



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

Réception des soumissions - TPSGC / Bid Receiving
- PWGSC

1550 Avenue d'Estimauville

1550 D'Estimauville Avenue

Québec

Québec

G1J 0C7

REQUEST FOR PROPOSAL DEMANDE DE PROPOSITION

Proposal To: Public Works and Government Services Canada

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

Proposition aux: Travaux Publics et Services Gouvernementaux Canada

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

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 Directional Broadband VHF Antenna	
Solicitation No. - N° de l'invitation F3063-181401/B	Date 2019-02-21
Client Reference No. - N° de référence du client F3063-181401	
GETS Reference No. - N° de référence de SEAG PW-\$QCW-028-17623	
File No. - N° de dossier QCW-8-41125 (028)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2019-03-22	Time Zone Fuseau horaire Heure Avancée de l'Est HAE
F.O.B. - F.A.B. Specified Herein - Précisé dans les présentes Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input checked="" type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: - Simoneau, Steve	Buyer Id - Id de l'acheteur qcw028
Telephone No. - N° de téléphone (418) 649-2816 ()	FAX No. - N° de FAX (418) 648-2209
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Canadian Coast Guard - DFO 101, Champlain Boul. Québec city, Québec, G1K7Y7	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée Voir doc	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

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Solicitation No. - N° de l'invitation
F3063-181401/B
Client Ref. No. - N° de réf. du client
F3063-181401

Amd. No. - N° de la modif.
File No. - N° du dossier
QCW-8-41125

Buyer ID - Id de l'acheteur
qcw028
CCC No./N° CCC - FMS No./N° VME

NOTICE

This bid solicitation cancels and supersedes previous bid solicitation number F3063-181401/A dated December 20, 2018 with a closing on February 6, 2019 at 14h00. A debriefing or feedback session will be provided upon request to bidders/offerors/suppliers who bid on the previous solicitation.

TITLE: DIRECTIONAL BROADBAND VHF PANEL ANTENNA

PART 1 - GENERAL INFORMATION

1.1 Introduction

The bid solicitation is divided into six parts plus annexes, as follows:

Part 1 General Information: provides a general description of the requirement;

Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;

Part 3 Bid Preparation Instructions;

Part 4 Evaluation procedures and basis of selection;

Part 5 Certifications: includes the certifications to be provided;

Part 6 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Statement of Requirement, Basis of payment, Compliance Matrix, OEM certification form and the list of individual who are currently directors and or owner of the bidder.

1.2 Requirement

The Department of Fisheries and Oceans Canada has a requirement to purchase new directional broadband VHF panel antennas, along with some accessories, which will allow it to increase its radio coverage for one of their remote sites located in the Central and Arctic region, St-Laurent sector. The requirement is detailed under Annex A – Statement of Requirement.

1.3 Trade Agreements

The requirement is subject to the Canadian Free Trade Agreement (CFTA) and the North American Free trade Agreement. (NAFTA)

1.4 Debriefings

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days from receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The 2003 (2018-05-22) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

2.1.1 SACC Manual Clauses

The following terms and conditions are incorporated herein

SACC Reference	Section	Date
B1000T	Condition of Material - Bid	2014-06-26
C9000T	Price	2010-08-16

2.2 Submission of Bids

Bids must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated on page 1 of the bid solicitation.

2.3 Enquiries - Bid Solicitation

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.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by Bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the question(s) or may request that the Bidder do so, so that the proprietary nature of the question(s) is eliminated, and the enquiry can be answered to all Bidders. Enquiries not submitted in a form that can be distributed to all Bidders may not be answered by Canada.

2.4 Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Quebec.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the Bidders.

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

Canada requests that Bidders provide their bid in separately bound sections as follows:

Section I: Technical Bid (1 hard copy)

Section II: Financial Bid (1 hard copy)

Section III: Certifications (1 hard copy)

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

Canada requests that Bidders follow the format instructions described below in the preparation of their bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) use a numbering system that corresponds to the bid solicitation.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, Bidders should:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

Section I: Technical Bid

In their technical bid, Bidders should explain and demonstrate how they propose to meet the requirements detailed in Annex A.

- (a) Bidders must use Annex C - Compliance Matrix, provided in the RFP and record responses in cells applicable for each item listed.
- (b) Bidders must submit their answers in the "Compliance" column for each criterion.

The mandatory technical criteria are described in Annex C.

Section II: Financial Bid

Bidders must submit their financial bid in accordance with the Basis of Payment – Annex B. The total amount of Applicable Taxes must be shown separately.

Section III: Certifications

Bidders must submit the certifications required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

4.1.1 Technical Evaluation

4.1.1.1 Mandatory Technical Criteria

The bid must meet the mandatory technical criteria presented at Annex A and specified at Annex C. Bidders must provide the necessary documentation to support compliance with this requirement. Bidders must provide sufficient technical detail for each item in order to allow a complete evaluation from the evaluation team.

Bids which fail to meet the mandatory technical criteria will be declared non-responsive. Each mandatory technical criterion should be addressed separately.

The mandatory technical criteria's are described in Annexes A and C.

4.1.2 Table of Mandatory Requirements to be met by bid closing

Notwithstanding deliverable requirements specified anywhere else within this solicitation and its associated Technical Specification, the following are the only mandatory deliverables that must be submitted with the Bid at the time of bid closing. The following are mandatory and the Bidder must be compliant on each item to be considered responsive.

Item	Description	Reference Completed and Attached
1	Completed Annex B – Basis of payment	
2	Table 1 – MANDATORY DOCUMENTATION of Annex C – Compliance Matrix, Mandatory Technical Requirements	
	1.a) Plan and Elevation view of proposed antenna assembly	
	1.b) Radiation diagram (polar-logarithmic) for an antenna set. The pattern will have to be represented on a diagram covering 360 degrees. Frequency at 156 MHz \pm 5%	
	1.c) Azimuth pattern chart for all angles from 1 to 360 degrees with value in dB. Frequency at 156 MHz \pm 5%	
	1.d) Proposed arrangement with vertical insulation expressed in millimeters (mm) for a set of antennas	

4.1.3 Other information upon request only

The following information, which supports the bid, may be requested by the Contracting Authority from the bidder and it must be provided within **three (3)** working days of the written request:

Item	Description	Completed and Attached
1	Table 2 - DIRECTIONAL BROADBAND VHF PANEL ANTENNA of Annex C – Compliance Matrix, Mandatory Technical Requirements	Prior to contract award
2	Table 3 – ANTENNA MOUNTING KIT of Annex C – Compliance Matrix, Mandatory Technical Requirements	Prior to contract award
3	Table 4 - TWO AND 3-WAY POWER DIVIDER of Annex C – Compliance Matrix, Mandatory Technical Requirements	Prior to contract award
4	Table 5 - RF JUMPER CABLES of Annex C – Compliance Matrix, Mandatory Technical Requirements	Prior to contract award
5	ANNEX D – OEM Certification Form	Prior to contract award

4.1.2 Financial Evaluation

The price of the bid will be evaluated in Canadian dollars, Applicable Taxes excluded, FOB destination, Canadian customs duties and excise taxes included.

Unless the bid solicitation specifically requires bids to be submitted in Canadian currency, bids submitted in foreign currency will be converted to Canadian currency for evaluation purposes. The rate given by the Bank of Canada in effect on the bid solicitation closing date, or on another date specified in the bid solicitation, will be applied as a conversion factor to the bids submitted in foreign currency.

4.2 Basis of Selection

A bid must comply with the requirements of the bid solicitation and all the mandatory technical criteria to be declared responsive. The responsive bid with the lowest Total Bid Price (TBP) (Annex B) will be recommended for award of a contract.

PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

Bidders must provide the required certifications and additional information to be awarded a contract.

The certifications provided by Bidders to Canada are subject to verification by Canada at all times. Canada will declare a bid non-responsive, or will declare a contractor in default if any certification made by the Bidder is found to be untrue whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority will render the bid non-responsive or constitute a default under the Contract.

5.1 Certifications Required with the Bid

Bidders must submit the following duly completed certifications as part of their bid.

5.1.1 Declaration of Convicted Offences

As applicable, pursuant to subsection Declaration of Convicted Offences of section 01 of the Standard Instructions, the Bidder must provide with its bid, a completed [Declaration Form](http://www.tpsgc-pwgsc.gc.ca/ci-if/formulaire-form-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ci-if/formulaire-form-eng.html>), to be given further consideration in the procurement process.

5.2 Certifications Precedent to Contract Award and Additional Information

The certifications and additional information listed below should be submitted with the bid, but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame provided will render the bid non-responsive.

5.2.1 Integrity Provisions – List of Names

Bidders who are incorporated, including those bidding as a joint venture, must provide a complete list of names of all individuals who are currently directors of the Bidder.

Bidders bidding as sole proprietorship, as well as those bidding as a joint venture, must provide the name of the owner(s).

Bidders bidding as societies, firms or partnerships do not need to provide lists of names.

5.2.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "[FCP Limited Eligibility to Bid](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)" list (http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml) available from [Employment and Social Development Canada \(ESDC\) - Labour's](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml) website.

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "[FCP Limited Eligibility to Bid](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)" list at the time of contract award.

Canada will also have the right to terminate the Contract for default if a Contractor, or any member of the Contractor if the Contractor is a Joint Venture, appears on the "[FCP Limited Eligibility to Bid](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)" list during the period of the Contract.

The Bidder must provide the Contracting Authority with a completed annex [Federal Contractors Program for Employment Equity - Certification](#), before contract award. If the Bidder is a Joint Venture, the Bidder must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification, for each member of the Joint Venture.

5.2.3 Bidder Certifies that All Equipment is “Off-the-Shelf”

Any equipment bid to meet this requirement must be “off-the-shelf” (unless otherwise stated in this bid solicitation), meaning that each item of equipment is commercially available and requires no further research or development and is part of an existing product line with a field-proven operational history (that is, it has not simply been tested in a laboratory or experimental environment). If any of the equipment bid is a fully compatible extension of a field-proven product line, it must have been publicly announced on or before the bid closing date. By submitting a bid, the Bidder is certifying that the entire equipment bid is off-the-shelf.

5.2.4 OEM Certification

(a) Any Bidder that is not the Original Equipment Manufacturer (OEM) for every item of hardware proposed as part of its bid is required to submit the OEM's certification regarding the Bidder's authority to provide and maintain the OEM's hardware, which must be signed by the OEM (not the Bidder). No Contract will be awarded to a Bidder who is not the OEM of the hardware it proposes to supply to Canada, unless the OEM certification has been provided to Canada. Bidders are requested to use the OEM Certification Form (Annex D) included with the bid solicitation. Although all the contents of the OEM Certification Form are required, using the form itself to provide this information is not mandatory. For Bidders/OEMs who use an alternate form, it is in Canada's sole discretion to determine whether all the required information has been provided. Alterations to the statements in the form may result in the bid being declared non-responsive.

(b) If the hardware proposed by the Bidder originates with multiple OEMs, a separate OEM certification is required from each OEM.

(c) For the purposes of this bid solicitation, OEM means the manufacturer of the hardware, as evidenced by the name appearing on the hardware and on all accompanying documentation.

PART 6 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

6.1 Security Requirements

6.1.1 There is no security requirement applicable to this Contract.

6.2 Requirement

The Contractor must supply and deliver Military Mobile HF Radios, in accordance with the Requirement at Annex "A".

6.3 Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

6.3.1 General Conditions

2010A (2018-06-21), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

6.3.2 Supplemental General Conditions

4001 (2015-04-01), Hardware purchase, lease and maintenance, apply to and form part of the Contract.

6.4 Term of Contract

6.4.1 Period of the Contract

The contract period is from the date of contract award until the end of the warranty period inclusively.

6.4.2 Delivery Date

The contractor must have completed the delivery within eighteen (18) weeks from the effective date of the contract.

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name:	Steve Simoneau
Title:	Supply Specialist Public Works and Government Services Canada Acquisitions Branch
Address	1550 D'Estimauville Ave., Quebec, Qc. G1J 0C7
Telephone:	418-649-2816
Facsimile:	418-648-2209
E-mail address:	Steve.Simoneau@pwgsc.gc.ca

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work

in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

6.5.2 Project Authority

The Project Authority for the Contract is: **(will be determined at Contract award)**

Name: _____
Title: _____
Organization: _____
Address: _____

Telephone : _____
Facsimile: _____
E-mail address: _____

The Project Authority is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Project Authority, however the Project Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

6.5.3 Contractor's Representative

Name: _____
Title: _____
Organization: _____
Address: _____

Telephone : _____
Facsimile: _____
E-mail address: _____

6.6 Payment

6.6.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a *firm price*, as specified in Annex B for a cost of \$ _____ *insert the amount at contract award*). Customs duties are *included* and Applicable Taxes are extra.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work, unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

6.6.2 Terms of payment

SACC Manual Clause H1000C, (2008-05-12) Single payment

6.6.3 Electronic Payment of Invoices – Contract

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

- a. Visa Acquisition Card;
- b. MasterCard Acquisition Card;
- c. Direct Deposit (Domestic and International);

- d. Electronic Data Interchange (EDI);
 - e. Wire Transfer (International Only);
 - f. Large Value Transfer System (LVTS) (Over \$25M)
 - g. Virement télégraphique (international seulement) ;
- Système de transfert de paiements de grande valeur (plus de 25 M\$)

6.7 Invoicing Instructions

1. The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.
2. Invoices must be distributed as follows:

DFO.invoicing-facturation.MPO@canada.ca

Important:

Write the name of the following person on invoice;

[REDACTED] (to be completed at Contract award)

AND

- a) An electronic copy must be transmitted to the Contracting Authority identified under the section entitled "Authorities" of the Contract.

6.8 Certifications

6.8.1 Compliance

The continuous compliance with the certifications provided by the Contractor in its bid and the ongoing cooperation in providing additional information are conditions of the Contract. Certifications are subject to verification by Canada during the entire period of the Contract. If the Contractor does not comply with any certification, fails to provide the additional information, or if it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

6.9 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Quebec.

6.10 Priority of Documents

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 General Conditions 2010A (2018-06-21) Goods (Medium Complexity);
- (c) the supplemental general conditions 4001 (2015-04-01) Hardware Purchase, Lease and maintenance;
- (d) Annex A, Statement of requirement;
- (e) Annex B, Basis of payment;

- (f) Annex C, Compliance Matrix – Mandatory technical criteria;
- (g) Annex D, OEM Certification Form (OEM);
- (h) the Contractor's bid dated _____

6.11 SACC Manual Clauses

G1005C	2008-05-12	Insurance
B7500C	2006-06-16	Excess Goods
D9002C	2007-11-30	Incomplete Assemblies
B1501C	2006-06-16	Electric Equipment

6.12 Inspection and Acceptance

The Project Authority is the Inspection Authority. All reports, deliverable items, documents, goods and all services rendered under the Contract are subject to inspection by the Inspection Authority or representative. Should any report, document, good or service not be in accordance with the requirements of the Statement of Work and to the satisfaction of the Inspection Authority, as submitted, the Inspection Authority will have the right to reject it or require its correction at the sole expense of the Contractor before recommending payment

6.13 Shipping Instructions - Delivery at Destination

Goods must be consigned to the destination specified in the Contract and delivered:

DDP Delivered Duty Paid;

Fisheries and Oceans Canada – Canadian Coast Guard,
a/of : _____ (will be determined at Contract award)
101, boulevard Champlain
Québec (QC) G1K 7Y7
Canada

Incoterms 2000 for shipments from commercial contractor.

ANNEX « A » – STATEMENT OF REQUIREMENT

1. CONTEXT

The Canadian Coast Guard, an agency of Fisheries and Oceans Canada, would like to acquire directional broadband VHF panel antennas, which will allow it to increase its radio coverage for one of their remote sites located in the Central and Arctic region, St-Laurent sector.

The antennas sought must be designed to cope with a rigorous environment such as considerable and constant wind speed, high relative humidity, salty air, presence of ice, hail and snow. In addition, they must comply with the specifications indicated in section 3 of this document.

Following a brief needs analysis, we agreed that the antennas should be designed to be mounted in an array of 2, one on top of the other (stack), in addition to covering a 120-degree sector, this will give a total of 3 groups of 2 antennas for each of the 3 required sets to achieve the required 360 degree coverage. However, any other arrangement that satisfies our needs will be accepted.

Any product that meets each of the technical specifications will be accepted. It is the Contractor's responsibility to provide all necessary documentation with its bid in order to demonstrate meeting all mandatory requirements indicated in the document "STATEMENT OF REQUIREMENT - DIRECTIONAL BROADBAND VHF PANEL ANTENNA". Contractors must include with their proposal the technical documentation specific to each of the products proposed in this document, in addition to the following diagrams and documents:

- a) Plan and Elevation view of proposed antenna assembly.
- b) Radiation diagram (polar-logarithmic) for an antenna set. The pattern will have to be represented on a diagram covering 360 degrees. Frequency at 156 MHz \pm 5%.
- c) Azimuth pattern chart for all angles from 1 to 360 degrees with value in dB. Frequency at 156 MHz \pm 5%.
- d) Proposed arrangement with vertical insulation expressed in millimeters (mm) for a set of antennas. See the Top section of the tower to know the azimuth values of each tower legs.
- e) Product Certificate for MIL-A-8625F Type III Class 2 (if applicable).

2. APPLICABLE DOCUMENTS FOR REFERENCE

- Proposed arrangement of antennas in the telecommunication tower (top view and elevation view). See annex G

3. MANDATORY TECHNICAL AND OPERATIONAL REQUIREMENTS

- a) VHF antennas must cover the frequency range between 138 to 163 MHz.
- b) All antennas must have an impedance of 50 ohms.
- c) All antennas must have a VSWR (Voltage Stationary Wave Ratio) of less than 1.5: 1 in the operating band between 138 and 163 MHz.
- d) All antennas must have a minimum power rating of 125 watts or more.
- e) All antennas must have continuous current grounding protection.
- f) All antennas must be terminated with N-type female connectors.
- g) All antennas will have to face and support wind speeds greater than 200 km / h (125 mph).
- h) The gain of each antenna shall be 10 dBi or better.
- i) The operating temperature range will be -40 to +50 ° C.
- j) The weight of each of the antennas excluding the supports shall be not more than 25 kg + 5%. This limit must be respected because it was obtained during the structural analysis of the existing tower.

k) The polarization of the antennas must be vertical.

l) The antennas must be made of either: hot-dip galvanized steel; stainless steel; of aluminum coated with a MIL Spec 8625F / TYPE III Class 2 anodised black coating (which provides a penetration depth of 25 microns added to the surface of the aluminum); or of any combination of these taking into account the compatibility of the materials.

4. MANDATORY REQUIREMENTS

4.1 Directional Broadband VHF Panel Antenna

Quantity required: according to the configuration proposed by the supplier

As described in the context in section 1, the supplier must deliver item 4.1 in sufficient quantity and meeting the requirements described in section 3 to provide a radio signal level of at least 0,4 μ V at a distance of 40 nautical miles from any coast served by the transmission tower over an area of 360 degrees.

4.2 Antenna mounting kit

Quantity required: according to the configuration proposed by the supplier and according to the specifications issued by the manufacturer.

Each of the antennas supplied to the contract shall be provided with an adequate mounting kit, in sufficient quantity and according to the specifications issued by the manufacturer, and which shall be fitted at the same time to both an installation on a round post with a diameter of 76 mm (3 inches) and to a round structure mount with a diameter of 60 mm and 38 mm. Any mounting kit provided must be made of hot-dip galvanized steel or stainless steel. The mounting kit hardware must be made of stainless steel. The supplier must comply with the requirements stated above for the supports and the hardware. Any other product will be refused.

5. ADDITIONAL MANDATORY REQUIREMENTS – ACCESSORIES

5.1 Power divider

Quantity required: according to the configuration proposed by the supplier and according to the specifications issued by the manufacturer.

Based on the system requirements proposed by the supplier to meet our needs, it is highly likely that we will have to use power splitters to connect the antenna arrangements on a single transmission link, an AVA5-50 RF cable already in place.

2 and 3 way dividers, according to the requirements indicated below, must therefore be offered as an option to the contract.

Mandatory technical requirements:

- Minimum power rating: 125 watts or more
- Operating frequency: 138 to 163 MHz
- Insertion loss: <0.5 dB
- VSWR Ratio: <1.15: 1 (\pm 5%)
- Connector: N type female
- Impedance: 50 ohms

Since the power splitters will be installed in the transmission tower and will have to deal with extreme weather conditions (wind, cold, ice, etc.), any product supplied must be made of hot-dip galvanized steel or stainless steel and must be provided with a mounting kit that can be installed to round structure posts with a diameter of 60 mm and 38 mm. The mounting kit hardware must be made of stainless steel.

5.2 RF Jumper Cables

Quantity required: according to the configuration proposed by the supplier

Jumper Cables with N-type female RF connectors, as specified below, should therefore be offered as an option to the contract. They will be used to connect antennas with the different power dividers and the transmission lines.

Mandatory technical requirements:

- Minimum rated input power: 125 watts or more
- Operating frequency: 138 to 163 MHz
- Insertion loss: <2.3 dB / 30 m at 150 MHz
- Material:
 - o Insulation: Polyethylene (PE)
 - o Shielding: Silver Plated Copper (SPC)
 - o Outer shell: Polyvinyl chloride (PVC)
- Connector: N type female
- Impedance: 50 ohms
- The connectors must be protected using cold shrink tubing (Cold Shrink Kit).

The price must be indicated per meter for a cable including the connectors installed as well as the weather protection type Cold Shrink kit.

6. DELIVERABLES

Number	Reference	Deliverables Description	Quantity
6.1	4.1	Directional Broadband VHF Panel Antenna	Based on proposed configuration
6.2	4.2	Antenna Mounting Kit	Based on proposed configuration
6.3	5.1	2-way Power Divider	Based on proposed configuration
6.4	5.2	3-way Power Divider	Based on proposed configuration
6.5	5.3	RF Jumper Cable	Based on proposed configuration

7. DELIVERY DATE

Deliverables 6.1 to 6.5: The deadline for receipt of goods is a maximum of 18 weeks after contract award. The supplier must be able to respect this rule, otherwise it will be refused.

ANNEX « B » – BASIS OF PAYMENT

1. DELIVERABLES –

Item	Description	Qty suggested	Unit	Unit Price	Extended Price
Mandatory deliverables					
1	Directional Broadband VHF Panel Antenna (according to the technical details specified in point 4.1 of the statement of work)	_____	EACH	_____ \$	_____ \$
2	Antenna mounting kit (according to the technical details specified in point 4.2 of the statement of work)	_____	EACH	_____ \$	_____ \$
Mandatory additional deliverables - accessories					
It is the responsibility of the supplier to provide an adequate quantity of dividers and jumper cables to ensure the functionality of all of their proposed antennas.					
1	2-way Power Divider (according to the technical details specified in point 5.1 of the statement of work)	_____	EACH	_____ \$	_____ \$
2	3-way Power Divider (according to the technical details specified in point 5.1 of the statement of work)	_____	EACH	_____ \$	_____ \$
3	RF Jumper cables (according to the technical details specified in point 5.2 of the statement of work)	_____ m	Meter	_____ \$ / m	_____ \$ (nb.m X \$m)
4	DDP (Quebec, Quebec, Canada), including customs duties, handling and delivery.	_____	LOT	_____ \$	_____ \$
TOTAL BID PRICE =					_____ \$
Note: Price are in Canadian Devices (CND), excluding Applicable Sales Taxes.					

Remarks:

Note:

- * All mandatory requirements must be met before any evaluation of price will take place and all items must be priced.
- * Delivery: if no extra charge please indicate 0\$
- * For all deliverables requested, it is the responsibility of the supplier to provide an adequate quantity of items (antennas, mounting kits, fasteners, dividers and jumper cables) in order to fulfill the mandatory technical criteria's and to ensure the functionality of all the antennas.

ANNEX « C » – COMPLIANCE MATRIX MANDATORY TECHNICAL REQUIREMENTS

The bidder must include with its proposal the datasheets of the products offered.

IMPORTANT: The bidder must indicate, for each mandatory criteria, whether the proposed equipment complies or not by checking the relevant box. The bidder must clearly demonstrate how the proposed equipment complies with each criteria. Where it is necessary to refer to other documentation that is included in the proposal, bidders should include the precise location of the reference material including the title of the document, and the page and paragraph numbers. It is imperative that the bidder provides an answer for each criteria. It is the bidder's responsibility to provide enough details to permit a complete evaluation.

1. MANDATORY DOCUMENTATION (to be provided with the bid)

Proposed product : _____		Proposed model : _____	
Item	Mandatory Technical Criteria	Compliance	Technical Reference
1.a)	Plan and Elevation view of proposed antenna assembly		
1.b)	Radiation diagram (polar-logarithmic) for an antenna set. The pattern will have to be represented on a diagram covering 360 degrees. Frequency at 156 MHz \pm 5%		
1.c)	Azimuth pattern chart for all angles from 1 to 360 degrees with value in dB. Frequency at 156 MHz \pm 5%		
1.d)	Proposed arrangement with vertical insulation expressed in millimeters (mm) for a set of antennas		

2. DIRECTIONAL BROADBAND VHF PANEL ANTENNA (upon request only)

Item	Mandatory Technical Criteria	Compliance	Technical Reference
4.1	The proposed configuration must provide a radio signal level of at least 0,4 μ V at a distance of 40 nautical miles from any coast served by the transmission tower over an area of 360 degrees.		
Item	Mandatory Technical Criteria	Compliance	Technical Reference
3.a)	VHF antennas must cover the frequency range between 138 to 163 MHz.		
3.b)	All antennas must have an impedance of 50 ohms.		
3.c)	All antennas must have a VSWR (Voltage Stationary Wave Ratio) of less than 1.5: 1 in the operating band between 138 and 163 MHz.		
3.d)	All antennas must have a minimum power rating of 125 watts or more.		
3.e)	All antennas must have continuous current grounding protection.		

3.f)	All antennas must be terminated with N-type female connectors.		
3.g)	All antennas will have to face and support wind speeds greater than 200 km / h (125 mph)		
3.h)	The gain of each antenna shall be 10 dBi or better.		
3.i)	The operating temperature range will be -40 to +50 ° C.		
3.j)	The weight of each of the antennas excluding the supports shall be not more than 25 kg + 5%		
3.k)	The polarization of the antennas must be vertical.		
3.l) and 1.e)	The antennas must be made of either: hot-dip galvanized steel; stainless steel; of aluminum coated with a MIL Spec 8625F / TYPE III Class 2 anodised black coating (provide certificate if applicable)		

3. ANTENNA MOUNTING KIT

Item	Mandatory Technical Criteria	Compliance	Technical Reference
4.2	Installation on a round structure with a diameter between 38 to 76 mm (3 inches).		
4.2	Any mounting kit provided must be made of hot-dip galvanized steel or stainless steel.		
4.2	The mounting kit hardware must be made of stainless steel.		

4. TWO AND 3-WAY POWER DIVIDER

Item	Mandatory Technical Criteria	Compliance	Technical Reference
5.1	Minimum power rating: 125 watts or more		
5.1	Operating frequency: 138 to 163 MHz		
5.1	Insertion loss: <0.5 dB		
5.1	VSWR Ratio: <1.15: 1 (± 5%)		
5.1	Connector: N type female		
5.1	Impedance: 50 ohms		

5. RF JUMPER CABLES

Item	Mandatory Technical Criteria	Compliance	Technical Reference
5.2	Minimum rated input power: 125 watts or more		
5.2	Operating frequency: 138 to 163 MHz		
5.2	Insertion loss: <2.3 dB / 30 m at 150 MHz		
5.2	- Material: <ul style="list-style-type: none">o Insulation: Polyethylene (PE)o Shielding: Silver Plated Copper (SPC)o Outer shell: Polyvinyl chloride (PVC)		
5.2	Connector: N type female		
5.2	Impedance: 50 ohms		
5.2	The connectors must be protected using cold shrink tubing (Cold Shrink Kit).		

Solicitation No. - N° de l'invitation
F3063-181401/B
Client Ref. No. - N° de réf. du client
F3063-181401

Amd. No. - N° de la modif.
File No. - N° du dossier
QCW-8-41125

Buyer ID - Id de l'acheteur
qcw028
CCC No./N° CCC - FMS No./N° VME

ANNEX « D » – OEM Certification Form

OEM Certification Form

This confirms that the original equipment manufacturer (OEM) identified below has authorized the Bidder named below to provide and maintain its products under any contract resulting from the bid solicitation identified below.

Name of OEM _____

Signature of authorized signatory of OEM _____

Print Name of authorized signatory of OEM _____

Print Title of authorized signatory of OEM _____

Address for authorized signatory of OEM _____

Telephone no. for authorized signatory of OEM _____

Fax no. for authorized signatory of OEM _____

Date signed _____

Solicitation Number _____

Name of Bidder _____

Solicitation No. - N° de l'invitation
F3063-181401/B
Client Ref. No. - N° de réf. du client
F3063-181401

Amd. No. - N° de la modif.
File No. - N° du dossier
QCW-8-41125

Buyer ID - Id de l'acheteur
qcw028
CCC No./N° CCC - FMS No./N° VME

ANNEX « E » to PART 3 OF THE BID SOLICITATION

ELECTRONIC PAYMENT INSTRUMENTS

The Bidder accepts any of the following Electronic Payment Instrument(s):

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

Buyer ID - Id de l'acheteur
qcw028
CCC No./N° CCC - FMS No./N° VME

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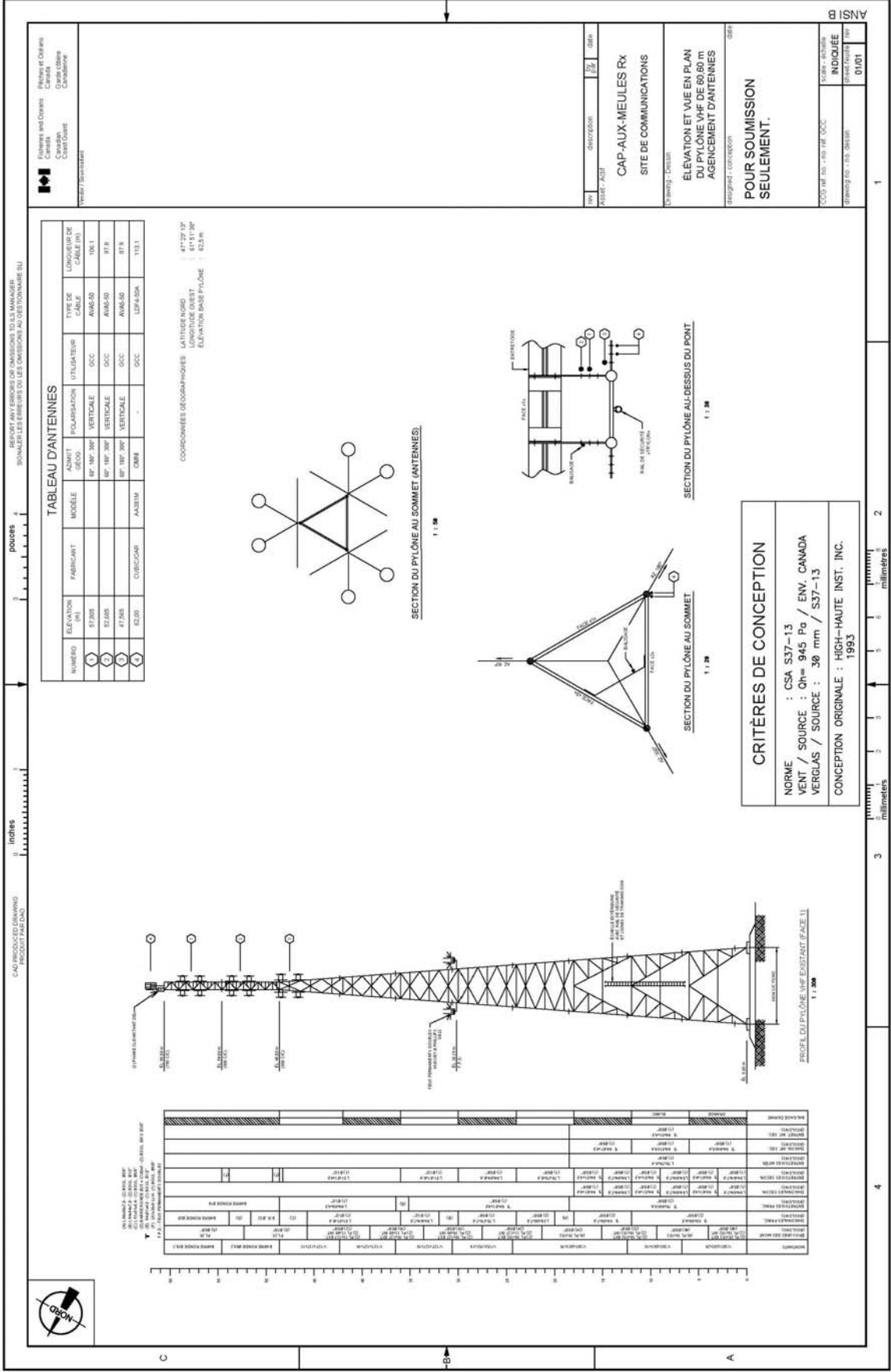
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Client Ref. No. - N° de réf. du client
F3063-181401

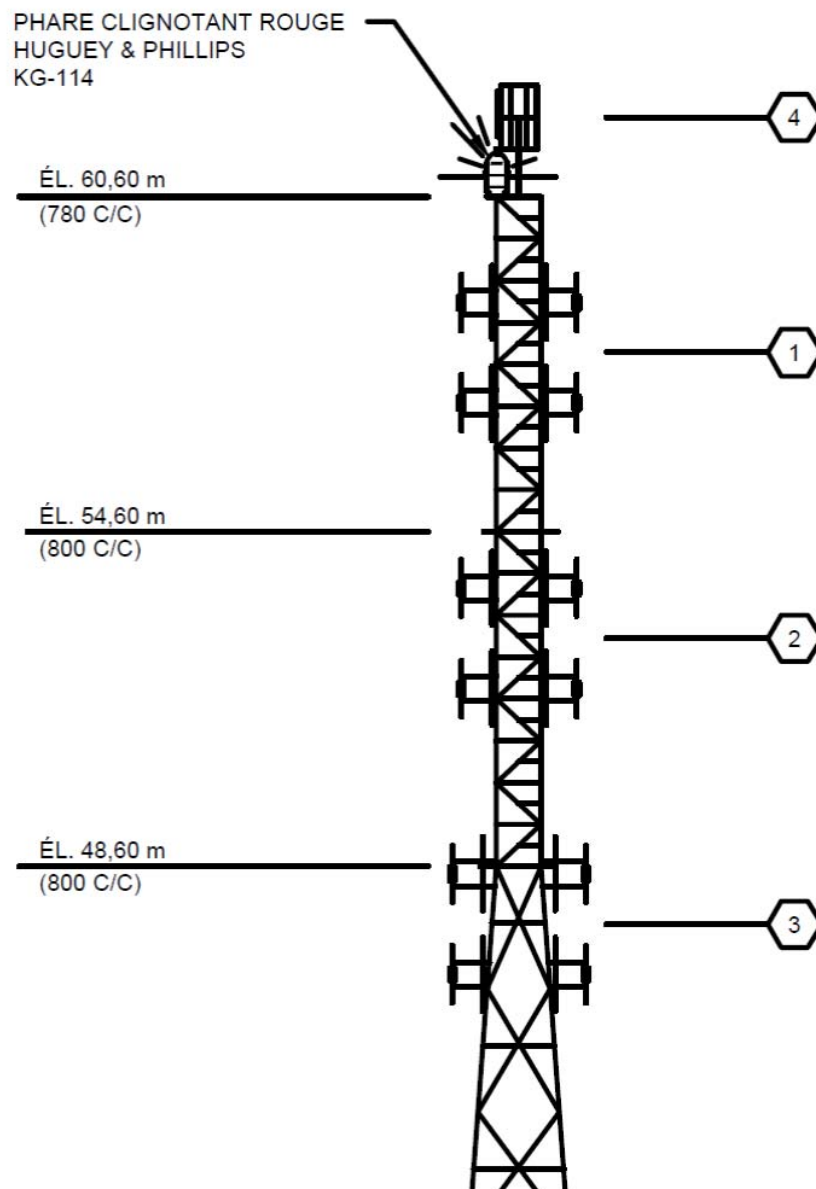
Amd. No. - N° de la modif.
File No. - N° du dossier
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Buyer ID - Id de l'acheteur
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ANNEX « G » Plan and Elevation of telecommunication tower

See next pages





Annex H – F3063-181401/A Questions and answers

Question 1:

Is there a specific model of VHF Panel antenna that was used as a template for this design?

Answer 1:

No. Generic Broadband panel VHF Antennas have been used to analyze our needs as they generally require much less tower space than exposed dipole antennas.

Question 2:

Is it expected that multiple VHF Panel antennas around the tower will be required to provide the 360° coverage pattern?

Answer 2:

According to the "Statement of Requirement" document in Section 1, it is clearly stated « *Following a brief needs analysis, we agreed that the antennas should be designed to be mounted in an array of 2, one on top of the other (stack), in addition to covering a 120-degree sector, this will give a total of 3 groups of 2 antennas for each of the 3 required sets to achieve the required 360 degree coverage. However, any other arrangement that satisfies our needs will be accepted.* »

Question 3:

There is no beamwidth cited for the VHF antenna, can you comment on what is expected here?

Answer 3:

Depending on the RF coverage required, it is important that the combination of antennas can achieve an omnidirectional coverage of 360 degrees.

Question 4:

Was the inherent loss of the RF splitter considered in the dBi gain requirements of the antenna(s) ?

Answer 4:

No, the gain in dBi is for an antenna arrangement.

Question 5:

Ref to sec 4.4.1 there are several input variables missing to be able to reliably calculate the RSL @ 40 nautical miles. Tx power, whether RF splitters are employed, frequency, gain of receiving antenna, feedline of receiving antenna system, consideration to topography etc.

Answer 5:

- TX power at the transmitter: 100 W (50 dBm)
- Frequency: 156.8 MHz
- RF filtration loss: 4.8 dB
- Transmission line: Commscope Andrew AVA5-50 - Cable length: 106 m
- Cabling Loss: 1.55 dB

- Gain of the receiving antenna: unitary
- Topography: Line of sight unobstructed and over salt water
- Projected height of antenna 1: 58 m (190 ft) AGL / 110 m (360 ft) ASL

Question 6:

Is the antenna system to be mounted around the outside of the tower or is top-mounting an option?

Answer 6:

The side-mount assembly type is mandatory. Every antenna system will have to be mounted around the outside of the tower.

Question 7:

It would help to know the application of this radio system and the performance expectations. We have concerns the use of RF power dividers is inefficient and can cause deep coverage nulls and other unwanted effects. The detail in the tower drawing isn't visible enough to determine if a proper phasing harness can be used.

Answer 7:

We use Motorola MTR2000 transmitters / receivers with a maximum power of 100 W to provide analog voice communications services to Canadian and International marine customers. The required RF coverage must meet IMO and ITU International standards for marine communication. The required standard in a VHF zone is 40 nautical miles from any coast served by a coast station. Currently, we use Broadband type VHF panel antennas on each side of the transmission tower to cover a 360 degree radius and the loss and undesirable effects through the use of power divider are negligible.

Question 8:

Description of the antenna configuration is very vague: Please give more details or an outline of the antenna configuration.

Answer 8:

Please refer to number 1, 2 and 3 of annex G for the desired antenna configuration. With this configuration, we should have a group of 2 antennas mounted on a round pole attached to each tower leg. Each antenna, ref number 1, 2 and 3, will consist of a group of 6 units, for a total of 18 antenna units.

Question 9:

In Annex D, of the solicitation documents, there is a requirement for OEM certification. Our company is a supplier and bids directly, however we only supply equipment, all the support is provided by the OEM. We as bidder/supplier do not have the capacity to support the product directly. If the OEM provides in writing that they will support the equipment directly, will that be acceptable?

Answer 9:

Yes, this option will be acceptable as long as you are able to provide us with proof that the equipment will be support and maintain by the OEM and will be covered by a warranty and that the manufacturer (OEM) will honor it if necessary.