



**RETURN BIDS TO:  
RETOURNER LES SOUMISSIONS À:**

**Bid Receiving - PWGSC / Réception des  
soumissions - TPSGC**  
1550 D'Estimaerville Avenue  
1550, Avenue d'Estimaerville  
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  
BFC Bagotville, CP 380  
CFB Bagotville, PO Box 380  
Bâtiment 62, local 112  
Building 62, Room 112  
Alouette  
Québec  
G0V1A0

<b>Title - Sujet</b> Lease of Portable VHF Radio Sets	
<b>Solicitation No. - N° de l'invitation</b> W0106-17W601/B	<b>Date</b> 2017-09-25
<b>Client Reference No. - N° de référence du client</b> W0106-17W601	
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$BAL-001-17220	
<b>File No. - N° de dossier</b> BAP-6-39366 (001)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2017-10-11</b>	<b>Time Zone Fuseau horaire</b> Heure Avancée de l'Est HAE
<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> Tremblay, Marial	<b>Buyer Id - Id de l'acheteur</b> bal001
<b>Telephone No. - N° de téléphone</b> (418) 677-4000 (4159)	<b>FAX No. - N° de FAX</b> ( ) -
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b>  Ministère de la Défense nationale Comptoir de services, Escadron des transmissions 501, rue Général T.L Tremblay, Gamison Valcartier Courcellette (Québec) G0A 4Z0	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

<b>Delivery Required - Livraison exigée</b> Voir doc	<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 (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 bid solicitation cancels and supersedes previous bid solicitation number **W0106-17W601/A** dated 2017-03-01 with a closing of 2017-03-23 at 02:00 pm. A debriefing or feedback session will be provided upon request to bidders who bid on the previous solicitation.

## **“LEASE OF PORTABLE VHF RADIO SETS”**

### **DEPARTMENT OF NATIONAL DEFENCE 2<sup>ND</sup> CANADIAN DIVISION SUPPORT GROUP SIGNAL SQUADRON SUPPORT BASE VALCARTIER COURCELETTE, QUEBEC G0A 4Z0**

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## **PART 1 - GENERAL INFORMATION**

### **1.1 Statement of Work - Bid**

The Work to be performed is detailed under Article 6.1 of the resulting contract clauses.

### **1.2 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.

### **1.3 Canadian Content**

The requirement is subject to a preference for Canadian services.

### **1.4 Trade Agreement**

The requirement is subject to the provisions of the Canadian Free Trade Agreement (CFTA).

## 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>) 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 (2017-04-27) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 5.4 of 2003, Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

- Delete: ~~60 days~~
- Insert: **120 days**

### 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.

Your proposal can be transmitted by fax to # 418-648-2209 or by mail to the following address:

Bid Receiving Unit  
Public Works and Government Services Canada (PWGSC)  
1550 D'Estimauville Avenue  
Quebec City, Quebec, Canada, G1J 0C7

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### 2.3 Former Public Servant

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts awarded to FPSs, bidders must provide the information required below before contract award. If the answer to the questions and, as applicable the information required have not been received by the time the evaluation of bids is completed, Canada will inform the Bidder of a time frame within which to provide the information. Failure to comply with Canada's request and meet the requirement within the prescribed time frame will render the bid non-responsive.

#### Definitions

For the purposes of this clause, "former public servant" is any former member of a department as defined in the Financial Administration Act, R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

- (a) an individual;
- (b) an individual who has incorporated;
- (c) a partnership made of former public servants; or
- (d) a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.

"lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

"pension" means a pension or annual allowance paid under the Public Service Superannuation Act (PSSA), R.S., 1985, c. P-36, and any increases paid pursuant to the Supplementary Retirement Benefits Act, R.S., 1985, c. S-24 as it affects the PSSA. It does not include pensions payable pursuant to the Canadian Forces Superannuation Act, R.S., 1985, c. C-17, the Defence Services Pension Continuation Act, 1970, c. D-3, the Royal Canadian Mounted Police Pension Continuation Act, 1970, c. R-10, and the Royal Canadian Mounted Police Superannuation Act, R.S., 1985, c. R-11, the Members of Parliament Retiring Allowances Act, R.S. 1985, c. M-5, and that portion of pension payable to the Canada Pension Plan Act, R.S., 1985, c. C-8.

#### Former Public Servant in Receipt of a Pension

As per the above definitions, is the Bidder a FPS in receipt of a pension? **Yes ( ) No ( )**

If so, the Bidder must provide the following information, for all FPSs in receipt of a pension, as applicable:

- (a) name of former public servant;



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(b) date of termination of employment or retirement from the Public Service.

By providing this information, Bidders agree that the successful Bidder's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of the published proactive disclosure reports in accordance with Contracting Policy Notice: 2012-2 and the Guidelines on the Proactive Disclosure of Contracts.

#### Work Force Adjustment Directive

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of the Work Force Adjustment Directive? **Yes ( ) No ( )**

If so, the Bidder must provide the following information:

- (a) name of former public servant;
- (b) conditions of the lump sum payment incentive;
- (c) date of termination of employment;
- (d) amount of lump sum payment;
- (e) rate of pay on which lump sum payment is based;
- (f) period of lump sum payment including start date, end date and number of weeks;
- (g) number and amount (professional fees) of other contracts subject to the restrictions of a work force adjustment program.

For all contracts awarded during the lump sum payment period, the total amount of fees that may be paid to a FPS who received a lump sum payment is \$5,000, including Applicable Taxes.

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## **2.4 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.

## **2.5 Applicable Laws**

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

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>). 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 and how they will carry out the Work.

#### **Section II:     Financial Bid**

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

#### **Section III:    Certifications**

Bidders must submit the certifications and additional information 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.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.
- (c) The evaluation team will determine first if there are two or more bids with a valid Canadian Content certification. In that event, the evaluation process will be limited to the bids with the certification; otherwise, all bids will be evaluated. If some of the bids with a valid certification are declared non-responsive, or are withdrawn, and less than two responsive bids with a valid certification remain, the evaluation will continue among those bids with a valid certification. If all bids with a valid certification are subsequently declared non-responsive, or are withdrawn, then all the other bids received will be evaluated.

#### 4.1.1 Technical Evaluation

##### 4.1.1.1 Mandatory Criteria

Mandatory Criteria are included in Annex C.

#### 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.

### 4.2 Basis of Selection - Mandatory Criteria

A bid must comply with the requirements of the bid solicitation and meet all mandatory criteria to be declared responsive. The responsive bid with the lowest evaluated price **(the evaluated price will be equal to the sum of the three sections B.1.1 + B.1.2 + B.1.3 of Annex B; as added in section B.2)** 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. Unless specified otherwise, 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 Integrity Provisions - Declaration of Convicted Offences

In accordance with the Ineligibility and Suspension Policy (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide with its bid the required documentation, as applicable, to be given further consideration in the procurement process.

#### 5.1.2 Canadian Content Certification

This procurement is conditionally limited to Canadian services.

Subject to the evaluation procedures contained in the bid solicitation, bidders acknowledge that only bids with a certification that the services offered are Canadian services, as defined in clause A3050T, may be considered.

Failure to provide this certification completed with the bid will result in the services offered being treated as non-Canadian services.

The Bidder certifies that:

(        ) the services offered are Canadian services as defined in paragraph 4 of clause A3050T.

Note: The Canadian content certification refers only to Canadian services to be provided such as lease and training services to be provided following the resulting contract of this bid solicitation.

#### **5.1.2.1 Canadian Content Definition**

SACC Manual clause A3050T (2014-11-27) Canadian Content Definition.

#### **5.1.3 Radio Equipment Certification**

All offered radio equipment must be certified by Innovation, Science and Economic Development Canada (ISED) for use.

For a military equipment, the certification by ISDEC is not mandatory as the Department of National Defence (DND) has a methodology for an alternative evaluation with ISDEC who is the "Application for Spectrum Supportability / Demande d'octroi de fréquences" (DND 552 form). This process is not unique to Canada and it is common in all countries of NATO.

All other certifications, from Europe or the United States are not valid in Canada. The evaluation must be made in Canada.

Bidders must submit, with their bid, one of the two following certification documents for all radio frequency (RF) equipment offered:

- 1) A valid Technical Acceptance Certificate (TAC) issued by ISED; or
- or
- 2) A copy of the DND 552 Form, "Application for Spectrum Supportability" duly completed. The form will be submitted to DND Frequency Spectrum Management (FSM) for evaluation. Anticipate approximately 4 to 5 weeks for evaluation.

Please refer to Annex D for a copy of DND 552 form, "Application for Spectrum Supportability" and Annex E for the associated instructions.

A bid not accompanied by one of the two certification documents mentioned above will be deemed nonresponsive and will not receive any further consideration.

## 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 – Required Documentation

In accordance with the Ineligibility and Suspension Policy (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

### 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" list available at the bottom of the page of the Employment and Social Development Canada (ESDC) - Labour's website ([http://www.esdc.gc.ca/en/jobs/workplace/human\\_rights/employment\\_equity/federal\\_contractor\\_program.page?&\\_ga=1.229006812.1158694905.1413548969](http://www.esdc.gc.ca/en/jobs/workplace/human_rights/employment_equity/federal_contractor_program.page?&_ga=1.229006812.1158694905.1413548969)).

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" list at the time of contract award.

### 5.2.3 Status and Availability of Resources

The Bidder certifies that, should it be awarded a contract as a result of the bid solicitation, every individual proposed in its bid will be available to perform the Work as required by Canada's representatives and at the time specified in the bid solicitation or agreed to with Canada's representatives. If for reasons beyond its control, the Bidder is unable to provide the services of an individual named in its bid, the Bidder may propose a substitute with similar qualifications and experience. The Bidder must advise the Contracting Authority of the reason for the substitution and provide the name, qualifications and experience of the proposed replacement. For the purposes of this clause, only the following reasons will be considered as beyond the control of the Bidder: death, sickness, maternity and parental leave, retirement, resignation, dismissal for cause or termination of an agreement for default.

If the Bidder has proposed any individual who is not an employee of the Bidder, the Bidder certifies that it has the permission from that individual to propose his/her services in relation to the Work to be performed and to submit his/her résumé to Canada. The Bidder must, upon request from the Contracting Authority, provide a written confirmation, signed by the individual, of the permission given to the Bidder and of his/her availability.

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#### **5.2.4 Education and Experience**

The Bidder certifies that all the information provided in the résumés and supporting material submitted with its bid, particularly the information pertaining to education, achievements, experience and work history, has been verified by the Bidder to be true and accurate. Furthermore, the Bidder warrants that every individual proposed by the Bidder for the requirement is capable of performing the Work described in the resulting contract.

#### **5.2.5 Language Capability**

The Bidder certifies that it has the language capability required to perform the Work, as stipulated in the Statement of Work.



## PART 6 - RESULTING CONTRACT CLAUSES

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

Notice: Numbering will be revised at contract award

### 6.1 Statement of Work

The Contractor must lease "portable VHF radio sets" in accordance with the statement of work at Annex A.

#### 6.1.1 Optional Quantity

The Contractor grants to Canada the irrevocable option to lease the optional quantity of "portable VHF radio sets" described in section B.1.2 of Annexe B of the Contract under the same conditions and at the prices and/or rates stated in the Contract. The option may only be exercised by the Contracting Authority and will be evidenced, for administrative purposes only, through a contract amendment.

The Contracting Authority may exercise the option at any time before March 31, 2019 by sending a written notice to the Contractor.

### 6.2 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>) issued by Public Works and Government Services Canada.

#### 6.2.1 General Conditions

2010A (2016-04-04), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

#### 6.2.2 Supplemental General Conditions

The following Supplemental General Conditions apply to and form part of the Contract:

Number	Date	Title
4001	2015-04-01	Hardware Purchase, Lease and Maintenance
4003	2010-08-16	Licensed Software

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Number	Date	Title
4004	2013-04-25	Maintenance and Support Services for Licensed Software

### 6.3 Term of Contract

#### 6.3.1 Period of the Contract

The period of the Contract is from date of Contract to \_\_\_\_\_ (the contract end date will be specified in the contract by PWGSC and will be equal to the delivery period of 3 months + 24 months of lease of sets radios – approximately until March 2020) inclusive.

#### 6.3.2 Periods

##### 6.3.2.1 Delivery Period - Contract

All the “portable VHF radio sets” must be received within a period of ninety (90) calendar days after the contract is awarded.

##### 6.3.2.2 Delivery Period - Optional Quantity

All the optional quantity of “portable VHF radio sets” must be received within a period of ninety (90) calendar days after received a contract amendment to exercise the option.

##### 6.3.2.3 Training Period

Training must be given within thirty (30) calendar days after delivery of the radios.

#### 6.3.3 Option to Extend the Contract

The Contractor grants to Canada the irrevocable option to extend the term of the Contract by up to one additional year period under the same conditions. The Contractor agrees that, during the extended period of the Contract, it will be paid in accordance with the applicable provisions as set out in the Basis of Payment.

Canada may exercise this option at any time by sending a written notice to the Contractor at least 30 calendar days before the expiry date of the Contract. The option may only be exercised by the Contracting Authority, and will be evidenced for administrative purposes only, through a contract amendment.

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## 6.4 Authorities

### 6.4.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Marial Tremblay  
Title: Supply specialist  
Telephone: 418-677-4000, ext.: 4159  
E-mail address: [Marial.Tremblay@pwgsc.gc.ca](mailto:Marial.Tremblay@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.

### 6.4.2 Technical Authority

The Technical Authority for the Contract is:

(to be completed at contract award by PWGSC)

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Telephone No.: \_\_\_\_\_  
Facsimile No.: \_\_\_\_\_  
E-mail Address: \_\_\_\_\_

The Technical 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 Technical Authority, however the Technical 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.

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**6.4.3 Contractor's Representatives**

Name and telephone number of the person responsible for :

## (a) Contract Manager:

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Telephone No.: \_\_\_\_\_

Facsimile No.: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

## (b) Service Follow up:

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Telephone No.: \_\_\_\_\_

Facsimile No.: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

**6.5 Payment****6.5.1 Basis of Payment – Firm Unit and Lot Price**

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid the firm unit and lot prices, as specified in Annex B for a cost of \$\_\_\_\_\_ (to be completed at contract award by PWGSC). 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.

**6.5.2 SACC Manual Clauses**

Number	Date	Title
A9117C	2007-11-30	T1204 - Direct Request by Customer Department
H1008C	2008-05-12	Monthly Payment

## 6.6 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:

The original and one (1) copy must be forwarded to the address shown on page 1 of the Contract for certification and payment.

## 6.7 Certifications and Additional Information

### 6.7.1 Compliance

Unless specified otherwise, the continuous compliance with the certifications provided by the Contractor in its bid or precedent to contract award, and the ongoing cooperation in providing additional information are conditions of the Contract and failure to comply will constitute the Contractor in default. Certifications are subject to verification by Canada during the entire period of the Contract.

### 6.7.2 Canadian Content Certification

SACC Manual Clause A3060C (2008-05-12), Canadian Content Certification.

## 6.8 Applicable Laws

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

## 6.9 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 supplemental general conditions:
  - (i) 4001 (2015-04-01), Hardware Purchase, Lease and Maintenance;
  - (ii) 4003 (2010-08-16), Licensed Software; and
  - (iii) 4004 (2013-04-25), Maintenance and Support Services for Licensed Software.

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- (c) the general conditions 2010A (2016-04-04), General Conditions - Goods (Medium Complexity);
- (d) Annex A, Statement of Work;
- (e) Annex B, Basis of Payment; and
- (f) the Contractor's bid dated \_\_\_\_\_ (to be completed at contract award by PWGSC)

#### 6.10 SACC Manual Clauses

Number	Date	Title
A9006C	2012-07-16	Defence Contract
A9062C	2011-05-16	Canadian Forces Site Regulations
G1005C	2008-05-12	Insurance

#### 6.11 Shipping Instructions - Delivery at Destination

Goods must be consigned to the destination specified in the Contract and delivered: Delivered Duty Paid (DDP):

2nd Canadian Division  
Support Group Signal Squadron  
Building 501  
Support Base Valcartier  
501, General TL-Tremblay Street  
Courcellette, Quebec G0A 4Z0

Incoterms 2000 for shipments from a commercial contractor.

**ANNEX A - STATEMENT OF WORK****A.1 Title**

Lease of Portable VHF Radio Sets

**A.2 Background**

As part of the Combat Net Radio Enhancement (CNRE) Project, aimed at replacing the Canadian Army's (CA) combat radios, RT-5121 radios installed on vehicles and the portable version of PRC-522 radios, the Director Land Requirements (DLR) has submitted a plan for the removal of all Reserve portable radios by May 2017. However, there is no plan for their replacement at this time.

The Department of National Defence (DND) has mandated the 2nd Canadian Division (2 Cdn Div) with overseeing its area of responsibility (AOR) in the Arctic, as well as its own territory. 2 Cdn Div must therefore have trained and equipped troops for deployment in the Canadian Arctic and in its AOR. To accomplish this mission, 2 Cdn Div has given its 3 brigades (bdes) the mandate of Immediate Response Unit (IRU) for its entire AOR, and the Primary Reserve Force (34 and 35 Bdes) the mandate of preparing a response group in the Arctic.

DND wishes to equip these groups with VHF radio sets to enable them to establish communication between elements in the field and rear command posts.

**A.3 Purpose**

This document sets out the general and specific requirements for the full and satisfactory execution of the requirement related to the lease of VHF communication devices in an environment of Arctic operations and engagements for the Department of National Defence (DND).

The purpose of this solution is to mitigate in the short term, the loss and non-replacement of the portable radios of both reserve brigades. Lease of this equipment is the interim solution until the DLR submits a plan for the replacement of this capability, which is essential to the operations of our reserve brigades.

**A.4 Number of Portable VHF Radio Sets to Lease**

Below, the number of portable VHF radio sets to lease:

- 1) At the contract award: 75.
- 2) In option: 28 (additional quantity).

**A.5 Description of a portable VHF Radio Set**

Each set of portable VHF radio must include at least the following:

1. One (1) sturdy keypad handset;
  - a. The term "sturdy keypad handset" refers to a handset that can control radio features.
2. One (1) headset suited to under helmet;
3. One (1) carrying structure or carrying case;
4. One (1) 1-metre whip antenna;
  - a. A 10% difference (+/- 0.1m) to the prescribed 1m whip antenna length is acceptable as long as it is capable of receiving and transmitting within the entirety of the frequency band required.
5. One (1) set of rechargeable batteries necessary for the operation of the radio;
6. One (1) additional set of rechargeable batteries necessary for the operation of the radio;
7. One (1) battery charger with 1 compartment or more if the number of batteries required for the operation of the radio is more than one (1) battery;
8. One (1) operator manual in paper format; if possible in French, if not in English.
  - a. if the operator manuel is available in electronic format PDF, the manual will be provided in PDF format in a single copy via download or USB key.

**A.5.1 Other Components to Supply**

1. Cables and software for programming the radios:
  - a. One (1) kit of cables and one software per group of 5 radios;
  - b. Software compatible with Windows 7 or more;
  - c. Software, preference in English and in French, if not in English or in French;  
and
  - d. Cable USB type.
2. Two (2) battery chargers with at least 6-bay; to supply only once.



## A.6 Minimum Performance Characteristics of Equipment

The minimum performance characteristics of equipment listed in the table below are, first and foremost, the minimum requirements and do not constitute an exhaustive list.

Any characteristics of equipment required for operation of the equipment and not described in the table below are an integral part of this annex and their cost is included in the firm price of each radio set.

Minimum Performance Characteristics of Equipment	
Each portable VHF radio set:	
1	Must operate at temperatures varying between -20 and +60 degrees Celsius;
2	Must operate at frequencies ranging from 30.10 MHz to 87.775 MHz;
3	Must have an output power of 5 W; <ul style="list-style-type: none"> <li>The output power can be fixed or adjustable but must achieve the minimum 5 W.</li> </ul>
4	The radio receiver must be sensitive enough to enable communication at a minimum LOS range of 5km within the specified frequency bandwidth and at a 5W transmit power;
5	Must weigh a maximum of 1.5 kg including the battery pack;
6	Must meet standard MIL-STD-810G;
7	Must have a minimum of 10 pre-programmable channels;
8	Must have 25-kHz spacing;
9	Must be FM (F3E) digital frequency modulated;
10	Must be compatible with STANAG 4204, 150 Hz tone squelch in legacy mode;
11	Must be powered using a rechargeable battery duty cycle is a minimum of 8 hours based on a use 5/5/90 (transmitting/ receipt / pending); and
12	Must not be considered a controlled cryptographic item (CCI) and as such must not contain any Type 1 cryptographic element. A commercial encryption capability, such as AES 256 or else, while not requested will be accepted.

**A.7 Warranty**

1. Defective equipment must be replaced within 24 hours of its receipt by the Contractor.
  - a. Canada must pay the transportation cost associated with returning the Work or any part of the Work to the Contractor's plant for replacement, repair or making good, and the Contractor must pay the transportation cost associated with forwarding the replacement or returning the Work or part of the Work when rectified to the delivery point specified in the Contract or to another location as directed by Canada.
2. Lost or broken equipment not covered by the warranty must be replaced at a maximum cost of 75% of the cost of published sale of equipment.

**A.8 Training Sessions**

Training sessions will be given by the Contractor:

- (a) in French (mandatory);
- (b) on the Contractor's facilities or in a classroom rented by the Contractor; regardless of which site the training sessions will be taking place, the maximum distance between training sessions and the City of Drummondville, Province of Quebec, shall not exceed 300 km (students will come from Montreal and Quebec City);
- (c) only on weekends (Saturday and Sunday); 7.5 hours per day; between 8:00 a.m. and 4:00 PM; and
- (d) within a period of one (1) month after the delivery of portable VHF radios sets.

**IMPORTANT:** The labour charges [trainer and assistant(s) if necessary], the classroom, tools, and travel and living expenses should be included in the price of training sessions.

**A.8.1 Training Session for Instructors**

The Contractor must be capable of providing one (1) training session for instructor to cover all material relevant to the training of a qualified instructor able to educate staff on the operation, programming and maintenance of portable VHF radio set.

The training session will be given:

- (a) for a minimum of 10 instructors ("train the trainer" concept); and
- (b) for a period of four (4) days over two weekends.

**A.8.2 Training Sessions for Users**

The Contractor must be capable of providing three (3) training sessions for users to cover the operation, programming and maintenance of portable VHF radio set.

The training sessions will be given:

- (a) for a group of minimum of 15 users par session;
- (b) for a period of two (2) days per group per session on one weekend; and
- (c) for a minimum of 45 users (3 sessions).

**ANNEX B - BASIS OF PAYMENT****B.1 Pricing**

Before submitting your prices, please refer to clause **6.5 Payment** where it is mentioned, inter alia, that applicable taxes are not included in the prices.

**B.1.1 Pricing - Contract: 75 Portable VHF Radios Sets**

- The period of the lease starts on the day the Hardware is accepted and ends 24 months later.

Please complete the column "Price c" and column "Extended Price" of the following table:

Item	Description	Quantity	Unit	Period		Price		Ext. Price
		a		b		c		a x b x c
1	Lease of portable VHF radio set including delivery at destination ✓ As per sections A.5, A.6 and A.7 of Annex A.	75	set	24	month	\$	Firm monthly price per set	\$
2	Training for 10 instructors at the same time, during 4 days, 7.5 hours per day, Weekends only <b>in French</b> , ("train the trainer" concept). ✓ As per sections A.8 and A.8.1 of Annex A.	4	day (1 session of 4 days)	7.5	hour per day	\$	Firm hourly rate	\$
3	Training for 15 users at the same time, during 2 days, 7.5 hours per day, Weekends only <b>in French</b> , for 45 users. ✓ As per sections A.8 and A.8.2 of Annex A.	6	day (3 sessions of 2 days)	7.5	hour per day	\$	Firm hourly rate	\$
B.1.1 Cost - Contract : 75 Portable VHF Radios Sets:								\$

**B.1.2 Pricing - Option to Extend the Contract Period: 75 Portable VHF Radios Sets**

- Additional lease of 12 months after the period described in section B.1.1.

Please complete the column "Price c" and column "Extended Price" of the following table:

Item	Description	Quantity	Unit	Period		Price		Ext. Price
		a		b		c		a x b x c
1	Lease of portable VHF radio set ✓ As per sections A.5, A.6 and A.7 of Annex A; and ✓ As per clause <b>6.3.3 Option to Extend the Contract</b> of this document.	75	set	12	month	\$	Firm monthly price per set	\$

**B.1.3 Pricing – Optional Quantity: 28 Portable VHF Radios Sets**

- The period of the lease starts on the day the Hardware is accepted and ends 24 months later.

Please complete the column "Price c" and column "Extended Price" of the following table:

Item	Description	Quantity	Unit	Period		Price		Ext. Price
		a		b		c		a x b x c
1	Lease of portable VHF radio set including delivery at destination ✓ As per sections A.5, A.6 and A.7 of Annex A; and ✓ As per clause <b>6.1.1 Optional Quantity</b> of this document.	28	set	24	month	\$	Firm monthly price per set	\$

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**B.2 Evaluated Price of the Bid**

For evaluation purpose only, the evaluated price of each bid will be equal to the sum of the three sections B.1.1 + B.1.2 + B.1.3 of this annex as follows:

Section	Title	Total
B.1.1	Cost - Contract : 75 Portable VHF Radios Sets:	\$
B.1.2	Extended Price - Option to Extend the Contract: 75 Portable VHF Radios Sets:	\$
B.1.3	Cost - Optional Quantity: 28 Portable VHF Radios Sets:	\$
Evaluated Price*:		\$

\*Bidders are encouraged to complete the table above to determine the evaluated price of their bid.

**ANNEX C - MANDATORY CRITERIA**

The bid must meet the mandatory criteria specified in this annex. Bidders must provide the necessary documentation to support compliance with this requirement.

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

**C.1 Mandatory Criterion no 1 – Instructor (Expertise et Experience)**

1. Bidders must include with his proposal a curriculum vitae (C.V.) of the instructor and any other document required to demonstrate that she or he:
  - a. can easily verbally communicate in French;

AND

  - b. has received training on the proposed radio model that is recognized by the original equipment manufacturer (OEM) and for which a proof of certification is available.

OR

  - b. possesses one year of proven experience with the proposed radio model as a product representative or instructor.
2. In order that the regulatory training may be considered, the following documents must be provided:
  - a. A written certification that the person has taken formal training in the field of radio sets specified in this request.
  - b. The following information should also be provided: name of the institution; titles of courses taken; and the number of hours of theoretical and practical instruction.

## C.2 Mandatory Criterion no 2 - Minimum Performance Characteristics of Equipment

Although Bidders must propose products meeting all “minimum performance characteristics of equipment” required in Annex a; at the bid closing date, bids will be evaluated on the “minimum performance characteristics of equipment” listed in the table of “Minimum performance characteristics of equipment”. Simply stating that the proposed product complies or that it meets the “minimum performance characteristics of equipment selected” is not enough. To demonstrate that their products meet all the “minimum performance characteristics of equipment selected”, Bidders must submit bid, proofs of compliance.

Bidders should complete the last column of the "Table of minimum performance characteristics of equipment" hereafter using cross-referenced to the proofs of compliance; Bidders should indicate where in the bid the reference material can be found, including the title of the document, and the page and paragraph numbers. The proofs of compliance must provide sufficient detail and explanation to allow evaluation and demonstrate that each the “minimum performance characteristics of equipment” is met.

- ✓ Proof of compliance is defined as a document, such as a brochure and/or technical literature and/or a third party test report provided by a nationally and/or internationally recognized testing facility and/or a report generated by a nationally and/or internationally recognized third party software.

Canada will evaluate only the documentation provided with a bidder's bid. Canada will not evaluate information such as references to Web site addresses where additional information can be found, or technical manuals or brochures not submitted with the bid.

Table of Minimum Performance Characteristics of Equipment		➤ To be completed by Bidders
Each portable VHF radio set:		Title of the document, and the page and paragraph numbers.
1	Must operate at temperatures varying between -20 and +60 degrees Celsius;	
2	Must operate at frequencies ranging from 30.10 MHz to 87.775 MHz;	
3	Must have an output power of 5 W; <ul style="list-style-type: none"> <li>The output power can be fixed or adjustable but must achieve the minimum 5 W.</li> </ul>	
5	Must weigh a maximum of 1.5 kg including the battery pack;	
6	Must meet standard MIL-STD-810G;	



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<b>Table of Minimum Performance Characteristics of Equipment</b>		➤ To be completed by Bidders
Each portable VHF radio set:		Title of the document, and the page and paragraph numbers.
7	Must have a minimum of 10 pre-programmable channels;	
8	Must have 25-kHz spacing;	
9	Must be FM (F3E) digital frequency modulated;	
10	Must be compatible with STANAG 4204, 150 Hz tone squelch in legacy mode.	
11	Must be powered using a rechargeable battery duty cycle is a minimum of 8 hours based on a use 5/5/90 (transmitting/ receipt / pending).	

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#### **ANNEX D - DND 552 FORM - APPLICATION FOR SPECTRUM SUPPORTABILITY**

Form DND 552 is attached to this request.

#### **ANNEX E - INSTRUCTIONS TO COMPLETE DND 552 FORM**

The document on the instructions to complete DND 552 form is attached to this request.

## ANNEX F - PRESENTATION OF YOUR BID

### F.1 Check List

Below is a checklist of the contents of your bid. This list is not an exhaustive list; it remains the Bidder's responsibility to prepare its bid in accordance with the instructions contained in the Request For Proposal (RFP) and provide a comprehensible and sufficiently detailed bid, including all requested pricing details that will permit a complete evaluation in accordance with the criteria set out in the RFP.

Pagination of <u>Document 1 of 2</u> (only one page)	
Page 1	Bidders should include with their bid, <b>the first sheet</b> of this RFP properly completed and signed. Refer to 2003 Standard Instructions mentioned in clause <b>2.1 Standard Instructions, Clauses and Conditions</b> .
Pagination of <u>Document 2 of 2</u> (35 pages)	
Page 6	Bidders must submit their bid only to the address indicated in clause <b>2.2 Submission of Bids</b> .
Pages 7 and 8	Bidders should submit with their bid, clause <b>2.3 Former Public Servant</b> duly completed.
Page 11	Bidders must pay attention on how bids will be evaluated and the winning bid selected. Refer to <b>Part 4 - Evaluation Procedures and Basis of Selection</b> .
Page 12	<u>Applicable only if an offence has been committed</u> Bidders must provide with their bid the required documentation as indicated Clause <b>5.1.1 Integrity Provisions - Declaration of Convicted Offences</b> .
Page 12	If Bidders provide a service considered "Canadian", they must submit with their bid, clause <b>5.1.2 Canadian Content Certification</b> duly completed.
Page 13	Bidders must submit with their bid, the certification document duly completed as indicated in clause <b>5.1.3 Radio Equipment Certification</b> .
Page 14	Bidders must provide with their bid or promptly thereafter a <b>list of names</b> as

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	indicated in clause <b>5.2.1 Integrity Provisions - Required Documentation</b> .  ➤ Please refer to section “ <b>17. Information to be provided when bidding, contracting or entering into a real property agreement</b> ” of the following Web site: <a href="http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html">http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html</a>
Page 19	Bidders should submit with their bid, clause <b>6.4.3 Contractor's Representatives</b> duly completed.
Pages 27 to 29	Bidders must include with their bid, <b>ANNEX B - BASIS OF PAYMENT</b> duly completed.
Pages 30 to 32	Bidders must include with their bid, the necessary documentation to support compliance with the mandatory criteria and should include with their bid, <b>Annex C - Mandatory Criteria</b> duly completed.

# Annexe D / Annex D - DND 552

Classification: \_\_\_\_\_

Application for Spectrum Supportability Demande d'octroi de Fréquences		Date	Page
To: À:		From (Office making request): De (Bureau qui présente la demande):	
1. Equipment nomenclature and/or model number Désignation du matériel et numéro de modèle			
2. Status of supportability request (check one) Centre de demande d'octroi (cochez une seule case)			
<input type="checkbox"/> Experimental research or exploratory development Recherche expérimentale ou développement préliminaire <input type="checkbox"/> Advanced or engineering development Développement avancé ou ingénierie <input type="checkbox"/> Operational Utilisation opérationnelle			
<b>1. Equipment Usage – Utilisation du matériel</b>			
3. Functional and purpose Fonction et but			
4. Method of operation Mode de fonctionnement			
5. Extent of use Étendue de l'utilisation			
6. Operational environment Milieu d'utilisation			
7. Geographical area of experimental research, or developmental evaluation Région géographique de la recherche expérimentale ou de l'évaluation du développement			
8. Geographical area of operational use Région géographique de l'utilisation opérationnelle			
9. Number of equipments in initial phase Nombre d'appareils pendant la phase initiale			
10. Number of equipments planned for operational use Nombre d'appareils prévu pour l'utilisation opérationnelle			
11. Number of these equipments operating simultaneously in the same electromagnetic environment Nombre d'appareils fonctionnant simultanément dans le même milieu électromagnétique			
12. Target date for the start and end of experimental or developmental evaluation Date prévue pour le commencement et la fin de l'évaluation expérimentale ou de l'évaluation ou développement			
13. Target date for operational use Date prévue d'utilisation opérationnelle			
14. Compliance with requirements of the DND/CF Radio Frequency Safety Program (RFSP) Conformité aux exigences du MDN/FC Programme de sécurité des radiofréquences (PSRF)			
<p>In accordance with DAOD 3026-1 (Radio Frequency Safety Program) LCMMs, Procurement Officers and Project Managers are responsible for ensuring all radiofrequency (RF) devices under their control have been evaluated to establish the extent and type of RF hazards that may be associated with the devices.</p> <p>Conformément au DOAD 3026-1 (Programme de sécurité des radiofréquences) les GCVM, les agents d'approvisionnement et les gestionnaires de projet sont chargés de veiller à ce que tous les dispositifs radiofréquences (RF) relevant d'eux aient fait l'objet d'une évaluation visant à déterminer l'étendue et la nature des risques pouvant être liés aux rayonnements RF produit par les dispositifs.</p> <p><input type="checkbox"/> I confirm that a formal request to the RFSP TA at QETE has been made in accordance with DAOD 3026-0, DAOD 3026-1 and CFTO C-55-040-001/TS-001 to conduct an RF safety assessment for the relevant HERP, HERF and HERO requirements under QETE project no _____.</p> <p><input type="checkbox"/> Je confirme qu'une demande formelle a été faite à l'autorité technique (AT) du Programme de sécurité des radiofréquences du CETQ conformément aux DOAD 3026-0, DOAD 3026-1 et ITFC C-55-040-001/TS-001, pour exécuter l'évaluation de la sécurité des radiofréquences, conformément aux exigences qui relèvent des besoins en HERP, HERF et HERO, sous le numéro de projet du CETQ _____.</p> <p>Name/Nom: _____</p> <p>Signature: _____ Date: _____</p>			

Classification: \_\_\_\_\_.

2. Transmitter Equipment Characteristics - Caractéristiques du matériel émetteur	
1. Nomenclature, Manufacturer's Model No.: Désignation, n° de modèle du fabricant:	2. Manufacturer's Name: Nom du fabricant:
3. Transmitter Installation: Installation émettrice:	4. Transmitter Type: Type d'émetteur:
5. Tuning Range: <b>Gamme d'accord:</b>	6. Method of Tuning: Méthode d'accord:
7. RF Channelling Capability: Répartition des voles RF:	8. Emission Designator(s): Identificateur(s) d'émission:
9. Frequency Tolerance: Tolérance de fréquence:	
10. Filter Employed Filtre utilisé: Yes <input type="checkbox"/> No <input type="checkbox"/> Oui Non	12. Emission Bandwidth Largeur de bande de l'émission: <input type="checkbox"/> Calculated <input type="checkbox"/> Measured Calculée Mesurée
11. Spread Spectrum: Spectre étalé: Yes <input type="checkbox"/> No <input type="checkbox"/> Oui Non	(a) -3 dB _____ (b) -20 dB _____ (c) -40 dB _____ (d) -60 dB _____ (e) OCCBW _____ Largeur de bande occupée
13. Maximum Bit Rate: Débit binaire maximal:	15. Maximum Modulation Frequency: Fréquence de modulation et de codage:
14. Modulation Techniques and Coding: Techniques de modulation et de codage:	
16. Pre-emphasis: Préaccentuation: Yes <input type="checkbox"/> No <input type="checkbox"/> Oui Non	17. Deviation Ratio: Rapport de déviation:
18. Pulse Characteristics: Caractéristiques des impulsions: (a) Rate – Fréq. de récurrence _____ (b) Width – Durée _____ (c) Rise Time – Temps de montée _____ (d) Fall Time – Temps de descente _____ (e) Comp Ratio – Rapport de comp. _____ Largeur de bande occupée	19. Power – Puissance: (a) Mean – Moyenne _____ (b) PEP – En crête _____
21. Harmonic Level: Niveau des harmoniques: (a) 2nd – 2 <sup>e</sup> _____ (b) 3rd – 3 <sup>e</sup> _____ (c) Other – Autres _____	20. Output Device: Dispositif de sortie:
	22. Spurious Level: Niveau du rayonnement non essentiel:
	23. Industry Canada Type Approval No.: N° d'homologation de l'industrie Canada:
24. Equipment Frequency Plan: Plan de fréquences de l'équipement :	

## Annexe D / Annex D - DND 552

Classification: \_\_\_\_\_.

3. Receiver Equipment Characteristics – Caractéristiques du matériel récepteur				
1. Nomenclature, Manufacturer's Model No.: Désignation, n° de modèle du fabricant:			2. Manufacturer's Name: Nom du fabricant:	
3. Receiver Installation: Installation réceptrice:			4. Receiver Type: Type de récepteur:	
5. Tuning Range: Gamme d'accord:			6. Method of Tuning: Méthode d'accord:	
7. RF Channelling Capability: Répartition des voles RF:			8. Emission Designator(s): Identificateur(s) d'émission:	
9. Frequency Tolerance: Tolérance de fréquence:				
10. IF Selectivity: Sélectivité FI: (a) -3 dB _____ (b) -20 dB _____ (c) -60 dB _____			12. RF Selectivity: Sélectivité RF: Calculated <input type="checkbox"/> Measured <input type="checkbox"/> Calculée _____ Mesurée _____ (a) -3 dB _____ (b) -20 dB _____ (c) -40 dB _____	
12. IF Frequency: Fréquence intermédiaire: (a) 1st – 1 <sup>ère</sup> _____ (b) 2nd – 2 <sup>e</sup> _____ (c) 3rd – 3 <sup>e</sup> _____			13. DFSM use only: Réservé au GSFM:	
			14. DFSM use only: Réservé au GSFM:	
15. Oscillator Tuned: Oscillateur accordé: (a) Above Tuned Frequency Au-dessus de la fréq. d'accord (b) Below Tuned Frequency Au-dessous de la fréq. d'accord (c) Either Above or Below the Frequency Ou au-dessus ou au-dessous de la fréq.			1st 1 <sup>ère</sup>	2nd 2 <sup>e</sup>
			3rd 3 <sup>e</sup>	
			16. Maximum Bit Rate: Débit binaire maximal:	
			17. Sensitivity: Sensibilité: (a) Sensitivity – Sensibilité _____ dBm (b) Criteria – Critère _____ (c) Noise Fig – Facteur de bruit dB (d) Noise Temp – Temp. de bruit _____ Kelvin	
18. De-emphasis: Désaccentuation:			Yes Oui <input type="checkbox"/>	No Non <input type="checkbox"/>
19. Image Rejection: Rejet de fréquence image:			20. Spurious Rejection: Rejet des fréquences parasites:	
21. Remarks: Remarques:				
22. Industry Canada Type Approval No.: N° d'homologation de l'industrie Canada:				

## Annexe D / Annex D - DND 552

Classification: \_\_\_\_\_.

4. Antenna Equipment Characteristics – Caractéristiques du matériel d'antenne			
1. Transmitting Émission <input type="checkbox"/>		Receiving Réception <input type="checkbox"/>	
		Transmitting and Receiving Émission et réception <input type="checkbox"/>	
2. Nomenclature, Manufacturer's Model No.: Désignation, n° de modèle du fabricant:		3. Manufacturer's Name: Nom du fabricant:	
4. Frequency Range: Gamme de fréquences:		5. Type:	
6. Polarization – Polarisation:		7. Scan Characteristics: Caractéristiques de balayage:	
8. Gain: (a) Main Beam Faisceau principal _____ (b) 1st Major Side Lobe 1 <sup>er</sup> lobe latéral important _____		(a) Type _____ (b) Vertical Scan: Balayage vertical: _____ (1) Max Elev Angle de site max. _____ (2) Min Elev Angle de site min. _____ (3) Scan Rate Vitesse de balayage _____	
9. Beamwidth : Largeur du faisceau: (a) Horizontal _____ (b) Vertical _____		(c) Horizontal Scan: Balayage horizontal: _____ (1) Sector Scanned Secteur balayé _____ (2) Scan Rate Vitesse de balayage _____ (d) Sector Blanking Effacement de secteur      Yes      No Oui <input type="checkbox"/> Non <input type="checkbox"/>	
10. Remarks: Remarques:			
Originator: Rédacteur:		Position:	Telephone Number: Numéro de téléphone:
			Date:



1. **Classification.** Enter classification and downgrading stamp. Indicate by check mark whether for Experimental Research or Exploratory Development, Advanced or Engineering Development, or Operational Utilization. The classification of the title should be appropriately indicated (e.g. (U), (C) or (S)). Classified information contained in the completed form should be indicated:

as a general statement in a Remarks block, such as, "The purpose, functions, operational use, frequency band, emission bandwidths, and power are classified X";

by an enumeration of the applicable paragraphs and subparagraphs with their classifications; or

the classification may be marked alongside each entry on the form.

1. **Classification.** Entrer la classification et le déclassement. Indiquer par un crochet s'il s'agit d'une recherche expérimentale ou d'un développement préliminaire, d'un développement avancé ou d'ingénierie ou d'une utilisation opérationnelle. La classification du titre doit être indiquée convenablement (par exemple, (U), (C) ou (S)). L'information classifiée du formulaire rempli doit être signalée :

a. en tant qu'énoncé général dans le bloc Remarques tel que : « L'objet, les fonctions, l'utilisation opérationnelle, la bande de fréquences, les largeurs de bandes d'émission et la puissance sont classifiés X »;

b. par une énumération des paragraphes et des sous-paragraphes applicables accompagnés de leur classification; ou

c. la classification peut être indiquée à côté de chaque entrée du formulaire.

## **PART 1: EQUIPMENT USAGE**

### **Part 1, Block 1: Nomenclature and Model Number**

2. Provide nomenclature and equipment type (e.g. AN/FPS-16 Instrumentation Radar).

### **Part 1, Block 2: Status of Supportability Request**

3. The supportability request will be for one of these purposes:

a. Experimental research or exploratory development:

to test the feasibility of new techniques or concepts of natural phenomena and environment, and efforts towards solution of problems in the physical, behavioural and social sciences that have no direct military application; and

## **PARTIE 1 : UTILISATION DE L'ÉQUIPEMENT**

### **Partie 1, Bloc 1 : Désignation et numéro de modèle**

2. Inscrire la nomenclature et le type d'équipement (par exemple, radar d'instrumentation AN/FPS-16).

### **Partie 1, Bloc 2 : Statut de la demande de soutenabilité**

3. La demande de soutenabilité de fréquences est faite pour l'un de ces buts :

a. Recherche expérimentale ou développement préliminaire :

pour vérifier la faisabilité de techniques ou de concepts nouveaux des phénomènes ou de l'environnement naturel et pour consacrer des efforts en vue de trouver une solution à des problèmes liés aux sciences physiques, comportementales et sociales qui n'ont aucune application militaire directe; et

to test the feasibility of adapting conventional techniques to new purposes prior to projection into development planning. Includes all effort directed toward solution of specific military problems, short of major development projects.

Advanced or engineering development:

to develop equipment which have moved into the development of hardware for experimental or operational test;

to modify existing operational equipment for improved performance;

to develop programs being engineered for service use, but have not yet been approved for production and service deployment; and

to continue development of equipment/systems that have been approved for production and service use.

To operate and test equipment which have passed the development phase and are planned for operational use for:

tactical and training purposes; or

non-tactical purposes, such as for test range instrumentation.

#### **Part 1, Block 3: Function and Purpose**

4. Describe as specifically as possible the function and purpose to be performed. For example: guided missile control radar; troposcatter communications equipment; provides acquisition and tracking information; short range communications; telemetering for quality control.

pour vérifier la faisabilité de l'adaptation de techniques conventionnelles aux nouveaux objectifs avant la projection dans la planification de développement. Cette démarche comprend tous les efforts consacrés à trouver la solution de problèmes militaires spécifiques, à l'exception des projets majeurs de développement.

b. Développement avancé ou d'ingénierie :

(1) pour développer de l'équipement qui s'est introduit dans le développement du matériel pour les essais expérimentaux ou opérationnels;

(2) pour modifier l'équipement opérationnel existant afin d'améliorer la performance;

(3) pour développer des programmes préparés pour l'usage militaire mais qui n'ont pas encore été approuvés pour la production et le déploiement militaire; et

pour continuer le développement de systèmes et d'équipement qui ont été approuvés pour la production et l'usage militaire.

c. Pour exploiter et vérifier l'équipement qui a passé la phase du développement et dont l'utilisation opérationnelle est prévue pour :

(4) fins tactiques et de formation; ou

(5) fins non tactiques telle que l'instrumentation d'un champ de tir d'essai.

#### **Partie 1, Bloc 3 : Fonction et but**

4. Décrire aussi précisément que possible la fonction à exécuter et le but à atteindre. Par exemple : radar de contrôle de missile guidé; équipement de communication de diffusion troposphérique; fournit de l'information d'acquisition et de poursuite; communications à courte portée; télémétrie pour le contrôle de la qualité.

**Part 1, Block 4: Method of Operation**

5. Describe the method of operation. For example: radar activates beacon transponder in missile with coded pulses; beacon provides missile track; radar also transmits coded pulse command signals to missile beacon receiver for guidance.

**Part 1, Block 5: Extent of Use**

6. Describe operational extent of usage. For example: continuous or intermittent; expected duty cycle during mission; expected number of hours of operation per day or other appropriate time period. Indicate any conditions governing intermittent use. If appropriate, describe mission phase during which system operates.

**Part 1, Block 6: Operational Environment**

7. Give brief description of ultimate operational environment. For example: amphibious landing operations; defence of strategic target area; sea areas; field army. Provide any additional environmental factors pertinent to a meaningful assessment of electromagnetic compatibility, such as specific vehicle/platform types, expected mobility or other factors affecting the environment variability.

**Part 1, Block 7: Geographical Area of Experimental Research or Developmental Evaluation**

8. State the geographical area used for the experimental research or development.

**Part 1, Block 8: Geographical Area of Operational Use**

9. State the geographical area for potential use. Provide latitude and longitude of centre of operational area and radius of operation in kilometres.

**Partie 1, Bloc 4 : Mode de fonctionnement**

5. Décrire le mode de fonctionnement. Par exemple : le radar actionne le transpondeur de la radiobalise dans le missile par des impulsions codées; la radiobalise détermine la piste de poursuite du missile; les radars transmettent aussi des signaux de commande codés au récepteur de la radiobalise du missile pour le guidage.

**Partie 1, Bloc 5 : Étendue de l'utilisation**

6. Décrire l'étendue opérationnelle de l'utilisation. Par exemple : continue ou intermittente; facteur d'utilisation prévu au cours de la mission; nombre d'heures d'exploitation prévues par jour ou autre période appropriée. Indiquer toute condition gouvernant l'utilisation intermittente. Décrire au besoin la phase de la mission durant laquelle le système fonctionne.

**Partie 1, Bloc 6 : Milieu opérationnel**

7. Donner une brève description du milieu opérationnel ultime. Par exemple : opérations amphibies de débarquement; défense d'une zone cible stratégique; zones maritimes; armée de campagne. Fournir tous les facteurs environnementaux supplémentaires pertinents à l'évaluation significative de la compatibilité électromagnétique, tels que les types particuliers de véhicules ou de plates-formes, la mobilité prévue ou les autres facteurs ayant un effet sur la variabilité de l'environnement.

**Partie 1, Bloc 7 : Région géographique de la recherche expérimentale ou de l'évaluation du développement**

8. Indiquer la région géographique qui sert à la recherche expérimentale ou au développement.

**Partie 1, Bloc 8 : Région géographique de l'utilisation opérationnelle**

9. Indiquer la région géographique de l'utilisation potentielle. Donner la latitude et la longitude du centre de la zone opérationnelle et le rayon d'opération en kilomètres.

**Part 1, Block 9: Number of Equipment in Initial Phase**

10. List number of equipment planned for experimental or developmental phase.

**Part 1, Block 10: Number of Equipment Planned for Operational Use**

11. List number of equipment planned for operational use.

**Part 1, Block 11: Number of These Equipment Operating Simultaneously in the Same Electromagnetic Environment**

12. Indicate maximum number of these systems that will be operating simultaneously in the same environment. For example: three (3) missiles will be flown simultaneously in an operating area.

**Part 1, Block 12: Target Date for the Start and End of Experimental or Developmental Evaluation**

13. Indicate the dates on which it is expected that the experimental or developmental phase will start and finish.

**Part 1, Block 13: Target Date for Operational Use**

14. Indicate target date for operational use.

**Part 1, Block 14: Compliance with requirements of the DND/CF Radio Frequency Safety Program (RFSP)**

15. In accordance with DAOD 3026-1 (Radio Frequency Safety Program) LCMMs, Procurement Officers and Project Managers are responsible for ensuring all radiofrequency (RF) devices under their control have been evaluated to establish the extent and type of RF hazards that may be associated with the devices, which is to be done by:

- tasking QETE to provide the Radio Frequency Safety Technical Authority (RFS TA) compliance

**Partie 1, Bloc 9 : Nombre d'appareils pendant la phase initiale**

10. Indiquer le nombre d'appareils prévus pour la phase expérimentale ou de développement.

**Partie 1, Bloc 10 : Nombre d'appareils prévus pour l'utilisation opérationnelle**

11. Indiquer le nombre d'appareils prévus pour l'utilisation opérationnelle.

**Partie 1, Bloc 11 : Nombre d'appareils fonctionnant simultanément dans le même milieu électromagnétique**

12. Indiquer le nombre maximal d'appareils fonctionnant simultanément dans le même environnement. Par exemple : trois (3) missiles voleront simultanément dans la zone opérationnelle.

**Partie 1, Bloc 12 : Date prévue pour le commencement et la fin de l'évaluation expérimentale ou de l'évaluation du développement**

13. Indiquer les dates auxquelles il est prévu que la phase expérimentale ou de développement débutera et se terminera.

**Partie 1, Bloc 13 : Date prévue d'utilisation opérationnelle**

14. Indiquer la date prévue pour l'utilisation opérationnelle.

**Partie 1, Bloc 14 : Conformité aux exigences du MDN/FC Programme de sécurité des radiofréquences (PSRF)**

15. Conformément au DOAD 3026-1 (Programme de sécurité des radiofréquences) les GCVM, les agents d'approvisionnement et les gestionnaires de projet sont chargés de veiller à ce que tous les dispositifs radiofréquences (RF) relevant d'eux aient fait l'objet d'une évaluation visant à déterminer l'étendue et la nature des risques pouvant être liés aux rayonnement RF produit par les dispositifs, ce qui doit être fait:

- en mandatant le CETQ afin de fournir l'évaluation de la conformité de l'autorité technique de la

**ANNEX E - INSTRUCTIONS FOR COMPLETING  
DND FORM 552****ANNEXE E - INSTRUCTIONS POUR REMPLIR  
LE FORMULAIRE DND 552**

assessment and conduct a survey for the relevant HERP, HERF and HERO requirements as part of the First Article Testing for new, modified or upgraded RF devices; OR

- using contractors to provide the RF Safety Survey for the relevant HERP, HERF and HERO requirements (the RFS TA must provide the Safety Compliance Assessment) under the following conditions:
  - (a) a detailed test plan is submitted to the RFS TA at least 60 days prior to the survey;
  - (b) RFS TA approved test protocols are used, and
  - (c) RFS TA maintains oversight, approves the test plan, and validates all results.

Details of the requirements for using contractors are found in CFTO C-55-040-001/TS-001.

**PART 2: TRANSMITTER  
EQUIPMENT CHARACTERISTICS****Part 2, Block 1: Nomenclature, Manufacturer's Model No.**

16. Enter the Government assigned alphanumeric equipment designation. If not available, enter the manufacturer's model number (e.g. MIT 502), and indicate Manufacturer's Name (Part 2, block 2). If this too is not available, enter a short descriptive title (e.g. ATS-6 Telemetry Transmitter).

**Part 2, Block 2: Manufacturer's Name**

17. Enter the manufacturer's name, if available. If a manufacturer's model number is listed in Nomenclature (Part 2, block 1), this block must be completed.

**Part 2, Block 3: Transmitter Installation**

18. List specific types of vehicles, ships, planes or buildings, etc., where the transmitters will be installed.

sécurité des radiofréquences (l'AT de la SRF) et d'exécuter l'évaluation / l'enquête sur la sécurité RF pour les exigences pertinentes qui relèvent des besoins en HERP, HERF et HERO, dans le cadre d'essais du premier article pour les dispositifs RF nouveaux, modifiés ou améliorés; OU

- par l'entremise d'entrepreneurs afin de fournir l'évaluation / l'enquête sur la sécurité RF pour les exigences pertinentes qui relèvent des besoins en HERP, HERF et HERO (l'AT de la SRF doit fournir l'évaluation de la conformité de sécurité) dans les conditions suivantes:
  - (a) le plan d'essai détaillé est soumis à l'AT de la SRF au moins 60 jours avant;
  - (b) les protocoles d'essai approuvés par l'AT de la SRF sont utilisés;
  - (c) l'autorité technique de la SRF assure la surveillance, approuve les plans d'essais et valide tous les résultats.

Les détails des exigences requises pour l'utilisation d'entrepreneurs sont trouvés dans le ITFC C-55-040-001/TS-001.

**PARTIE 2 : CARACTÉRISTIQUES  
DE L'ÉQUIPEMENT ÉMETTEUR****Partie 2, Bloc 1 : Désignation, n° de modèle du fabricant**

16. Indiquer la désignation alphanumérique de l'équipement désigné par le gouvernement. S'il n'est pas disponible, indiquer le numéro du modèle du fabricant (par exemple, MIT 502) et indiquer le nom du fabricant (partie 2, bloc 2). Si ces renseignements ne sont également pas disponibles, indiquer un court titre descriptif (par exemple, émetteur de télémétrie ATS-6).

**Partie 2, Bloc 2 : Nom du fabricant**

17. Indiquer le nom du fabricant s'il est disponible. Si le numéro du modèle du fabricant est indiqué à la partie 2, bloc 1, ce bloc doit être rempli.

**Partie 2, Bloc 3 : Installation émettrice**

18. Indiquer les types spécifiques de véhicules, de navires, d'aéronefs ou de bâtiments, etc., où les émetteurs seront installés.

**Part 2, Block 4: Transmitter Type**

19. Enter the generic name of the transmitter (e.g. Frequency Scan, Scan While Track Radar, Monopulse Tracker, AM or PM Communications). In addition, for radar enter the radar type (e.g. Non-FM Pulse, FM Pulse, Frequency Hopping, CW or FM-CW).

**Part 2, Block 5: Tuning Range**

20. Enter the frequency range through which the transmitter is capable of being tuned (e.g. 225 to 400 MHz). For equipment designed to operate only at a single frequency, enter that frequency. Include units (e.g. kHz, MHz or GHz).

**Part 2, Block 6: Method of Tuning**

21. Enter the method of tuning (e.g. crystal, synthesizer or cavity). If the equipment is not readily tuneable in the field, indicate in Remarks (Part 2, block 24) the complexity of tuning. Include complexity factors such as skill levels involved, major assemblies involved, time required, and location (factory or depot) where equipment is to be tuned.

**Part 2, Block 7: RF Channelling Capability**

22. Describe the RF channelling capability:
- b. for uniformly spaced channels, enter the centre frequency of the first channel and channel spacing (e.g. first channel 406 MHz, 100 kHz increments);
  - c. for continuous tuning, enter the lowest frequency and the word "continuous"; and
  - d. for others, such as SSB or cases where channel selection is under software control, enter a detailed description in Remarks (Part 2 block 24, e.g. degraded channels, internal hardwiring limitations or lockout capability for frequency hopping systems).

**Partie 2, Bloc 4 : Type d'émetteur**

19. Indiquer le nom générique de l'émetteur (par exemple, balayage de fréquences, radar de poursuite sur informations discontinues, traqueur monopulse, communications AM ou PM). De plus, pour les radars, indiquer le type du radar (par exemple, à impulsions autres que FM, à impulsions FM, à sauts de fréquence, à ondes continues ou à FM-CW).

**Partie 2, Bloc 5 : Gamme d'accord**

20. Indiquer la gamme de fréquences sur laquelle l'émetteur peut être accordé (par exemple, de 225 à 400 MHz). Indiquer la fréquence dans le cas de l'équipement conçu pour fonctionner seulement à une seule fréquence. Indiquer les unités (par exemple, kHz, MHz ou GHz).

**Partie 2, Bloc 6 : Méthode d'accord**

21. Indiquer la méthode d'accord (par exemple, quartz, synthétiseur ou cavité). Si l'équipement ne peut être accordé facilement sur le terrain, indiquer dans le bloc Remarques (partie 2, bloc 24) la complexité de l'accord. Inclure les facteurs de complexité tels que les niveaux de compétence nécessaires, les ensembles principaux nécessaires, le temps nécessaire et l'emplacement (usine ou dépôt) où l'équipement doit être accordé.

**Partie 2, Bloc 7 : Répartition des canaux RF**

22. Décrire la répartition des canaux RF :
- d. pour indiquer la fréquence centrale du premier canal et l'espacement des canaux (par exemple, premier canal à 406 MHz avec incréments de 100 kHz) dans le cas des canaux uniformément espacés;
  - e. pour indiquer la plus basse fréquence et le mot « continu » dans le cas de l'accord continu; et
  - f. pour les autres, tels que BLU ou les cas où la sélection du canal est commandée par logiciel, entrer une description détaillée (par exemple, canaux dégradés, limitations internes de câblage ou capacité de verrouillage pour les systèmes à sauts de fréquence) dans le bloc Remarques (partie 2, bloc 24).

**Part 2, Block 8: Emission Designators**

23. Enter the emission designators, including the necessary bandwidth, for each designator, in accordance with Appendix D3 (e.g. 16K0F3E). For systems with a frequency hopping mode as well as a non-hopping mode, enter the emission designators for each mode. Identify each mode as hopping or non-hopping.

**Part 2, Block 9: Frequency Tolerance**

24. Enter the frequency tolerance (i.e. the maximum departure of a transmitter from its assigned frequency after normal warm-up time). Indicate the units in parts per million (ppm) for all emission types except single sideband, which shall be indicated in Hertz (Hz).

**Part 2, Block 10: Filter Employed**

25. Check the appropriate box.

**Part 2, Block 11: Spread Spectrum**

26. Check the appropriate box. If "Yes", refer to instructions for Modulation (Part 2, block 14).

**Part 2, Block 12: Emission Bandwidth**

27. Enter the emission bandwidths for which the transmitter is designed at the -3, -20 and -60 dB levels and the occupied bandwidth. For pulse radar transmitters the bandwidth at -40 dB shall also be entered. The emission bandwidth is defined as the bandwidth appearing at the antenna terminals and includes any significant attenuation contributed by filtering in the output circuit or transmission lines. Values of emission bandwidth specified should be indicated as calculated or measured, by checking the appropriate box. If calculated, the methods used shall be in accordance with Industry Canada TRC 43, which is available on the Internet. Indicate units used (e.g. Hz, kHz or MHz). Note that the occupied bandwidth (block 12[e]) is defined as the width of the frequency bandwidth such that, below its lower and above its upper limits, the mean power radiated is each equal to 0.5% of the total mean power radiated.

**Partie 2, Bloc 8 : Identificateur(s) d'émission**

23. Indiquer le ou les identificateurs d'émission, y compris la largeur de bande nécessaire pour chaque identificateur conformément au contenu de l'appendice D3 (par exemple, 16K0F3E). Entrer les identificateurs d'émission de chaque mode dans le cas des systèmes avec un mode à sauts de fréquence ainsi que ceux avec un mode sans sauts de fréquence. Identifier chaque mode comme étant à sauts ou sans sauts.

**Partie 2, Bloc 9 : Tolérance de fréquence**

24. Indiquer la tolérance de fréquence (c'est-à-dire, l'écart maximal d'un émetteur de sa fréquence assignée après le temps de réchauffement normal). Indiquer les unités en parties par million (ppm) pour tous les types d'émissions sauf la bande latérale unique, qui doit être indiquée en hertz (Hz).

**Partie 2, Bloc 10 : Filtre utilisé**

25. Cocher la case appropriée.

**Partie 2, Bloc 11 : Spectre étalé**

26. Cocher la case appropriée. Se reporter aux instructions pour remplir le bloc Modulation (partie 2, bloc 14) si la case « Oui » est cochée.

**Partie 2, Bloc 12 : Largeur de bande de l'émission**

27. Indiquer les largeurs de bandes d'émissions pour lesquelles l'émetteur est conçu aux niveaux de -3, -20 et -60 dB et la largeur de bande occupée. Pour les émetteurs radars à impulsions, la largeur de bande de -40 dB doit aussi être indiquée. La largeur de bande d'émission est définie comme étant la largeur de bande apparaissant aux bornes de l'antenne et comprend toute atténuation concrète contribuant par le filtrage des circuits de sortie ou des lignes de transmission. Les valeurs des largeurs de bandes d'émission spécifiées doivent être indiquées telles qu'elles sont calculées ou mesurées en cochant la case appropriée. Si les valeurs sont calculées, les méthodes utilisées doivent être conformes aux indications de la Circulaire de la réglementation des télécommunications 43 (CRT 43) d'Industrie Canada disponibles sur l'Internet. Indiquer les unités utilisées (par exemple, Hz, kHz ou MHz). Remarquer que la largeur de bande occupée (bloc 12[e]) est définie comme étant la largeur de la bande de fréquence telle que, sous sa limite

inférieure et au-dessus de sa limite supérieure, la puissance moyenne rayonnée de chacune est égale à 0.5 % de la puissance moyenne rayonnée totale.

**Part 2, Block 13: Maximum Bit Rate**

28. Enter the maximum information bit rate for digital equipment, in bits per second (bps). If spread spectrum is used, enter the bit rate after encoding.

**Part 2, Block 14: Modulation Techniques and Coding**

29. Describe in detail the modulation and coding techniques employed. For complex modulation schemes, such as direct sequence spread spectrum, frequency hopping or frequency agile, provide information relating to the hop rate, processing gain, clock rate, pre-defined hop sets and frequencies, minimum required number of frequencies per hop set, notching capability, etc. If too lengthy, use Remarks (Part 2, block 24).

**Part 2, Block 15: Maximum Modulation Frequency**

30. Enter the maximum modulation or baseband frequency for a frequency or phase-modulated transmitter. This is assumed to be the frequency at the -3 dB point on the high frequency side of the modulator response curve. Indicate the units (e.g. Hz, kHz or MHz).

**Part 2, Block 16: Pre-emphasis**

31. For frequency or phase-modulated transmitters, check the appropriate box to indicate whether pre-emphasis is available.

**Part 2, Block 17: Deviation Ratio**

32. For frequency or phase modulated transmitters, enter the deviation ratio, computed as follows:

**Partie 2, Bloc 13 : Débit binaire maximal**

28. Indiquer le débit binaire maximal en bits par seconde (bps) pour l'équipement numérique. Indiquer le débit binaire après le codage si l'étalement du spectre est utilisé.

**Partie 2, Bloc 14 : Techniques de modulation et de codage**

29. Décrire en détail les techniques de modulation et de codage utilisées. Dans le cas des formules complexes de modulation, telles que l'étalement du spectre en ordre direct, à sauts de fréquence ou à agilité de fréquence, fournir de l'information se rapportant aux taux de sauts, aux gains de traitement, à la fréquence d'horloge, aux ensembles de sauts et de fréquences prédéfinis, au nombre minimal nécessaire de fréquences par ensemble de sauts, à la capacité d'absorption, etc. Utiliser le bloc Remarques (partie 2, bloc 24) si le contenu est trop long.

**Partie 2, Bloc 15 : Fréquence maximale de modulation**

30. Indiquer la fréquence maximale de modulation ou de bande de base pour un émetteur modulé en fréquence ou en phase. Il est tenu pour acquis qu'il s'agit de la fréquence au point de -3 dB du côté haute fréquence de la courbe de réponse du modulateur. Indiquer les unités (par exemple, Hz, kHz ou MHz).

**Partie 2, Bloc 16 : Préaccentuation**

31. Cocher la case appropriée pour indiquer si la préaccentuation est disponible dans le cas des émetteurs modulés en fréquence ou en phase.

**Partie 2, Bloc 17 : Rapport de déviation**

32. Indiquer le rapport de déviation calculé de la façon suivante dans le cas des émetteurs modulés en fréquence ou en phase :



$$\text{Deviation Ratio} = \frac{\text{Maximum Frequency Deviation}}{\text{Maximum Modulation Frequency}}$$

$$\text{Rapport de déviation} = \frac{\text{Déviation maximale de la fréquence}}{\text{Fréquence maximale de modulation}}$$

**Part 2, Block 18: Pulse Characteristics**

33. For pulse modulated transmitters:

- e. enter the pulse repetition rate, in pulses per second (pps);
- f. enter the pulse width at the half voltage levels, in microseconds (µsec);
- g. enter the pulse rise time, in microseconds (µsec). This is the time required for the leading edge of the voltage pulse to rise from 10% to 90% of its peak amplitude;
- h. enter the pulse fall time, in microseconds (µsec). This is the time required for the trailing edge of the voltage pulse to fall from 90% to 10% of its peak amplitude; and
- i. enter the maximum pulse compression ratio, if applicable.

34. For coded pulse waveforms refer to instructions for Modulation (Part 2, block 14).

**Part 2, Block 19: Power**

35. Enter the mean power delivered to the antenna terminals for all AM and FM emissions, or the peak envelope power (PEP) for all other classes of emissions. If there are any unique situations, such as interrupted CW, provide details in Remarks (Part 2, block 24). Indicate the units (e.g. W or kW).

**Part 2, Block 20: Output Device**

36. Enter a description of the device used in the transmitter output stage (e.g. ceramic diode, reflex klystron, transistor or TWT).

**Partie 2, Bloc 18 : Caractéristiques des impulsions**

33. Pour les émetteurs modulés par impulsions :

- g. indiquer la fréquence de récurrence d'impulsions en impulsions par seconde (pps);
- h. indiquer la largeur d'impulsions aux niveaux de demi-tension en microsecondes (µsec);
- i. indiquer le temps de montée de l'impulsion en microsecondes (µsec); C'est le temps nécessaire au flanc avant de l'impulsion de tension pour monter de 10 % à 90 % de son amplitude de crête;
- j. indiquer le temps de descente de l'impulsion en microsecondes (µsec); C'est le temps nécessaire au flanc arrière de l'impulsion de tension pour descendre de 90% à 10% de son amplitude de crête; et
- k. indiquer le rapport maximal de compression de l'impulsion s'il s'applique.

34. Se reporter aux instructions pour remplir le bloc Modulation (partie 2, bloc 14) s'il s'agit de formes d'ondes d'impulsions codées.

**Partie 2, Bloc 19 : Puissance**

35. Indiquer la puissance moyenne alimentée aux bornes de l'antenne pour toutes les émissions AM et FM, ou la puissance en crête de modulation pour toutes les autres classes d'émissions. Donner les détails dans le bloc Remarques (partie 2, bloc 24) s'il y a des situations uniques telles que des CW interrompues. Indiquer les unités (par exemple, W ou kW).

**Partie 2, Bloc 20 : Dispositif de sortie**

36. Entrer une description du dispositif utilisé à l'étage de sortie de l'émetteur (par exemple, diode céramique, klystron réflex, transistor ou TOP).

**Part 2, Block 21: Harmonic Level**

37. Enter the harmonic level of the second and third harmonics, in dB, relative to the fundamental. Enter in "other" (block 21[c]) the relative level, in dB, of the highest power harmonic above the third.

**Part 2, Block 22: Spurious Level**

38. Enter the maximum value of spurious emission, in dB, relative to the fundamental, which occurs outside the -60 dB point on the transmitter fundamental emission spectrum (Part 2, block 12) and does not occur on a harmonic of the fundamental frequency. Indicate, in kHz or MHz, the location of the spurious emission from the fundamental frequency.

**Part 2, Block 23: Industry Canada Type Approval No.**

39. Enter the Industry Canada type approval number, if applicable.

**Part 2, Block 24: Frequency Plan**

40. Enter the transmitter desired frequency plan. The plan can be limited by the manufacturer, provider, or operational requirements. Enter frequencies in Megahertz (MHz).

**PART 3: RECEIVER  
EQUIPMENT CHARACTERISTICS****Part 3, Block 1: Nomenclature, Manufacturer's Model No.**

41. Enter the Government assigned alphanumeric equipment designation. If not available, enter the manufacturer's model number (e.g. MIT 502) and complete Manufacturer's Name (Part 3, block 2). If this too is not available, enter a short descriptive title (e.g. GPS Receiver). A separate receiver submission is required for each receiver in a complex system (e.g. radar ECCM receivers).

**Partie 2, Bloc 21 : Niveau des harmoniques**

37. Indiquer, en dB, le niveau des harmoniques de la deuxième et de la troisième harmonique par rapport à la fréquence fondamentale. Indiquer sous « Autre » (bloc 21[c]) le niveau de puissance relatif, en dB, des plus hautes harmoniques au-dessus de la troisième.

**Partie 2, Bloc 22 : Niveau du rayonnement non essentiel**

38. Indiquer la valeur maximale du rayonnement non essentiel, en dB, relativement à la fréquence fondamentale, qui se produit à l'extérieur du point de -60 dB sur le spectre d'émission fondamentale de l'émetteur (partie 2, bloc 12) et qui ne se produit pas sur une harmonique de la fréquence fondamentale. Indiquer, en kHz ou en MHz, l'emplacement du rayonnement non essentiel de la fréquence fondamentale.

**Partie 2, Bloc 23 : N° du type approuvé d'Industrie Canada**

39. Indiquer, s'il y a lieu, le numéro du type approuvé d'Industrie Canada.

**Partie 2, Bloc 24 : Plan de fréquences**

40. Indiquer le plan de fréquences de l'émetteur. Ce plan peut être limité par le manufacturier, le fournisseur de service, ou des raisons opérationnelles. Indiquer les fréquences en mégahertz (MHz).

**PARTIE 3 : CARACTÉRISTIQUES  
DE L'ÉQUIPEMENT RÉCEPTEUR****Partie 3, Bloc 1 : Désignation, n° de modèle du fabricant**

41. Indiquer la désignation alphanumérique de l'équipement désigné par le gouvernement. S'il n'est pas disponible, indiquer le numéro du modèle du fabricant (par exemple, MIT 502) et indiquer le nom du fabricant (partie 3, bloc 2). Si ces renseignements ne sont également pas disponibles, indiquer un court titre descriptif (par exemple, récepteur GPS). Une soumission de récepteur distincte est nécessaire pour chaque récepteur d'un système complexe (par exemple, récepteurs radars de CCME).

**Part 3, Block 2: Manufacturer's Name**

42. Enter the manufacturer's name, if available. If a manufacturer's model number is listed in Nomenclature (Part 3, block 1), this block must be completed.

**Part 3, Block 3: Receiver Installation**

43. List specific types of vehicles, ships, planes or buildings, etc., where the receivers will be installed.

**Part 3, Block 4: Receiver Type**

44. Enter the generic class (e.g. Dual Conversion Superheterodyne or Homodyne).

**Part 3, Block 5: Tuning Range**

45. Enter the frequency range through which the receiver is capable of being tuned (e.g. 225 to 400 MHz). For equipment designed to operate only at a single frequency, enter that frequency. Include units (e.g. kHz, MHz or GHz).

**Part 3, Block 6: Method of Tuning**

46. Enter the method of tuning (e.g. crystal, synthesizer or cavity). If the equipment is not readily tuneable in the field, indicate in Remarks (Part 3, block 21) the complexity of tuning. Include complexity factors such as skill levels involved, major assemblies involved, time required, and location (factory or depot) where equipment is to be tuned.

**Part 3, Block 7: RF Channelling Capability**

47. Describe the RF channelling capability:

- j. for uniformly spaced channels, enter the centre frequency of the first channel and the channel spacing (e.g. first channel 406 MHz, 100 kHz increments);
- k. for continuous tuning, enter the lowest frequency and the word "continuous"; and

**Partie 3, Bloc 2 : Nom du fabricant**

42. Indiquer le nom du fabricant s'il est disponible. Si le numéro du modèle du fabricant est indiqué à la partie 3, bloc 1, ce bloc doit être rempli.

**Partie 3, Bloc 3 : Installation réceptrice**

43. Indiquer les types spécifiques de véhicules, de navires, d'aéronefs ou de bâtiments, etc., où les récepteurs seront installés.

**Partie 3, Bloc 4 : Type de récepteur**

44. Indiquer la classe générique (par exemple, superhétérodyne à double changement de fréquence ou homodyne).

**Partie 3, Bloc 5 : Gamme d'accord**

45. Indiquer la gamme de fréquences sur laquelle le récepteur peut être accordé (par exemple, de 225 à 400 MHz). Indiquer la fréquence dans le cas de l'équipement conçu pour fonctionner seulement à une seule fréquence. Indiquer les unités (par exemple, kHz, MHz ou GHz).

**Partie 3, Bloc 6 : Méthode d'accord**

46. Indiquer la méthode d'accord (par exemple, quartz, synthétiseur ou cavité). Si l'équipement ne peut être accordé facilement sur le terrain, indiquer dans le bloc Remarques (partie 3, bloc 21) la complexité de l'accord. Inclure les facteurs de complexité tels que les niveaux de compétence nécessaires, les ensembles principaux nécessaires, le temps nécessaire et l'emplacement (usine ou dépôt) où l'équipement doit être accordé.

**Partie 3, Bloc 7 : Répartition des canaux RF**

47. Décrire la répartition des canaux RF :

- l. pour indiquer la fréquence centrale du premier canal et l'espacement des canaux (par exemple, premier canal à 406 MHz avec incréments de 100 kHz) dans le cas des canaux uniformément espacés;
- m. pour indiquer la plus basse fréquence et le mot « continu » dans le cas de l'accord continu;

- l. for others, including cases where channel selection is under software control, enter a detailed description in Remarks (Part 3, block 21).

**Part 3, Block 8: Emission Designators**

48. Enter the emission designators, including the necessary bandwidth, for each designator, in accordance with Appendix D3 to this publication (e.g.

16K0F3E). For systems with a frequency hopping mode as well as a non-hopping mode, enter the emission designators for each mode. Identify each mode as hopping or non-hopping.

**Part 3, Block 9: Frequency Tolerance**

49. Enter the frequency tolerance (i.e., the maximum departure of a receiver from its assigned frequency after normal warm-up). Indicate the magnitude, in ppm, for all emission types except single sideband, which shall be indicated in Hertz (Hz).

**Part 3, Block 10: IF Selectivity**

50. Enter the bandwidth for each IF stage at the -3, -20 and -60 dB levels. Indicate units (e.g. kHz or MHz).

**Part 3, Block 11: RF Selectivity**

51. Enter the bandwidth at the -3, -20 and -60 dB levels. The RF bandwidth includes any significant attenuation contributed by filtering in the input circuit or transmission line. Values of RF bandwidth specified should be indicated as calculated or measured by checking the appropriate box. Indicate units (e.g. kHz or MHz). Enter the preselection type (e.g. tuneable cavity).

**Part 3, Block 12: IF Frequency**

52. Enter the tuned frequency of the first, second and third IF stages. Indicate units (e.g. kHz or MHz).

- n. pour les autres, y compris les cas où la sélection du canal est commandée par logiciel, entrer une description détaillée dans le bloc Remarques (partie 3, bloc 21).

**Partie 3, Bloc 8 : Identificateur(s) d'émission**

48. Indiquer le ou les identificateurs d'émission, y compris la largeur de bande nécessaire pour chaque identificateur conformément au contenu de

l'appendice D3 de la présente publication (par exemple, 16K0F3E). Entrer les identificateurs d'émission de chaque mode dans le cas des systèmes avec un mode à sauts de fréquence ainsi que ceux avec un mode sans sauts de fréquence. Identifier chaque mode comme étant à sauts ou sans saut.

**Partie 3, Bloc 9 : Tolérance de fréquence**

49. Indiquer la tolérance de fréquence (c'est-à-dire, l'écart maximal d'un récepteur de sa fréquence assignée après le temps de réchauffement normal). Indiquer la magnitude en ppm pour tous les types d'émissions sauf la bande latérale unique, qui doit être indiquée en hertz (Hz).

**Partie 3, Bloc 10 : Sélectivité FI**

50. Indiquer la largeur de bande pour chaque étage FI aux niveaux de -3, -20 et -60 dB. Indiquer les unités (par exemple, kHz ou MHz).

**Partie 3, Bloc 11 : Sélectivité RF**

51. Indiquer la largeur de bande aux niveaux de -3, -20 et -60 dB. La largeur de bande RF comprend toute atténuation concrète contributive par le filtrage dans le circuit d'entrée ou dans la ligne de transmission. Les valeurs de la largeur de bandes RF spécifiées doivent être indiquées telles qu'elles sont calculées ou mesurées en cochant la case appropriée. Indiquer les unités (par exemple, kHz ou MHz). Indiquer le type de présélection (par exemple, cavité accordable).

**Partie 3, Bloc 12 : Fréquence FI**

52. Indiquer la fréquence accordée du premier, du deuxième et du troisième étage FI. Indiquer les unités (par exemple, kHz ou MHz).

**Part 3, Block 13: DFSM Use Only**

53. Intentionally left blank to match the US form.

**Part 3, Block 14: DFSM Use Only**

54. Intentionally left blank to match the US form.

**Part 3, Block 15: Oscillator Tuned**

55. Check the appropriate box to indicate the location of the first, second and third oscillator frequencies with respect to the associated mixer input signal.

**Part 3, Block 16: Maximum Bit Rate**

56. Where applicable, enter the maximum bit rate (bps) that can be used. If spread spectrum is used, enter the bit rate after decoding. Describe any error detecting/correcting codes under Remarks (Part 3, block 21).

**Part 3, Block 17: Sensitivity**

57. Complete as follows:

- m. enter the sensitivity in dBm;
- n. specify criteria used (e.g. 12 dB SINAD, where SINAD is (Signal + Noise + Distortion) / (Noise + Distortion);
- o. if the receiver is used with terrestrial systems, enter the receiver noise figure in dB; and
- p. if the receiver is used with space or satellite earth stations, enter the receiver noise figure in Kelvin.

**Part 3, Block 18: De-emphasis**

58. For frequency or phase-modulated receivers, indicate whether de-emphasis is available.

**Partie 3, Bloc 13 : À l'usage exclusif du GSFM**

53. Bloc laissé intentionnellement vide pour s'apparier au formulaire américain.

**Partie 3, Bloc 14 : À l'usage exclusif du GSFM**

54. Bloc laissé intentionnellement vide pour s'apparier au formulaire américain.

**Partie 3, Bloc 15 : Oscillateur accordé**

55. Cocher la case appropriée pour indiquer la valeur de la première, de la deuxième et de la troisième fréquence de l'oscillateur par rapport au signal d'entrée du mélangeur connexe.

**Partie 3, Bloc 16 : Débit binaire maximal**

56. S'il y a lieu, indiquer le débit binaire maximal (bps) qui peut être utilisé. Indiquer le débit binaire après le décodage si le spectre étalé est utilisé. Décrire tout code de détection ou de correction sous Remarques (partie 3, bloc 21).

**Partie 3, Bloc 17 : Sensibilité**

57. Remplir de la façon suivante :

- o. indiquer la sensibilité en dBm;
- p. spécifier le critère utilisé (par exemple, SINAD de 12 dB, SINAD étant (signal + bruit + distorsion)/(bruit + distorsion);
- q. indiquer la valeur de bruit du récepteur en dB si le récepteur est utilisé avec les systèmes terrestres; et
- r. indiquer la valeur de bruit du récepteur en degrés Kelvin si le récepteur est utilisé avec les stations satellites spatiales ou terrestres.

**Partie 3, Bloc 18 : Désaccentuation**

58. Cocher la case appropriée pour indiquer si la désaccentuation est disponible dans le cas des récepteurs modulés en fréquence ou en phase.

**Part 3, Block 19: Image Rejection**

59. Enter the image rejection in dB. Image rejection is the ratio of the image frequency signal level required to produce a specified output to the desired signal level required to produce the same output.

**Part 3, Block 20: Spurious Frequency Rejection**

60. Enter the spurious frequency rejection in dB. Enter the single level of spurious frequency rejection that the receiver meets or exceeds at all frequencies outside the -60 dB IF bandwidth. Spurious frequency rejection is the ratio of a particular out-of-band frequency signal level required to produce a specified output, to the desired signal level required to produce the same output.

**Part 3, Block 21: Remarks**

61. Self-explanatory. Use additional pages if necessary.

**Part 3, Block 22: Industry Canada Type Approval No.**

62. Enter the Industry Canada type approval number, if applicable.

**PART 4: ANTENNA  
EQUIPMENT CHARACTERISTICS****Part 4, Block 1: Antenna Type**

63. Check the appropriate box to indicate the type of antenna. For multiantenna systems use a separate Part 4 form for each antenna.

**Part 4, Block 2: Nomenclature, Manufacturer's Model No.**

64. Enter the Government assigned alphanumeric equipment designation. If not available, enter the manufacturer's model number (e.g. DS6558) and indicate Manufacturer's Name (Part 4, block 3). If this too is not available, enter a short descriptive title (e.g. ATS-6 Telemetry Antenna).

**Partie 3, Bloc 19 : Rejet de fréquence image**

59. Indiquer le rejet de fréquence image en dB. Le rejet de fréquence image est le rapport du niveau signal de fréquence image nécessaire pour produire une sortie spécifiée au niveau désiré de signal nécessaire pour produire la même sortie.

**Partie 3, Bloc 20 : Rejet des fréquences non essentielles**

60. Indiquer le rejet des fréquences non essentielles en dB. Indiquer le niveau unique du rejet des fréquences non essentielles que le récepteur rencontre ou dépasse à toutes les fréquences à l'extérieur de la largeur de bande FI de -60 dB. Le rejet de fréquences non essentielles est le rapport d'un niveau de signal de fréquence hors bande nécessaire pour produire une sortie spécifiée au niveau de signal désiré nécessaire pour produire la même sortie.

**Partie 3, Bloc 21 : Remarques**

61. Suffisamment explicite. Utiliser au besoin des pages supplémentaires.

**Partie 3, Bloc 22 : N° du type approuvé d'Industrie Canada**

62. Indiquer, s'il y a lieu, le numéro du type approuvé d'Industrie Canada.

**PARTIE 4 : CARACTÉRISTIQUES  
DE L'ÉQUIPEMENT D'ANTENNE****Partie 4, Bloc 1 : Type d'antenne**

63. Cocher la case appropriée pour indiquer le type d'antenne. Utiliser un formulaire distinct pour chaque antenne dans le cas des systèmes à plusieurs antennes.

**Partie 4, Bloc 2 : Désignation, n° de modèle du fabricant**

64. Indiquer la désignation alphanumérique de l'équipement désigné par le gouvernement. S'il n'est pas disponible, indiquer le numéro du modèle du fabricant (par exemple, DS6558) et indiquer le nom du fabricant (partie 4, bloc 3). Si ces renseignements ne sont pas non plus disponibles, indiquer un court titre descriptif (par exemple, antenne de télémétrie).

ATS-6).

**Part 4, Block 3: Manufacturer's Name**

65. Enter the manufacturer's name, if available. If a manufacturer's model number is given in Nomenclature (Part 4, block 2), this block must be completed.

**Part 4, Block 4: Frequency Range**

66. Enter the range of frequencies for which the antenna is designed. Indicate units (e.g. kHz or MHz).

**Part 4, Block 5: Type**

67. Enter the generic name or describe the general technical features (e.g. Horizontal, Log Periodic, Cassegrain with Polarization Twisting, Whip, Phased Array or Conformal Array). To the extent possible, use the standard antenna configuration given in Appendix D1, Figure D1-1.

**Part 4, Block 6: Polarization**

68. Enter the polarization. If circular, indicate whether it is left or right handed.

**Part 4, Block 7: Scan Characteristics**

69. Complete as follows:

q. If the antenna scans, enter the type of scanning (e.g. vertical, horizontal, vertical and horizontal);

r. Vertical Scan:

enter the maximum elevation angle, in degrees (positive or negative, referenced to the horizontal), that the antenna can scan;

enter the minimum elevation angle, in degrees (positive or negative, referenced to the horizontal), that the antenna can scan; and

enter the vertical scanning rate, in scans per minute.

**Partie 4, Bloc 3 : Nom du fabricant**

65. Indiquer le nom du fabricant s'il est disponible. Si le numéro du modèle du fabricant est indiqué à la partie 4, bloc 2, ce bloc doit être rempli.

**Partie 4, Bloc 4 : Gamme de fréquences**

66. Indiquer la gamme de fréquences pour laquelle l'antenne est conçue. Indiquer les unités (par exemple, kHz ou MHz).

**Partie 4, Bloc 5 : Type**

67. Indiquer le nom générique ou décrire les caractéristiques techniques générales (par exemple, horizontale, log-périodique, Cassegrain avec torsion de polarisation, fouet, réseau à commande de phase ou réseau conforme). Utiliser, dans la mesure du possible, les configurations normalisées d'antenne indiquées à l'appendice D1, figure D1-1.

**Partie 4, Bloc 6 : Polarisation**

68. Indiquer la polarisation. Si elle est circulaire, indiquer si elle est orientée à gauche ou à droite.

**Partie 4, Bloc 7 : Caractéristiques de balayage**

69. Remplir de la façon suivante :

s. Indiquer le type de balayage (par exemple, vertical, horizontal, vertical et horizontal) si l'antenne balaye;

t. Balayage vertical :

(6) indiquer l'angle de site maximal en degrés (positif ou négatif, par rapport à l'horizontal) auquel l'antenne peut balayer;

(7) indiquer l'angle minimal d'élévation en degrés (positif ou négatif, par rapport à l'horizontal) auquel l'antenne peut balayer; et

(8) indiquer la cadence de balayage vertical en balayages par minute.

**ANNEX E - INSTRUCTIONS FOR COMPLETING  
DND FORM 552****ANNEXE E - INSTRUCTIONS POUR REMPLIR  
LE FORMULAIRE DND 552****Horizontal Scan:**

enter the angular scanning range, in degrees, of the horizontal sector scanned; and

enter the horizontal scan rate, in scans per minute.

Indicate if antenna is capable of being sector blanked. If "yes", enter details in Remarks (Part 4, block 10b.).

**Part 4, Block 8: Gain**

70. If frequency is between 27.5 MHz and 890 MHz, indicate gain of radiator relative to half wave dipole (dB). If frequency is below 27.5 MHz or above 890 MHz, indicate gain of radiator relative to an isotropic radiator (dBi).

s. enter the maximum gain, in dB; and

enter the nominal gain of the first major side lobe, in dB, and the angular displacement from the main beam, in degrees.

**Part 4, Block 9: Beamwidth**

71. Enter the 3 dB beam width in degrees.

**u. Balayage horizontal :**

(9) indiquer la portée angulaire de balayage, en degrés, du secteur horizontal balayé; et

(10) indiquer la cadence de balayage horizontal en balayages par minute.

v. Indiquer si l'antenne est dotée de l'effacement de secteur. Entrer les détails sous Remarques (partie 4, bloc 10b.) si la case « Oui » est cochée.

**Partie 4, Bloc 8 : Gain**

70. Indiquer le gain de l'antenne active par rapport à l'antenne de type doublet demi-onde (en dB) si la fréquence est entre 27.5 MHz et 890 MHz. Indiquer le gain de l'antenne active par rapport à une antenne isotrope (en dB) si la fréquence est au-dessous de 27.5 MHz ou au-dessus de 890 MHz.

w. indiquer le gain maximal en dB; et

x. indiquer le gain nominal du premier lobe latéral principal en dB et le déplacement angulaire à partir du faisceau principal en degrés.

**Partie 4, Bloc 9 : Largeur du faisceau**

71. Indiquer la largeur du faisceau à 3 dB en degrés.



**Part 4, Block 10: Remarks**

72. Describe any unusual characteristics of the antenna, particularly as they relate to the assessment of electromagnetic compatibility and to amplify or clarify any of the information provided above. Use additional pages if necessary. In addition, enter the following information, if applicable:

t. the front-back ratio, in dB, for directional antennas used in radio relay circuits;

u. for phased array antennas enter:

mode of operation, single or multiple beam;

single beam parameters; and

multiple beam parameters:

polarization of each beam;

gain of each beam;

beam width of each beam; and

scan characteristics of each beam (Part 4, block 7).

**Partie 4, Bloc 10 : Remarques**

72. Se servir de ce bloc pour décrire toute caractéristique extraordinaire de l'antenne, particulièrement dans le contexte de l'évaluation de la compatibilité électromagnétique et pour amplifier ou clarifier toute information donnée ci-dessus. Utiliser au besoin des pages supplémentaires. De plus, entrer au besoin l'information suivante :

y. le rapport avant-arrière, en dB, pour les antennes directionnelles utilisées dans les circuits de relais radio;

z. indiquer, dans le cas des antennes à commande de phase :

(11) le mode de fonctionnement, à faisceau simple ou multiple;

(12) les paramètres de faisceau simple; et

(13) les paramètres de faisceau multiple :

la polarisation de chaque faisceau;

le gain de chaque faisceau;

la largeur de faisceau de chaque faisceau; et

les caractéristiques de chaque faisceau (partie 4, bloc 7 de la ci-dessus).