscellaneous cost such as insect repellant, drinking water, portable toilet, etc.

Note 2: Travel time and Km for lunch is not paid. Only travel time and Km from hotel to working site round trip will be paid.