



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

**Bid Receiving - PWGSC / Réception des
soumissions - TPSGC**
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Place du Portage, Phase III
Core 0B2 / Noyau 0B2
Gatineau, Québec K1A 0S5
Bid Fax: (819) 997-9776

**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

Title - Sujet G7 Radiocommunications	
Solicitation No. - N° de l'invitation M7594-181086/A	Date 2017-08-03
Client Reference No. - N° de référence du client M7594-181086	
GETS Reference No. - N° de référence de SEAG PW-\$\$QD-017-26391	
File No. - N° de dossier 017qd.M7594-181086	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2017-08-28	
Time Zone Fuseau horaire Eastern Daylight Saving Time EDT	
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Anand, Ricky	Buyer Id - Id de l'acheteur 017qd
Telephone No. - N° de téléphone (819) 420-1755 ()	FAX No. - N° de FAX (819) 953-4510
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Specified Herein Précisé dans les présentes	

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address

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

Issuing Office - Bureau de distribution

Defence Communications Division. (QD)
11 Laurier St./11, rue Laurier
Place du Portage, Phase III, 8C2
Gatineau, Québec K1A 0S5

Delivery Required - Livraison exigée See Herein	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date



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List of Annexes for Phase I – Goods & Services Requirements:

Annex A:	Statement of Work (SOW)
Appendix A1:	Hardware Requirements
Appendix A2:	Firm and Optional Training Requirements
Appendix A3:	Addresses of the RCMP Installation Sites
Appendix A4:	Milestones Schedule
Appendix A5:	Responsibility Matrix
Annex B:	Performance Specifications
Appendix B1:	RCMP RTT Specifications

Annex C:	Security Requirement Check List (SRCL) and Security Guide
Annex D:	Basis of Payment – Breakdown of Costs
Annex E:	PWGSC Form 1111 – Progress Payments
Annex F:	PWGSC Form 572 – Task Authorizations
Annex G:	Bid Compliance Matrix
Annex H:	Financial Bid Evaluation Methodology

List of Annexes for Optional Phase II – In-Service Support Requirements:

Annex AA:	Statement of Work (SOW)
Appendix AA1:	Addresses of the RCMP Work Locations (TBD)
Annex BB:	Basis of Payment – Breakdown of Costs
Annex CC:	Security Requirement Check List (SRCL) and Security Guide (As provided for Phase I)
Annex DD:	PWGSC Form 1111 – Progress Payments (As provided for Phase I)
Annex EE:	PWGSC Form 572 – Task Authorizations (As provided for Phase I)

List of Annexes for Optional Phase III – Goods & Services Requirements:

Annex AA:	Statement of Work (SOW)
Appendix AAA1:	Hardware Requirements
Appendix AAA2:	Firm and Optional Training Requirements
Appendix AAA3:	Addresses of the RCMP Installation Sites (TBD)
Appendix AAA4:	Milestones Schedule
Appendix AAA5:	Responsibility Matrix
Annex BB:	Performance Specifications
Appendix BBB1:	RCMP RTT Specifications (Same as Appendix B1)
Annex CCC:	Security Requirement Check List and Security Guide (Same as Phase I)
Annex DDD:	Basis of Payment – Breakdown of Costs
Annex EEE:	PWGSC Form 1111 – Progress Payments (As provided for Phase I)
Annex FFF:	PWGSC Form 572 – Task Authorizations (As provided for Phase I)

PART 1 - GENERAL INFORMATION

1. Security Requirement – Royal Canadian Mounted Police (RCMP) Security Guide

- 1.1 All bidders must support the RCMP's security environment by complying with the directives described in the attached Annex C – Security Requirement Check List (SRCL) and the Security Guide.

2. Confidentiality

If any of the integral parts of requirement were to become public knowledge beyond what is provided in the solicitation documents, it would compromise the confidentiality and integrity of the required secure system. Bidders acknowledge and understand the security requirement of this procurement and certifies that there will be no communication (verbal or written) about this requirement to anyone within or outside of the Government other than the herein designated PSPC Contractual Authority or his/her representatives and, after contract award, the designated Requisitioning Authority or his/her representative. Otherwise, communication may only be made with individuals who have a need to know solely for the purpose of performing the contract.

3. Project Scope

- 3.1 The G7 Summit is scheduled to take place in June 2018 in the province of Québec. This Request for Proposal (RFP) outlines all the requirement of the 2018 G7 Radio Communication System Project.
- 3.2 The project requirements are broken into 3 phases. The following defines the overall scope the Project.
- 3.2.1 Phase I - G7 Summit Phase: Delivery of a fully operational P25 Radio Communication system prior to the start of G7 Summit.
- 3.2.2 Phase II - Post G7 Summit Phase (Optional): In-Service Support Services for RCMP "C" Division for all system requirements that have been delivered under Phase I.
- 3.2.3 Phase III (Optional): Goods, and Engineering & Installation Services to relocate and redeploy bulk of the equipment commissioned during Phase I for RCMP "C" Division. Phase III will also undertake expansion of the Land Mobile Radio system to meet RCMP "C" Division requirements.
- 3.3 Bidders who intend to submit a proposal must be capable of delivering all the requirements of Phase I by March 31st 2018 except training as training may continue beyond system delivery.
- 3.4 Bidders who intend to submit a proposal must be capable of delivering all the requirements of all three phases of this project.

4. Statement of Work

- 4.1 There may be three separate contracts awarded in response to this Request for Proposal (RFP) on behalf of Royal Canadian Mounted Police (RCMP). If all three contracts are awarded, they will

be awarded to one successful bidder that must be able to provide goods and services required for all three phases.

4.2 The Contractor must perform the Work in accordance with the following:

- 4.3.1 Annex A - Statement of Work – Phase I
- 4.3.2 Annex AA - Statement of Work – Optional Phase II
- 4.3.3 Annex AAA - Statement of Work – Optional Phase III
- 4.3.4 Annex B - Performance Specifications – Phase I
- 4.3.5 Annex BBB – Performance Specifications – Optional Phase III

4.3 There are separate sets of technical documents included in this solicitation that define the requirements for each phase.

5. 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 of receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

6. National Security Exception

The national security exceptions provided for in the trade agreements have been invoked; therefore, this procurement is excluded from all of the obligations of all the trade agreements.

7. Bidders Conference

This Request for Proposal (RFP) has an optional RCMP Bidders' Conference planned for the interested bidders. Details of the planned Bidders' Conference are found in Part 3 of this document.

8. Phased Bid Compliance Process

The Phased Bid Compliance Process (PBCP) applies to this requirement.

Note: PBCP that has three phases of evaluation is not to be confused with three phases of the project.

PART 2 - BIDDER INSTRUCTIONS

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.

1.1 SAAC Clauses

A7035T (2007-05-25) List of Proposed Subcontractors
C3011T (2013-11-06) Exchange Rate Fluctuation

2. Submission of Bids

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

2.1 Improvement of Requirement during Solicitation Period

Should bidders consider that the specifications or Statement of Work contained in the bid solicitation could be improved technically or technologically, bidders are invited to make suggestions, in writing, to the Contracting Authority named in the bid solicitation. Bidders must clearly outline the suggested improvement as well as the reason for the suggestion. Suggestions that do not restrict the level of competition nor favour a particular bidder will be given consideration provided they are submitted to the Contracting Authority at least seven (7) days before the bid closing date. Canada will have the right to accept or reject any or all suggestions.

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.

3.1 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.

3.2 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; and
- 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.

3.3 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.

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.

5. Applicable Laws

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

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

1. Bid Preparation Instructions

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

Section I: Technical Bid (Two hard copies and a soft copy)

Section II: Management Bid (Two hard copies and a soft copy)

Section III: Financial Bid (One hard copy)

If there is a discrepancy between the wording of the soft copy and the hard copy, the wording of the hard copy will have priority over the wording of the soft copy.

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

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

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

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

- a. 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
- b. 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, duo-tangs or binders.
- c. avoid using binders.

1.2 Bidders' Conference

A bidders' conference will be held in Ottawa from 15th to 16th August 2017. The conference will begin at 9.00 AM ESTI. The scope of the requirement outlined in the bid solicitation will be reviewed during the conference and questions will be answered. It is recommended that bidders who intend to submit a bid attend or send a representative.

Personnel security screening is required prior to gaining authorized access to CLASSIFIED information and assets or sites. Bidders are requested to communicate with the Contracting Authority before the conference to confirm attendance. Bidders should provide, in writing, to the Contracting Authority, the name(s) of the person(s) who will be attending and a list of issues they wish to table no later than 7th August 2017 by 14.00 Hrs. ESTI. The Bidder's Company Security Officer (CSO) must ensure that their representatives hold a valid security clearance at the required level for the bidders' conference. Failure to comply with the security requirements will result in the representatives being denied access to the bidders' conference.

Any clarifications or changes to the bid solicitation resulting from the bidders' conference will be included as an amendment to the bid solicitation. Bidders who do not attend will not be precluded from submitting a bid.

Bidders who wish to participate, please contact Mr. Danish Hussain primarily or the Contracting Authority latest by 11th August 2017, 14.00 Hrs. EST.

Mr. Danish Hussain
Tele: 819-420-4093
Email: Danish.Hussain@pwgsc.gc.ca

Contracting Authority:

Mr. Ricky Anand
Tele: 819-420-1755
Email: Ricky.Anand@pwgsc.gc.ca

2. Section I: Technical Proposal (Part 1, 2 and 3 Separate for three Phases)

2.1 Canada requests that Bidders submit the Technical Proposal as per the following:

In their technical bid, bidders should demonstrate their understanding of the requirements contained in the bid solicitation for all three phases of the contract (Phase I, II and III) and explain how they will meet these requirements. Bidders should demonstrate their capability and describe their approach in a thorough, concise and clear manner for carrying out the work. Bidders may want to split the technical bid in three parts to address each phase separately.

2.1.1 Mandatory Requirements:

All requirements contained in all Statement of Works and Performance Specifications are mandatory including Optional Requirements that have been identified in the documents. Bidders must meet all mandatory requirements of the RFP. In their technical proposal, bidders should address all the requirements of the Statement of Works and Performance Specifications on a paragraph-by-paragraph basis.

Bidders should use Annex G – Bid Compliance Matrix to provide their responses and provide comments as to how they will carry out the work listed in the RFP.

2.1.2 Compliance Demonstration:

The technical bid should address clearly and in sufficient depth the points that are subject to the evaluation criteria against which the bid will be evaluated. Simply repeating the statement contained in the bid solicitation is not sufficient. In order to facilitate the evaluation of the bid, Canada requests that bidders address and present topics in the order of the evaluation criteria under the same headings. To avoid duplication, bidders may refer to different sections of their bids by identifying the specific paragraph and page number where the subject topic has already been addressed.

The Bidder should provide the page number and exact location of the brochures, document or any other material submitted with the Technical Bid to demonstrate compliance.

Bidder should provide their responses in its technical proposal as per the following:

- i. A compliance statement ("Compliant" or "Non-compliant"). "Compliant" statement will be interpreted as meaning full agreement with the requirement, whereas a Non-complaint statement will be interpreted as meaning not in full agreement with the requirement and the proposal will be deemed non-responsive and not given any further consideration.
- ii. For mandatory requirements, statements such as "Read", "Comply with Intent", "Partial Compliance", "Noted" or the like will be considered as non-responsive; Paragraphs, elements and subparagraphs that convey information rather than a requirement must be marked with "Noted and Understood".
- iii. Bidders who intend to submit a proposal must request a copy of Annex G – Compliance Matrix in its native format from the Contracting Authority.

2.2 Project Schedule and PMP

As part of its technical proposal, the Bidder should propose its preliminary project schedule, in a bar chart format. The project schedule may include the Bidder's work breakdown structure or a detailed plan that describes the scheduling of main activities and milestone events, and any potential constraints they foresee in delivering the project on time. The system delivery date of Phase I is critical and will not be extended beyond 31st March 2018.

The project schedule should also include tentative target start and completion date for each of the milestones.

The Bidders should propose an effective Project Management Plan (PMP) including implementation schedule such that it fully meets projects objectives. The proposed PMP will be reviewed by Canada and finalized at the Kick-off meeting. The PMP may be required to be adjusted during the implementation phase due to conflicting priorities and/or unforeseen circumstances.

3. Section II: Management Proposal

3.1 Bidders should include the following details in their Management Proposal:

- 3.1.1 Your company's background and experience, the project management team and client references. The management bid must summarize the management team that will be employed and any sub-contractors that may be involved in performing the Work. The summary must include company profiles, responsibility levels, personnel, qualification, prior experience and special expertise.
- 3.1.2 Your company's experience demonstrating clearly that it has the skilled work force and the capability to undertake projects of similar complexities. The Bidders should include references to previous projects they have handled to demonstrate their capability to carry out this project's requirements from definition to implementation phase to finally the delivery stage with minimal disruption and downtime.
- 3.1.3 The names, titles and other pertinent details of the team members assigned to this project with their experience in terms of number of years dispensing their responsibilities under similar projects.
- 3.1.4 Your company's ability to train RCMP personnel in support of the proposed system vis a vis its architecture, field support and logistics support.

3.1.5 As a minimum, the bidder should demonstrate it has capability in:

1. System Design and Development;
2. On-site system installation experience including the requirements relating to conduit, space, power, power wiring and cabling;
3. System Testing and Quality Assurance;
4. System Maintenance and In-service Technical Support;
5. Providing Spares;
6. Design and Testing capabilities;
7. Training RCMP personnel on system infrastructure including Hardware and Software;
8. Carrying out similar projects in the last five years; and
9. Other technical requirements listed in the technical documents.

Note: The Management Proposal is not part of the evaluation criteria and therefore bidders not submitting specific requested documents and other details under the management bid will not be deemed non-responsive. However, if not submitted with the bids, these details will be requested by the Contracting Authority and must be submitted by the bidders prior to the contract award in order to be considered for the contract award.

4. Section III: Financial Proposal

Bidders must utilize Annex D, BB, and DDD - Basis of Payment for submitting their pricing Information for all three phases. Bidders who intend to submit a proposal must request Annex D, BB and DDD in their native format through the Contracting Authority.

4.1 Contract 001 for G7 Summit Requirements - Phase I:

- 4.1.1 Bidders should utilize Annex D to submit their pricing information.
- 4.1.2 For Level of Effort expended to demonstrate Factory Acceptance Testing, bidders must submit Firm Fixed Price (FFP) excluding all material costs and applicable taxes.
- 4.1.3 For Software and its Installation & Configuration effort for the Optional P25 - Phase 2 upgradability requirement, bidders must submit Firm Fixed Price excluding applicable taxes.
- 4.1.4 For all Installation Sites (1 to 44), bidders must submit FFP for all proposed Hardware & Software and the Engineering & Installation work. Travel and Living expenses, shipping & transportation and applicable taxes must not be included in the FFP as these will be paid in accordance with the actual expenses incurred by the contractor.
- 4.1.5 For Training (Firm and Optional Courses), bidders must submit FFP including Travel and Living expenses excluding applicable taxes.
- 4.1.6 For Additional Work Arisings (AWAs), the Bidders must submit Firm Hourly Labour Rates excluding taxes.
- 4.1.7 Bidders must not propose different labour rates for the same period and labour

categories in different phases of the project.

4.2 Contract 002 – In-service Support Requirements – Optional Phase II:

- 4.2.1 Bidders should utilize Annex BB to submit their pricing information.
- 4.2.2 Bidders must submit Firm Fixed Hourly Labour Rates for ISS Work excluding applicable taxes.
- 4.2.3 Bidders must submit Firm Fixed Quarterly Program Management Fee excluding applicable taxes. Bidders must take into consideration different system configurations between Phase I and III due to increased number of sites to be supported during Phase III.
- 4.2.4 Bidders must submit Mark-up for outsourced services excluding applicable taxes.
- 4.2.5 Bidders must submit Mark-up for outsourced Material excluding applicable taxes.
- 4.2.6 Bidders must submit FFP for Optional training courses excluding Travel & Living expenses and applicable taxes.
- 4.2.7 Bidders must not propose different labour rates for the same period and labour categories in different phases of the project.

4.3 Contract 003 - Post G7 Summit Requirements – Optional Phase III:

- 4.3.1 Bidders should utilize Annex DDD to submit their pricing information.
- 4.3.2 For Level of Effort expended to demonstrate Factory Acceptance Testing (FAT), bidders must submit a Firm Fixed Price (FFP). Bidders must not include or claim any material costs for the FAT. All applicable taxes must be excluded.
- 4.3.3 For Software, and its Installation & Configuration effort for the Optional P25 - Phase 2 upgradability requirement, bidders must submit FFP excluding applicable taxes.
- 4.3.4 For all Installation Sites (1 to 154), bidders must submit a FFP for their proposed system design that must take into consideration all proposed Hardware & Software, and the Engineering & Installation work to meet the requirement. Travel and Living expenses, shipping & transportation and applicable taxes must not be included in the FFP as these will be paid in accordance with the actual expenses incurred by the contractor.
- 4.3.5 For Optional Training Courses, bidders must submit FFP excluding Travel and Living expenses excluding applicable taxes.
- 4.3.6 For Additional Work Arisings (AWAs), the Bidders must submit Firm Hourly Labour Rates excluding taxes.
- 4.3.7 Bidders must not propose different labour rates for the same period and labour

categories in different phases of the project.

5. Section IV: Certifications

Bidders must submit the certifications required under Part 5 in their technical bids.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

1. Evaluation Procedures

1.1 Canada will use the Phased Bid Compliance Process (PBCP) described below:

- a. Notwithstanding any review by Canada at Phase I or II of the Phased Bid Compliance Process, Bidders are and will remain solely responsible for the accuracy, consistency and completeness of their Bids and Canada does not undertake, by reason of this review, any obligations or responsibility for identifying any or all errors or omissions in Bids or in responses by a Bidder to any communication from Canada. THE BIDDER ACKNOWLEDGES THAT THE REVIEWS IN PHASE I AND II OF THIS PHASED BID COMPLIANCE PROCESS ARE PRELIMINARY AND DO NOT PRECLUDE A FINDING IN PHASE III THAT THE BID IS NON-RESPONSIVE, EVEN FOR MANDATORY REQUIREMENTS WHICH WERE SUBJECT TO REVIEW IN PHASE I OR II AND NOTWITHSTANDING THAT THE BID HAD BEEN FOUND RESPONSIVE IN SUCH EARLIER PHASE. CANADA MAY DEEM A BID TO BE NON-RESPONSIVE TO A MANDATORY REQUIREMENT AT ANY PHASE. THE BIDDER ALSO ACKNOWLEDGES THAT IT'S RESPONSE TO A NOTICE OR COMPLIANCE ASSESSMENT REPORT CAR (EACH DEFINED BELOW) IN PHASE I OR II MAY NOT BE SUCCESSFUL IN RENDERING ITS BID RESPONSIVE TO THE MANDATORY REQUIREMENTS THAT ARE THE SUBJECT OF THE NOTICE OR CAR, AND MAY RENDER ITS BID NON-RESPONSIVE TO OTHER MANDATORY REQUIREMENTS.
- b. Without prejudice to its other rights, Canada shall have the right, in its absolute discretion, but shall not be obliged, to request and accept any time, before or after the solicitation closing date, and consider as part of the Bid, any document and materials from Bidders to clarify the Bid or to correct deficiencies or errors in the Bid that are not significant in Canada's absolute discretion, including all matters of form or error in computation or failure to confirm by signing or similarly verifying acceptance. This shall not limit Canada's right to request or accept any information after the bid solicitation closing in circumstances where the bid solicitation expressly provides for this right.
- c. The PBCP does not limit Canada's rights under Standard Acquisition Clauses and Conditions (SACC) 2003 (2017-04-27) Standard Instructions – Goods or Services – Competitive Requirements nor Canada's right to request or accept any information during the solicitation period or after bid solicitation closing in circumstances where the bid solicitation expressly provides for this right, or in the circumstances described in subsection (c).
- d. Canada will send any Notice or CAR by any method Canada chooses, in its absolute discretion. The Bidder must submit its response by the method stipulated in the Notice or CAR. Responses are deemed to be received by Canada at the date and time they are delivered to Canada by the method and at the address specified in the NOTICE or CAR. An email response permitted by the Notice or CAR is deemed received by Canada on the date and time it is received in Canada's email inbox at Canada's email address specified in the CAR. A Notice or CAR sent by Canada to the Bidder at any address provided by the Bidder in or pursuant to the Bid is deemed received by the Bidder on the date it is sent by Canada.

1.2 Phase I: Financial Bid

- a. After the closing date and time of this bid solicitation, Canada will examine the Bid to determine whether it includes a Financial Bid and whether any Financial Bid includes all information required by the solicitation. Canada's review in Phase I will be limited to identifying whether any information that is required under the bid solicitation to be included in the Financial Bid is missing from the Financial Bid. This review will not assess whether the Financial Bid meets any standard or is responsive to all solicitation requirements.
- b. Canada's review in Phase I will be performed by officials of the Department of Public Works and Government Services.
- c. If Canada determines, in its absolute discretion that there is no Financial Bid or that the Financial Bid is missing all of the information required by the bid solicitation to be included in the Financial Bid, then the Bid will be considered non-responsive and will be given no further consideration.
- d. For Bids other than those described in c), Canada will send a written notice to the Bidder ("Notice") identifying where the Financial Bid is missing information. A Bidder whose Financial Bid has been found responsive to the requirements that are reviewed at Phase I, will not receive a Notice. Such Bidders shall not be entitled to submit any additional information in respect of their Financial Bid.
- e. The Bidders who have been sent a Notice shall have the time period specified in the Notice (the "Remedy Period") to remedy the matters identified in the Notice by providing to Canada, in writing, additional information or clarification in response to the Notice. Responses received after the end of the Remedy Period will not be considered by Canada, except in circumstances and on terms expressly provided for in the Notice.
- f. In its response to the Notice the Bidder will be entitled to remedy only that part of its Financial Bid which is identified in the Notice. For instance, where the Notice states that a required line item has been left blank, only the missing information may be added to the Financial Bid, except that, in those instances where the addition of such information will necessarily result in a change to other calculations previously submitted in its Financial Bid, (for example, the calculation to determine a total price), such necessary adjustments shall be identified by the Bidder and only these adjustments shall be made. All submitted information must comply with the requirements of this solicitation.
- g. Any other changes to the Financial Bid submitted by the Bidder will be considered to be new information and will be disregarded. There will be no change permitted to any other Section of the Bidder's Bid. Information submitted in accordance with the requirements of this solicitation in response to the Notice will replace, in full, only that part of the original Financial Bid as is permitted above, and will be used for the remainder of the bid evaluation process.
- h. Canada will determine whether the Financial Bid is responsive to the requirements reviewed at Phase I, considering such additional information or clarification as may have been provided by the Bidder in accordance with this Section. If the Financial Bid is not found responsive for the

requirements reviewed at Phase I to the satisfaction of Canada, then the Bid shall be considered non-responsive and will receive no further consideration.

- i. Only Bids found responsive to the requirements reviewed in Phase I to the satisfaction of Canada, will receive a Phase II review.

1.3 Phase II: Technical Bid

- a. Canada's review at Phase II will be limited to a review of the Technical Bid to identify any instances where the Bidder has failed to meet any Eligible Mandatory Criterion. This review will not assess whether the Technical Bid meets any standard or is responsive to all solicitation requirements. Eligible Mandatory Criteria are all mandatory technical criteria that are identified in this solicitation as being subject to the Phased Bid Compliance Process. Mandatory technical criteria that are not identified in the solicitation as being subject to the Phased Bid Compliance Process, will not be evaluated until Phase III.
- b. Canada will send a written notice to the Bidder (Compliance Assessment Report or "CAR") identifying any Eligible Mandatory Criteria that the Bid has failed to meet. A Bidder whose Bid has been found responsive to the requirements that are reviewed at Phase II will receive a CAR that states that its Bid has been found responsive to the requirements reviewed at Phase II. Such Bidder shall not be entitled to submit any response to the CAR.
- c. A Bidder shall have the period specified in the CAR (the "Remedy Period") to remedy the failure to meet any Eligible Mandatory Criterion identified in the CAR by providing to Canada in writing additional or different information or clarification in response to the CAR. Responses received after the end of the Remedy Period will not be considered by Canada, except in circumstances and on terms expressly provided for in the CAR.
- d. The Bidder's response must address only the Eligible Mandatory Criteria listed in the CAR as not having been achieved, and must include only such information as is necessary to achieve such compliance. Any additional information provided by the Bidder which is not necessary to achieve such compliance will not be considered by Canada, except that, in those instances where such a response to the Eligible Mandatory Criteria specified in the CAR will necessarily result in a consequential change to other parts of the Bid, the Bidder shall identify such additional changes, provided that its response must not include any change to the Financial Bid.
- e. The Bidder's response to the CAR should identify in each case the Eligible Mandatory Criterion in the CAR to which it is responding, including identifying in the corresponding section of the original Bid, the wording of the proposed change to that section, and the wording and location in the Bid of any other consequential changes that necessarily result from such change. In respect of any such consequential change, the Bidder should include a rationale explaining why such consequential change is a necessary result of the change proposed to meet the Eligible Mandatory Criterion. It is not up to Canada to revise the Bidder's Bid, and failure of the Bidder to do so in accordance with this subparagraph is at the Bidder's own risk. All submitted information must comply with the requirements of this solicitation.
- f. Any changes to the Bid submitted by the Bidder other than as permitted in this solicitation, will

be considered to be new information and will be disregarded. Information submitted in accordance with the requirements of this solicitation in response to the CAR will replace, in full, only that part of the original Bid as is permitted in this Section.

- g. Additional or different information submitted during Phase II permitted by this section will be considered as included in the Bid, but will be considered by Canada in the evaluation of the Bid at Phase II only for the purpose of determining whether the Bid meets the Eligible Mandatory Criteria. It will not be used at any Phase of the evaluation to increase or decrease any score that the original Bid would achieve without the benefit of such additional or different information. For instance, an Eligible Mandatory Criterion that requires a mandatory minimum number of points to achieve compliance will be assessed at Phase II to determine whether such mandatory minimum score would be achieved with such additional or different information submitted by the Bidder in response to the CAR. If so, the Bid will be considered responsive in respect of such Eligible Mandatory Criterion, and the additional or different information submitted by the Bidder shall bind the Bidder as part of its Bid, but the Bidder's original score, which was less than the mandatory minimum for such Eligible Mandatory Criterion, will not change, and it will be that original score that is used to calculate any score for the Bid.
- h. Canada will determine whether the Bid is responsive for the requirements reviewed at Phase II, considering such additional or different information or clarification as may have been provided by the Bidder in accordance with this Section. If the Bid is not found responsive for the requirements reviewed at Phase II to the satisfaction of Canada, then the Bid shall be considered non-responsive and will receive no further consideration.
- i. Only Bids found responsive to the requirements reviewed in Phase II to the satisfaction of Canada, will receive a Phase III evaluation.

1.4 Phase III: Final Evaluation of the Bid

- 1.4.1 In Phase III, Canada will complete the evaluation of all Bids found responsive to the requirements reviewed at Phase II. Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- 1.4.2 A Bid is non-responsive and will receive no further consideration if it does not meet all mandatory evaluation criteria of the solicitation.

Note: Bidders should not confuse three phases of PBCP with three phases of the G7 Radio Communication System Project.

1.5 Other Evaluation

- 1.5.1 Bids will be assessed in accordance with the entire requirement of the bid solicitation including financial evaluation.
- 1.5.2 In order to be deemed responsive, bidder's proposals must comply with all General Conditions as laid out in the 2030 (2016-04-04), General Conditions – Goods (Higher Complexity) and 2035 (2016-04-04), General Conditions - Services (Higher Complexity) and Supplemental General Conditions associated with this RFP.

1.6 Technical Evaluation

- 1.6.1 Compliance with all of the mandatory provisions of the RFP, including all Annexes is mandatory. Note that deviations to any mandatory requirement are not acceptable and will render the proposal non-responsive.
- 1.6.2 The quality and completeness of the proposals will form the basis of the evaluation. The definitions of mandatory requirements are as follows:

MANDATORY REQUIREMENTS: Bidders should note that all MANDATORY requirements are identified specifically with the word "shall", "must", "will", "mandatory".

1.7 Financial Evaluation

The Proposal Price will be evaluated as follows:

- 1.7.1 Where applicable, bidders must submit firm prices DDP Incoterms 2010, Canadian customs duties and excise taxes included, and the applicable taxes excluded.
- 1.7.2 The financial proposals will be evaluated in Canadian currency. Pricing submitted in foreign currency will be converted to Canadian dollars based on the exchange rate published by the Bank of Canada at 16:30 Hrs. Eastern Time (EST) on the date of RFP closing.
- 1.7.3 Exchange rate fluctuation protection is not offered for this requirement. Any request for exchange rate fluctuation protection will not be considered and will render the bid non-responsive.
- 1.7.4 The financial proposals will be evaluated in accordance with Annex H – Financial Bid Evaluation Methodology.

2. Basis of Selection

- 2.1. To be declared responsive, a proposal must:
 - a. comply with all the requirements of the bid solicitation;
 - b. meet all mandatory criteria; and bids not meeting (a) and (b) will be declared non-responsive.
- 2.2 The Lowest Aggregate Priced Compliant Proposal will be recommended for Contract award.

3. Financial Capability

SACC A9033T (2012-07-16) Financial Capability

PART 5 - CERTIFICATIONS

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

The certifications provided by bidders to Canada are subject to verification by Canada at all times. Canada will declare a bid non-responsive, or will declare a contractor in default in carrying out any of its obligations under the Contract, 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 may render the bid non-responsive or constitute a default under the Contract.

1. Mandatory Certifications Required with the Bid

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

1.1 Declaration of Convicted Offences

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

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.

2.1 Integrity Provisions – List of Names

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

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

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

2.2 Federal Contractors Program for Employment Equity - Bid Certification

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

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

2.3 Certifications, Declarations and Proof Documents

- 2.3.1 Bidders must provide the following documents in their technical bids as these are mandatory to finalize the bid evaluation process. Should any of these documents are missing in the bid submission, the Contracting Authority will request them from the bidder. The bidder must provide the missing documents within the three calendar days. Failure to provide any of these documents may render the bid non-responsive.
- 2.3.1.1 NIST FIPS 140-2 LEVEL 1: All encryption devices and equipment supplied to the RCMP must be approved for use by Canadian Federal Government agencies, and must comply and be certified under USA NIST document entitled Security Requirements for Cryptographic Modules Standard, FIPS 140-2, level 1 or greater. Bidders must provide proof that their proposed devices and equipment meets the standard set by USA NIST.
 - 2.3.1.2 Bidders must provide ISEDC Radio Compliance certificate for all proposed Radio Equipment.
 - 2.3.1.3 Bidders must provide proof of CSA certification with proposal for all proposed power equipment.
 - 2.3.1.4 Bidders must provide a copy of Federal Information Processing Standard (FIPS) as FIPS 197 IPS 197 certification for all proposed equipment equipped with cryptographic modules.
 - 2.3.1.5 Bidders must provide ISO 9001:2008 certification.

PART 6 - RESULTING CONTRACT CLAUSES FOR PHASE I

1. Security Requirement

- 1.1 There is a security requirement applicable to this Contract.
- 1.2 The Contractor and sub-contractors must support the RCMP's security environment by complying with the directives described in the attached Annex C – Security Requirement Check List (SRCL) and Security Guide.
- 1.3 If any of the integral parts of requirement were to become public knowledge beyond what was provided in the solicitation documents, it would compromise the confidentiality and integrity of the required secure system. The Contractor acknowledges and understands the security requirement of this procurement and certifies that there will be no communication (verbal or written) about this requirement to anyone within or outside of the Government other than the herein designated PSPC Contractual Authority or his/her representatives and, after contract award, the designated Requisitioning Authority or his/her representative. Otherwise, communication may only be made with individuals who have a need to know solely for the purpose of performing the contract.

2. Requirements

The Contractor must perform the Work in accordance with all Statement of Works, Performance Specifications and the technical and management portions of the Contractor's proposal entitled _____, dated _____.

3. Standard Clauses and Conditions

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

2030 (2016-04-04), General Conditions – Goods (Higher Complexity) apply to and form part of the Contract.

The following sections and subsections of 2035 (2016-04-04), General Conditions - Services (Higher Complexity), apply to and form part of the Contract:

1. Section 5 – Conduct of Work:
Subsection 2.d, 2.e and 2.f and subsection 3, 4 and 5
2. Section 20 – Copyright
3. Section 21 – Translation of Documentation
4. Section 35 – No Bribe or Conflict
Subsection 2, 3 and 4
5. Section 42 – Harassment in Workplace
6. Section 44 – Access to Information

3.1 Supplemental General Conditions

4001 (2015-04-01), Hardware Purchase, Lease and Maintenance excluding Lease

4002 (2010-08-16), Software Development or Modification Services

4003 (2010-08-16), Licensed Software

4006 (2010-08-16), Contractor to Own Intellectual Property Rights in Foreground Information

4. Term of Contract

4.1 System Delivery Date

The Radio Communication System required under Phase I must be fully operational, delivered and accepted by Canada on or before 31st March 2018.

4.2 Option to Purchase the following Goods and Services

4.2.1 The Contractor grants to Canada the irrevocable option to acquire the goods, services or both described below 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.

4.2.1.1 Training Courses.

4.2.1.2 P25 - Phase 2 System Upgradability.

4.2.2 The Contracting Authority may exercise the options at any time on or before 30th September 2018 by sending a written notice to the Contractor.

4.2.3 Training Courses will be required after March 31st 2018. The dates will be finalized after the contract award.

5. Authorities

5.1 Contracting Authority

The Contracting Authority for the Contract is:

Ricky Anand
Public Works and Government Services Canada
Acquisitions Branch
Defence and Major Projects Sector (DMPS)
Place du Portage, Phase III, 11Laurier Street, Gatineau, QC K1A 0S5
Government of Canada

Telephone: (819) 420-1755
Facsimile: (819) 953-4510
E-mail address: Ricky.Anand@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.

5.2 Technical Authority

The Technical Authority for the Contract is:

To be inserted at Contract award.

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.

5.3 Procurement Authority

The Procurement Authority for the Contract is:

To be inserted at Contract award.

The Procurement 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 financial and technical content of the Work under the Contract. Technical matters may be discussed with the Procurement Authority; however the Procurement Authority has no authority to authorize changes to the scope of the Work or the pricing in the Basis of Payment (Annex C). Changes to the scope of the Work or the Basis of Payment can only be made through a contract amendment issued by the Contracting Authority.

5.4 Inspection Authority

The Inspection Authority for the Contract is:

To be inserted at Contract award.

The Inspection Authority is the representative of the department or agency for whom the Work is being performed under the Contract and is responsible for inspection of the Work and acceptance of the finished work. The Inspection Authority may be represented on-site by a designated inspector and any other Government of Canada inspector who may from time to time be assigned in support of the designated Inspector.

5.5 Contractor's Representative

To be inserted at Contract award.

Bidders to provide name, title, telephone number and email address.

6. Limitation of Expenditure

Canada's total liability to the Contractor under the Contract must not exceed \$ _____. (The amount will be filled in before the contract award) Customs duties are included and Applicable Taxes are extra.

No increase in the total liability of Canada or in the price of the Work resulting from any design changes, modifications or interpretations of the Work, will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been approved,

in writing, by the Contracting Authority before their incorporation into the Work. The Contractor must not perform any work or provide any service that would result in Canada's total liability being exceeded before obtaining the written approval of the Contracting Authority. The Contractor must notify the Contracting Authority in writing as to the adequacy of this sum:

- a. when it is 75 percent committed, or
- b. four (4) months before the contract expiry date, or
- c. as soon as the Contractor considers that the contract funds provided are inadequate for the completion of the Work, whichever comes first.

If the notification is for inadequate contract funds, the Contractor must provide to the Contracting Authority a written estimate for the additional funds required. Provision of such information by the Contractor does not increase Canada's liability.

7. Task Authorization for Additional Work Arisings (AWAs)

Should there be any requirement beyond the established scope of this contract:

1. The Technical Authority through Contracting Authority will provide the Contractor with a description of the task using the Form PWGSC 572 - Task Authorization Form.
2. The Task Authorization (TA) will contain the details of the activities to be performed, a description of the deliverables, and a schedule indicating completion dates for the major activities or submission dates for the deliverables. The TA will also include the applicable basis (bases) and methods of payment as specified in the Contract.
3. The Contractor must provide Procurement and Contracting Authority, within 15 calendar days of its receipt, the proposed total estimated cost for performing the task and a breakdown of that cost, established in accordance with the Basis of Payment specified in the Contract.
4. The Contractor must not commence work until a TA authorized by the Contracting Authority has been received by the Contractor. The Contractor acknowledges that any work performed before a TA has been received will be done at the Contractor's own risk.

7.1 AWAs Pricing Options

- a. **Firm Price:** For AWAs, the Contractor must submit a "Firm Price" excluding travel and living expenses to the Procurement Authority when the scope of Work is clearly understood by both parties and no changes are anticipated in the scope of the Work. Where a firm price has been established, the Contractor will be obliged to complete the Work for the specified firm price. Travel and living expenses will be paid based on actual expenditure incurred by the Contractor in accordance with the Basis of Payment.
- b. **Ceiling Price:** AWAs, the Contractor may submit a "Ceiling Price" quote excluding travel and living expenses to the Procurement Authority when the scope of the Work cannot be clearly defined. The term Ceiling Price is the maximum price that is to be paid to the Contractor and beyond which the Contractor will not receive additional compensation for the defined Work and in return for which the Contractor is obligated to complete the Work. No additional funds will be made available. When the "Ceiling Price" approach is used both parties agree prior to the Work authorization that the price is subject to downward revision on completion of the task, based on the actual cost and verification of the actuals. Travel and living expenses will be paid based on actual expenditure incurred by the contractor IAW the Basis of Payment.

Each Task Authorization for AWAs and Engineering Support Services must clearly state whether the price is a "Firm Fixed Price" or a "Ceiling Price".

- c. **Limitation of Expenditure Price:** When it is not possible for the Contractor to submit a "Firm Price" or a "Ceiling Price" as described above, the Contractor may submit a "Limitation of Expenditure" quote.
- d. The "Firm Price", "Ceiling Price" and/or the "Limitation of Expenditure" quote must be based on the rates in Canadian Funds. All proposed prices and cost estimates must be supported by a detailed cost breakdown.
- e. For a Task which is subject to a "Limitation of Expenditure" as described in Sub-article c. above, the Contractor must notify the proper authority in writing as to the inadequacy of its "Limitation of Expenditure" when:
- the resources required for its timely completion reaches 75% of the authorized Task funding; or
 - if during the execution of the authorized Tasking it appears to the Contractor that the Scope of Work is greater than had been anticipated and that the funds provided for a Task are inadequate.
- f. When providing the notification described in Sub-article e above, the Contractor must, as a minimum, identify;
- estimated labour hours and schedule forecast to complete;
 - work around plan; and
 - risk assessment.
- A revised proposal and proper justification for the requested amendment must be submitted to the proper approval Authority for consideration. Under no circumstance is the authorized level of expenditure to be exceeded. Canada is under no obligation to pay for any Work that exceeds the authorized funding limitation.
- g. All amounts charged on a "Ceiling price" or "Limitation of Expenditure" basis must be subject to Government audit before or after payment of an invoice.

7.2 Task Completion/Closure Procedures:

The Contractor must monitor all Tasks issued under the Contract. If at any time the Contractor believes that a specific Task has been completed or has been inactive for a period of at least one (1) month, the Contractor must proceed as follows to request closure:

- 7.2.1 The Contractor must determine the final costs to Canada, itemized as necessary for each individual Task being considered for closure;
- 7.2.2 The Contractor must submit a letter to the PA (one copy each to RA and CA) requesting closure of the Task with reference to reports or letters concerning the Task as applicable;
- 7.2.3 In cases where authorized funds were not all expended to complete specific Tasks, these funds are considered returned to the Contract funding baseline for re-issuance/re-distribution as necessary.

7.3 Consolidation of Task Authorizations for Administrative Purposes

For administrative purposes, the contract will be amended by the Contracting Authority from time to time to reflect all TAs issued and approved to date under the contract.

7.4 Canada's Obligation – Portion of the Work – Task Authorizations

- 7.4.1 Canada's obligation with respect to the portion of the Work under the Contract that is performed through Task Authorizations is limited to the total amount of the actual authorized tasks performed by the Contractor.
- 7.4.2 Canada reserves the right, at any time, to acquire the requested Work by other means including by selecting other suppliers. For example, Canada may decide to acquire the requested Work by other means when the Contractor provides a written proposal that has been rejected by Canada.

8. Basis of Payment

8.1 Factory Acceptance Testing

For the Work described in the Annex A - Statement of Work and Annex B – Performance Specifications and the Contractor's proposal:

In consideration of the Contractor satisfactorily completing its obligations under the Contract, the Contractor will be paid a firm price of \$_____ (*the amount will be inserted at contract award*) after successful demonstration and acceptance of the FAT. Customs duties are included and Applicable Taxes are extra. The payment shall be subject to a 10% holdback. Holdback will be released upon all deliverables of Phase I being met.

For the firm price portion of the Work only, 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.

8.2 Hardware, Software and, Engineering & Installation Services for all Sites

For the Work described in the Annex A - Statement of Work and Annex B – Performance Specifications and the Contractor's proposal:

In consideration of the Contractor satisfactorily completing its obligations under the Contract, the Contractor will be paid firm price for each site in accordance with its proposal (*the amounts for each site will be inserted at contract award*). Customs duties are included and Applicable Taxes are extra. Each site payment shall be subject to a 10% holdback. Holdback will be released upon all deliverables of Phase I being met.

For the firm price portion of the Work only, 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.

8.3 Training – Firm & Optional Courses

The Contractor shall be paid firm fixed prices after successfully delivering each training course in accordance with the contract.

In consideration of the Contractor satisfactorily completing its obligations for the firm training requirements under the Contract, the Contractor will be paid a firm price of \$_____ for all firm courses. (*the amount will be inserted at contract award*). Customs duties are included and Applicable Taxes are extra. The firm training courses payments shall be subject to a 10% holdback. There will be no holdback on the Optional Courses. Holdback will be released upon all deliverables of Phase I being met.

8.4 P25 System Upgradability Solution

In consideration of the Contractor satisfactorily completing its obligations under the Contract, the Contractor will be paid a firm price of \$_____ (*the amount will be inserted at contract award*) after successful delivery and acceptance. Customs duties are included and Applicable Taxes

are extra. This payment shall be subject to a 10% holdback. Holdback will be released upon all deliverables of Phase I being met.

8.5 Travel and Living Expenses for Training & AWAs:

The Contractor will be reimbursed its authorized travel and living expenses reasonably and properly incurred in the performance of the Work, at cost, without any allowance for profit and/or administrative overhead, in accordance with the meal, private vehicle and incidental expenses provided in Appendices B, C and D of the National Joint Council Travel Directive, (<http://www.njc-cnm.gc.ca/directive/travel-voyage/index-eng.php>), and with the other provisions of the directive referring to "travelers", rather than those referring to "employees".

All travel must have the prior authorization of the Procurement Authority. All payments are subject to government audit.

All travel expenditures related to work contained in all SOWs and Performance Specifications and Contractor's original proposal is responsibility of the contractor.

8.6 Additional Work Arisings (AWAs):

Should a firm price or a ceiling price cannot be established, the Contractor will be reimbursed for the costs reasonably and properly incurred in the performance of the Work specified in the authorized Task Authorization (TA), as determined in accordance with the Labour Rates listed in Annex C - Basis of Payment, to the limitation of expenditure specified in the authorized TA.

Canada's liability to the Contractor under the authorized TA must not exceed the limitation of expenditure specified in the authorized TA. Customs duties are included and Applicable Taxes are extra.

No increase in the liability of Canada or in the price of the Work specified in the authorized TA resulting from any design changes, modifications or interpretations of the Work will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been authorized, in writing, by the Contracting Authority before their incorporation into the Work.

The Contractor will be reimbursed for the direct expenses reasonably and properly incurred in the performance of the AWAs. These expenses will be paid at actual cost with the proposed mark-up, upon submission of an itemized statement supported by receipt vouchers.

9. Method of Payment

9.1 Milestone Payments

9.1.1 Canada will make milestone payments in accordance with the Schedule of Milestones detailed in the Contract and the payment provisions of the Contract, up to 90 percent of the amount claimed and approved by Canada if:

- a. an accurate and complete claim for payment using form PWGSC-TPSGC 1111, Claim for Progress Payment, and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- b. the total amount for all milestone payments paid by Canada does not exceed 90 percent of the total amount to be paid under the Contract;
- c. all the certificates appearing on form PWGSC-TPSGC 1111 have been signed by the respective authorized representatives;
- d. all work associated with the milestone and as applicable any deliverable required have been completed and accepted by Canada.

- 9.1.2 The balance of the amount payable will be paid in accordance with the payment provisions of the Contract upon completion and delivery of the Work if the Work has been accepted by Canada and a final claim for the payment is submitted.

9.2 Work not performed due to Inaccessibility of Government offices and/or Sites

- 9.2.1 Where the Contractor, its employees, subcontractors, or agents are providing goods and/or services on government premises under the Contract and those premises are inaccessible because of the evacuation or closure of government offices, and as a result no work is performed, Canada is not responsible for paying the Contractor for work that otherwise would have been performed if there had been no evacuation or closure.
- 9.2.2 If, as a result of any strike or lock-out, the Contractor or its employees, subcontractors or agents cannot obtain access to government premises and, as a result, no work is performed, Canada is not responsible for paying the Contractor for work that otherwise would have been performed if the Contractor had been able to gain access to the premises.

10. SACC Manual Clauses

A2000C (2006-06-16)	Foreign Nationals (Canadian Contractor)
A2001C (2006-06-16)	Foreign Nationals (Foreign Contractor)
A9065C (2006-06-16)	Identification Badge
A9117C (2007-11-30)	T1204 - Direct Request by Customer Department
B6802C (2007-11-30)	Government Property
B7500C (2006-06-16)	Excess Goods
C2000C (2007-11-30)	Taxes - Foreign-based Contractor
C2604C (2013-04-25)	Customs Duties, Excise Taxes and Applicable Taxes – Non Resident
D2000C (2007-11-30)	Marking
D2001C (2007-11-30)	Labeling
D9002C (2007-11-30)	Incomplete Assemblies
G1005C (2008-05-12)	Insurance

11. Technical Publications - Manuals

The Contractor must provide and clearly label all technical publications required for description, operation, installation, maintenance and repair of the deliverable end items.

11.1 Existing Manuals

The Contractor must provide the following publications in English as existing commercial or foreign government off-the-shelf manuals, in full compliance with the latest issue of *C-01-100-100/AG-005, Adoption of Commercial and Foreign Government Publications*. The Contractor must deliver the existing manuals to the Technical Authority or his designated representative on or before the last installation.

11.2 Customized Manuals

The Contractor must also provide the Operator Manual in English for the customized Graphical User Interphase (GUI). The Contractor must deliver the customized manuals to the Technical Authority or his designated representative on or before the last installation.

12. Invoicing Instructions

- 12.1 The Contractor must submit a claim for payment using form PWGSC-TPSGC 1111, Claim for Progress Payment. Each claim must show:
- a. all information required on form PWGSC-TPSGC 1111;
 - b. all applicable information detailed under the section entitled "Invoice Submission" of the general conditions;
 - c. the description and value of the milestone claimed as detailed in the Contract.
- 12.2 Applicable Taxes must be calculated on the total amount of the claim before the holdback is applied. At the time the holdback is claimed, there will be no Applicable Taxes payable as it was claimed and payable under the previous claims for progress payments.
- 12.3 **The Contractor must not submit claims until all work identified in the claim is completed.**
- 12.4 Invoices must be distributed as follows:
- (a) The original invoice (hard copy) and one (1) e-copy must be forwarded to the Procurement Authority identified under the section entitled "Authorities" of the Contract.
 - (b) An e-copy must be sent to the consignee.
 - (c) One (1) e-copy must be forwarded to the Contracting Authority and the Technical Authority identified under the section entitled "Authorities" of the Contract.

13. Certifications

13.1 Compliance

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

13.2 Federal Contractors Program for Employment Equity - Default by the Contractor

The Contractor understands and agrees that, when an Agreement to Implement Employment Equity (AIEE) exists between the Contractor and Employment and Social Development Canada (ESDC)-Labour, the AIEE must remain valid during the entire period of the Contract. If the AIEE becomes invalid, the name of the Contractor will be added to the "FCP Limited Eligibility to Bid" list. The imposition of such a sanction by ESDC will constitute the Contractor in default as per the terms of the Contract.

14. Applicable Laws

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

15. 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. Annex D - Basis of Payment;
- c. The general conditions 2030 (2016-04-04), General Conditions – Goods (Higher Complexity);
- d. The applicable sections and sub-sections of the general conditions 2035 (2016-04-04), General Conditions - Services (Higher Complexity);
- e. The supplemental conditions 4001 (2015-04-01), Hardware Purchase, Lease and Maintenance;
- f. The supplemental conditions 4002 (2010-08-16), Software Development or Modification Services;
- g. The supplemental conditions 4003 (2010-08-16), Licensed Software;
- h. The supplemental conditions 4006 (2010-08-16), Contractor to Own Intellectual Property Rights in Foreground Information;
- i. The supplemental conditions 4010 (2012-07-16), Services Higher Complexity;
- j. Annex A - Statement of Work;
- k. Annex B - Performance Specifications; and
- l. The Contractor's proposal dated _____.

16. Periodic Usage Reports

1. The Contractor must compile and maintain records on its provision of services to the federal government under authorized Task Authorizations issued under this Contract.
2. The Contractor must provide this data in accordance with the reporting requirements detailed below. If some data is not available, the reason must be indicated. If services are not provided during a given period, the Contractor must still provide a "NIL" report.
3. The data must be submitted on a quarterly basis to the Contracting Authority.

The quarterly periods are defined as follows:

- a. 1st quarter: April 1 to June 30;
- b. 2nd quarter: July 1 to September 30;
- c. 3rd quarter: October 1 to December 31; and
- d. 4th quarter: January 1 to March 31.

The data must be submitted to the Contracting Authority no later than twenty calendar days after the end of the reporting period.

16.1 Reporting Requirement- Details

A detailed and current record of all authorized tasks must be kept for each contract with a task authorization process. This record must contain:

For each authorized task:

- a. the authorized task number or task revision number(s);
- b. a title or a brief description of each authorized task;
- c. the total estimated cost specified in the authorized Task Authorization (TA) of each task, GST or HST extra;

- d. the total amount, GST or HST extra, expended to date against each authorized task;
the start and completion date for each authorized task;
- e. the active status of each authorized task, as applicable; and
- f. total funds committed and expended including and excluding taxes.

For all authorized tasks:

- a. the amount (GST or HST extra) specified in the contract (as last amended, as applicable) as Canada's total liability to the contractor for all authorized TAs; and
- b. the total amount, GST or HST extra, expended to date against all authorized TA's.

17. Consignee and Shipping Addresses

The details of the consignee and shipping addresses will be provided by the Technical Authority prior to shipment of the hardware just before the commencement of installation work, as necessary.

18. Proactive Disclosure of Contracts with Former Public Servants

By providing information on its status, with respect to being a former public servant in receipt of a Public Service Superannuation Act (PSSA) pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with Contracting Policy Notice: 2012-2 of the Treasury Board Secretariat of Canada.

19. Confirmation of Contract Award

The Contractor was notified of contract award by _____ (*insert "e-mail", "facsimile" or "telephone", as applicable*) on _____ (*insert date*). The Work specified in the notice, if any, must not be duplicated.

20. Contractual Disputes

The following procedures for the settlement of any disputes which may arise throughout the life of this Contract shall prevail:

- 20.1 Disputes arising from this Contract will in the first instance be resolved by the Contracting Authority and the Contractor's Contract Administrator within fifteen (15) working days or such additional time as may be agreed to by both parties.
- 20.2 Failing resolution under (1) above, the Manager, Defence Communications Division, Electronics, Munitions and Tactical Systems Procurement Directorate (EMTSPD), Defence and Major Projects Sector (DMPS) and the Contractor's Representative Supervisor will attempt to resolve the dispute within an additional fifteen (15) working days.
- 20.3 Failing resolution under (1) or (2), the Senior Director of EMTSPD, DMPS and the Contractor's equivalent Senior Management will attempt to resolve the dispute within an additional thirty (30) working days.

PART 7 - RESULTING CONTRACT CLAUSES FOR PHASE II

1. Security Requirement

- 1.1 There is a security requirement applicable to this Contract.
- 1.2 The Contractor and sub-contractors must support the RCMP's security environment by complying with the directives described in the attached Annex CC – Security Requirement Check List (SRCL).
- 1.3 If any of the integral parts of requirement were to become public knowledge beyond what was provided in the solicitation documents, it would compromise the confidentiality and integrity of the required secure system. The Contractor acknowledges and understands the security requirement of this procurement and certifies that there will be no communication (verbal or written) about this requirement to anyone within or outside of the Government other than the herein designated PSPC Contractual Authority or his/her representatives and, after contract award, the designated Requisitioning Authority or his/her representative. Otherwise, communication may only be made with individuals who have a need to know solely for the purpose of performing the contract.

2. Requirements

The Contractor must perform the Work in accordance with all Statement of Works, Performance Specifications and the technical and management portions of the Contractor's proposal entitled _____, dated _____

3. Standard Clauses and Conditions

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

2030 (2016-04-04), General Conditions – Goods (Higher Complexity) apply to and form part of the Contract.

The following sections and subsections of 2035 (2016-04-04), General Conditions - Services (Higher Complexity), apply to and form part of the Contract:

1. Section 5 – Conduct of Work:
Subsection 2.d, 2.e and 2.f and subsection 3, 4 and 5
2. Section 20 – Copyright
3. Section 21 – Translation of Documentation
4. Section 35 – No Bribe or Conflict
Subsection 2, 3 and 4
5. Section 42 – Harassment in Workplace
6. Section 44 – Access to Information

3.1 Supplemental General Conditions

4001 (2015-04-01), Hardware Purchase, Lease and Maintenance

4002 (2010-08-16), Software Development or Modification Services

4003 (2010-08-16), Licensed Software

4006 (2010-08-16), Contractor to Own Intellectual Property Rights in Foreground Information

4. Period of Contract (Option Phase II)

4.1 The Contractor grants to Canada the irrevocable option to enter into contract for Phase II and acquire the goods, services or both 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.

4.2 Should Canada exercise its right to enter into a contract for Phase II, the period of the contract will be for four years plus one Option Period of two years. The contract start date will be determined after Phase I has been concluded and the below information will be updated accordingly.

Year 1:	<i>One-year period. Dates to be determined.</i>
Year 2:	<i>One-year period. Dates to be determined.</i>
Year 3:	<i>One-year period. Dates to be determined.</i>
Year 4:	<i>One-year period. Dates to be determined.</i>
Option Period 1:	<i>Two-year period. Dates to be determined.</i>

4.3 The Contracting Authority may exercise the option at any time within one year before or after delivery and acceptance of the radio system acquired under Phase I by sending a written notice to the Contractor.

5. Authorities

5.1 Contracting Authority

The Contracting Authority for the Contract is:

Ricky Anand
Public Works and Government Services Canada
Acquisitions Branch
Defence and Major Projects Sector (DMPS)
Place du Portage, Phase III, 11Laurier Street, Gatineau, QC K1A 0S5
Government of Canada

Telephone: (819) 420-1755
Facsimile: (819) 953-4510
E-mail address: Ricky.Anand@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.

5.2 Technical Authority

The Technical Authority for the Contract is:

To be inserted at Contract award.

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.

5.3 Procurement Authority

The Procurement Authority for the Contract is:

To be inserted at Contract award.

The Procurement 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 financial and technical content of the Work under the Contract. Technical matters may be discussed with the Procurement Authority; however the Procurement Authority has no authority to authorize changes to the scope of the Work or the pricing in the Basis of Payment (Annex C). Changes to the scope of the Work or the Basis of Payment can only be made through a contract amendment issued by the Contracting Authority.

5.4 Inspection Authority

The Inspection Authority for the Contract is:

To be inserted at Contract award.

The Inspection Authority is the representative of the department or agency for whom the Work is being performed under the Contract and is responsible for inspection of the Work and acceptance of the finished work. The Inspection Authority may be represented on-site by a designated inspector and any other Government of Canada inspector who may from time to time be assigned in support of the designated Inspector.

5.5 Contractor's Representative

To be inserted at Contract award.

Bidders to provide name, title, telephone number and email address.

6. Limitation of Expenditure

Canada's total liability to the Contractor under the Contract must not exceed \$ _____. (The amount will be filled in before the contract award) Customs duties are included and Applicable Taxes are extra.

No increase in the total liability of Canada or in the price of the Work resulting from any design changes, modifications or interpretations of the Work, will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been approved,

in writing, by the Contracting Authority before their incorporation into the Work. The Contractor must not perform any work or provide any service that would result in Canada's total liability being exceeded before obtaining the written approval of the Contracting Authority. The Contractor must notify the Contracting Authority in writing as to the adequacy of this sum:

- a. when it is 75 percent committed, or
- b. four (4) months before the contract expiry date, or
- c. as soon as the Contractor considers that the contract funds provided are inadequate for the completion of the Work, whichever comes first.

If the notification is for inadequate contract funds, the Contractor must provide to the Contracting Authority a written estimate for the additional funds required. Provision of such information by the Contractor does not increase Canada's liability.

7. Task Authorization for Additional Work Arisings (AWAs)

Should there be any requirement beyond the established scope of this contract:

- a. The Technical Authority through Contracting Authority will provide the Contractor with a description of the task using the Task Authorization Form PWGSC 572, Task Authorization Form specified.
- b. The Task Authorization (TA) will contain the details of the activities to be performed, a description of the deliverables, and a schedule indicating completion dates for the major activities or submission dates for the deliverables. The TA will also include the applicable basis (bases) and methods of payment as specified in the Contract.
- c. The Contractor must provide Procurement and Contracting Authority, within 15 calendar days of its receipt, the proposed total estimated cost for performing the task and a breakdown of that cost, established in accordance with the Basis of Payment specified in the Contract.
- d. The Contractor must not commence work until a TA authorized by the Contracting Authority has been received by the Contractor. The Contractor acknowledges that any work performed before a TA has been received will be done at the Contractor's own risk.

7.1 AWAs Pricing Options

- a. **Firm Price:** For AWAs, the Contractor must submit a "Firm Price" excluding travel and living expenses to the Procurement Authority when the scope of Work is clearly understood by both parties and no changes are anticipated in the scope of the Work. Where a firm price has been established, the Contractor will be obliged to complete the Work for the specified firm price. Travel and living expenses will be paid based on actual expenditure incurred by the Contractor in accordance with the Basis of Payment.
- b. **Ceiling Price:** AWAs, the Contractor may submit a "Ceiling Price" quote excluding travel and living expenses to the Procurement Authority when the scope of the Work cannot be clearly defined. The term Ceiling Price is the maximum price that is to be paid to the Contractor and beyond which the Contractor will not receive additional compensation for the defined Work and in return for which the Contractor is obligated to complete the Work. No additional funds will be made available. When the "Ceiling Price" approach is used both parties agree prior to the Work authorization that the price is subject to downward revision on completion of the task, based on the actual cost and verification of the actuals. Travel and living expenses will be paid based on actual expenditure incurred by the contractor IAW the Basis of Payment.

Each Task Authorization for AWAs and Engineering Support Services must clearly state whether the price is a "Firm Fixed Price" or a "Ceiling Price".

- e. **Limitation of Expenditure Price:** When it is not possible for the Contractor to submit a "Firm Price" or a "Ceiling Price" as described above, the Contractor may submit a "Limitation of Expenditure" quote.
- f. The "Firm Price", "Ceiling Price" and/or the "Limitation of Expenditure" quote must be based on the rates in Canadian Funds. All proposed prices and cost estimates must be supported by a detailed cost breakdown.
- e. For a Task which is subject to a "Limitation of Expenditure" as described in Sub-article c. above, the Contractor must notify the proper authority in writing as to the inadequacy of its "Limitation of Expenditure" when:
 - the resources required for its timely completion reaches 75% of the authorized Task funding; or
 - if during the execution of the authorized Tasking it appears to the Contractor that the Scope of Work is greater than had been anticipated and that the funds provided for a Task are inadequate.
- f. When providing the notification described in Sub-article e above, the Contractor must, as a minimum, identify;
 - estimated labour hours and schedule forecast to complete;
 - work around plan; and
 - risk assessment.

A revised proposal and proper justification for the requested amendment must be submitted to the proper approval Authority for consideration. Under no circumstance is the authorized level of expenditure to be exceeded. Canada is under no obligation to pay for any Work that exceeds the authorized funding limitation.

- g. All amounts charged on a "Ceiling price" or "Limitation of Expenditure" basis must be subject to Government audit before or after payment of an invoice.

7.2 Task Completion/Closure Procedures:

The Contractor must monitor all Tasks issued under the Contract. If at any time the Contractor believes that a specific Task has been completed or has been inactive for a period of at least one (1) month, the Contractor must proceed as follows to request closure:

- 7.2.1 The Contractor must determine the final costs to Canada, itemized as necessary for each individual Task being considered for closure;
- 7.2.2 The Contractor must submit a letter to the PA (one copy each to RA and CA) requesting closure of the Task with reference to reports or letters concerning the Task as applicable;
- 7.2.3 In cases where authorized funds were not all expended to complete specific Tasks, these funds are considered returned to the Contract funding baseline for re-issuance/re-distribution as necessary.

7.3 Consolidation of Task Authorizations for Administrative Purposes

For administrative purposes, the contract will be amended by the Contracting Authority from time to time to reflect all TAs issued and approved to date under the contract.

7.4 Canada's Obligation – Portion of the Work – Task Authorizations

- 7.4.1 Canada's obligation with respect to the portion of the Work under the Contract that is performed through Task Authorizations is limited to the total amount of the actual authorized tasks performed by the Contractor.
- 7.4.2 Canada reserves the right, at any time, to acquire the requested Work by other means including by selecting other suppliers. For example, Canada may decide to acquire the requested Work by other means when the Contractor provides a written proposal that has been rejected by Canada.

8. Basis of Payment

8.1 Labour Rates

The Contractor shall be paid firm hourly labour rates in accordance with Annex BB plus applicable taxes, where applicable.

8.2 Program Management Fee

The Contractor shall be paid firm fixed quarterly fee in accordance with Annex BB plus applicable taxes after successfully delivering program management requirements in accordance with the contract.

The program management fee of calendar year 2022 shall provide the baseline for the program management fee escalation for the Option Period from 2023 to 2024.

The program management fee for calendar year 2023 shall be the based on the program management fee for calendar year 2022 escalated by no more than a percentage equal to Canadian Consumer Price Index (CPI) increase for the one-year ending two months prior to the end of calendar year 2022.

The program management fee for calendar year 2024 shall be the based on the program management fee for calendar year 2023 escalated by no more than a percentage equal to Canadian Consumer Price Index (CPI) increase for the one-year ending two months prior to the end of calendar year 2023.

8.3 Optional Training – As and when Requested Basis.

The Contractor shall be paid firm fixed prices after successfully delivering each training course in accordance with Annex BB - Basis of Payment. Prices submitted in the BOP will apply for the first four years of the contract. The course prices for the Option Periods (including both years) will be escalated as per the same principle described above.

8.4 Mark-up for Outsourced Material

The Contractor shall be paid firm fixed mark-up of _____% on outsourced Material on its laid down cost. The mark-up shall remain constant for the entire period of the contract.

(Laid-Down Cost is the cost incurred by the contractor to acquire a specific product or service for resale to the government. This includes the supplier's invoice price (less trade discounts), plus any applicable charges for incoming transportation, foreign exchange, customs duty and brokerage, but excludes the Goods and Services Tax and Harmonized Sales Tax).

8.5 Mark-up for Outsourced Services

The Contractor shall be paid firm fixed mark-up of _____% on outsourced Services on its laid down cost. The mark-up shall remain constant for the entire period of the contract.

(Laid-Down Cost is the cost incurred by the contractor to acquire a specific product or service for resale to the government. This includes the supplier's invoice price (less trade discounts), plus any applicable charges for incoming transportation, foreign exchange, customs duty and brokerage, but excludes the Goods and Services Tax and Harmonized Sales Tax).

8.6 Travel and Living Expenses for Training & AWAs:

The Contractor will be reimbursed its authorized travel and living expenses reasonably and properly incurred in the performance of the Work, at cost, without any allowance for profit and/or administrative overhead, in accordance with the meal, private vehicle and incidental expenses provided in Appendices B, C and D of the National Joint Council Travel Directive, (<http://www.njc-cnm.gc.ca/directive/travel-voyage/index-eng.php>), and with the other provisions of the directive referring to "travelers", rather than those referring to "employees".

All travel must have the prior authorization of the Procurement Authority. All payments are subject to government audit.

All travel expenditures related to work contained in all SOWs and Performance Specifications and Contractor's original proposal is responsibility of the contractor.

8.7 Additional Work Arisings (AWAs):

Should a firm price or a ceiling price cannot be established, the Contractor will be reimbursed for the costs reasonably and properly incurred in the performance of the Work specified in the authorized Task Authorization (TA), as determined in accordance with the Labour Rates listed in Annex C - Basis of Payment, to the limitation of expenditure specified in the authorized TA.

Canada's liability to the Contractor under the authorized TA must not exceed the limitation of expenditure specified in the authorized TA. Customs duties are included and Applicable Taxes are extra.

No increase in the liability of Canada or in the price of the Work specified in the authorized TA resulting from any design changes, modifications or interpretations of the Work will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been authorized, in writing, by the Contracting Authority before their incorporation into the Work.

The Contractor will be reimbursed for the direct expenses reasonably and properly incurred in the performance of the AWAs. These expenses will be paid at actual cost with permissible/negotiated mark-up, upon submission of an itemized statement supported by receipt vouchers.

9. Method of Payment

9.1 Milestone Payments

- 9.1.1 Canada will make milestone payments in accordance with the Schedule of Milestones detailed in the Contract and the payment provisions of the Contract, up to 90 percent of the amount claimed and approved by Canada if:

- e. an accurate and complete claim for payment using form PWGSC-TPSGC 1111, Claim for Progress Payment, and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- f. the total amount for all milestone payments paid by Canada does not exceed 90 percent of the total amount to be paid under the Contract;
- g. all the certificates appearing on form PWGSC-TPSGC 1111 have been signed by the respective authorized representatives;
- h. all work associated with the milestone and as applicable any deliverable required have been completed and accepted by Canada.

9.1.2 The balance of the amount payable will be paid in accordance with the payment provisions of the Contract upon completion and delivery of the Work if the Work has been accepted by Canada and a final claim for the payment is submitted.

9.1.3 There will not be any holdback on the payments for the Optional Courses.

9.2 Work not performed due to Inaccessibility of Government offices and/or Sites

9.2.1 Where the Contractor, its employees, subcontractors, or agents are providing goods and/or services on government premises under the Contract and those premises are inaccessible because of the evacuation or closure of government offices, and as a result no work is performed, Canada is not responsible for paying the Contractor for work that otherwise would have been performed if there had been no evacuation or closure.

9.2.2 If, as a result of any strike or lock-out, the Contractor or its employees, subcontractors or agents cannot obtain access to government premises and, as a result, no work is performed, Canada is not responsible for paying the Contractor for work that otherwise would have been performed if the Contractor had been able to gain access to the premises.

10. SACC Manual Clauses

A2000C (2006-06-16)	Foreign Nationals (Canadian Contractor)
A2001C (2006-06-16)	Foreign Nationals (Foreign Contractor)
A9065C (2006-06-16)	Identification Badge
A9117C (2007-11-30)	T1204 - Direct Request by Customer Department
B6802C (2007-11-30)	Government Property
B7500C (2006-06-16)	Excess Goods
C2000C (2007-11-30)	Taxes - Foreign-based Contractor
C2604C (2013-04-25)	Customs Duties, Excise Taxes and Applicable Taxes – Non Resident
D2000C (2007-11-30)	Marking
D2001C (2007-11-30)	Labeling
D9002C (2007-11-30)	Incomplete Assemblies
G1005C (2008-05-12)	Insurance

11. Technical Publications - Manuals

Should any new Hardware and/or Software be installed, the Contractor must provide and clearly label all technical publications required for description, operation, installation, maintenance and repair of the deliverable end items.

11.1 Existing Manuals

The Contractor must provide the following publications in English as existing commercial or foreign government off-the-shelf manuals, in full compliance with the latest issue of *C-01-100-*

100/AG-005, *Adoption of Commercial and Foreign Government Publications*. The Contractor must deliver the existing manuals to the Technical Authority or his designated representative on or before the last installation.

11.2 Customized Manuals

The Contractor must also provide the Operator Manual in English for the customized Graphical User Interphase (GUI). The Contractor must deliver the customized manuals to the Technical Authority or his designated representative on or before the last installation.

12. Invoicing Instructions

12.1 The Contractor must submit a claim for payment using form PWGSC-TPSGC 1111, Claim for Progress Payment. Each claim must show:

- d. all information required on form PWGSC-TPSGC 1111;
- e. all applicable information detailed under the section entitled "Invoice Submission" of the general conditions;
- f. the description and value of the milestone claimed as detailed in the Contract.

12.2 Applicable Taxes must be calculated on the total amount of the claim before the holdback is applied. At the time the holdback is claimed, there will be no Applicable Taxes payable as it was claimed and payable under the previous claims for progress payments.

12.3 The Contractor must not submit claims until all work identified in the claim is completed.

12.4 Invoices must be distributed as follows:

- (a) The original invoice (hard copy) and one (1) e-copy must be forwarded to the Procurement Authority identified under the section entitled "Authorities" of the Contract.
- (b) An e-copy must be sent to the consignee.
- (c) One (1) e-copy must be forwarded to the Contracting Authority and the Technical Authority identified under the section entitled "Authorities" of the Contract.

13. Certifications

13.1 Compliance

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

13.2 Federal Contractors Program for Employment Equity - Default by the Contractor

The Contractor understands and agrees that, when an Agreement to Implement Employment Equity (AIEE) exists between the Contractor and Employment and Social Development Canada (ESDC)-Labour, the AIEE must remain valid during the entire period of the Contract. If the AIEE

becomes invalid, the name of the Contractor will be added to the "FCP Limited Eligibility to Bid" list. The imposition of such a sanction by ESDC will constitute the Contractor in default as per the terms of the Contract.

14. Applicable Laws

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

15. 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. Annex BB - Basis of Payment;
- c. The general conditions 2030 (2016-04-04), General Conditions – Goods (Higher Complexity);
- d. The applicable sections and sub-sections of the general conditions 2035 (2016-04-04), General Conditions - Services (Higher Complexity);
- e. The supplemental conditions 4001 (2015-04-01), Hardware Purchase, Lease and Maintenance;
- f. The supplemental conditions 4002 (2010-08-16), Software Development or Modification Services;
- g. The supplemental conditions 4003 (2010-08-16), Licensed Software;
- h. The supplemental conditions 4006 (2010-08-16), Contractor to Own Intellectual Property Rights in Foreground Information;
- i. The supplemental conditions 4010 (2012-07-16), Services Higher Complexity;
- j. Annex AA - Statement of Work; and
- k. The Contractor's proposal dated _____.

16. Periodic Usage Reports

4. The Contractor must compile and maintain records on its provision of services to the federal government under authorized Task Authorizations issued under this Contract.
5. The Contractor must provide this data in accordance with the reporting requirements detailed below. If some data is not available, the reason must be indicated. If services are not provided during a given period, the Contractor must still provide a "NIL" report.
6. The data must be submitted on a quarterly basis to the Contracting Authority.

The quarterly periods are defined as follows:

- a. 1st quarter: April 1 to June 30;
- b. 2nd quarter: July 1 to September 30;
- c. 3rd quarter: October 1 to December 31; and
- d. 4th quarter: January 1 to March 31.

The data must be submitted to the Contracting Authority no later than twenty calendar days after the end of the reporting period.

16.1 Reporting Requirement- Details

A detailed and current record of all authorized tasks must be kept for each contract with a task authorization process. This record must contain:

For each authorized task:

- a. the authorized task number or task revision number(s);
- b. a title or a brief description of each authorized task;
- c. the total estimated cost specified in the authorized Task Authorization (TA) of each task, GST or HST extra;
- d. the total amount, GST or HST extra, expended to date against each authorized task;
the start and completion date for each authorized task;
- e. the active status of each authorized task, as applicable; and
- f. total funds committed and expended including and excluding taxes.

For all authorized tasks:

- e. the amount (GST or HST extra) specified in the contract (as last amended, as applicable) as Canada's total liability to the contractor for all authorized TAs; and
- f. the total amount, GST or HST extra, expended to date against all authorized TA's.

17. Consignee and Shipping Addresses

The details of the consignee and shipping addresses will be provided by the Technical Authority prior to shipment of the hardware just before the commencement of installation work, as necessary.

18. Proactive Disclosure of Contracts with Former Public Servants

By providing information on its status, with respect to being a former public servant in receipt of a Public Service Superannuation Act (PSSA) pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with Contracting Policy Notice: 2012-2 of the Treasury Board Secretariat of Canada.

19. Confirmation of Contract Award

The Contractor was notified of contract award by _____ (*insert "e-mail", "facsimile" or "telephone", as applicable*) on _____ (*insert date*). The Work specified in the notice, if any, must not be duplicated.

20. Contractual Disputes

The following procedures for the settlement of any disputes which may arise throughout the life of this Contract shall prevail:

- 20.1 Disputes arising from this Contract will in the first instance be resolved by the Contracting Authority and the Contractor's Contract Administrator within fifteen (15) working days or such additional time as may be agreed to by both parties.

- 20.2 Failing resolution under (1) above, the Manager, Defence Communications Division, Electronics, Munitions and Tactical Systems Procurement Directorate (EMTSPD), Defence and Major Projects Sector (DMPS) and the Contractor's Representative Supervisor will attempt to resolve the dispute within an additional fifteen (15) working days.
- 20.3 Failing resolution under (1) or (2), the Senior Director of EMTSPD, DMPS and the Contractor's equivalent Senior Management will attempt to resolve the dispute within an additional thirty (30) working days.

PART 8 - RESULTING CONTRACT CLAUSES FOR PHASE III

1. Security Requirement

- 1.1 There is a security requirement applicable to this Contract.
- 1.2 The Contractor and sub-contractors must support the RCMP's security environment by complying with the directives described in the attached Annex CCC – Security Requirement Check List (SRCL) and the Security Guide.
- 1.3 If any of the integral parts of requirement were to become public knowledge beyond what was provided in the solicitation documents, it would compromise the confidentiality and integrity of the required secure system. The Contractor acknowledges and understands the security requirement of this procurement and certifies that there will be no communication (verbal or written) about this requirement to anyone within or outside of the Government other than the herein designated PSPC Contractual Authority or his/her representatives and, after contract award, the designated Requisitioning Authority or his/her representative. Otherwise, communication may only be made with individuals who have a need to know solely for the purpose of performing the contract.

2. Requirements

The Contractor must perform the Work in accordance with all Statement of Works, Performance Specifications and the technical and management portions of the Contractor's proposal entitled _____, dated _____

3. Standard Clauses and Conditions

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

2030 (2016-04-04), General Conditions – Goods (Higher Complexity) apply to and form part of the Contract.

The following sections and subsections of 2035 (2016-04-04), General Conditions - Services (Higher Complexity), apply to and form part of the Contract:

1. Section 5 – Conduct of Work:
Subsection 2.d, 2.e and 2.f and subsection 3, 4 and 5
2. Section 20 – Copyright
3. Section 21 – Translation of Documentation
4. Section 35 – No Bribe or Conflict
Subsection 2, 3 and 4
5. Section 42 – Harassment in Workplace
6. Section 44 – Access to Information

3.1 Supplemental General Conditions

4001 (2015-04-01), Hardware Purchase, Lease and Maintenance

4002 (2010-08-16), Software Development or Modification Services

4003 (2010-08-16), Licensed Software

4006 (2010-08-16), Contractor to Own Intellectual Property Rights in Foreground Information

4. Period of Contract (Option Phase III)

4.1 The Contractor grants to Canada the irrevocable option to enter into contract for Phase III 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.

4.1.1 The Contracting Authority may exercise this option at any time within two years after delivery and acceptance of the radio system acquired under Phase I by sending a written notice to the contractor.

4.1.2 Should Canada exercise its right to enter into a contract for Phase III, the Contractor must deliver the fully operational Radio Communication System within three years after the contract award.

4.2 Should Canada exercise its right to enter into a contract for Phase III, the Contractor grants to Canada the irrevocable option to acquire the goods, services or both described below 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.

4.2.1 Optional Training Courses.

4.2.2 P25 - Phase 2 Upgradability Solution.

4.3 The Contracting Authority may exercise Optional Training Courses on as and when requested basis. The actual dates of the courses will be determined after the contract award.

4.4 The Contracting Authority may exercise option to buy P25 - Phase 2 Upgradability Solution at any time during the period of contract by sending a written notice to the Contractor.

5. Authorities

5.1 Contracting Authority

The Contracting Authority for the Contract is:

Ricky Anand
Public Works and Government Services Canada
Acquisitions Branch
Defence and Major Projects Sector (DMPS)
Place du Portage, Phase III, 11Laurier Street, Gatineau, QC K1A 0S5
Government of Canada

Telephone: (819) 420-1755
Facsimile: (819) 953-4510
E-mail address: Ricky.Anand@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.

5.2 Technical Authority

The Technical Authority for the Contract is:

To be inserted at Contract award.

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.

5.3 Procurement Authority

The Procurement Authority for the Contract is:

To be inserted at Contract award.

The Procurement 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 financial and technical content of the Work under the Contract. Technical matters may be discussed with the Procurement Authority; however the Procurement Authority has no authority to authorize changes to the scope of the Work or the pricing in the Basis of Payment (Annex C). Changes to the scope of the Work or the Basis of Payment can only be made through a contract amendment issued by the Contracting Authority.

5.4 Inspection Authority

The Inspection Authority for the Contract is:

To be inserted at Contract award.

The Inspection Authority is the representative of the department or agency for whom the Work is being performed under the Contract and is responsible for inspection of the Work and acceptance of the finished work. The Inspection Authority may be represented on-site by a designated inspector and any other Government of Canada inspector who may from time to time be assigned in support of the designated Inspector.

5.5 Contractor's Representative

To be inserted at Contract award.

Bidders to provide name, title, telephone number and email address.

6. Limitation of Expenditure

Canada's total liability to the Contractor under the Contract must not exceed \$ _____. (*The amount will be filled in before the contract award*) Customs duties are included and Applicable Taxes are extra.

No increase in the total liability of Canada or in the price of the Work resulting from any design changes, modifications or interpretations of the Work, will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been approved, in writing, by the Contracting Authority before their incorporation into the Work. The Contractor must not perform any work or provide any service that would result in Canada's total liability being exceeded before obtaining the written approval of the Contracting Authority. The Contractor must notify the Contracting Authority in writing as to the adequacy of this sum:

- a. when it is 75 percent committed, or
- b. four (4) months before the contract expiry date, or
- c. as soon as the Contractor considers that the contract funds provided are inadequate for the completion of the Work, whichever comes first.

If the notification is for inadequate contract funds, the Contractor must provide to the Contracting Authority a written estimate for the additional funds required. Provision of such information by the Contractor does not increase Canada's liability.

7. Task Authorization for Additional Work Arisings (AWAs)

Should there be any requirement beyond the established scope of this contract:

- a. The Technical Authority through Contracting Authority will provide the Contractor with a description of the task using the Task Authorization Form PWGSC 572, Task Authorization Form specified.
- b. The Task Authorization (TA) will contain the details of the activities to be performed, a description of the deliverables, and a schedule indicating completion dates for the major activities or submission dates for the deliverables. The TA will also include the applicable basis (bases) and methods of payment as specified in the Contract.
- c. The Contractor must provide Procurement and Contracting Authority, within 15 calendar days of its receipt, the proposed total estimated cost for performing the task and a breakdown of that cost, established in accordance with the Basis of Payment specified in the Contract.
- d. The Contractor must not commence work until a TA authorized by the Contracting Authority has been received by the Contractor. The Contractor acknowledges that any work performed before a TA has been received will be done at the Contractor's own risk.

7.1 AWAs Pricing Options

- a. **Firm Price:** For AWAs, the Contractor must submit a "Firm Price" excluding travel and living expenses to the Procurement Authority when the scope of Work is clearly understood by both parties and no changes are anticipated in the scope of the Work. Where a firm price has been established, the Contractor will be obliged to complete the Work for the specified firm price. Travel and living expenses will be paid based on actual expenditure incurred by the Contractor in accordance with the Basis of Payment.

- b. **Ceiling Price:** AWAs, the Contractor may submit a "Ceiling Price" quote excluding travel and living expenses to the Procurement Authority when the scope of the Work cannot be clearly defined. The term Ceiling Price is the maximum price that is to be paid to the Contractor and beyond which the Contractor will not receive additional compensation for the defined Work and in return for which the Contractor is obligated to complete the Work. No additional funds will be made available. When the "Ceiling Price" approach is used both parties agree prior to the Work authorization that the price is subject to downward revision on completion of the task, based on the actual cost and verification of the actuals. Travel and living expenses will be paid based on actual expenditure incurred by the contractor IAW the Basis of Payment.
- Each Task Authorization for AWAs and Engineering Support Services must clearly state whether the price is a "Firm Fixed Price" or a "Ceiling Price".
- g. **Limitation of Expenditure Price:** When it is not possible for the Contractor to submit a "Firm Price" or a "Ceiling Price" as described above, the Contractor may submit a "Limitation of Expenditure" quote.
- h. The "Firm Price", "Ceiling Price" and/or the "Limitation of Expenditure" quote must be based on the rates in Canadian Funds. All proposed prices and cost estimates must be supported by a detailed cost breakdown.
- e. For a Task which is subject to a "Limitation of Expenditure" as described in Sub-article c. above, the Contractor must notify the proper authority in writing as to the inadequacy of its "Limitation of Expenditure" when:
- the resources required for its timely completion reaches 75% of the authorized Task funding; or
 - if during the execution of the authorized Tasking it appears to the Contractor that the Scope of Work is greater than had been anticipated and that the funds provided for a Task are inadequate.
- f. When providing the notification described in Sub-article e above, the Contractor must, as a minimum, identify;
- estimated labour hours and schedule forecast to complete;
 - work around plan; and
 - risk assessment.
- A revised proposal and proper justification for the requested amendment must be submitted to the proper approval Authority for consideration. Under no circumstance is the authorized level of expenditure to be exceeded. Canada is under no obligation to pay for any Work that exceeds the authorized funding limitation.
- g. All amounts charged on a "Ceiling price" or "Limitation of Expenditure" basis must be subject to Government audit before or after payment of an invoice.

7.2 Task Completion/Closure Procedures:

The Contractor must monitor all Tasks issued under the Contract. If at any time the Contractor believes that a specific Task has been completed or has been inactive for a period of at least one (1) month, the Contractor must proceed as follows to request closure:

- 7.2.1 The Contractor must determine the final costs to Canada, itemized as necessary for each individual Task being considered for closure;

- 7.2.2 The Contractor must submit a letter to the PA (one copy each to RA and CA) requesting closure of the Task with reference to reports or letters concerning the Task as applicable;
- 7.2.3 In cases where authorized funds were not all expended to complete specific Tasks, these funds are considered returned to the Contract funding baseline for re-issuance/re-distribution as necessary.

7.3 Consolidation of Task Authorizations for Administrative Purposes

For administrative purposes, the contract will be amended by the Contracting Authority from time to time to reflect all TAs issued and approved to date under the contract.

7.4 Canada's Obligation – Portion of the Work – Task Authorizations

- 7.4.1 Canada's obligation with respect to the portion of the Work under the Contract that is performed through Task Authorizations is limited to the total amount of the actual authorized tasks performed by the Contractor.
- 7.4.2 Canada reserves the right, at any time, to acquire the requested Work by other means including by selecting other suppliers. For example, Canada may decide to acquire the requested Work by other means when the Contractor provides a written proposal that has been rejected by Canada.

8. Basis of Payment

8.1 Factory Acceptance Testing

For the Work described in the Annex AAA - Statement of Work and Annex BBB – Performance Specifications and the Contractor's proposal:

In consideration of the Contractor satisfactorily completing its obligations under the Contract, the Contractor will be paid a firm price of \$_____ (*the amount will be inserted at contract award*) after successful demonstration and acceptance of the FAT. Customs duties are included and Applicable Taxes are extra. The payment shall be subject to a 10% holdback. Holdback will be released upon all deliverables of Phase III being met.

For the firm price portion of the Work only, 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.

8.2 Hardware, Software and, Engineering & Installation Services for all Sites

For the Work described in the Statement of Work and Performance Specifications and the Contractor's proposal:

In consideration of the Contractor satisfactorily completing its obligations under the Contract, the Contractor will be paid firm price for each site in accordance with its proposal (*the amounts for each site will be inserted at contract award*). Customs duties are included and Applicable Taxes are extra. Payment for each site shall be subject to a 10% holdback. Holdback will be released upon all deliverables of Phase III being met.

For the firm price portion of the Work only, 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.

8.3 Optional Training – As and when Requested Basis

The Contractor shall be paid firm fixed prices after successfully delivering each training course in accordance with Annex DDD - Basis of Payment. Prices submitted in the BOP will apply for the first four years of the contract.

The courses prices for calendar year 2022 shall provide the baseline for the pricing escalation for the Option Periods.

The courses prices for calendar year 2023 shall be the based on the pricing for calendar year 2022 escalated by no more than a percentage equal to Canadian Consumer Price Index (CPI) increase for the one-year ending two months prior to the end of calendar year 2022.

The courses prices for calendar year 2024 shall be the based on the pricing for calendar year 2023 escalated by no more than a percentage equal to Canadian Consumer Price Index (CPI) increase for the one-year ending two months prior to the end of calendar year 2023.

8.4 P25 System Upgradability Solution

In consideration of the Contractor satisfactorily completing its obligations under the Contract, the Contractor will be paid a firm price of \$_____ (*the amount will be inserted at contract award*) after successful delivery and acceptance. Customs duties are included and Applicable Taxes are extra. This payment shall be subject to a 10% holdback. Holdback will be released upon all deliverables of Phase III being met.

8.5 Travel and Living Expenses for Training & AWAs:

The Contractor will be reimbursed its authorized travel and living expenses reasonably and properly incurred in the performance of the Work, at cost, without any allowance for profit and/or administrative overhead, in accordance with the meal, private vehicle and incidental expenses provided in Appendices B, C and D of the National Joint Council Travel Directive, (<http://www.njc-cnm.gc.ca/directive/travel-voyage/index-eng.php>), and with the other provisions of the directive referring to "travelers", rather than those referring to "employees".

All travel must have the prior authorization of the Procurement Authority. All payments are subject to government audit.

All travel expenditures related to work contained in all SOWs and Performance Specifications and Contractor's original proposal is responsibility of the contractor.

8.6 Additional Work Arisings (AWAs):

Should a firm price or a ceiling price cannot be established, the Contractor will be reimbursed for the costs reasonably and properly incurred in the performance of the Work specified in the authorized Task Authorization (TA), as determined in accordance with the Labour Rates listed in Annex C - Basis of Payment, to the limitation of expenditure specified in the authorized TA.

Canada's liability to the Contractor under the authorized TA must not exceed the limitation of expenditure specified in the authorized TA. Customs duties are included and Applicable Taxes are extra.

No increase in the liability of Canada or in the price of the Work specified in the authorized TA resulting from any design changes, modifications or interpretations of the Work will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been authorized, in writing, by the Contracting Authority before their incorporation into the Work.

The Contractor will be reimbursed for the direct expenses reasonably and properly incurred in the performance of the AWAs. These expenses will be paid at actual cost with

permissible/negotiated mark-up, upon submission of an itemized statement supported by receipt vouchers.

9. Method of Payment

9.1 Milestone Payments

9.1.1 Canada will make milestone payments in accordance with the Schedule of Milestones detailed in the Contract and the payment provisions of the Contract, up to 90 percent of the amount claimed and approved by Canada if:

- i. an accurate and complete claim for payment using form PWGSC-TPSGC 1111, Claim for Progress Payment, and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- j. the total amount for all milestone payments paid by Canada does not exceed 90 percent of the total amount to be paid under the Contract;
- k. all the certificates appearing on form PWGSC-TPSGC 1111 have been signed by the respective authorized representatives;
- l. all work associated with the milestone and as applicable any deliverable required have been completed and accepted by Canada.

9.1.2 The balance of the amount payable will be paid in accordance with the payment provisions of the Contract upon completion and delivery of the Work if the Work has been accepted by Canada and a final claim for the payment is submitted.

9.1.3 There will not be any holdback on the payments for the Optional Courses.

9.2 Work not performed due to Inaccessibility of Government offices and/or Sites

9.2.1 Where the Contractor, its employees, subcontractors, or agents are providing goods and/or services on government premises under the Contract and those premises are inaccessible because of the evacuation or closure of government offices, and as a result no work is performed, Canada is not responsible for paying the Contractor for work that otherwise would have been performed if there had been no evacuation or closure.

9.2.2 If, as a result of any strike or lock-out, the Contractor or its employees, subcontractors or agents cannot obtain access to government premises and, as a result, no work is performed, Canada is not responsible for paying the Contractor for work that otherwise would have been performed if the Contractor had been able to gain access to the premises.

10. SACC Manual Clauses

A2000C (2006-06-16)	Foreign Nationals (Canadian Contractor)
A2001C (2006-06-16)	Foreign Nationals (Foreign Contractor)
A9065C (2006-06-16)	Identification Badge
A9117C (2007-11-30)	T1204 - Direct Request by Customer Department
B6802C (2007-11-30)	Government Property
B7500C (2006-06-16)	Excess Goods
C2000C (2007-11-30)	Taxes - Foreign-based Contractor
C2604C (2013-04-25)	Customs Duties, Excise Taxes and Applicable Taxes – Non Resident
D2000C (2007-11-30)	Marking

D2001C (2007-11-30) Labeling
D9002C (2007-11-30) Incomplete Assemblies
G1005C (2008-05-12) Insurance

11. Technical Publications - Manuals

The Contractor must provide and clearly label all technical publications required for description, operation, installation, maintenance and repair of the deliverable end items.

11.1 Existing Manuals

The Contractor must provide the following publications in English as existing commercial or foreign government off-the-shelf manuals, in full compliance with the latest issue of *C-01-100-100/AG-005, Adoption of Commercial and Foreign Government Publications*. The Contractor must deliver the existing manuals to the Technical Authority or his designated representative on or before the last installation.

11.2 Customized Manuals

The Contractor must also provide the Operator Manual in English for the customized Graphical User Interphase (GUI). The Contractor must deliver the customized manuals to the Technical Authority or his designated representative on or before the last installation.

12. Invoicing Instructions

12.1 The Contractor must submit a claim for payment using form PWGSC-TPSGC 1111, Claim for Progress Payment. Each claim must show:

- g. all information required on form PWGSC-TPSGC 1111;
- h. all applicable information detailed under the section entitled "Invoice Submission" of the general conditions;
- i. the description and value of the milestone claimed as detailed in the Contract.

12.2 Applicable Taxes must be calculated on the total amount of the claim before the holdback is applied. At the time the holdback is claimed, there will be no Applicable Taxes payable as it was claimed and payable under the previous claims for progress payments.

12.3 The Contractor must not submit claims until all work identified in the claim is completed.

12.4 Invoices must be distributed as follows:

- (a) The original invoice (hard copy) and one (1) e-copy must be forwarded to the Procurement Authority identified under the section entitled "Authorities" of the Contract.
- (b) An e-copy must be sent to the consignee.
- (c) One (1) e-copy must be forwarded to the Contracting Authority and the Technical Authority identified under the section entitled "Authorities" of the Contract.

13. Certifications

13.1 Compliance

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

13.2 Federal Contractors Program for Employment Equity - Default by the Contractor

The Contractor understands and agrees that, when an Agreement to Implement Employment Equity (AIEE) exists between the Contractor and Employment and Social Development Canada (ESDC)-Labour, the AIEE must remain valid during the entire period of the Contract. If the AIEE becomes invalid, the name of the Contractor will be added to the "FCP Limited Eligibility to Bid" list. The imposition of such a sanction by ESDC will constitute the Contractor in default as per the terms of the Contract.

14. Applicable Laws

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

15. 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. Annex DDD - Basis of Payment;
- c. The general conditions 2030 (2016-04-04), General Conditions – Goods (Higher Complexity);
- d. The applicable sections and sub-sections of the general conditions 2035 (2016-04-04), General Conditions - Services (Higher Complexity);
- e. The supplemental conditions 4001 (2015-04-01), Hardware Purchase, Lease and Maintenance;
- f. The supplemental conditions 4002 (2010-08-16), Software Development or Modification Services;
- g. The supplemental conditions 4003 (2010-08-16), Licensed Software;
- h. The supplemental conditions 4006 (2010-08-16), Contractor to Own Intellectual Property Rights in Foreground Information;
- i. The supplemental conditions 4010 (2012-07-16), Services Higher Complexity;
- j. Annex AAA - Statement of Work;
- k. Annex BBB - Performance Specifications; and
- l. The Contractor's proposal dated _____.

16. Periodic Usage Reports

7. The Contractor must compile and maintain records on its provision of services to the federal government under authorized Task Authorizations issued under this Contract.
8. The Contractor must provide this data in accordance with the reporting requirements detailed below. If some data is not available, the reason must be indicated. If services are not provided during a given period, the Contractor must still provide a "NIL" report.

9. The data must be submitted on a quarterly basis to the Contracting Authority.

The quarterly periods are defined as follows:

- a. 1st quarter: April 1 to June 30;
- b. 2nd quarter: July 1 to September 30;
- c. 3rd quarter: October 1 to December 31; and
- d. 4th quarter: January 1 to March 31.

The data must be submitted to the Contracting Authority no later than twenty calendar days after the end of the reporting period.

16.1 Reporting Requirement- Details

A detailed and current record of all authorized tasks must be kept for each contract with a task authorization process. This record must contain:

For each authorized task:

- a. the authorized task number or task revision number(s);
- b. a title or a brief description of each authorized task;
- c. the total estimated cost specified in the authorized Task Authorization (TA) of each task, GST or HST extra;
- d. the total amount, GST or HST extra, expended to date against each authorized task;
the start and completion date for each authorized task;
- e. the active status of each authorized task, as applicable; and
- f. total funds committed and expended including and excluding taxes.

For all authorized tasks:

- e. the amount (GST or HST extra) specified in the contract (as last amended, as applicable) as Canada's total liability to the contractor for all authorized TAs; and
- f. the total amount, GST or HST extra, expended to date against all authorized TA's.

17. Consignee and Shipping Addresses

The details of the consignee and shipping addresses will be provided by the Technical Authority prior to shipment of the hardware just before the commencement of installation work, as necessary.

18. Proactive Disclosure of Contracts with Former Public Servants

By providing information on its status, with respect to being a former public servant in receipt of a *Public Service Superannuation Act* (PSSA) pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with Contracting Policy Notice: 2012-2 of the Treasury Board Secretariat of Canada.

19. Confirmation of Contract Award

The Contractor was notified of contract award by _____ (*insert "e-mail", "facsimile" or "telephone", as applicable*) on _____ (*insert date*). The Work specified in the notice, if any, must not be duplicated.

20. Contractual Disputes

The following procedures for the settlement of any disputes which may arise throughout the life of this Contract shall prevail:

- 20.1 Disputes arising from this Contract will in the first instance be resolved by the Contracting Authority and the Contractor's Contract Administrator within fifteen (15) working days or such additional time as may be agreed to by both parties.
- 20.2 Failing resolution under (1) above, the Manager, Defence Communications Division, Electronics, Munitions and Tactical Systems Procurement Directorate (EMTSPD), Defence and Major Projects Sector (DMPS) and the Contractor's Representative Supervisor will attempt to resolve the dispute within an additional fifteen (15) working days.
- 20.3 Failing resolution under (1) or (2), the Senior Director of EMTSPD, DMPS and the Contractor's equivalent Senior Management will attempt to resolve the dispute within an additional thirty (30) working days.

FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY – CERTIFICATION

I, the Bidder, by submitting the present information to the Contracting Authority, certify that the information provided is true as of the date indicated below. The certifications provided to Canada are subject to verification at all times. I understand that Canada will declare a bid non-responsive, or will declare a contractor in default, if a certification is found to be untrue, whether during the bid evaluation period or during the contract period. Canada will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply with any request or requirement imposed by Canada may render the bid non-responsive or constitute a default under the Contract.

For further information on the Federal Contractors Program for Employment Equity visit Employment and Social Development Canada (ESDC)-Labour's website.

Date : _____ (YYYY/ MM/DD) (If left blank, the date will be deemed to be the bid solicitation closing date.)

Complete both A and B.

A. Check only one of the following:

- () A1. The Bidder certifies having no work force in Canada.
- () A2. The Bidder certifies being a public sector employer.
- () A3. The Bidder certifies being a federally regulated employer being subject to the Employment Equity Act.
- () A4. The Bidder certifies having a combined work force in Canada of less than 100 employees (combined work force includes: permanent full-time, permanent part-time and temporary employees [temporary employees only includes those who have worked 12 weeks or more during a calendar year and who are not full-time students]).

A5 The Bidder has a combined workforce in Canada of 100 or more employees; and

() A5.1. The Bidder certifies already having a valid and current Agreement to Implement Employment Equity (AIEE) in place with ESDC-Labour.

OR () A5.2. The Bidder certifies having submitted the Agreement to Implement Employment Equity (LAB1168) to ESDC-Labour. As this is a condition to contract award, proceed to completing the form Agreement to Implement Employment Equity (LAB1168), duly signing it, and transmit it to ESDC-Labour.

B. Check only one of the following:

() B1. The Bidder is not a Joint Venture.

OR

() B2. The Bidder is a Joint Venture and each member of the Joint Venture must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification. (Refer to the Joint Venture section of the Standard Instructions)

ANNEX A

STATEMENT OF WORK

RADIO COMMUNICATION SYSTEM

FOR

THE 2018 G7 SUMMIT

PHASE I

THE ROYAL CANADIAN MOUNTED POLICE (RCMP)



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GLOSSARY

APCO	Association of Public Safety Communication Officers
AES	Advanced Encryption Standard
CA	Contracting Authority
CAI	Common Air Interface
CER	Common Equipment Room
FRU	Field Replaceable Unit
G7	Group of 7 (Nations)
GFE	Government Furnished Equipment
IP	Internet Protocol
LAN	Local Area Network
NIST	National Institute of Standards and Technology
PA	Project Authority
P25	Project 25
RF	Radio Frequency
TA	Technical Authority
TBD	To Be Determined
TIA	Telecommunications Industry Association

1. BACKGROUND

- 1.1 The Province of Quebec is referred to as "C" Division by the Royal Canadian Mounted Police (RCMP). The RCMP is responsible for two areas of law enforcement throughout Quebec. These areas of responsibility include:
 - 1.1.1 Federal and International policing by Parliamentary Act.
 - 1.1.2 Protective Policing by Federal Act.
- 1.2 The existing Land Mobile Radio (LMR) system used by the RCMP in Quebec is approaching its end of life. Consequently the system no longer meets the RCMP's stringent communication requirements. A major capital procurement is being planned to replace the existing Land Mobile Radio communication system in that province.
- 1.3 This capital procurement must be accelerated to meet the communication requirements of the G7 Leader's Summit hosted in Quebec. For more information relating to the G7, visit the following web link:
<http://pm.gc.ca/eng/news/2017/05/27/canada-host-2018-g7-summit-charlevoix-quebec>

2. PROJECT SCOPE

- 2.1 The following paragraphs define the Technical Requirements for the 2018 G7 Radio Communication System Project.
- 2.2 The 2018 G7 Radio Communication System Infrastructure Project requirements are broken into 3 phases as per the following:
 - 2.2.1 Phase I - G7 Summit Phase: Delivery of a P25 LMR system for the Summit.
 - 2.2.2 Phase II - In-Service Support Services Requirements for RCMP "C" Division.
 - 2.2.3 Phase III – Post G7 Summit Phase: Expansion of a P25 LMR system for RCMP "C" Division.
- 2.3 In Phase 1, the Contractor must deliver a fully functional P25 land mobile radio communication system in the province of Quebec, which must meet the communication requirements as defined in the Annex A and B.
- 2.4 All Phase 1 requirements are firm, whereas all Phase III requirements will be firmed up after Phase 1 has been concluded.
- 2.5 Phase II must be treated as an **Option** that may be exercised.
- 2.6 Phase III must be treated as an **Option** that may be exercised.



- 2.7 Should Phase II be exercised, the Contractor must provide In-Service Support Services.
- 2.8 Should Phase III be exercised, the Contractor must deliver a fully functional P25 land mobile radio communication system in the province of Quebec, which must meet the communication requirements of the RCMP "C" Division as specified in Annex BBB. Phase III must be completed within 3 years.
- 2.9 The Contractor must remove, as required, a portion of the equipment deployed in Phase I, and reconfigure and redeploy it in other locations. These locations will be determined after the G7 Summit.
- 2.10 In Phase I and III, the Contractor must design, configure, deliver, install, test, and commission the fully operational Radio Communication System.
- 2.11 The Radio System Core Sites installed in Montreal and Quebec City will be the final location for both Phase I and Phase III.
- 2.12 The Contractor will not provide any radio subscriber user equipment as part of this requirement since the scope is limited to the infrastructure portion of the system only. The RCMP will provide its own P25 radio subscriber equipment. Subscriber equipment is defined as portable (handheld) radios and mobile (vehicle) radios.
- 2.13 The site locations for the radio equipment including the Basestation sites will be selected by the RCMP and provided to the Contractor. The Contractor will not be responsible for the Radio Frequency (RF) coverage design for this system.
- 2.14 The Contractor will not be responsible for identifying RF spectrum for this system. RCMP will be acquiring RF spectrum for the operation of this radio system. The P25 LMR system must be designed to operate in the spectrum band of 380MHz-470MHz.
- 2.15 The Contractor must provide tuned RF site filtration to connect transceiver equipment to radio antennas. RCMP will provide site RF frequencies to the Contractor upon contract award.
- 2.16 The Contractor will be responsible for the installation of all Basestation equipment within equipment shelters provided by the RCMP.
- 2.17 The Contractor must provide P25 Tier 2 GPS Mapping services and hardware integration to the land mobile radio communications system in order to allow for low frequency tracking of subscriber units.
- 2.18 The Contractor must provide training (both end user and technical) and in-service maintenance support. The Contractor must collaborate closely with the Technical Authority (TA) to ensure that the Contractor completely understands and complies with all the requirements of this Statement of Work.



- 2.19 The Contractor must obtain Technical Authority's approval at each milestone and deliverable in order to move on to the next. For details, please see Appendix A4 – Milestone Schedule.
- 2.20 All work described in this Annex A - Statement of Work (SOW) and Annex B - Performance Specifications must be performed in a "turnkey" manner with the contractor functioning both as a supplier and as a system integrator.

3. PHASE I INSTALLATION SITES

- 3.1 The Contractor must install new radio equipment at the designated sites. The list of installation sites will be identified in Appendix A3 – Phase I Installation Sites and provided upon contract award.

4. PHASE I SYSTEM DESIGN AND IMPLEMENTATION CONSTRAINTS

In the development of the overall G7 P25 Radio System Infrastructure Project for both phases, the contractor may be faced with several operational constraints. These constraints are in the form of existing Government Furnished Equipment (GFE) that the Contractor must utilize and interconnect with its proposed system, whereas in other cases some of the GFE cannot be made available to the contractor for utilization since that GFE may be reserved by RCMP for other purposes.

The G7 Summit has been announced by the Government of Canada and is a firm commitment. This is a major event involving international dignitaries that allows Canada to showcase its domestic and international priorities on the world stage. The Contractor must provide an operational "turnkey" P25 radio infrastructure as per the milestone dates established in this SOW.

With the event taking place in the Province of Quebec, respecting Canada's language policies for the use of English and French will be crucial. Requirements for the Contractor are established in this SOW.

- 4.1 Network IP Design
- 4.1.1 The Contractor will be required to work closely with Shared Services Canada (SSC) who will act as RCMP's data network manager and provider.
- 4.1.2 The Contractor must adhere to RCMP and SSC data network IP scheme and architecture.
- 4.2 Network Access and Security
- 4.2.1 Implementation of IT Security regarding the data network will be implemented by SSC on behalf of the RCMP.
- 4.2.2 Electronic access control will be implemented using IT security devices (e.g. firewalls) provided by the RCMP.



- 4.2.3 The Contractor must provide all IP network flows which must traverse IT security devices. This must include but is not limited to: source device IP, source name, destination device IP, destination name, port, protocol, service and detailed justification for each.
- 4.2.4 Radio equipment must support monitoring and logging of all electronic access and activity on the radio network.
- 4.2.5 Radio Infrastructure Components are defined as the following:
 - 4.2.5.1 Key Management Facility (KMF)
 - 4.2.5.2 Radio System Voice Loggers
 - 4.2.5.3 Dispatch Console Subsystems
- 4.2.6 Radio Infrastructure Components as defined in 4.2.5 must be deployed on separate dedicated LANs.
- 4.2.7 All Radio Infrastructure Components will be protected from the rest of the network with IT security device(s).
- 4.2.8 Contractor will not be permitted remote access to radio system infrastructure.

5. APPLICABLE DOCUMENTS

- 5.1 The equipment proposed for this requirement must meet applicable sections of the current issue of the following standards:
 - 5.1.1 ANSI/TIA102 Suite of the Association of Public-Safety Communications Officials-International (APCO) Project 25 (P25) Specifications.
 - 5.1.2 Alternating Current (AC) powered equipment must be certified to the Canadian Standards Association (CSA).
 - 5.1.3 ISEDC Radio Standards Specification, RSS 119 for all land mobile and fixed radio transmitters and receivers.
 - 5.1.4 Applicable parts of ISEDC CS-03 Telecommunication Apparatus Compliance Specification.
 - 5.1.5 Other applicable standards that may be required depending on equipment that shall be provided by the contractor.
 - 5.1.6 Canada Labour Code.



- 5.1.7 Radio equipment requiring a technical acceptance certificate as per Section 4(2) of the Canadian Radio Communication Act must comply with RSS-Gen, RSS-119, RSS-102, and applicable parts of CS-03.

6. STANDARDS

- 6.1 Radio equipment must be based on APCO Project 25 standards as defined by the TIA-102 series of documents.
- 6.2 National Institute of Standards and Technology (NIST) FIPS 197 AES: All radio equipment supplied to the RCMP must utilize the encryption standard known as the Advanced Encryption Standard (AES) using the Rijndael algorithm and registered by the Federal Information Processing Standard (FIPS) as FIPS 197. This degree of encryption is specified in the Government Security Policy for the protection of sensitive, unclassified information.
- 6.3 Unless otherwise stated, all references made to the suite of TIA-102 documents refer to the most current published version, including addendums that have been signed-off by the P25 steering committee as of the time of issue of this RFP.
- 6.4 The Contractor must be ISO 9001:2008 certified prior to, and during all periods of the contract.
- 6.5 Internet Protocol (IP) and related protocols must conform to Internet Engineering Task Force (IETF) standards.
- 6.6 Radio equipment should meet the more stringent of this Technical Specification or the manufacturer's published specifications.
- 6.7 Radio equipment must meet the manufacturer's published specifications for any functional or performance parameter not called out in this Technical Specification.

7. PROJECT REQUIREMENTS - PHASE I

Prior to commissioning the system for the G7 Summit the Contractor must conduct functional and technical test/s of all associated equipment in a live operational environment to demonstrate complete operations of the system. This will take place in the form of a limited capacity front-end and field installation. Please refer to Appendix A1 for detailed list of deliverables required for Phase I.

The Contractor must:

- 7.1 Deliver a fully operational Radio System Core Site in Montréal that meets the requirements of Phase I.



- 7.2 Deliver a fully operational Backup Radio System Core Site in Québec City that meets the requirements of Phase I.
- 7.3 Deliver two fully operational Command Centers in the province of Québec.
- 7.4 Deliver thirty-five fully operational Radio Basestation Sites in the province of Québec.
- 7.5 Deliver a radio system that meets all the specifications detailed in the technical documents.

8. PHASE I ON SITE SUPPORT SERVICES REQUIREMENTS

- 8.1 The Contractor must provide the following onsite technical assistance during the G7 event at locations provided by the RCMP:
 - 8.1.1 One (1) system support specialist, 8 hours per day for 7 days leading up to the start of the G7 Summit.
 - 8.1.2 One (1) system support specialist, on 4-hour stand-by, for the remaining 16 hours, for the 7 days leading up to the start of the G7 Summit.
 - 8.1.3 Two (2) system support specialists, 24 hours per day for 3 days during the G7 Summit.

9. TRAINING REQUIREMENTS

9.1 Required Courses

The Contractor must provide the following training courses available in both English and/or French on an “as and when” requested basis at the site specified by the TA:

- a. **CLIN A:** A Console Operator Training Course
- b. **CLIN B:** A System Technician Training Course
- c. **CLIN C:** A System Administrator’s Training Course

- 9.2 The Contractor must coordinate and finalize the delivery dates of the courses with the TA or its delegate.
- 9.3 The Contractor must provide qualified instructors to deliver the proposed training at RCMP sites. The qualified instructor is defined as the contractor’s personnel who has minimum of two year experience in delivering similar courses that are required by this document.
- 9.4 The contractor must provide training materials in English and French as requested for each attendee and must complete the course in accordance with the agreed upon schedule. Course material must be releasable to government employees without risk of copyright infringement.



- 9.5 Optional training courses may be exercised at sites as determined by the TA on an “as and when requested” basis.
- 9.6 CLIN A: Console Operator Training Course
- 9.6.1 The Contractor must deliver the training course, at the site specified by the TA. The course will be delivered to groups of up to ten (10) operators responsible for the operation of the equipment.
- 9.6.2 The course must concentrate on the features and proper operation of the installed system.
- 9.6.3 As a minimum, the course must instill students with the requisite skills and technical knowledge to meet the following objectives:
- 9.6.3.1 Access and operate console;
 - 9.6.3.2 Receive and transmit a variety of voice and data communications using all of the console’s features;
 - 9.6.3.3 Understand a high-level view of the system configuration; and
 - 9.6.3.4 General console operation.
- 9.7 CLIN B: System Technician Training Course
- 9.7.1 The Contractor must deliver the training course, at the site specified in by the TA. The course will be delivered to groups of up to ten (10) technicians responsible for the maintenance of all equipment.
- 9.7.2 The course must concentrate on the basic competencies to operate the system, and also to troubleshoot the system, and to correct operating parameter or hardware faults. This includes the basic theory, safety precautions, site level 1 and 2 maintenance and trouble-shooting procedures. RCMP considers level 1 maintenance to be fault identification and correction by replacement of the LRU. Level 2- maintenance includes level 1 maintenance actions, but also includes LRU repair if possible, analysis of control and traffic network faults, and reconfiguration of the basic control and traffic network parameters.
- 9.7.3 As a minimum, the course must instill students with the requisite skills and technical knowledge to meet the following objectives:
- 9.7.3.1 In-depth knowledge of the system features and operating parameters necessary to install and configure the hardware and software components of radio system;
 - 9.7.3.2 In-depth knowledge to diagnose and repair the radio system faults down to the LRU level;



- 9.7.3.3 Hands-on activities intended to teach the electrical, mechanical, and software skills needed to keep the radio system at peak operating efficiency

9.8 CLIN C: System Administrator's Training Course

9.8.1 The Contractor must deliver the training course, at the site specified in the task authorization, for up to ten (10) persons responsible for the system administration of the radio system, including but not limited to the consoles, KMF, system management clients.

9.8.2 The training must provide the selected RCMP personnel with the knowledge and tools required to perform system administration functions of the radio system in the most efficient way depending on the available system's features and options, in accordance with the requirements of Annex B. At a minimum, the course must provide:

- 9.8.2.1 The ability to perform system administration functions of the radio system;
- 9.8.2.2 Knowledge of the system administration capabilities of the radio system; and
- 9.8.2.3 The tools and ability to create operator and technician user templates for users of the radio system.

10. GOVERNMENT FURNISHED EQUIPMENT

10.1 RCMP shall provide the following GFE to the contractor where required. The Contractor must return all GFE to RCMP as per TA's instructions.

10.2 RCMP shall provide the following Government Furnished Equipment (GFE):

- 10.2.1 Radio subscriber units.
- 10.2.2 Site shelter, electrical, grounding, HVAC, antenna(s), feed lines.
- 10.2.3 IP Network connectivity as specified by the Contractor.
- 10.2.4 RF coverage provided by the repeater sites.
- 10.2.5 Radio repeater site spectrum.

Note:

Canada reserves the right to modify the GFE any time before and after the contract award due to necessary system modifications.



11. PHASE I PRELIMINARY DESIGN REVIEW (PDR)

- 11.1 Within fifteen (15) days after the contract award, the Contractor must schedule a PDR Meeting at a RCMP facility in Ottawa, ON.
- 11.2 The Contractor must assign a project manager to represent its organization and conduct the meeting activities.
- 11.3 At minimum, the PDR must include the following:
 - 11.3.1 Introduction of team members.
 - 11.3.2 Review the security clearance of the contractor's personnel that will be required to work on the installation work.
 - 11.3.3 Comprehensive review of the detailed system design.
 - 11.3.4 The Contractor must provide IP addressing requirements and quantity of IP-connected devices per location.
 - 11.3.5 Detailed Project Management plan, deliverable and installation timelines, displaying the critical path throughout the life of the contract.

12. PHASE I CRITICAL DESIGN REVIEW (CDR)

- 12.1 Within thirty (30) days after contract award, the Contractor must schedule a CDR Meeting at an RCMP venue in Quebec City:
- 12.2 At minimum the CDR must include:
 - 12.2.1 Detailed scheduling charts for deliverables and installations, displaying the critical path throughout the life of the contract.
 - 12.2.2 Milestones must be identified as well as what will be required to complete (Milestone Certificate sign-off) each milestone.
 - 12.2.3 The Contractor must submit the following proposed documentation in draft form;
 - a. Technical Manuals
 - b. Operating Manuals
 - 12.2.4 The Contractor must provide physical size, power requirements and environmental requirements for all fixed equipment.
 - 12.2.5 The Contractor must validate IP addressing plan and provide required specifications including minimum bandwidth, delay and jitter requirements for all IP back-haul links.



13. PHASE I PROGRESS MEETINGS

- 13.1 Contractor must schedule and host weekly meetings between RCMP, PSPC and the Contractor's PM team for the purpose of keeping a formal and continuous liaison on all aspects of the project.
- 13.2 As part of each progress meeting, the contractor must update the time scheduling charts for deliverables and installations including any changes to the critical path for the remaining life of the contract.
- 13.3 Upon mutual agreement between PSPC, RCMP and the Contractor, these meeting may be conducted via teleconference.
- 13.4 The Contractor must provide progress review meeting minutes to the RCMP within three (3) business days of each progress review meeting. These minutes must contain an updated time scheduling charts and may be sent in soft copy format via email to the RCMP TA and PM.

14. PHASE I FACTORY ACCEPTANCE TESTING (FAT)

- 14.1 The Contractor must schedule and host a Factory Acceptance Test by setting up a scale model of the radio system to be implemented in the field.
- 14.2 The FAT must be scheduled to occur no later than December 13th 2017.
- 14.3 The Contractor must generate and submit a test acceptance plan for review and acceptance by the TA at least fourteen (14) days prior to the FAT.
- 14.4 RCMP TA reserves the right to modify Contractor's proposed test plan.
- 14.5 RCMP TA will provide the subscriber units for use during the FAT.
- 14.6 The Contractor must conduct testing and demonstrate full system conformance with all technical documents.
- 14.7 The Contractor must not ship any equipment until FAT approval has been granted by the TA. If the FAT reveals non-conformance to the performance specifications, the Contractor must carry out the necessary changes to achieve full conformance within fourteen (14) days.
- 14.8 After successful completion of the FAT, the Contractor must submit a report to the TA within fourteen (14) days that must establish the conformance.



15. PHASE I SITE ACCEPTANCE TESTING (SAT)

- 15.1 The Contractor must schedule and complete all Site Acceptance Tests no later than March 16th 2018.
- 15.2 The Contractor must generate and submit a Site Acceptance Test Plan (SATP) for review and acceptance by the TA at least fourteen (14) days prior to the first SAT. The SATs shall not start until the TA has approved the SATP.
- 15.3 RCMP TA reserves the right to modify Contractor's proposed test plan.
- 15.4 RCMP TA will provide the subscriber units for use during the SAT.
- 15.5 The Contractor must conduct testing and demonstrate full system conformance in accordance with Annex A and B.
- 15.6 The Contractor must supply all required test equipment to conduct the SAT. If any technical problems occur during the testing; the Contractor must resolve them in concert with the RCMP.
- 15.7 The testing will be witnessed by the TA, or delegate. In some cases, the TA, or its delegate, may choose to conduct some, or all, of the Site Acceptance Testing independently once the Contractor has performed the SAT for the TA.
- 15.8 The Contractor must record all of the SAT results in a Punchlist Report and provide them to the TA, or their delegate within five working days after the SAT. If any failures occur during SAT, the Contractor must document them by using the Punchlist. A Punchlist deficiency must be assigned a severity level of major or minor deficiency, by mutual agreement between RCMP and the Contractor, and the required corrective action must be recorded in the Punchlist Report.
- 15.9 Punchlist Report Major Deficiencies are defined as follows:
 - 15.9.1 System does not work. An error that prevents completion of an essential function.
 - 15.9.2 Adverse effect without a work-around. Problem not correctable with an alternate sequence.
- 15.10 Punchlist Report Minor Deficiencies are defined as follows:
 - 15.10.1 A work-around solution does exist.
 - 15.10.2 An annoyance that does not affect essential functions.
 - 15.10.3 Any item not covered by the above categories, which is either non-urgent or of an investigative nature.



- 15.11 If more than 20 Minor Deficiencies are found, this will become a Major Deficiency. A problem report will not be required for problems caused by any events not under the Contractor's control (i.e. AC power failures, telephone line failures, IT network failures, etc.).
- 15.12 If the Punchlist issue cannot be corrected during the course of testing, it must remain open until a corrective action has been taken. The Contractor must propose a corrective action that will be approved by the RCMP. Upon successful resolution of the issue, as verified by the RCMP, the Contractor must sign and date the Punchlist Report, in order to formally close the issue. Minor corrective actions should not impact any previous test results. Any deficiencies found must be rectified no later than March 31st 2018.
- 15.13 If, during the SAT, the TA, or its delegate, finds a minor deficiency that does not affect the operational effectiveness of the system, the SAT may continue in accordance with the approved SATP. However, if a number of unacceptable failed tests are encountered during the testing by the TA, or its delegate, the SAT will be halted until the Contractor has corrected the failures. If a major deficiency is found during the SAT that does affect the operational effectiveness of the logging system, the testing must cease until the deficiency has been corrected.
- 15.14 The TA or its delegate will sign-off on the Punchlist report upon the successful conclusion of the SAT. Any minor deficiencies noted during the testing will be recorded in the Punchlist Report.

16. PHASE I CONDITIONAL SYSTEM ACCEPTANCE & RCMP SIGN-OFF

- 16.1 The TA or its delegate shall grant conditional system acceptance by signing off the System Acceptance Certificate after the completion of the following milestones:
- 16.1.1 After a 2 week burn-in following the Site Acceptance Tests have been completed and there are no outstanding major deficiencies;
- 16.1.2 There are no more than ten (10) minor deficiencies still open; and
- 16.1.3 One of the following occurs:
- a. RCMP has deemed that the system is ready for productive, operational use;
 - b. The system is used for activities other than training or testing
- 16.2 The System Acceptance Certificate will certify that:
- 16.2.1 The installation and testing is completed.
- 16.2.2 All outstanding issues are summarized in the provided punchlist.
- 16.2.3 The Contractor prior to final project acceptance will successfully resolve all punchlist issues.



- 16.2.4 All system installation documentation has been provided to RCMP.
- 16.2.5 The System is conditionally accepted and subject to the final project acceptance.

17. PHASE I PROJECT ACCEPTANCE TEST (PAT)

- 17.1 The Contractor must conduct the PAT in accordance with the approved PAT plan.
- 17.2 The PAT will include site acceptance testing, conditional system acceptance and RCMP sign-off as described in this document.
- 17.3 The TA or its delegate shall grant project acceptance within five (5) working days after the completion of all the following:
 - 17.3.1 Resolution of all punchlist deficiencies identified subsequent to conditional station acceptances;
 - 17.3.2 Fourteen (14) calendar days have passed without any new deficiencies being reported by RCMP to the Contractor;
 - 17.3.3 Delivery of all documentation defined below:
 - a. Project Acceptance Certificate that will certify:
 - i. All issues identified during SAT have been resolved or have been deferred to warranty.
 - ii. All punchlist issues that will be addressed by warranty are specified in the provided revised punchlist report.
 - b. As-built drawings of the system that was proposed and agreed upon.
 - c. Bill of Material for inventory purposes.
 - d. Copy of approved design changes/deviations, if applicable.
 - 17.3.4 At this point, a Project Acceptance Certificate must be completed and signed by RCMP and the Contractor. The equipment and labour warranty period will start on the date of acceptance of each site and system, as applicable. Deficiencies found subsequent to project final acceptance shall be handled as warranty issues for the work performed.

18. PROJECT ADMINISTRATION

- 18.1 RCMP Technical Authority (TA)
 - 18.1.1 All technical and operational concerns relating to this project must be directed to the TA specified in the contract.
- 18.2 Contractor Project Manager (CPM)

- 18.2.1 The Contractor must assign a Project Manager (PM) for this project who will be an overall point of contact for this contract.
- 18.2.2 The PM shall be the primary interface between the contractor and the RCMP and PWGSC. The PM shall have full authority within the contractor's organization to assign and schedule the resources required to deliver all requirements of this project.
- 18.3 Contractor Installation Team Coordinator
 - 18.3.1 The Contractor must assign an installation team supervisor. The installation team supervisor must have completed a minimum of two radio system installations similar to the complexity of the 2018 G7 Radio System Project.
- 18.4 RCMP Project Manager (PM)
 - 18.4.1 The RCMP will assign a Project Manager for this project who will be an overall point of contact for this contract.
- 18.5 Contractor Technical Authority
 - 18.5.1 The Contractor must assign a Technical Authority (CTA). All technical and concerns relating to this project will be directed to the CTA.

19. VISIT CLEARANCE

- 19.1 All contractors' personnel accessing RCMP locations will be subject to the approval of RCMP. The Contractor must provide to the TA completed form TBS-330 at least 10 calendar days prior to a visit. Contractor must also provide date of visit, duration of visit, Itinerary and purpose.

20. DELIVERABLES

- 20.1 Equipment:
 - 20.1.1 Radio system core x2
 - 20.1.2 KMF x1
 - 20.1.3 KMF Client Workstation x2
 - 20.1.4 Radio Logger x2
 - 20.1.5 Logger Client Workstation x2
 - 20.1.6 Management Client Workstation x2
 - 20.1.7 Operator Console Workstation x16



- 20.1.8 Tier 2 GPS Mapping Server x1
- 20.1.9 Tier 2 GPS Mapping Client Workstation x2
- 20.2 Software Licenses
- 20.2.1 The contractor must provide all required software licenses in perpetuity to operate the systems, while they are in-service.
- 20.2.2 The contractor must provide license inventory including, but not limited to, version number, release number and expiry date.
- 20.3 Equipment Serial Numbers
- 20.3.1 The Contractor must provide all radio system infrastructure equipment serial numbers in electronic format.
- 20.4 Publications and Documentation
- 20.4.1 The Contractor must provide all maintenance and operator manuals, punchlist reports, as-built drawings required by the project in accordance with the table below. Maintenance and operator manuals must be provided in both English and French.
- 20.4.2 All publications and documentation must be provided in the English language. If documents are available in the French language they must also be provided. The Contractor must provide the manuals and documentation before system acceptance.

All Documentation or Publications provided must:

1. be free of spelling or grammatical errors;
2. be written in plain language;
3. use proper technical terms and terminology; and
4. be delivered in MS Format 2003 or higher.

Recipient	Soft Copy	Hard Copy
Core Site (Montreal)	1	2
Backup Site (Québec City)	1	2
Technical Authority (TA)	1	1

20.4.3 As-Built Drawings

20.4.3.1 The Contractor must provide copies of the as-built drawings.

20.4.3.2 The Contractor must provide electronic and paper copies of as-built drawings for each site installation. An electronic copy of as-built drawings must include the following two (2) elements:

20.4.3.3 A Microsoft Visio file of the relevant as-built drawings; and

20.4.3.4 A Portable Document Format (PDF) file of the same drawings.

20.5 Recommended Spare Parts List as approved by the TA.

20.6 Spare Parts to be delivered “as and when” requested by the CA.

20.7 Firm and Optional Training Courses.

21. CONSIGNEE

21.1 The TA shall provide the name of the site supervisor and other pertinent details associated with each station and support facility prior to the contractor shipping the equipment to the site scheduled for implementation work. The Contractor must not ship hardware to any installation site without TA’s approval.

22. SITE ACCESS

22.1 The contractor personnel shall be provided access to RCMP facilities.



APPENDIX A1 – PHASE I HARDWARE REQUIREMENTS

- 1.1 Firm Quantity
- 1.2 The Contractor must deliver the goods as defined below in the table in accordance with the Delivery Schedule to be determined at the CDR.

INSTALLATION SITE NUMBER	INSTALLATION SITE NAME	EQUIPMENT REQUIRED AT SITE AND (QUANTITIES)	LOCATION
1	Radio System Core Site	CLIN 1: Radio System Core - Qty. 1 CLIN 2: KMF - Qty.1 CLIN 3: KMF Client Workstation - Qty.1 CLIN 4: Radio Logger Qty.- 1 CLIN 5: Logger Client Workstation - Qty.1 CLIN 6: Management Client Workstation - Qty.1 CLIN 7: Operator Console Workstation - Qty.2 CLIN 8: Tier 2 GPS Mapping Server - Qty.1	Montréal
2	Backup Radio System Core Site	CLIN 9: Radio System Backup Core - Qty.1 CLIN 10: KMF Client Workstation - Qty.1 CLIN 11: Radio Logger - Qty.1 CLIN 12: Logger Client Workstation - Qty.1 CLIN 13: Management Client Workstation - Qty.1 CLIN 14: Operator Console Workstation - Qty.2	Québec City
3	Event Command Centre #1	CLIN 15: Operator Console Workstation - Qty.6 CLIN 16: Logger Client Workstation - Qty.1 CLIN 17: Tier 2 GPS Mapping Client Workstation - Qty.1	Province of Québec. TBD
4	Event Command Centre #2	CLIN 18: Operator Console Workstation - Qty.6 CLIN 19: Logger Client Workstation - Qty.1 CLIN 20: Tier 2 GPS Mapping Client Workstation - Qty.1	Province of Québec. TBD



5 through 11 (7 in Total)	High Capacity Trunked Radio Site	CLIN 21: 15 Channel Trunked Radio Repeater Site	Province of Québec. Actual locations TBD
12 through 20 (9 in Total)	Medium Capacity Trunked Radio Site	CLIN 22: 10 Channel Trunked Radio Repeater Site	Province of Québec. Actual locations TBD
21 through 39 (19 in Total)	Low Capacity Trunked Radio Site	CLIN 23: 6 Channel Trunked Radio Repeater Site	Province of Québec. Actual locations TBD
40 through 44 (5 in total)	2-Channel Conventional Site	CLIN 24: 2 Channel Conventional Radio Site in UHF	Province of Québec. Actual locations TBD

Note: Addresses of the outstanding locations will be provided to the Contractor after contract award.



APPENDIX A2 – PHASE I FIRM AND OPTIONAL TRAINING REQUIREMENTS

CLIN	FIRM QUANTITY	OPTIONAL QUANTITY	LOCATION
A: Console Operator Training Course	2	5	RCMP Site (TBD)
B: System Technician Training Course	2	5	RCMP Site (TBD)
C: System Administrator's Training Course	2	5	Contractor Site

- 1.1 The Contractor must provide each course in either English or French.
- 1.2 RCMP TA will specify language when requesting the course.

Legend: CLIN – Contract Line Item Number

APPENDIX A3 – PHASE 1 WORK SITE LOCATIONS

Notes:

- 1.3 *The addresses of the outstanding work sites will be provided to the contractor after the contract award.*



APPENDIX A4 – PHASE 1 MILESTONES SCHEDULE

MILESTONE	DATE	LOCATION
PDR	Within 15 days of contract award	RCMP Facility in Ottawa
CDR	Within 30 days of contract award	RCMP Facility in Quebec City
Progress Meetings	Every week, starting after the CDR	Contractor hosted
Factory Acceptance Testing	No later than December 13 th 2017	Contractor hosted
Site Acceptance Testing	All Site Acceptance Tests complete by March 16 th 2018	All sites
Conditional System Acceptance & RCMP Sign-off	March 30 th 2018	RCMP Facility in Quebec City
Project Acceptance Test	July 2018	TBD At CDR



APPENDIX A5 - RESPONSIBILITY MATRIX - PHASE I			
A	C	D	E
Item Number	Description	Responsibility of Canada	Responsibility of Contractor
1	Provide radio subscriber units	Yes	
2	Provide and install radio repeater site shelters.	Yes	
3	Provide and install electricity to shelter as identified by the Contractor	Yes	
4	Provide and install shelter facility electrical ground buses and bars if required.	Yes	
5	Provide and install connection between site equipment and shelter electricity.		Yes
6	Provide and install proper grounding from each piece of site radio equipment to shelter grounding		Yes
7	Inspect electrical connections.	Yes	Yes
8	Provide and install HVAC as identified by the Contractor	Yes	
9	Provide and install radio site antennas and feed lines	Yes	
10	Provide and install shelter cable trays and raceways if required.	Yes	
11	Provide and install site cabling for radio site equipment		Yes
12	Provide RF frequencies	Yes	
13	Provide and install tuned Filtration		Yes
14	Provide and install battery backup systems at Radio System Repeater Sites		Yes
15	Provide and install battery backup systems at Radio System Core Sites and Operational Command Centers	Yes	

Note: Do not submit this document with Bid Submission.



ANNEX B

2018 G7 RADIO COMMUNICATION SYSTEM

PERFORMANCE SPECIFICATIONS

FOR

(PHASE I)

THE ROYAL CANADIAN MOUNTED POLICE (RCMP)



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DEFINITIONS

System Affiliation – Whether a subscriber unit is on the radio system or not, and which site the radio is currently assigned to.

Logger Equipment – Any equipment relating to the logger functions, including the Logger Client Workstations

Logger Client Workstations – PC based workstation which provides access to Logger

Console Equipment – Any equipment related to the console functions, including the Console Client Workstations

Console Workstations – PC which provides user interface to console operator

Radio System Core - The centralized equipment within a radio network that provides services such as management and coordination to interconnect the various sub-systems.

Radio Resource – All trunked talkgroups and conventional resources on the radio system



1. General Requirements

- 1.1 All requirements found in this document must function with the following radios:
 - a. Motorola APX 8000
 - b. Motorola APX 8500
 - c. Motorola APX 6000
 - d. Motorola APX 6500

2. Radio System Infrastructure Functionality

- 2.1 The system must be capable of handling a minimum of 5,000 active subscriber units.
- 2.2 All radio communications for RCMP operations must utilize 12.5 kHz AES 256 Encrypted Project 25 Common Air Interface (CAI) digital modulation.
- 2.3 Radio system infrastructure must be software upgradable to P25 Phase 2 operation.
- 2.4 Voice communications must take precedence over data communications.
- 2.5 There must be no voice truncation.
- 2.6 The Contractor must ensure the system allows all subscriber units to seamlessly roam throughout the entire trunked radio coverage area of the system without any user intervention.
- 2.7 The Contractor must ensure the encrypted communication is implemented in an end-to-end manner.
- 2.8 The encryption and decryption process are solely at the origination and termination points of communication paths which are physically under the control of and/or are physically secured by the RCMP.

3. Required Paths of Communication

- 3.1 Radio system infrastructure must support dispatch communications initiated by selected group call signaling followed by voice call from the console equipment to any subscriber unit device in that group within radio network coverage area.
- 3.2 Radio system infrastructure must support subscriber unit device initiated voice group call via Push-To-Talk (PTT) to any other subscriber unit devices on the same group within the radio network coverage area and without the need of the console equipment setting up communication patches.



- 3.3 Radio system infrastructure must support inter-talk group communications with any user device within radio network coverage, via console equipment initiated talk group patches.
- 3.4 Radio system infrastructure must support dispatch communications initiated by individual call signaling followed by voice call from the console equipment to any system user device within radio network coverage.
- 3.5 Radio system infrastructure must support dispatch communications initiated by ALL CALL signaling followed by voice call from the console equipment to all system user devices within radio network coverage. Upon successful initiation of ALL CALLS, the radio system infrastructure must generate an alert tone to notify users that an ALL CALL has been initiated by the console equipment.
- 3.6 Where available, all radio system infrastructure must support SNMP allow remote monitoring of the equipment and must be configurable to allow for SNMP v2c or v3 transmissions on critical triggers such as loss of rack's external power.

4. Interface Requirements

- 4.1 Radio system infrastructure must support TIA-102.BACC-B Inter-RF Subsystem Interfaces.
- 4.2 Radio system infrastructure must be capable of interconnecting with a different radio system infrastructure which also supports TIA-102.BACC-B Inter-RF Subsystem Interfaces.
- 4.3 Only Internet Protocol (IP) connectivity will be utilized within all main system infrastructure, control equipment, recording equipment, dispatch console workstations, and remote site repeater equipment.
- 4.4 The Contractor must provide an interface to synchronize the system time clock to an external standard such as a GPS time reference.
- 4.5 Radio system infrastructure must provide the ability to communicate on conventional radio system resources.
- 4.6 Computerized Integrated Information and Dispatch System
 - 4.6.1 The Contractor must provide a method of interfacing the P25 system to the RCMP Computerized Integrated Information and Dispatch System (CIIDS). CIIDS is a Computer Aided Dispatch (CAD) application which supports member tracking and status keeping. A communications server is the gateway between CIIDS and the Radio System Core which provides automatic query and retrieval for the police member status keeping and reporting application on the RCMP CAD system.



- 4.6.2 CIIDS ties into the P25 radio system for the purpose of extracting unit ID, GPS location and other available data transmitted from the user devices.
- 4.6.3 The information updated to the CAD system must be initiated automatically upon every Request-To-Talk/Emergency Request-To-Talk received on the P25 radio system.

5. Licenses

- 5.1 Software, product usage, and/or capacity licenses must be transferrable, without cost to the RCMP, to replacement console equipment in the event of console equipment failure, replacement, or upgrade.
- 5.2 Contractor must provide the duration, in months, for which proposed radio equipment is eligible for firmware/software upgrades at no cost to the RCMP.

6. Radio System Core

- 6.1 The System Core must be provided with Hot Standby functionality.
 - 6.1.1 Hot standby functionality is defined as automatic switchover to a redundant Core, with one second or less of interruption, should the active Core fail.
- 6.2 The System Core must be provided with geographical redundancy.
- 6.3 Geographic redundancy is defined as automatic switchover to a geographically redundant Core, with 10 seconds or less of interruption, should the active Core fail.
- 6.4 The redundant site must provide full network management and administration over the P25 system.
- 6.5 Equipment Power
 - 6.5.1 All Radio System Core equipment must be powered by 120VAC.

7. P25 Management Client

- 7.1 The Contractor must supply a P25 Management client workstation with capabilities including, but not limited to:
 - a. System administration;
 - b. Radio system statistics and reporting;
 - c. Site provisioning;
 - d. User provisioning; and
 - e. Talkgroup provisioning

8. Secured Cabinets

- 8.1 The Contractor must provide all radio system infrastructure equipment in secured cabinets.
- 8.2 The Contractor must leave 5U of cabinet space available at the top of the cabinet for RCMP supplied equipment.
- 8.3 Cabinet dimensions must be:
- a. Between 22" to 25" outside width
 - b. Between 26" to 32" outside depth
 - c. Between 66" to 78" outside height exclusive of floor base or casters
 - d. Provides standard 19" racking on front and back
- 8.4 Top Panel requirements
- 8.4.1 The Contractor must provide terminations for all RF connections within all cabinet provided:
- a. Transmission terminations will be DIN 7/16 female to female.
 - b. Receive termination will be N type, female to female.
 - c. The Contractor will wire each of these terminals to the appropriate interface on the repeaters.
 - d. The Contractor will label each of the terminals.
- 8.4.2 Minimum of two (2) removable 3" diameter or greater cable plugs
- 8.4.3 Top panel not removable without access to interior of cabinet
- 8.5 Front Door requirements
- 8.5.1 Perforated to allow 50% to 75% airflow
- 8.5.2 Single door closure
- 8.5.3 Lockable with key
- 8.5.4 Ability to remove door after it is unlocked
- 8.5.5 Not removable without access to interior of cabinet
- 8.6 Rear Door requirements
- 8.6.1 Perforated to allow 50% to 75% airflow
- 8.6.2 Single door closure
- 8.6.3 Lockable with key
- 8.6.4 Ability to remove door after it is unlocked



- 8.6.5 Not removable without access to interior of cabinet
- 8.7 Side Panel requirements
 - 8.7.1 Solid side panels
 - 8.7.2 May be removable or permanent
 - 8.7.3 If removable, must only be possible with access to the interior of the cabinet
- 8.8 Base Panel Requirements
 - 8.8.1 Solid base panel
 - 8.8.2 Must be removable
 - 8.8.3 Not removable without access to interior of cabinet

9. Key Management Facility (KMF)

- 9.1 Radio system infrastructure must support a Key Management Facility (KMF).
- 9.2 Radio system infrastructure and KMF must support, at minimum, two (2) KMF Client workstations.
- 9.3 The Contractor must ensure full integration of Over-The-Air Re-keying (OTAR) with the KMF and subscriber equipment provided by the RCMP.
- 9.4 The KMF must use a Unique Key Encryption Key (UKEK) to transmit TEKs over the air securely.
- 9.5 KMF Client workstations must be able to access and perform functions OTAR functions utilizing the KMF.
- 9.6 At a minimum, the KMF must provide the following functionality:
 - a. Rekey multiple subscriber units concurrently
 - b. Send multiple keys per subscriber unit
 - c. Rekey multiple subscriber units over the air via multiple radio sites concurrently
 - d. Rekey multiple subscriber units over the air via multiple trunking channels on a given radio site concurrently
 - e. Must track the key currency and key inventory of each subscriber unit
 - f. Must have a method to track the System Affiliation of all subscriber units
 - g. Upon System Affiliation of subscriber units, the KMF must update the subscriber unit keyset if required
 - h. Must support automatic retries
- 9.7 At a minimum, the KMF Client workstations must provide the following functionality:
 - a. Inhibit/Uninhibit subscriber units



- b. Delete all traffic encryption keys from subscriber units
 - c. Zeroize subscriber units
 - d. Manually entry of encryption keys
 - e. Automatic creation of encryption keys
 - f. Generation of a UKEK and ability to assign it to a single subscriber unit
 - g. Automatically generate a different UKEK for each subscriber and assign it to each subscriber in a selected group via OTAR
- 9.8 The Contractor must ensure that the KMF is capable of rekeying and switching 5000 subscriber units to the new active keyset within a 7 day crypto period.
- 9.9 The KMF must be able to support both scheduled and manual backup of all databases contain key and/or subscriber unit information.
- 9.10 The KMF must provide a Storage Location Number (SLN) range of 1 to 4095 for Traffic Encryption Keys (TEK) as per TIA-102.AACE
- 9.11 The KMF must provide a Key ID (KID) range of 0x0000 to 0xFFFF as per TIA-102.AACA.
- 9.12 The KMF must provide the functionality to receive and process a manual re-key request from a subscriber unit utilizing the Hello Command initiated from a subscriber unit, as per section 7.1.2 in TIA-102.AACA-2.
- 9.13 KMF must support Advanced Encryption Standard (AES) as defined in Annex C of TIA-102.AAAD-A, Digital Land Mobile Radio Block Encryption Protocol.
- 9.14 KMF must utilize the encryption standard known as the Advanced Encryption Standard (AES 256 bits) and be registered by the Federal Information Processing Standard (FIPS) as FIPS 197.
- 9.15 Proof of KMF registration as FIPS 197 must be provided with the Offer.
- 9.16 Encryption keys must be stored within a cryptographic module in the KMF in a manner which conforms at a minimum to FIPS 140-2 Level 1 security.
- 9.17 Contractor must indicate to what level of FIPS 140-2 certification the KMF stores encryption keys.
- 9.18 Proof of KMF certification as FIPS 140-2 must be provided with the Offer.
- 9.19 The KMF must transfer encryption keys to Non-RF devices (e.g. consoles equipment and loggers) that are connected to the radio IP network using OTAR over Internet Protocol as defined in TIA-102.AACA-2 Annex A.
- 9.19.1 In reference to the above line, the Contractor must provide detailed information which identifies:
- a. Transport protocol, and



- b. P25 Standard interface being used

9.20 Security

- 9.20.1 KMF and KMF Client workstations must protect unauthorized access to equipment configuration.
- 9.20.2 KMF and KMF Client workstations must protect unauthorized access to encryption information.
- 9.20.3 KMF and KMF Client workstations must protect system disruption through improper or unauthorized use, or equipment failure.
- 9.20.4 KMF and KMF Client workstations must protect radio equipment configuration parameters from unauthorized modification and disclosure.
- 9.20.5 KMF and KMF Client workstations must support role based access control.
- 9.20.6 KMF Client workstations must support local and remote user authentication.
- 9.20.7 KMF Client workstations must support antivirus software installed on the console.
- 9.20.8 Contractor must provide a list of supported antivirus software for proposed KMF and KMF Client workstations.
- 9.20.9 KMF Client workstations must support manual OS patching methodology for KMF equipment proposed.
- 9.20.10 KMF Client workstations must support automatic OS patching via Windows Management Framework (WMF).
- 9.20.11 Contractor must provide step by step instructions on how to manually patch the KMF Client workstation OS.

9.21 Environmental Requirements

- 9.21.1 KMF and KMF Client workstations must be designed to be located inside shelters or building must operate within tolerances across an ambient temperature range of at least +5°C to +40°C.
- 9.21.2 KMF and KMF Client workstations must operate within defined tolerances when subjected to relative humidity of 45% to 85%, non-condensing.

9.22 Power

- a. KMF and KMF Client workstations must operate from on 120VAC, provided by the RCMP.



9.23 Physical

9.23.1 Contractor must specify the following for proposed KMF and KMF Client workstations:

- a. Model numbers;
- b. Metric Dimensions;
- c. Manufacturer specification sheets;
- d. Nominal power requirements in Watts;
- e. Maximum power consumption in Watts;
- f. Thermal load, in British Thermal Units (BTU) under maximum power consumption conditions; and
- g. Mean Time Between Failures for each component.

9.23.2 KMF must be provided in a secured cabinet as per Secured Cabinet.

9.24 Design Life

9.24.1 KMF and KMF Client workstations must have a minimum Useful Lifespan of 5 years unless otherwise stated.

9.25 Quality

9.25.1 KMF and KMF Client workstations must be actively used in a production environment in at least two other P25 public-safety systems of 1000+ users each, within North America at the time of this RFP closing date.

9.25.2 Contractor must provide a list of public safety customers, complete with contact information, within North America who have deployed proposed KMF and KMF Client workstations in their operational live radio system(s).

10. Conventional Site Requirements

10.1 Must support P25 Conventional Voice

10.2 In Phase 2, Conventional Sites must support OTAR.

10.3 Each conventional repeater must be able to supply 100W transmit power.

10.4 External Power Supply

10.4.1 The Conventional Site must be able to be powered by a 120VAC or 48VDC power system.

10.5 Backup Power



- 10.5.1 The Contractor will supply a backup battery power system to allow for continuous and uninterrupted operation of all equipment in the case of External Power Source failure.
 - 10.5.2 Each site rack must provide a single 1500W 120VAC circuit for powering of RCMP equipment. This circuit must be included in the backup battery power system.
 - 10.5.3 From full charge, backup batteries must provide a minimum of 20 minutes of backup power for all Site Equipment, assuming 100% duty cycle of all site repeaters and typical power draws for all other equipment.
 - 10.5.4 Batteries must be housed in secure cabinets as per Secured Cabinets.
- 10.6 Battery Charging
- 10.6.1 The Contractor must ensure that their proposed power system will be able to re-charge the batteries, from 100% depletion, to a capacity that provides 5 minutes or more of backup power at 100% duty cycle, within 30 minutes of external power restoration.
- 10.7 Remote Monitoring
- 10.8 All power distribution systems must be IP addressable and allow remote monitoring of the equipment and must be configurable to allow for SNMP v2c or v3 transmissions on critical triggers such as loss of rack's external power.

11. Trunking Site Requirements

- 11.1 Must support P25 Trunking
- 11.2 Each trunking repeater must be able to supply 100W transmit power.
- 11.3 Each site rack must support at least 5 trunking repeaters.
- 11.4 External Power Supply
 - 11.4.1 The Conventional Site must be able to be powered by a 120VAC or 48VDC power system.
- 11.5 Backup Power
 - 11.5.1 The Contractor will supply a backup battery power system to allow for continuous and uninterrupted operation of all equipment in the case of External Power Source failure.



- 11.5.2 Each site rack must provide a single 1500W 120VAC circuit for powering of RCMP equipment. This circuit must be included in the backup battery power system.
 - 11.5.3 From full charge, backup batteries must provide a minimum of 20 minutes of backup power for all Site Equipment, assuming 100% duty cycle of all site repeaters and typical power draws for all other equipment.
 - 11.5.4 Batteries must be housed in secure cabinets as per Secured Cabinets.
- 11.6 Battery Charging
- 11.6.1 The Contractor must ensure that their proposed power system will be able to re-charge the batteries, from 100% depletion, to a capacity that provides 5min or more of backup power at 100% duty cycle, within 30 min of external power restoration.
- 11.7 Remote Monitoring
- 11.8 All power distribution systems must be IP addressable and allow remote monitoring of the equipment and must be configurable to allow for SNMP v2c or v3 transmissions on critical triggers such as loss of rack's external power.

12. Consoles

12.1 General Requirements

- 12.1.1 Consoles must be capable of radio dispatching functions.
- 12.1.2 The basic operating mode of the Console System must be via Group Voice Call.
- 12.1.3 Each console position must support, at minimum, 16 simultaneous, talk paths between the console position and the radio network.
- 12.1.4 In total, the console equipment must be able to support 100 concurrent talk paths per Event Command Centre.
- 12.1.5 Console equipment must be capable of monitoring and selecting for talk and listen operation, any applicable Talk groups configured on the System that are necessary for the usergroup(s) that the Console equipment is authorized to access.
- 12.1.6 Console equipment must be capable of monitoring a second priority Talk group on the select output. Note that a push to talk will only transmit on the select Talk group.



- 12.1.7 There must be a simple method of allowing one console operator to acquire access to a Talk group that is not normally assigned to their console position for the purpose of load sharing of incoming calls during peak traffic periods.
- 12.1.8 While maintaining an active PTT, the audio backhaul must maintain a full duplex audio path to all connected radio resources capable of full duplex operation.

12.2 Request to Talk (RTT)

- 12.2.1 Console equipment must support in full the Request to Talk and Emergency Request to Talk requirements as presented in the National Radio Services RBM Request To Talk Baseline Requirements Number: RT.06.00-1.1 specification document found in Appendix B1.

12.3 Architecture

- 12.3.1 The dispatch console workstation must be PC based system connected to associated peripherals.
- 12.3.2 Radio equipment must be capable of expansion to accommodate the maximum capacities specified in each Phase as per Annex A.
- 12.3.3 Console equipment must support with zero impact to functionality and performance, network security devices (i.e. Firewall) on all IP based interfaces between it and any systems it needs to interface with. Delay caused by network security devices will not be considered as performance impacting.
- 12.3.4 Failure of any console must not have any effect on the operation of the Radio System or other consoles.

12.4 Security

- 12.4.1 Console equipment must protect unauthorized access to equipment configuration.
- 12.4.2 Console equipment must protect unauthorized access to encryption information.
- 12.4.3 Console equipment must protect system disruption through improper or unauthorized use, or equipment failure.
- 12.4.4 Console equipment must protect radio equipment configuration parameters from unauthorized modification and disclosure.
- 12.4.5 Console equipment must support role based access control.
- 12.4.6 Console equipment must support local and remote user authentication.
- 12.4.7 Console equipment must support antivirus software installed on the console.



- 12.4.8 Contractor must provide a list of supported antivirus software for proposed radio equipment.
- 12.4.9 Console equipment must support manual OS patching methodology for radio equipment proposed.
- 12.4.10 Console equipment must support automatic OS patching via Windows Management Framework (WMF).
- 12.4.11 Contractor must provide step by step instructions on how to manually patch the console equipment OS.
- 12.4.12 It must be possible for an operator to lock the Console to prevent unauthorized access while the operator is absent.
- 12.5 Environmental Requirements
- 12.5.1 Console equipment must be designed to be located inside shelters or building must operate within tolerances across an ambient temperature range of at least +5°C to +40°C.
- 12.5.2 Console equipment must operate within defined tolerances when subjected to relative humidity of 45% to 85%, non-condensing.
- 12.6 Power
- 12.6.1 Console equipment must operate from on 120VAC, provided by the RCMP.
- 12.7 Physical
- 12.7.1 Contractor must specify the following for all unique proposed console equipment:
- a. Model numbers;
 - b. Metric Dimensions;
 - c. Manufacturer specification sheets;
 - d. Nominal power requirements in Watts;
 - e. Maximum power consumption in Watts;
 - f. Thermal load, in British Thermal Units (BTU) under maximum power consumption conditions; and
 - g. Mean Time Between Failures for each component.
- 12.7.2 Not including the console client workstations, all other console equipment must be provided in a secured cabinet as per Secured Rack.



12.8 Design Life

- 12.8.1 Console equipment must have a minimum Useful Lifespan of 5 years unless otherwise stated.

12.9 Quality

- 12.9.1 Console equipment must be actively used in a production environment in at least two other P25 public-safety systems of 1000+ users each, within North America at the time of this RFP closing date.
- 12.9.2 Contractor must provide a list of public safety customers, complete with contact information, within North America who have deployed proposed radio equipment in their operational live radio system(s).

12.10 Third Party Manufactured Equipment

- 12.10.1 Contractor must provide a list of any console equipment which is not directly manufactured and developed by the Contractor.
- 12.10.2 Contractor must describe the process, procedures and agreements in place to control quality, functionality, and support of any console equipment not manufactured and developed by the Contractor.

12.11 Licenses

- 12.11.1 Contractor must supply all appropriate network licenses required to support the required console equipment.
- 12.11.2 Software, product usage and/or capacity licenses must be transferrable, without cost to the RCMP, to replacement console equipment in the event of console equipment failure, replacement, or upgrade.
- 12.11.3 Contractor must provide the duration, in months, for which proposed radio equipment is eligible for firmware/software upgrades at no cost to the RCMP.

12.12 Console Equipment and Accessories

- 12.12.1 Display Technology
- a) Flat panel display technology must be used to preserve operator position furniture real estate; along with the reduction of weight and heat generation.
 - b) Each console position must include a single monitor with a minimum size of 22" viewable.

12.13 Foot Switch

- 12.13.1 Each console position must support a foot switch.



12.13.2 A console position is defined as having a single foot switch included.

12.14 User Interface

12.14.1 Console functionality must be accessible through:

- a. Keyboard and;
- b. Mouse

12.14.2 Consoles must present all resources at the operator's command in an easy to view and operate manner.

12.14.3 Console position main operational portion of the screen must have the capability to be divided into separate "pages" of Talk groups.

12.14.4 The Console must display all of the radio resources (including pre-set groups of Talk groups) and their associated functions in the main operational portion of the screen.

12.15 Audio Accessories

12.15.1 Consoles positions must be capable of both external speaker/microphone and headset earphone/microphone operation.

12.15.2 A console position is defined as having external operate and external monitor speakers, with individual volume controls, included.

12.15.3 Console equipment must provide a means of interconnecting and controlling two operator's headsets at each console position using a Plantronics P10 Dual Prong Plug Adapters; one as the main and the other for occasional supervisory support or training purposes.

12.15.4 A console position is defined as having two Plantronics headsets (Model HW710D) included.

12.16 Inter-Connectivity

12.16.1 The physical interface to all Console Equipment must be IEEE 802.3 10/100/1000Base-T, RJ45 (Ethernet).

12.16.2 Internet Protocol (IP) connectivity must be utilized within all Console equipment.

12.17 Time Reference

12.17.1 Console equipment time clock must synchronize to the Radio System Time Reference.



- 12.17.2 All transactions and other data collected from the console equipment that include a timestamp must use the time reference.

12.18 Audio Logger Interface

- 12.18.1 All console equipment must provide all voice signals sent or received by all consoles positions to the logger.
- 12.18.2 In addition to the voice signals, console positions must provide the logger with the following data associated with each voice signal in a defined format:
- date and time stamp;
 - source Talk group; and
 - radio or console Id;

12.19 Key Management Facility (KMF) Interface

- 12.19.1 Console equipment must have an Over The Network Re-keying (OTNR) interface to the KMF for the purpose of automatically obtaining Radio system keys.

12.20 Encryption

- 12.20.1 Console equipment must support Advanced Encryption Standard (AES) as defined in Annex C of TIA-102.AAAD-A, Digital Land Mobile Radio Block Encryption Protocol.
- 12.20.2 Console equipment must utilize the encryption standard known as the Advanced Encryption Standard (AES 256 bits) and be registered by the Federal Information Processing Standard (FIPS) as FIPS 197.
- 12.20.3 Proof of console equipment registration as FIPS 197 must be provided with the Offer.
- 12.20.4 Keys must be stored within a cryptographic module in the radio equipment in a manner which conforms at a minimum to FIPS 140-2 Level 1 security.
- 12.20.5 Contractor must indicate to what level of FIPS 140-2 certification the Console equipment stores encryption keys.
- 12.20.6 The Contract must provide a copy of the FIPS 140-2 certification with the Offer.
- 12.20.7 Console equipment must contain data ports suitable for manual loading of encryption keys.
- 12.20.8 A minimum of 16 unique active and 16 unique inactive traffic encryption keys must be supported in radio equipment.



- 12.20.9 Contractor must state the number of unique active and inactive traffic encryption keys supported in radio equipment.
 - 12.20.10 Console equipment must maintain its FIPS 140-2 certification level throughout its useful Design Lifespan.
 - 12.20.11 Hardware or Software changes that impact the FIPS 140-2 certification of Console equipment must undergo FIPS certification process prior to being made available for release to the RCMP.
- 12.21 Remote Management
- 12.21.1 All console equipment must support remote management capability, via IP network, for maintenance purposes.
- 12.22 Profiles
- 12.22.1 It must be possible to save, restore and transfer the screen layout and configuration of a console.
 - 12.22.2 It must be possible to recall a prior saved profile on one console at another console position.
- 12.23 Intercom
- 12.23.1 Console to console communications must be provided.
 - 12.23.2 Intercom voice traffic must be encrypted.
- 12.24 Individual Voice Call
- 12.24.1 The console must be capable of selected the radio resource ID for an individual call by entering that radio's ID through the console workstation's keyboard.
- 12.25 System All Call
- 12.25.1 Console equipment must support All Call.
- 12.26 Software Call Check (SWCC)
- 12.26.1 The consoles must support a digital Software Call Check (SWCC) feature which allows a console operator to recall telephone audio and 'select audio' from their radio system console.
 - 12.26.2 The SWCC feature must record and provide access to the past 30 minutes of telephone and radio system audio associated with the console.
 - 12.26.3 The SWCC audio must be assessable within two (2) seconds of it being recorded.



12.26.4 The SWCC application must be able to commence audible playback within one second of a playback request.

12.26.5 The SWCC's audio must be routed to the console operator's headset.

12.27 Patching

12.27.1 Patching is defined as a low level audio patch between radio resources. Voice transmissions out to each of the patched radio resources are treated as individual group calls. It is typically a function processed solely by the Console Equipment.

12.27.2 All inbound communications activity on a talkgroup associated to the patch must be re-transmitted outbound on all the other talkgroups within that patch.

12.27.3 Console patches must not cause any loss of RTT or PTT events on the Console equipment.

12.28 Announcement Group Call

12.28.1 The Console Equipment must support Announcement Group Calls.

12.28.2 The Voice Logger must be able and configured to record all Announcement Group Calls.

12.28.3 Alias Management

12.28.4 Contractor must provide a radio alias management function that enables the maintenance of a cross reference of aliases and radio IDs available to each console.

12.28.5 Console equipment must use the Radio Alias provided by the Radio Alias Management function in its presentation of a call to the console operator.

12.29 Audio Features

12.29.1 Console equipment must support Cross Mute.

12.29.2 Console equipment must support the ability to remotely open subscriber unit's microphone and monitor local audio.

12.29.3 Console positions must be capable of automatically adjusting the volume of received transmissions to a selected reference level (i.e. automatically increase volume of quiet transmissions and automatically decrease volume on loud transmissions).

12.29.4 Console positions must support a variety of unique tones and audio alerts, and warbles.



- 12.29.5 Association between events and alert tones must be configurable on a per Console position basis.
 - 12.29.6 There must be an indicator on the console position display that shows when adequate dispatcher microphone audio is being transmitted.
 - 12.29.7 The circuitry associated with microphone audio must provide headset microphone sensitivity level control to provide a steady transmit output level with microphone input variations that may range from nominal levels to 15 dB below nominal levels.
 - 12.29.8 During headset operation, select speaker audio must be routed to the headset.
 - 12.29.9 Console positions must provide audio level settings (including mute levels) with separate controls for individual console resources and for selected and unselected talk group audio.
 - 12.29.10 Headset microphone audio must only be connected to a Console position radio resource when there is an active PTT.
 - 12.29.11 Headset volume must be independent from the speaker volume and must include microphone side tone at a level of approximately 20dB below the receive audio for all microphone talk audio.
 - 12.29.12 Headset audio must not be capable of exceeding damaging sound pressure levels of 90 dB (A) in compliance with Canada Labour Code section 2.
 - 12.29.13 Console equipment must provide for monitoring of unselected (but assigned to Console position) Talk groups through a separate "unselect" or "monitor" speaker.
- 12.30 Warranty
- 12.30.1 The Contractor must provide a comprehensive warranty program for all console equipment offered in its Offer which provides, at a minimum, the following:
 - 12.30.2 Product defect/malfunction correction and replacement;
 - 12.30.3 Product security vulnerability (hardware/software) correction and replacement;
 - 12.30.4 Product performance deficiencies correction from stated product specifications as of the time of this RFP solicitation period closing date;
 - 12.30.5 Product replacement, testing and restoration to factory specifications;
 - 12.30.6 Product shipping expenses, to and from Contractor's facilities.



- 12.30.7 Contractor must describe what services other than the ones listed above, their comprehensive warranty entails for their console equipment.
 - 12.30.8 Contractor must provide their product repair time lines for console equipment undergoing warranty repairs. The timeline must start when Contractor receives the console equipment at their facilities and ends when console equipment departs their facilities.
 - 12.30.9 Contractor must provide their product replacement time lines for console equipment undergoing warranty replacements. The timeline must start when Contractor receives the console equipment at their facilities and ends when console equipment departs their facilities.
- 12.31 Contractor must indicate the duration in months of their standard comprehensive warranty for their console equipment.

13. Logger

13.1 General

- 13.1.1 Logger equipment must have a method of logging all audio paths in digital format on multiple hard drives simultaneously for the purpose of redundancy.
- 13.1.2 The logger equipment must support and be licensed to a minimum of 200 radio resources.
- 13.1.3 The logger equipment must support and be licensed to a minimum of 40 PBX/PSTN channels.
- 13.1.4 The logger equipment must be capable of instant replays of any recorded conversations within five seconds.
- 13.1.5 The logger equipment must be a network appliance that can operate on a Local Area Network.
- 13.1.6 The logger equipment must be made available to any logger client workstation on the network with proper security privileges for playing back audio or configuring the recorder.
- 13.1.7 The logger client workstation interface must provide the ability to view and select recordings for playback according to date, start time, channel number and name, talkgroup alias, call type, call duration.
- 13.1.8 The logger client workstation must allow the user to search for calls across all archiving devices on the network.



- 13.1.9 The logger client workstation must provide the ability to mix audio data from as many as eight channels during playback.
- 13.1.10 The logger client workstation must provide the following audio controls during voice playback:
- a. Stop
 - b. Pause
 - c. Rewind
 - d. Fast Forward
 - e. Restart
- 13.1.11 The logger client workstation must allow the user to create a repeatable loop inside a call segment.
- 13.1.12 The logger client workstation must provide the ability to make a copy of the original recordings in wave format that can be played back or edited on standard, multi-media devices.
- 13.1.13 It must be possible to configure each channel individually with any combination of the following record triggers:
- a. DTMF detect
 - b. Ring detect
 - c. Off hook detect
 - d. Activity detect
 - e. VOX
 - f. Contact closure
 - g. Continuous record
- 13.1.14 The logger must be capable of keeping records of the dates and times for silent periods for non-event verification.
- 13.1.15 The logger must be able to represent silence in the original recordings in a form that does not consume space for silent audio.
- 13.1.16 The logger must have a file naming convention for recordings that incorporates the date, time and channel number into the file name.
- 13.1.17 Permanent or archive storage must be available on a removable storage disk media.
- 13.1.18 The logger must include methods to allow the data to be exported to an external database.
- 13.1.19 The logger must automatically recover and resume at the last operating state after a power failure.



- 13.1.20 Multiple users must be able to access calls simultaneously from a single logger.
 - 13.1.21 Radio resource audio data must be stamped with all available P25 information pertinent to the transmission including but not limited to:
 - a. Radio talkgroup ID and Alias
 - b. Time stamp
 - c. Date stamp
 - d. Duration
 - e. Call Type
 - f. Unit ID and Alias
 - g. Console ID and Alias
 - 13.1.22 Telephone audio data must be stamped with all available information pertinent to the communication including but not limited to:
 - a. Time stamp
 - b. Date stamp
 - c. Duration
 - d. Call Type
 - e. Incoming ANI/Automatic Location Information (ALI) information
 - f. Outgoing DTMF information
 - g. Trunk ID
 - h. Console ID and Alias
 - 13.1.23 The logger must have hard disk capacity to store not less than 500 hours of voice and its associated data.
 - 13.1.24 The logger must support logging on a network attached storage (NAS) device.
 - 13.1.25 The hard disk must be provided in a raid configuration and allow for hot swappable exchange of defective hard drives.
- 13.2 Key Management Facility (KMF) Interface
- 13.2.1 Logger must have an Over The Network Re-keying (OTNR) interface to the KMF for the purpose of automatically obtaining Radio system keys.
- 13.3 Remote Management
- 13.3.1 All logger equipment must support remote management capability, via IP network, for maintenance purposes.
- 13.4 Time Reference
- 13.4.1 Logger equipment time clock must synchronize to an external standard such as a GPS time reference (as a UTC reference source).



- 13.4.2 The time reference must be distributed to all logger equipment.
- 13.4.3 All transactions and other data collected from the logger equipment that include a timestamp must use the synchronized time.

13.5 Security

- 13.5.1 Logger must protect unauthorized access to equipment configuration.
- 13.5.2 Logger must protect unauthorized access to encryption information.
- 13.5.3 Logger security functions must allow channel-specific security privileges.
- 13.5.4 Logger must protect system disruption through improper or unauthorized use, or equipment failure.
- 13.5.5 Logger must protect radio equipment configuration parameters from unauthorized modification and disclosure.
- 13.5.6 Logger must support role based access control.
- 13.5.7 Logger must support local and remote user authentication.
- 13.5.8 Logger must support antivirus software installed on the console.
- 13.5.9 Contractor must provide a list of supported antivirus software for proposed logger.
- 13.5.10 Logger must support manual OS patching methodology.
- 13.5.11 Logger equipment must support automatic OS patching via Windows Server Update Services (WSUS).
- 13.5.12 Contractor must provide step by step instructions on how to manually patch the logger OS.

13.6 Encryption

- 13.6.1 Logger System must support Advanced Encryption Standard (AES) as defined in Annex C of TIA-102.AAAD-A, Digital Land Mobile Radio Block Encryption Protocol.
- 13.6.2 Logger System must utilize the encryption standard known as the Advanced Encryption Standard (AES 256 bits) and be registered by the Federal Information Processing Standard (FIPS) as FIPS 197.
- 13.6.3 Keys must be stored within a cryptographic module in the radio equipment in a manner which conforms at a minimum to FIPS 140-2 Level 1 security.



- 13.6.4 Logger System must contain data ports suitable for manual loading of encryption keys.
- 13.6.5 Logger System must maintain its FIPS 140-2 certification level throughout its useful lifespan as per section.
- 13.6.6 Hardware or Software changes that impact the FIPS 140-2 certification must undergo FIPS certification process prior to being made available for release to the RCMP.

13.7 Environmental Requirements

- 13.7.1 Logger system must be designed to be located inside shelters or building must operate within tolerances across an ambient temperature range of at least +5°C to +40°C.
- 13.7.2 Logger system must operate within defined tolerances when subjected to relative humidity of 45% to 85%, non-condensing.

13.8 Power

- 13.8.1 Logger system equipment must operate from on 120VAC, provided by the RCMP.

13.9 Physical

- 13.9.1 Contractor must specify the following for proposed logger system equipment:
 - a. Model numbers;
 - b. Metric Dimensions;
 - c. Manufacturer specification sheets;
 - d. Nominal power requirements in Watts;
 - e. Maximum power consumption in Watts;
 - f. Thermal load, in British Thermal Units (BTU) under maximum power consumption conditions; and
 - g. Mean Time Between Failures for each component.
- 13.9.2 Not including the logger client workstations, all other logger equipment must be provided in a secured rack as per Secured Rack.

13.10 Design Life

- 13.10.1 Logger must have a minimum Useful Lifespan of 10 years unless otherwise stated.

13.11 Quality



- 13.11.1 Logger system equipment must be actively used in a production environment in at least two other P25 public-safety systems of 1000+ users within North America at the time of this RFP closing date.
- 13.11.2 Contractor must provide a list of public safety customers, complete with contact information, within North America who have deployed proposed radio equipment in their operational live radio system(s).

14. Request to Talk (RTT) Feature

- 14.1 The RTT and ERTT function must operate on all RCMP Talk paths, whether a P25 trunked radio system or P25 conventional radio resources that will be associated with this specification.
- 14.2 All radio system infrastructure, excluding ISSI, must support in full the Request to Talk and Emergency Request to Talk requirements as presented in the National Radio Services RBM Request To Talk Baseline Requirements Number: RT.06.00-1.1 specification document found in Appendix B1.

15. Over-The-Air-Programming (OTAP)

- 15.1 Radio system infrastructure must support Over-The-Air-Programming (OTAP) functionality for the subscriber units provided in General Requirements.
- 15.2 OTAP process must maintain a log of OTAP data transmissions.

16. Location Services – Global Positioning System (GPS)

- 16.1 Radio infrastructure must conform to the recommendations and principles presented in TIA-102.BAJA-A, Locations Service Overview.
- 16.2 Radio infrastructure must conform to TIA-102.BAJC Tier 2 Location Services.
- 16.3 Radio infrastructure must utilize Sub-network Dependent Convergence Protocol (SNDPC) as described in Section 2.3.2 of TIA-102.BAJC as the lower protocol for sending location information.
- 16.4 Radio infrastructure must conform to TIA-102.BAJD TCP/UDP Port Number Assignments.
- 16.5 Radio infrastructure must at a minimum support the following two triggering conditions:
 - a. Emergency; and
 - b. Host Request.



- 16.6 Contractor GPS Mapping System must provide resource location tracking via the radio infrastructure.
- 16.7 GPS Mapping System must conform with TIA-102.BAJC Tier 2 Location Services.
- 16.8 GPS Mapping System must support at a minimum, two (2) geographically separate GPS Mapping client workstations.
- 16.9 GPS Mapping client workstations must support, at a minimum, Host Request trigger.
- 16.10 GPS Mapping System must include, at a minimum, the geographical region of Quebec.

17. Third Party Manufactured Equipment

- 17.1 Contractor must provide a list of any equipment which is not directly manufactured and developed by the Contractor.
- 17.2 Contractor must describe the process, procedures and agreements in place to control quality, functionality, and support of any equipment not manufactured and developed by the Contractor.





APPENDIX B1 AND BBB1

National Radio Services RBM

Request To Talk Baseline Requirements

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Approvals

This document has been approved by:

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1. SUBSCRIBER UNIT

1.1. Physical

- 1.1.1. Each model of End User radio equipment (Subscriber Unit) for use by the RCMP shall have a separate, readily accessible, single press button for the purpose of initiating a RTT as per signaling requirements.
- 1.1.2. The RTT button shall be functional while the keypad is locked (portable radio only).
- 1.1.3. Speaker Mic accessories for portable Subscriber Unit (SU) for use by the RCMP should have a dedicated button for initiation of a RTT.
- 1.1.4. Each model of End User radio equipment (SU) for use by the RCMP shall have a separate, readily accessible, single press button for the purpose of initiating a ERTT as per signaling requirements.
- 1.1.5. The ERTT button shall be functional while the keypad is locked (portable radio only).
- 1.1.6. The ERTT button shall have a color different from other buttons on the unit that is suggestive of an emergency (e.g. Red or Orange).
- 1.1.7. The ERTT button shall be indented or otherwise positioned to help prevent inadvertent activation of the feature.
- 1.1.8. The ERTT button shall be pressed for a configurable duration between 0.3 and 0.75 seconds prior to activation in order to prevent inadvertent activation.
- 1.1.9. The duration referenced in (1.1.8) shall be a programmable value in the radio service software.
- 1.1.10. Speaker Mic accessories for portable SU for use by the RCMP shall have a dedicated button for initiation of a ERTT.

1.2. RTT Signaling

- 1.2.1. The RTT function shall be implemented using the status control message (**STS_UPDT_REQ**) as defined in the most current version of Trunking Control Channel Messages, TIA-102.AABC-C.

1.3. ERTT Signaling



- 1.3.1. The Emergency RTT function shall be implemented using the status control message (**EMRG_ALARM_REQ**) as defined in the most current version of Trunking Control Channel Messages, TIA-102.AABC-C.

1.4. RTT Activation

- 1.4.1. Upon depression of the RTT button, the SU shall send a **STS_UPDT_REQ** according to TIA-102.AABD-A Random Access Procedures with the values as outlined below:

Status value: \$0100 (hex) – shall be allocated to represent the RTT function

The 24-bit source address: the calling SU's Unit ID

The 24-bit target address: \$FF FFC (hex), the Console Subsystem Address

- 1.4.2. Upon depression of the RTT button, the SU shall start timer T_(ack) awaiting an **ACK_RSP_FNE** from the console sub-system.

1.5. ERTT Activation

- 1.5.1. Upon depression of the Emergency ERTT button, the SU shall send a status control message (**EMRG_ALARM_REQ**) as defined in the most current version of Trunking Control Channel Messages, TIA-102.AABC-C, with the values as outlined below:

The 24-bit source address: the calling SU's Unit ID

- 1.5.2. Upon depression of the ERTT button, the SU shall start timer T_{ack} while awaiting an **ACK_RSP_FNE** from the console sub-system.
- 1.5.3. Until the emergency state in the radio is cleared, all operations by the subscriber unit shall have the emergency bit set to 1

1.6. Emergency Audio Talk Path

- 1.6.1. An ERTT button press shall initiate a voice call and provide an inbound audio talk path to the Console Sub-System from the subscriber unit for a period of approximately 10 seconds. This shall allow the calling party to talk to the Console immediately after the System has established the ERTT.

1.7. Automatic Retries



- 1.7.1. The number of re-try attempts for RTT transmission should be set to four (4) through the radio service software, not to exceed the maximum value as specified in P25 specification (N_retry).
- 1.7.2. If the SU does not receive a system acknowledgement that the ERTT was received by the console sub-system equipment, it must continue to re-send the ERTT for a pre-determined length of time or pre-determined number of attempts, up to the maximum allowed under P25 specifications.
- 1.7.3. The length of time or predetermined number of attempts for ERTT re-transmission must be adjustable through the radio service software.

1.8. Retry Quieting

- 1.8.1. Upon receipt of a System Acknowledgement response from the System Default Address as defined below, the SU shall stop sending retries.

Message type: **ACK_RSP_FNE** with the values as outlined below:

Service Type: %011000 (binary), the opcode for the STS_UPDT

AIV: 1

EX: 0

Source Address: \$FF FFFD (Hex), System Default as per TIA-102.AABD-A, Annex A. 5.2.2

Target Address: the calling SU's Unit ID

1.9. Positive Acknowledgement

- 1.9.1. Upon receipt of a System Acknowledgement response from the Console Sub-System address as defined below, the SU shall generate an audible tone indicating that the RTT was successfully received by the Console Sub-System.

Message type: **ACK_RSP_FNE** with values set as outlined below:

Service Type: %011000 (binary), the opcode for the STS_UPDT

AIV: 1

EX: 0



Source Address: \$FF FFFC (Hex), Console Sub-System address as per TIA-102.AABD-A, Annex A 5.2.2

Target Address: the calling SU's Unit ID

- 1.9.2. Upon receipt of a System Acknowledgement response from the Console Sub-System address, the SU shall stop the T(ack) timer.

1.10. Negative Acknowledgement

- 1.10.1. Upon receipt of a **DENY_RSP** response message from the system as defined below or upon the expiration of the SU's T(ack) timer, the SU shall generate an audible tone indicating that the RTT was unsuccessful.

Message type: **DENY_RSP** with values set as outlined below:

Service Type: %011000 (binary), the opcode for the STS_UPDT

AIV: 0

EX: 0

Target Address: the calling SU's Unit ID

- 1.10.2. The negative acknowledgement audible tone shall be different than the audible tone used for a positive RTT acknowledgement.

1.11. Return to Normal Operations

- 1.11.1. The SU shall revert back to normal operation after receiving either a positive or negative acknowledgement.

2. CONSOLE

2.1. General

- 2.1.1. The Console Sub-system shall provide a means of registering and queuing incoming Request-to-Talk (RTT) and Emergency Request-To-Talk (ERTT) signaling as initiated by the RTT and ERTT call status buttons on Subscriber Units (SU) and displaying this call appropriately by showing an associated "RCMP Identification" of the calling unit.

2.2. Resource Allocation



- 2.2.1. The console operator shall be able to specify, using a GUI, up to the maximum number of the console's defined radio resources as 'Allocated' resources for that console.
- 2.2.2. There shall be a method to ensure that all console radio resources are completely allocated.
- 2.2.3. If any of the consoles radio resources are not 'allocated' on at least one other console, a console feature shall be offered that once enabled, would automatically and dynamically ensure that any 'un-allocated' radio resource(s) are temporarily allocated to that console.
- 2.2.4. There shall be separate primary and secondary queues to enhance dispatch traffic handling.
- 2.2.5. The Primary Queue shall display all RTTs/ERTTs from radio resources currently selected by the console operator as an 'Allocated' resource on that console, as per (2.2.1).
- 2.2.6. The Supervisory console must have visibility of all Talkgroups and which console they are allocated to.
- 2.2.7. The Secondary Queue shall display all RTTs/ERTTs from radio resources currently defined on the console or all RTTs/ERTTs from radio resources currently defined on the console with the exception of those present in the Primary Queue.

2.3. Queue GUI

- 2.3.1. There shall be a separate area defined on the Console screen for the primary and secondary queues.
- 2.3.2. The appearance of the queues can be a single or dual window configuration.
- 2.3.3. In a single window configuration there shall be an additional visual indicator identifying which queue, Primary or Secondary, an RTT/ERTT is from.
- 2.3.4. The primary queue shall remain continuously open at each Console.
- 2.3.5. The primary queue shall remain continuously visible, except if a configuration screen (e.g. patching setup) or similar is open at the dispatch console.

2.4. Audible and Visual Indications



- 2.4.1. An audible tone on the unselect audio channel and visual indication shall accompany every new RTT when it is received in the primary queue.
- 2.4.2. An RTT received only in the secondary queue shall not produce an audible tone or visual indication other than being displayed in the secondary queue.
- 2.4.3. The visual indication shall include unique identification information from the SU that generated the RTT.
- 2.4.4. The RTT audible tone shall repeat at regular intervals of 5 to 10 seconds while the top most RTT remains unanswered and in the primary queue.
- 2.4.5. The audio level and repeat interval of the audible tone in 1 shall be configurable by the console administrator and shall have on/off capability.

2.5. Emergency Indication

- 2.5.1. An Emergency RTT (ERTT) is a special type of RTT which adds additional information to the RTT indication at the Console to indicate the urgent nature of the request. The emergency request shall similarly register at the Console as an RTT but must display uniquely with prominent emergency attributes.
- 2.5.2. An ERTT shall produce an audible tone and a visual indication if received in any queue.
- 2.5.3. Audible and visual indications for Emergency RTTs shall be distinct from regular RTTs.
- 2.5.4. The ERTT visual indication shall include the radio resource ID alias of the initiating Subscriber Unit on the Console in conjunction with the ERTT notification.
- 2.5.5. The ERTT emergency tone shall be either continuous or repeated at regular intervals on the unselect audio channel for as long as the ERTT remains unanswered.
- 2.5.6. A visual indicator shall identify the radio resource currently receiving an emergency call.
- 2.5.7. If a radio resource receiving an emergency call is not on the console screen due to the use of TABs (or equivalent), the console shall indicate the appropriate TAB that the radio resource can be found on.



2.6. Emergency Audio Talk Path

- 2.6.1. All Emergency RTTs shall provide an inbound audio talk path to the Console that shall automatically be established by the System for a period of approximately 10 seconds. This shall allow the calling party to talk to the Console immediately after the System has established the ERTT, prior to the dispatcher selecting the call from the queue.
- 2.6.2. The emergency tone shall continue, and the call shall have to be selected by the dispatcher to provide a permanent connection beyond the initial 10 second open communication.

2.7. Selection Means

- 2.7.1. RTTs and ERTTs in the queue shall be selectable with a single mouse button press and touch screen interface (if available).
- 2.7.2. The dispatcher shall be able to select the top RTT/ERTT entry of the currently selected queue by pressing a configurable shortcut key.
- 2.7.3. Selected RTT/ERTT shall change color or change icon in the queue of the Console to indicate that they have been selected.
- 2.7.4. Only one RTT/ERTT can be selected at any given time.

2.8. Queue Display Priority

- 2.8.1. Each queue shall sequentially display all unanswered RTTs/ERTTs with the highest priority at the top and the lowest priority at the bottom
- 2.8.2. The queue priority from highest to lowest shall be arranged as follows:
 - a. Oldest ERTT
 - b. Newest ERTT
 - c. Oldest RTT/ERTT On Hold
 - d. Newest RTT/ERTT On Hold
 - e. Oldest RTT
 - f. Newest RTT



2.9. Queue Window Information

2.9.1. The queue window shall display the following information:

- a. A numeric sequence number, indicating the position of the particular call in the list. Number 1 shall be the top of the queue;
- b. Radio Resource (ID) or associated Alias;
- c. Talkgroup Identifier (ID) or associated Alias;
- d. Special characters to indicate type and status of call. These characters may indicate Emergency calls, calls which are intended for other dispatchers and calls which have been responded to but placed on hold.

2.9.2. Preferably, the queue window should display the following information:

- a. Elapsed Time Since Initial RTT/ERTT;
- b. Elapsed Time Since Last Update;
- c. Console (ID) or associated Alias;

2.9.3. Where space permits, the time that a call is received in the RTT queue shall be displayed.

2.9.4. If available, Information field 'Elapsed Time Since Last Update' (2-b) shall display the length of time since the RTT/ERTT was last updated.

2.9.5. Information field 'Console ID' (2-c) should display information regarding the console that last updated the call. A new RTT/ERTT that has had no console act on it, shall display nothing in this field.

2.9.6. The information fields displayed in the queues should be configurable by a console administrator.

2.9.7. Active "In call" window shall display the talk-group of the calling unit.

2.10. Queue Actions

2.10.1. The following actions shall be included for the interaction with the RTT/ERTTs in the queue:

- a. Mute



- b. Answer
- c. Answer Top
- d. Hold
- e. End Call

2.10.2. The action listed in (2.10.1) shall operate either on the selected RTT/ERTT or the active queue, where applicable.

2.10.3. The actions buttons listed in (2.10.1) shall not change any allocated Talkgroup list as defined in (resource allocation RBM).

2.10.4. Text or icons displayed on the action buttons listed in (2.10.1) should be editable by a console administrator.

2.10.5. Action 'Mute' (2.10.1-a) shall:

- a. Silence any current audible indications generated from a new RTT/ERTT arriving in the queue

2.10.6. Action 'Answer' (2.10.1.-b) shall:

- a. Act on the currently selected RTT/ERTT or the highest priority unanswered RTT/ERTT of the selected queue if no RTT/ERTT is selected
- b. Set the consoles radio communication path to that of the calling SU's radio resource (Talkgroup)

2.10.7. Action 'Answer Top' (2.10.1-c) shall:

- a. Perform all actions of 'Answer' (2.10.1-b) on the highest priority unanswered RTT/ERTT of the selected queue
- b. Have one or more keyboard shortcut(s)

2.10.8. Action 'Hold' (2.10.1-d) shall:

- a. Not be available if the RTT/ERTT has not previously been 'answered'
- b. Change the priority level of the RTT/ERTT 'On Hold' and adjust it's location in the appropriate queue



- c. Change the visual appearance of the selected RTT/ERTT (e.g.: change color to black)
- d. Remove the console's radio communication path from that of the calling SU's Talkgroup

2.10.9. Action 'End Call' (2.10.1-e) shall:

- a. Not be available if the RTT/ERTT has not previously been 'answered'
- b. Remove the console's radio communication path from that of the calling SU's Talkgroup
- c. Mark the RTT/ERTT as completed to the system for update on all other consoles

2.10.10. A double mouse button click of a RTT/ERTT shall result in the 'Answer' action (2.10.1-b) being applied to the selected RTT/ERTT

2.11. Queue Capacity

2.11.1. The primary and secondary queues shall be capable of displaying a minimum of 10 unanswered RTTs/ERTTs each simultaneously.

2.11.2. The primary and secondary queues shall be capable of displaying up to 30 unanswered RTTs/ERTTs each via scrolling or paging capabilities.

2.12. Queue Operations

2.12.1. Only one RTT/ERTT shall be allowed per unit ID. If a calling party generates a second RTT/ERTT, it shall replace the first RTT/ERTT, assuming the queue position of the first RTT/ERTT. The site, radio resource and elapsed time since last update of the new RTT/ERTT will replace that of the first. The "Elapsed time since Initial RTT/ERTT" shall not be updated.

2.12.2. If an unanswered regular RTT is followed by an Emergency RTT from the same radio resource ID number, the call shall be updated and treated as an ERTT call, cancelling or overwriting the first original RTT.

2.12.3. Any update or action performed on a RTT/ERTT call by a console shall propagate to all other consoles displaying that RTT/ERTT.

2.13. Logging



- 2.13.1. The console shall keep a log of all incoming RTTs/ERTTs containing all of the information available for display in the queue.
- 2.13.2. The log entry shall record all actions (refer to section 2.10 Queue Actions) performed by the console operator respective to the RTT/ERTT.
- 2.13.3. A new log file shall be created daily and titled with the date and a console unique identifier.
- 2.13.4. There shall be an option of automatic purging of records from the console hard drive and transferring them to a file server on the radio network for archiving.
- 2.13.5. All log entries shall include the date and time (to the second) of the event.
- 2.13.6. The past 24 hours of logs shall be easily accessible from the console workstation.

2.14. RTT Acknowledgement

- 2.14.1. An acknowledgement message to the received subscriber unit's **STS_UPDT_REQ** message must be send by the console subsystem. As per TIA-102.AABD-A Section 3.7, this acknowledgement message must be an **ACK_RSP_FNE** with values set as outlined below:

Service Type: %011000 (binary), the opcode for **STS_UPDT**

AIV: 1

EX: 0

Source Address: \$FF FFFC (Hex), Console Subsystem Address as per TIA-102.AABD-A, Annex A 5.2.2

Target Address: the calling SU's Unit ID

2.15. Emergency RTT Acknowledgement

- 2.15.1. Emergency RTT will follow the process for Emergency Alarm Procedure. The P25 specifications outline how the Emergency Alarm Procedure must work within a P25 system and radio. The Alarm procedures are detailed within TIA-102.CAEC Section 19.

The below phases will be mandatory

19.2.4 (2)



19.2.4 (3)

19.3.4 (2)

19.3.4 (3)

2.15.2. Until the emergency state in the radio is cleared, all operations by the subscriber unit will have the emergency bit set to 1.

3. INFRASTRUCTURE

3.1. General

- 3.1.1. The RTT and ERTT function shall operate on all RCMP Talk paths, whether a P25 trunked radio system or P25 conventional radio system or legacy analogue radio system that will be associated with this specification.
- 3.1.2. Since RTT is not currently a defined feature within the P25 standards, the RCMP has designed the implementation of the RTT using existing, non-proprietary P25 features. This provides compatibility between multiple vendors' radio equipment and enables RTT calls on a radio system with End User Radio equipment from different manufacturers.

3.2. Status Control Message

- 3.2.1. The RTT function shall be implemented using the status control message (**STS_UPDT_REQ**) as defined in the most current version of *Trunking Control Channel Messages*, TIA-102.AABC-C.

3.3. RTT Quieting

- 3.3.1. A quieting message to the received subscriber unit's **STS_UPDT_REQ** message shall be sent by the Radio system Infrastructure. As per TIA-102.AABD-A Section 3.7, this acknowledgement message shall be an **ACK_RSP_FNE** with values set as outlined below:

Service Type: %011000 (binary), the opcode for STS_UPDT

AIV: 1

EX: 0



Source Address: \$FF FFFD (Hex), System Default as per TIA-102.AABD-A, Annex A. 5.2.2

Target Address: the calling SU's Unit ID

3.4. RTT Deny

- 3.4.1. If the system is unable to process the RTT request, a deny response message to the received subscriber unit's **STS_UPDT_REQ** message shall be send. This Deny response message shall be send within a configurable timeout window. As per TIA-102.AABD-A Section 10.3, this Deny response message must be a **DENY_RSP** with values set as outlined below:

Service Type: %011000 (binary)

AIV: 0

EX: 0

Target Address: the calling SU's Unit ID



3.5. Emergency Acknowledgement

3.5.1. Emergency RTT will follow the process for Emergency Alarm Procedure. The P25 specifications outline how the Emergency Alarm Procedure must work within a P25 system and radio. The Alarm procedures are detailed within TIA-102.CAEC Section 19.

The below phases will be mandatory

19.2.4 (2)

19.2.4 (3)

19.3.4 (2)

19.3.4 (3)





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**SECURITY REQUIREMENTS CHECK LIST (SRCL)
LISTE DE VÉRIFICATION DES EXIGENCES RELATIVES À LA SÉCURITÉ (LVERS)**

PART A - CONTRACT INFORMATION // PARTIE A - INFORMATION CONTRACTUELLE			
1. Originating Government Department or Organization / Ministère ou organisme gouvernemental d'origine RCMP		2. Branch or Directorate / Direction générale ou Direction IM/IT / National Radio Services	
3. a) Subcontract Number / Numéro du contrat de sous-traitance		3. b) Name and Address of Subcontractor / Nom et adresse du sous-traitant TBD after contract award	
4. Brief Description of Work / Brève description du travail A RFP and associates SOW will be published for the procurement, installation and support a Radiocommunications Infrastructure and Services to support the G7 summit in June 2018. This is a multilevel SRCL that will address the varying level of security requirements based on the type and nature of services. A more detailed schedule is attached.			
5. a) Will the supplier require access to Controlled Goods? Le fournisseur aura-t-il accès à des marchandises contrôlées?		<input checked="" type="checkbox"/> No Non	<input type="checkbox"/> Yes Oui
5. b) Will the supplier require access to unclassified military technical data subject to the provisions of the Technical Data Control Regulations? Le fournisseur aura-t-il accès à des données techniques militaires non classifiées qui sont assujetties aux dispositions du Règlement sur le contrôle des données techniques?		<input checked="" type="checkbox"/> No Non	<input type="checkbox"/> Yes Oui
6. Indicate the type of access required / Indiquer le type d'accès requis			
6. a) Will the supplier and its employees require access to PROTECTED and/or CLASSIFIED information or assets? Le fournisseur ainsi que les employés auront-ils accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS? (Specify the level of access using the chart in Question 7. c) (Préciser le niveau d'accès en utilisant le tableau qui se trouve à la question 7. c)		<input type="checkbox"/> No Non	<input checked="" type="checkbox"/> Yes Oui
6. b) Will the supplier and its employees (e.g. cleaners, maintenance personnel) require access to restricted access areas? No access to PROTECTED and/or CLASSIFIED information or assets is permitted. Le fournisseur et ses employés (p. ex. nettoyeurs, personnel d'entretien) auront-ils accès à des zones d'accès restreintes? L'accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS n'est pas autorisé.		<input checked="" type="checkbox"/> No Non	<input type="checkbox"/> Yes Oui
6. c) Is this a commercial courier or delivery requirement with no overnight storage? S'agit-il d'un contrat de messagerie ou de livraison commerciale sans entreposage de nuit?		<input checked="" type="checkbox"/> No Non	<input type="checkbox"/> Yes Oui
7. a) Indicate the type of information that the supplier will be required to access / Indiquer le type d'information auquel le fournisseur devra avoir accès			
Canada <input checked="" type="checkbox"/>	NATO / OTAN <input type="checkbox"/>	Foreign / Étranger <input type="checkbox"/>	
7. b) Release restrictions / Restrictions relatives à la diffusion			
No release restrictions Aucune restriction relative à la diffusion <input checked="" type="checkbox"/>	All NATO countries Tous les pays de l'OTAN <input type="checkbox"/>	No release restrictions Aucune restriction relative à la diffusion <input type="checkbox"/>	
Not releasable À ne pas diffuser <input type="checkbox"/>			
Restricted to: / Limité à: <input type="checkbox"/>	Restricted to: / Limité à: <input type="checkbox"/>	Restricted to: / Limité à: <input type="checkbox"/>	
Specify country(ies): / Préciser le(s) pays:	Specify country(ies): / Préciser le(s) pays:	Specify country(ies): / Préciser le(s) pays:	
7. c) Level of information / Niveau d'information			
PROTECTED A PROTÉGÉ A <input type="checkbox"/>	NATO UNCLASSIFIED NATO NON CLASSIFIÉ <input type="checkbox"/>	PROTECTED A PROTÉGÉ A <input type="checkbox"/>	
PROTECTED B PROTÉGÉ B <input checked="" type="checkbox"/>	NATO RESTRICTED NATO DIFFUSION RESTREINTE <input type="checkbox"/>	PROTECTED B PROTÉGÉ B <input type="checkbox"/>	
PROTECTED C PROTÉGÉ C <input type="checkbox"/>	NATO CONFIDENTIAL NATO CONFIDENTIEL <input type="checkbox"/>	PROTECTED C PROTÉGÉ C <input type="checkbox"/>	
CONFIDENTIAL CONFIDENTIEL <input type="checkbox"/>	NATO SECRET NATO SECRET <input type="checkbox"/>	CONFIDENTIAL CONFIDENTIEL <input type="checkbox"/>	
SECRET SECRET <input type="checkbox"/>	COSMIC TOP SECRET COSMIC TRÈS SECRET <input type="checkbox"/>	SECRET SECRET <input type="checkbox"/>	
TOP SECRET TRÈS SECRET <input type="checkbox"/>		TOP SECRET TRÈS SECRET <input type="checkbox"/>	
TOP SECRET (SIGINT) TRÈS SECRET (SIGINT) <input type="checkbox"/>		TOP SECRET (SIGINT) TRÈS SECRET (SIGINT) <input type="checkbox"/>	



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PART A (continued) / PARTIE A (suite)

8. Will the supplier require access to PROTECTED and/or CLASSIFIED COMSEC information or assets?
Le fournisseur aura-t-il accès à des renseignements ou à des biens COMSEC désignés PROTÉGÉS et/ou CLASSIFIÉS? No / Non Yes / Oui

If Yes, indicate the level of sensitivity:

Dans l'affirmative, indiquer le niveau de sensibilité : Protected B: Based on previous G8 and the updated G7 2018 SoS

9. Will the supplier require access to extremely sensitive INFOSEC information or assets?
Le fournisseur aura-t-il accès à des renseignements ou à des biens INFOSEC de nature extrêmement délicate? No / Non Yes / Oui

Short Title(s) of material / Titre(s) abrégé(s) du matériel :

Document Number / Numéro du document :

PART B - PERSONNEL (SUPPLIER) / PARTIE B - PERSONNEL (FOURNISSEUR)

10. a) Personnel security screening level required / Niveau de contrôle de la sécurité du personnel requis

- | | | | |
|---|---|--|--|
| <input checked="" type="checkbox"/> RELIABILITY STATUS
COTE DE FIABILITÉ | <input type="checkbox"/> CONFIDENTIAL
CONFIDENTIEL | <input checked="" type="checkbox"/> SECRET
SECRET | <input type="checkbox"/> TOP SECRET
TRÈS SECRET |
| <input type="checkbox"/> TOP SECRET - SIGINT
TRÈS SECRET - SIGINT | <input type="checkbox"/> NATO CONFIDENTIAL
NATO CONFIDENTIEL | <input type="checkbox"/> NATO SECRET
NATO SECRET | <input type="checkbox"/> COSMIC TOP SECRET
COSMIC TRÈS SECRET |
| <input type="checkbox"/> SITE ACCESS
ACCÈS AUX EMPLACEMENTS | MULTI LEVEL - RRS and Secret. | | |

Special comments:

Commentaires spéciaux : Secret is being asked because of vendor privileged access

NOTE: If multiple levels of screening are identified, a Security Classification Guide must be provided - see attached security guide.
REMARQUE: Si plusieurs niveaux de contrôle de sécurité sont requis, un guide de classification de la sécurité doit être fourni.

10. b) May unscreened personnel be used for portions of the work?
Du personnel sans autorisation sécuritaire peut-il se voir confier des parties du travail? No / Non Yes / Oui

If Yes, will unscreened personnel be escorted?

Dans l'affirmative, le personnel en question sera-t-il escorté? No / Non Yes / Oui

PART C - SAFEGUARDS (SUPPLIER) / PARTIE C - MESURES DE PROTECTION (FOURNISSEUR)

INFORMATION / ASSETS / RENSEIGNEMENTS / BIENS

11. a) Will the supplier be required to receive and store PROTECTED and/or CLASSIFIED information or assets on its site or premises?
Le fournisseur sera-t-il tenu de recevoir et d'entreposer sur place des renseignements ou des biens PROTÉGÉS et/ou CLASSIFIÉS? No / Non Yes / Oui

11. b) Will the supplier be required to safeguard COMSEC information or assets?
Le fournisseur sera-t-il tenu de protéger des renseignements ou des biens COMSEC? No / Non Yes / Oui

PRODUCTION

11. c) Will the production (manufacture, and/or repair and/or modification) of PROTECTED and/or CLASSIFIED material or equipment occur at the supplier's site or premises?
Les installations du fournisseur serviront-elles à la production (fabrication et/ou réparation et/ou modification) de matériel PROTÉGÉ et/ou CLASSIFIÉ? No / Non Yes / Oui

INFORMATION TECHNOLOGY (IT) MEDIA / SUPPORT RELATIF À LA TECHNOLOGIE DE L'INFORMATION (TI)

11. d) Will the supplier be required to use its IT systems to electronically process, produce or store PROTECTED and/or CLASSIFIED information or data?
Le fournisseur sera-t-il tenu d'utiliser ses propres systèmes informatiques pour traiter, produire ou stocker électroniquement des renseignements ou des données PROTÉGÉS et/ou CLASSIFIÉS? No / Non Yes / Oui

11. e) Will there be an electronic link between the supplier's IT systems and the government department or agency?
Disposera-t-on d'un lien électronique entre le système informatique du fournisseur et celui du ministère ou de l'agence gouvernementale? No / Non Yes / Oui



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PART C - (continued) / PARTIE C - (suite)

For users completing the form **manually** use the summary chart below to indicate the category(ies) and level(s) of safeguarding required at the supplier's site(s) or premises.
Les utilisateurs qui remplissent le formulaire **manuellement** doivent utiliser le tableau récapitulatif ci-dessous pour indiquer, pour chaque catégorie, les niveaux de sauvegarde requis aux installations du fournisseur.

For users completing the form **online** (via the Internet), the summary chart is automatically populated by your responses to previous questions.
Dans le cas des utilisateurs qui remplissent le formulaire **en ligne** (par Internet), les réponses aux questions précédentes sont automatiquement saisies dans le tableau récapitulatif.

SUMMARY CHART / TABLEAU RÉCAPITULATIF

Category / Catégorie	PROTECTED / PROTÉGÉ			CLASSIFIED / CLASSIFIÉ			NATO				COMSEC					
	A	B	C	CONFIDENTIAL / CONFIDENTIEL	SECRET	TOP SECRET / TRÈS SECRET	NATO RESTRICTED / NATO DIFFUSION RESTREINTE	NATO CONFIDENTIAL / NATO CONFIDENTIEL	NATO SECRET	COSMIC TOP SECRET / COSMIC TRÈS SECRET	PROTECTED / PROTÉGÉ			CONFIDENTIAL	SECRET	TOP SECRET / TRÈS SECRET
											A	B	C			
Information / Assets / Renseignements / Biens / Production																
IT Media / Support TI																
IT Link / Lien électronique																

12. a) Is the description of the work contained within this SRCL PROTECTED and/or CLASSIFIED?
La description du travail visé par la présente LVERS est-elle de nature PROTÉGÉE et/ou CLASSIFIÉE? No / Non Yes / Oui

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification".
Dans l'affirmative, classifiez le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire.

12. b) Will the documentation attached to this SRCL be PROTECTED and/or CLASSIFIED?
La documentation associée à la présente LVERS sera-t-elle PROTÉGÉE et/ou CLASSIFIÉE? No / Non Yes / Oui

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification" and indicate with attachments (e.g. SECRET with Attachments).
Dans l'affirmative, classifiez le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire et indiquez qu'il y a des pièces jointes (p. ex. SECRET avec des pièces jointes).



SRCL Security Guide

Radio System Infrastructure
SRCL #: 201711121024

Prepared by :
Central Departmental Security Section
Royal Canadian Mounted Police

Reviewer initials and date: *JMC 2017/07/28*
Reviewer initials and date: *J.T. 2017/07/28*

Template date: July 20, 2017



Preamble

All contractors employed on this contract must support the RCMP's security environment by complying with the directives described in this document.

Given the nature of this project, the following guidelines only apply to sensitive RCMP information disseminated from the RCMP (by designated contact) to the contractor.

General Security Requirements

1. All Protected information (hard copy documentation) or other sensitive assets for which the RCMP is responsible will be shared with the contractor through pre-approved processes.
2. The information disclosed by the RCMP will be administered, maintained, and disposed of in accordance with the Contract. At minimum the contractor must follow the Policy on Government Security.
3. The contractor will promptly notify the RCMP contract authority of any security incidents related to the RCMP information provided. (i.e. loss of sensitive information, accidental or deliberate.)
4. The contractor is not permitted to disclose sensitive information provided by the RCMP, to any sub-contractors, without those individuals having the proper RCMP security level required to access the protected information.
5. The RCMP's Departmental Security Section (DSS) reserves the right to conduct inspections of the contractor's facility and provide guidance on mandatory safeguards (safeguards as specified in this document and possibly additional site specific safeguards). Inspections may be performed prior to sensitive information being shared and/or as required (e.g. if the contractor's office relocates). The intent of the inspection is to ensure the quality of security safeguards.
6. To ensure Canada's sovereign control over its data, all sensitive or protected data under government control will be stored on servers that reside in Canada. Data in transit will be appropriately encrypted.

Physical Security

1. **Storage:** All information related to this contract must be stored in a standard locking commercial file cabinet. The container must be located (at minimum) within an "Operations Zone". As such, the contractor's facility must have an area/room that meets the following criteria:

Operations Zone	
Definition	An area where access is limited to personnel who work there and to properly escorted visitors. Note: The personnel working within the Operational Zone must: <ul style="list-style-type: none"> • possess a valid RCMP Reliability Status (RRS), or • be escorted by an individual who possesses a valid RRS
Perimeter	Must be indicated by a recognizable perimeter or a secure perimeter depending on project needs. For example, the controls may be a locked office or suite.
Monitoring	Monitored periodically by authorized employees. For example, users of the space working at the location are able to observe if there has been a breach of security.

Note: Refer to Appendix A for more information on the Security Zone concept.

2. **Discussions:** Where sensitive conversations are anticipated, Operations Zones must have a stand off from public spaces or be designed with acoustic speech privacy properties (where the user has a reasonable expectation that they will not be overheard). For example, private room/office and/or boardroom.

When conversations are conducted on a mobile device or landline, the sensitivity level of the discussions are to be as follows:

Device	Sensitivity Level of Discussion
Mobile Device (RCMP Blackberry & Personal Device)	Voice conversations on a mobile device must <u>not</u> contain any Protected or Classified information (only Non-Sensitive information can be discussed on a mobile device).
Landline	Voice conversations on a landline must not contain any information higher than Protected A (only Non-Sensitive and Protected A information can be discussed on a landline).

3. **Production:** The production (generation and/or modification) of Protected information must occur in an area that meets the criteria of an Operations Zone.

4. **Destruction:** All drafts or misprints (damaged copies and/or left over copies) must be destroyed by the contractor. Protected information must be destroyed in accordance with the RCMP's Security Manual. The equipment/system (i.e. shredder) used to destroy sensitive material is rated according to the degree of destruction. RCMP approved destruction equipment must be utilized.

Approved levels of destruction for Protected B include:

- Residue size must be less than 2 x 15 mm (particle cut).

Note:

- If the contractor is unable to meet the RCMP's destruction requirements, all sensitive information/assets are to be returned to the RCMP for proper destruction.
- Any sensitive drafts/misprints awaiting disposal must be protected in the agreed upon manner until destroyed.

5. **Transport/Transmittal:** The physical exchange of sensitive information must follow the Contract. When a delivery service is used, it must offer proof of mailing, a record while in transit and of delivery.

Transport	Transport: to transfer sensitive information and assets from one person or place to another by someone with a need to know the information or need to access the asset.
Transmittal	Transmit: to transfer sensitive information and assets from one person or place to another by someone without a need to know the information or need to access the asset.

Notes:

- For the Transport of Protected "B" information (travel to/from third-party locations for meetings and/or interviews): In place of a single envelope, a briefcase or other container of equal or greater strength may be used. Double envelope/wrap to protect fragile contents or to keep bulky, heavy or large parcels intact.
- For the Transmittal of Protected "B" information (Canada Post or registered courier): Address in a nonspecific manner. Add "To Be Opened Only By" because of the need-to-know or need-to-access principles when warranted.

IT Security

1. If Protected A or Protected B RCMP information is required to be sent electronically, one of the following options may be used:
 - a. It may be sent via FIPS 140-2 compliant portable storage device provided by RCMP, with access restricted to RCMP security cleared contractor personnel only and the RCMP client. The FIPS 140-2 compliant portable storage device is to be delivered by-hand or shipped by courier to the contractor's location.

NOTE: The password for the portable storage device is to be provided verbally, either in person or by telephone to RCMP security cleared contractor personnel only.
 - b. It may be emailed using Secure RCMP Entrust encrypted email
2. IF any electronic processing/sending of Protected A or higher RCMP information is required, the contractor must ensure the information is :
 - encrypted while at rest
 - encrypted while in transit; and
 - access controls are implemented.

Note: Advanced Encryption Standard (AES) Algorithms with key lengths of 128, 192 and 256 bits are approved for encrypting Protected A and B information.
3. If required, backup of RCMP Protected A or B information is subject to the same security guidelines (encryption and access controls) as is the live information.
4. The use of cellular devices for any discussions (verbal or text) containing RCMP sensitive information is prohibited.
5. Electronic records must be destroyed according to ITSG-06 Clearing and Declassifying Electronic Data Storage Devices (refer to <https://www.cse-cst.gc.ca/en/node/270/html/10572> for further info). Protected information is to be cleared using the following options:
 - Media containing PROTECTED government information can only be re-used after all data areas of the media have been alternatively overwritten with any character and its complement (e.g. binary 1s then binary 0s) for a minimum of three times.
 - Media containing PROTECTED government information that are not overwritten to the satisfaction of the RCMP are to be destroyed in accordance with RCMP approved methods (approved metal-destruction facility, incineration, emery wheel or disk sander, dry disintegration, pulverizing or smelting).

Personnel Security

1. All contractor personnel will be required to obtain and maintain a RCMP personnel security clearance/status commensurate with the sensitivity of the work being performed throughout the life cycle of the contract (in accordance with the provisions of the SRCL).
2. The contractor will be responsible for advising the RCMP of any changes in personnel security requirements. For example: Cleared personnel leaving the company or no longer supporting the RCMP contract, new personnel requiring security screening and personnel requiring renewal of their personnel security screening.
3. As the supplier and its employees will have access to RCMP Protected and/or Classified information, an RCMP Clearance at the appropriate level is required.

Contractor personnel must submit to verification by the RCMP, prior to being granted access to Protected or Classified information, systems, assets and/or facilities. The RCMP reserves the right to deny access to any of the above to any contractor personnel, at any time.

When the RCMP identifies a requirement for RRS or a security clearance; the Contractor will submit the following to the RCMP:

1. Form TBS 330-23 (LERC version)
2. Form TBS 330-60
3. Form RCMP 1020-1 (Pre Interview)
4. Copy of Birth Certificate and Driver's License
5. 2 Passport size pictures.

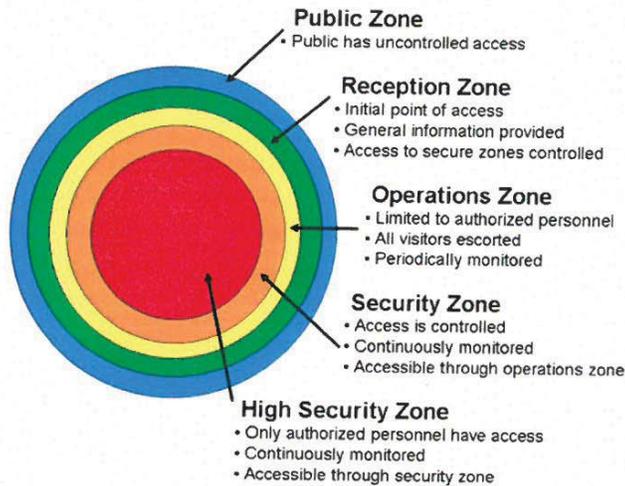
The RCMP:

1. will conduct personnel security screening checks above the Policy on Government Security requirements
 2. will conduct a security interview
 3. will obtain a set of fingerprints
4. Security Classification for the various contract roles:
1. **Project Manager** - Secret with technical escort
 2. **System Engineers** - RRS with technical escort
 3. **Installer/Technician/System Operations Specialists** - RRS with technical escort
 4. **Trainers** - RRS with technical escort
 5. **On-Site Event Support Specialists (Standby)** - Secret with technical escort

Appendix A – Security Zone Concept

The *Government Security Policy (Section 10.8 - Access Limitations)* stipulates that “departments must limit access to classified and protected information and other assets to those individuals who have a need to know the information and who have the appropriate security screening level”.

The *Operational Security Standard on Physical Security (Section 6.2 - Hierarchy of Zones)* states that “departments must ensure that access to and safeguards for protected and classified assets are based on a clearly discernable hierarchy of zones”.



Public Zone is where the public has unimpeded access and generally surrounds or forms part of a government facility. Examples: the grounds surrounding a building, or public corridors and elevator lobbies in multiple occupancy buildings.

Reception Zone is where the transition from a public zone to a restricted-access area is demarcated and controlled. It is typically located at the entry to the facility where initial contact between visitors and the department occurs; this can include such spaces as places where services are provided and information is exchanged. Access by visitors may be limited to specific times of the day or for specific reasons.

Operations Zone is an area where access is limited to personnel who work there and to properly-escorted visitors; it must be indicated by a recognizable perimeter and monitored periodically. Examples: typical open office space, or typical electrical room.

Security Zone is an area to which access is limited to authorized personnel and to authorized and properly-escorted visitors; it must be indicated by a recognizable perimeter and monitored continuously, i.e., 24 hours a day and 7 days a week. Example: an area where secret information is processed or stored.

High Security Zone is an area to which access is limited to authorized, appropriately-screened personnel and authorized and properly-escorted visitors; it must be indicated by a perimeter built to the specifications recommended in the TRA, monitored continuously, i.e., 24 hours a day and 7 days a week and be an area to which details of access are recorded and audited. Example: an area where high-value assets are handled by selected personnel.

Access to the zones should be based on the concept of "need to know" and restricting access to protect employees and valuable assets. Refer to [RCMP Guide G1-026, Guide to the Application of Physical Security Zones](#) for more detailed information.

ANNEX D - BASIS OF PAYMENT
FACTORY ACCEPTANCE TESTING AND P25-PHASE 2 SYSTEM UPGRADABILITY SOLUTION FOR PHASE I

Installation Site Number	Installation Site Name	Factory Acceptance Testing And P25-Phase 2 Upgradability Solution	Factory Acceptance Testing (FAT) (Only Level of Effort Excluding Material Costs)	Proposed Price for P25 Phase 2 Upgradable Solution Including Installation
A	B	C	D	E
NA	NA	Successful Factory Acceptance Testing (FAT) of the Proposed System Prior to the First Installation		
NA	NA	Radio System Software Upgradable to P25 Phase 2 Operations		

Note: FFP includes Custom Duties but excludes Shipping, Travel & Living Expenses and Taxes, as applicable. Please use white cells to input pricing information.

**ANNEX D - BASIS OF PAYMENT - INSTALLATION SITES COST BREAKDOWN
HARDWARE & SOFTWARE, AND ENGINEERING & INSTALLATION WORK FOR PHASE I**

Installation Site Number	Installation Site Name	Hardware Requirements	RCMP Required Quantity	FFP For RCMP Required Hardware	FFP For Engineering & Installation Services	Extended Price (Hardware and Engineering & Installation Services) (E + F)
A	B	C	D	E	F	G
1	Radio System Core Site - Montreal	CLIN 1 - Radio System Core	1			
		CLIN 2 - KMF - Quantity	1			
		CLIN 3 - KMF Client Workstation	1			
		CLIN 4 - Radio Logger- Quantity	1			
		CLIN 5 - Logger Client Workstation	1			
		CLIN 6 - Management Client Workstation	1			
		CLIN 7 - Operator Console Workstation	2			
		CLIN 8 - Tier 2 GPS Mapping Server	1			
2	Backup Radio System Core Site - Québec City	CLIN 9 - Radio System Backup Core	1			
		CLIN 10 - KMF Client Workstation	1			
		CLIN 11 - Radio Logger - Quantity	1			
		CLIN 12 - Logger Client Workstation	1			
		CLIN 13 - Management Client Workstation	1			
		CLIN 14 - Operator Console Workstation	2			
3	Event Command Centre #1 Province of Quebec - Location TBD	CLIN 15 - Operator Console Workstation	6			
		CLIN 16 - Logger Client Workstation	1			
		CLIN 17 - Tier 2 GPS Mapping Client Workstation -	1			
4	Event Command Centre #2	CLIN 18 - Operator Console Workstation	6			
		CLIN 19 - Logger Client Workstation	1			
		CLIN 20 - Tier 2 GPS Mapping Client Workstation	1			

Note: Firm Fixed Price (FFP) includes Custom Duties but excludes Shipping, Travel & Living Expenses and Taxes, as applicable. Addresses of the outstanding locations (TBD) will be provided to the Contractor after contract award.

Please use white cells to input pricing information.

CLIN: Contract Line Item Number

**ANNEX D - BASIS OF PAYMENT - INSTALLATION SITES COST BREAKDOWN
HARDWARE & SOFTWARE, AND ENGINEERING & INSTALLATION WORK FOR PHASE I**

Installation Site Number	Installation Site Name	Site Numbers	Bidder Proposed Hardware Required at Each Site	Bidder Proposed Quantity of each Hardware	FFP For the Proposed Hardware (Total Price Per Site)	FFP For Engineering & Installation Services (Total Price Per Site)	Extended Price (Hardware, and Engineering & Installation Services) (F + G)
A	B	C	D	E	F	G	H
5 through 11 (Total 7 Sites)	High Capacity Trunked Radio Sites - TBD (CLIN 21)	Site 5					
		Site 6					
		Site 7					
		Site 8					
		Site 9					
		Site 10					
		Site 11					
12 through 20 (Total 9 Sites)	Medium Capacity Trunked Radio Site (CLIN 22)	Site 12					
		Site 13					
		Site 14					
		Site 15					
		Site 16					
		Site 17					
		Site 18					
		Site 19					
		Site 20					
21 through 39 (Total 19 Sites)	Low Capacity Trunked Radio Site (CLIN 23)	Site 21					
		Site 22					
		Site 23					
		Site 24					
		Site 25					
		Site 26					
		Site 27					
		Site 28					
		Site 29					
		Site 30					
		Site 31					
		Site 32					
		Site 33					
		Site 34					
		Site 35					
		Site 36					
		Site 37					
		Site 38					
		Site 39					
40 through 44 (Total 5 Sites)	2-Channel Conventional Site (CLIN 24)	Site 40					
		Site 41					
		Site 42					
		Site 43					
		Site 44					

Note: Firm Fixed Price (FFP) includes Custom Duties but excludes Shipping, Travel & Living Expenses and Taxes, as applicable. Addresses of the outstanding locations (TBD) will be provided to the Contractor after contract award. Please use white cells to input pricing information. CLIN: Contract Line Item Number

**ANNEX D - BASIS OF PAYMENT
FFP FOR TRAINING COURSES FOR PHASE I**

A	B	C	D	E
CLIN	Training Courses and Quantity	Firm Fixed Price For the Mandatory Courses Phase I	Firm Fixed Price For the Optional Courses Phase II	Extended Price (C+D)
CLIN A	Console Operator Training Course			
1	RCMP Site In Quebec City - Phase I - Firm Quantity 2			
2	RCMP Site In Quebec City - Phase I - Optional Quantity Upto 5			
CLIN B	System Technician Training Course			
3	RCMP Site In Quebec City - Phase I - Firm Quantity 2			
4	RCMP Site In Quebec City - Phase I - Optional Quantity Upto 5			
CLIN C	System Administrator Training Course			
5	Contractor Site - Phase I - Firm Quantity 2			
6	Contractor Site - Phase I - Optional Quantity Upto 5			

*Note: FFP includes Shipping, Custom Duties, Travel & Living Expenses and exclude taxes, as applicable.
Please use white cells to input pricing information.
CLIN: Contract Line Item Number*

ANNEX D - BASIS OF PAYMENT

FIXED HOURLY LABOUR RATES FOR ADDITIONAL WORK ARISING FOR PHASE I

Item No.	Labour Categories	Hourly Labour Rate from Contract Award to December 31, 2017	Hourly Labour Rate from 1 January 2018 to December 31, 2018
1	Junior Technician		
2	Senior Technician		
3	Junior Engineer		
4	Senior Engineer		
5	Field Service Representative		
6	Project Manager		

*Note: The hourly labour rates must be firm fixed rates excluding applicable taxes.
Please use white cells to input pricing information.*



Claim for Progress Payment Demande de paiement progressif

If necessary, use form PWGSC-TPSGC 1112 to record detail costs
Si nécessaire, utiliser le formulaire PWGSC-TPSGC 1112 pour inscrire les coûts détaillés

Contractor's Name and Address Nom et adresse de l'entrepreneur	Claim No. N° de la demande	Date (YY-MM-DD - AA-MM-JJ)	Contract Price - Prix contractuel
	File No. - N° du dossier		Contract Serial No. N° de série du contrat
Contractor's Procurement Business Number (PBN) Numéro d'entreprise-appvisionnement (NEA) de l'entrepreneur		Financial Code(s) - Code(s) financier(s)	

Contractor's Report of Work Progress (if needed, use additional sheets)
Compte rendu de l'avancement des travaux par l'entrepreneur (si nécessaire, utiliser des feuilles supplémentaires)

Period of work covered by the claim Période des travaux visée par la demande ▶	Current Claim Demande courante		Previous Claims Demandes précédentes		Total to Date Total à date (A + B)
	(A)	Tax Rate Taux de taxe	(B)	Tax Rate Taux de taxe	
Description: (Expenditures must be claimed in accordance with the basis and/or method of payment of the contract) Description : (Les dépenses doivent être réclamées conformément à la base de paiement et (ou) à la méthode de paiement du contrat).		%		%	
		%		%	
		%		%	
		%		%	
		%		%	
		%		%	
		%		%	
		%		%	
		%		%	
		%		%	
Contractor's GST No. N° de TPS de l'entrepreneur	Subtotal Sous-total				
	Goods and Services Tax (GST) / /Harmonized Sales Tax (HST) Taxe sur les produits et services (TPS) / Taxe de vente harmonisée (TVH)				
	Total				
	Less holdbacks on expenditures only (GST/HST excluded) Moins les retenues sur les dépenses uniquement (TPS/TVH en sus)				

Total Amount of Claim (including GST/HST included)
Montant total de la demande (TPS/TVH incluse)

Percentage of the work completed Pourcentage des travaux achevés	%	Current Claim Demande courante	▶	Amount due Montant dû
---	---	-----------------------------------	---	--------------------------

Claim No.
N° de la demande

Contract Serial No.
N° de série du contrat

CERTIFICATE OF CONTRACTOR

I certify that:

- All authorizations required under the contract have been obtained. The claim is consistent with the progress of the work and is in accordance with the contract.
- Indirect costs have been paid for or accrued in the accounts.
- Direct materials and the subcontracted work have been received, accepted and either paid for or accrued in the accounts following receipt of invoice from supplier/subcontractor, and have been or will be used exclusively for the purpose of the contract.
- All direct labour costs have been paid for or accrued in the accounts and all such costs were incurred exclusively for the purpose of the contract;
- All other direct costs have been paid for or accrued in the accounts following receipt of applicable invoice or expense voucher and all such costs were incurred exclusively for the purpose of the contract; and
- No liens, encumbrances, charges or other claims exist against the work except those which may arise by operation of law such as a lien in the nature of an unpaid contractor's lien and in respect of which a progress payment and/or advance payment has been or will be made by Canada.

Contractor 's Signature - Signature de l'entrepreneur

Check the box if the claim is being made with respect to advance payment provisions included in the basis of payment of the contract.

This claim, or a portion of this claim, is for an advance payment.

I certify that:

- The funds received will be used solely for the purpose of the contract and attached is a complete description of the purpose to which the advance payment will be applied.
- The amount of the payment is established in accordance with the conditions of the contract.
- The contractor is not in default of its obligations under the contract.
- The payment is related to an identifiable part of the contractual work.

Contractor 's Signature - Signature de l'entrepreneur

CERTIFICATES OF DEPARTMENTAL REPRESENTATIVES

Scientific/Project/Inspection Authority: I certify that the work meets the quality standards required under the contract, and its progress is in accordance with the conditions of the contract.

Inspection Authority (all other contracts): I certify that the quality of the work performed is in accordance with the standards required under the contract.

Signature of Scientific / Project / Inspection Authority
Signature de l'autorité scientifique ou responsable du projet / de l'inspection

PWGSC Contracting Authority: I certify that, to the best of my knowledge, the claim is consistent with the progress of the work and is in accordance with the contract. This claim, however, may be subject to further verification and any necessary adjustment before final settlement.

Contracting Authority Signature de l'autorité contractante

Client's Authorized Signing Officer - (must sign the interim claim): I certify that the claim is in accordance with the contract.

Client Signature du client

Client's Authorized Signing Officer - (must sign the final claim): I certify that all goods have been received and all services have been rendered, that the work has been properly performed and that the claim is in accordance with the contract.

Client Signature du client

ATTESTATION DE L'ENTREPRENEUR

J'atteste que :

- Toutes les autorisations exigées en vertu du contrat ont été obtenues. La demande correspond à l'avancement des travaux et est conforme au contrat.
- Les coûts indirects ont été réglés ou portés aux livres.
- Les matières directes et les travaux de sous-traitance ont été reçus, et le tout a été accepté et payé, ou encore porté aux livres après réception de factures envoyées par le fournisseur ou le sous-traitant; ces matières et ces travaux ont été ou seront utilisés exclusivement aux fins du contrat.
- Tous les coûts de la main-d'oeuvre directe ont été réglés ou portés aux livres et tous ces coûts ont été engagés exclusivement aux fins du contrat.
- Tous les autres coûts indirects ont été réglés ou portés aux livres après réception des factures ou pièces justificatives pertinentes et tous ces coûts ont été engagés exclusivement aux fins du contrat.
- Il n'existe aucun privilège ni demande ou imputation à l'égard de ces travaux sauf ceux qui pourraient survenir par effet de la loi, notamment le privilège d'un entrepreneur non payé à l'égard duquel un paiement progressif et/ou un paiement anticipé a été ou sera effectué par le Canada.

Title - Titre

Date

Cocher la case si la demande est faite en rapport avec les dispositions relatives aux paiements anticipés qui se trouvent dans la base de paiement du contrat.

Cette demande, ou une partie de cette demande, est pour un paiement anticipé.

J'atteste que :

- Les fonds reçus ne serviront uniquement qu'aux fins du contrat; ci-joint est une description complète des fins auxquelles le paiement anticipé sera utilisé.
- Le montant du paiement est établi conformément aux conditions du contrat.
- L'entrepreneur n'a pas manqué à ses obligations en vertu du contrat.
- Le paiement porte sur une partie identifiable des travaux précisés dans le contrat.

Title - Titre

Date

ATTESTATIONS DES REPRÉSENTANTS DU MINISTÈRE

Autorité scientifique ou responsable du projet / de l'inspection : J'atteste que les travaux sont conformes aux normes de qualité exigées en vertu du contrat et que leur avancement est conforme aux conditions du contrat.

Responsable de l'inspection (tous les autres contrats) : J'atteste que la qualité des travaux exécutés est conforme aux normes exigées en vertu du contrat.

Autorité contractante de TPSGC : J'atteste, au meilleur de ma connaissance, que la demande correspond à l'avancement des travaux et est conforme au contrat. Toutefois, cette demande pourrait faire l'objet d'une autre vérification et de tout rajustement nécessaire avant le règlement final.

Title - Titre

Date

Signataire autorisé du client - (doit signer la demande provisoire) : J'atteste que la demande est conforme au contrat.

Title - Titre

Date

Signataire autorisé du client - (doit signer la demande finale) : J'atteste que tous les biens ont été reçus, que tous les services ont été rendus, que tous les travaux ont été exécutés convenablement, et que la demande est conforme au contrat.

Title - Titre

Date

ANNEX H - FINANCIAL BID EVALUATION METHODOLOGY
FACTORY ACCEPTANCE TESTING FOR PHASE I AND III

A	B	C
Item	Requirement	Total Extended Price
1	Successful Factory Acceptance Testing in Phase I and III	
2	P25 Phase 2 System Upgradability Solution in Phase I and III	
Total Price of FAT And P25 Phase 2 System Upgradability Solution		\$

**ANNEX H - FINANCIAL BID EVALUATION METHODOLOGY
HARDWARE AND ENGINEERING & INSTALLATION SERVICES FOR PHASE I**

A	B	D	E	F
Installation Site Number	Installation Site Name	Total Price For Hardware	Total Price For Engineering & Installation Services	Total Extended Price
1	Radio System Core Site - Montreal CLIN 1 to 8			
2	Backup Radio System Core Site Québec City CLIN 9 to 14			
3	Event Command Centre #1, Province of Quebec - Location TBD			
4	Event Command Centre #2			
5 to 11	High Capacity Trunked Radio Sites -TBD			
12 to 20	Medium Capacity Trunked Radio Sites -TBD			
21 to 39	Low Channel Conventional Sites -TBD			

40 to 44	2-Channel Conventional Sites -TBD			
Aggregate Price				\$

**ANNEX H - FINANCIAL BID EVALUATION METHODOLOGY
HARDWARE AND ENGINEERING & INSTALLATION SERVICES FOR PHASE III**

A	B	C	D	E
Installation Site Number	Installation Site Name	Total Price For Hardware For Proposed Solution	Total Price For Engineering & Installation Services For Proposed Solution	Total Extended Price
1	Radio System Core Site - Montreal CLIN 1 to 8			
2	Backup Radio System Core Site - Québec City CLIN 9 to 14			
3	Divisional Operational Command Centre			
4	Backup Operational Command Centre			
5 through 9 (5 in Total)	5 Channel Trunked Radio Site			
10 through 27 (18 in Total)	4 Channel Capacity Radio Site			

28 through 68 (41 in Total)	3 Channel Capacity Radio Site			
69 through 77 (9 in Total)	Single Channel Conventional			
78 through 154 (77 in total)	Votescan			
Aggregate Price				\$

ANNEX H - FINANCIAL BID EVALUATION METHODOLOGY			
TRAINING REQUIREMENTS FOR PHASE, I, II AND III			
A	B	C	D
CLIN	Training Courses	Firm Fixed Unit Price For Firm Training Courses	Firm Fixed Unit Price For the Optional Courses
CLIN A	Console Operator Training Course		
1	Firm and Optional Courses Total Price		
CLIN B	System Technician Training Course		
2	Firm and Optional Courses Total Price		
CLIN C	System Administrator Training Course		
3	Firm and Optional Courses Total Price		
	Aggregate Price of Training Courses		\$

ANNEX H - FINANCIAL BID EVALUATION METHODOLOGY

HOURLY LABOUR RATES FOR PHASE I AND II

A	B	C	D	H
Item No.	Labour Categories	Estimated Hours for Level of Effort	Average Hourly Labour Rate Between Contract Award to 31 December 2022	Estimated Total (C*D)
1	Junior Technician	200		
2	Senior Technician	300		
3	Junior Engineer	200		
4	Senior Engineer	200		
5	Field Service Rep	300		
6	Project Manager	200		
Aggregate Price of Labour Rates				\$0.00

*Note: Estimated Hours for LOE used are hypothetical and are for evaluation purpose only.
 Average rate of the proposed labour rates in each labour category, for Phase I and II will be used for financial evaluation.
 Should any bidder submit different labour rates for the same labour categories within same period/s of different phases of the project, then the lowest proposed rate/s will be selected for financial evaluation purposes and application in the contract/s.
 LOE: Level of Effort*

**ANNEX H - FINANCIAL BID EVALUATION METHODOLOGY
FIRM FIXED MARK-UP FOR ISS CONTRACT - PHASE II**

Program Management Fee	Fixed Quarterly Fee	Total Extended Yearly Fee
Program Management Fee for Year 1 (Quarterly Firm Fixed Fee excluding uses)	\$	\$
Program Management Fee for Year 2 (Quarterly Firm Fixed Fee excluding uses)	\$	\$
Program Management Fee for Year 3 (Quarterly Firm Fixed Fee excluding uses)	\$	\$
Program Management Fee for Year 4 (Quarterly Firm Fixed Fee excluding uses)	\$	\$
Total Calculated Program Management Fee for the Contract Period		Reserved For Evaluation

Sub-contractor Mark-up on Services	Year 1	Year 2	Year 3	Year 4	Option Period
Proposed Subcontractor Services Mark-up Rate (%)	%	%	%	%	%
Subcontractor Services Cost (Hypothetical)	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00
Rate x Cost for each corresponding year (Subcontractor Services total)	Reserved For Evaluation				
Total Calculated Mark-up					Reserved For Evaluation

Sub-contractor Material Mark-up	Year 1	Year 2	Year 3	Year 4	Option Period
Proposed Sub-contractor Material Mark-up Rate (%)	%	%	%	%	%
Material Cost (Hypothetical)	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00
Rate x Material Cost for each corresponding year (Material total)	Reserved For Evaluation				
Total Calculated Mark-up					Reserved For Evaluation
Aggregate Mark-up (Sum of Program Management + Mark-up for Material + Services)					\$

ANNEX H - FINANCIAL BID EVALUATION METHODOLOGY									
SUMMARY SHEET - RESULT									
A	B	C	D	E	F	G	H	I	J
ITEM No.	Description	Factory Acceptance Test	P25 Phase 2 System Upgradability	Total Price of Hardware (Including Optional Quantities)	Total Price of Engineering & Installation Services	Total Price for all Training Requirements Including Optional Courses	Aggregate of the Hourly Labour Rates	Aggregate Mark-up	Aggregate Price of Items 1 to 7
1	Factory Acceptance Tests (Phase I & II)								
2	P25-Phase 2 System Upgradability Solution (Phase I & III)								
3	Hardware (Phase I & III)								
4	Engineering & Installation Services (Phase I & III)								
5	Training (Phase I, II and III)								
6	Labour Rates (Phase I and II)								
7	Program Management & Mark-up (Phase II)								
Total Aggregate Proposal Price									\$

ANNEX AA

STATEMENT OF WORK

IN-SERVICE SUPPORT SERVICES

FOR

PHASE II

ROYAL CANADIAN MOUNTED POLICE



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GLOSSARY

APCO	Association of Public Safety Communication Officers
AES	Advanced Encryption Standard
CA	Contracting Authority
CAI	Common Air Interface
CER	Common Equipment Room
FRU	Field Replaceable Unit
G7	Group of 7 (Nations)
GFE	Government Furnished Equipment
IP	Internet Protocol
ISS	In-Service Support
LAN	Local Area Network
NIST	National Institute of Standards and Technology
PA	Project Authority
P25	Project 25
RF	Radio Frequency
TA	Technical Authority
TBD	To Be Determined
TIA	Telecommunications Industry Association



1. BACKGROUND

- 1.1 The Province of Quebec is referred to as "C" Division by the Royal Canadian Mounted Police (RCMP). The RCMP is responsible for two areas of law enforcement throughout Quebec. These areas of responsibility include:
 - 1.1.1 Federal and International policing by Parliamentary Act.
 - 1.1.2 Protective Policing by Federal Act.
- 1.2 The existing Land Mobile Radio (LMR) system used by the RCMP in Quebec is approaching its end of life. Consequently the system no longer meets the RCMP's stringent communication requirements.
- 1.3 G7 Radio Communication System Project is planned to replace the existing Land Mobile Radio communication system in Quebec during Phase I and III.
- 1.4 In Phase II, the intent is to provide In-Service Support Services for the upgraded system that must meet the mission critical communication requirements of the RCMP "C" Division.
- 1.5 Phase II must be treated as **Optional**.

2. OBJECTIVE

- 2.1 Should Phase II be exercised by Canada, the Contractor must provide In-Service Support Services including Preventive and Corrective Maintenance.
- 2.2 The Contractor must provide In-Service Support Services at the identified RCMP sites that are located across Québec. (*Sites to be determined at contract award*)
- 2.3 The Contractor must perform all engineering, maintenance and support work in accordance with this document.

3. REQUIREMENTS

- 3.1 The Contractor must provide:
 - 3.1.1 A Technical Assistance Response Centre
 - 3.1.2 Software and Hardware Upgrade Services
 - 3.1.3 Preventative and Corrective Maintenance
 - 3.1.4 Onsite Service
- 3.2 The In-Service Support Services must only be provided for the infrastructure equipment and not for any subscriber units.



- 3.3 The Contractor must make the maintenance and support services available via a single point of contact to the RCMP.

4. TECHNICAL ASSISTANCE RESPONSE CENTRE

- 4.1 The Contractor must provide a Technical Assistance Response Centre that must be equipped to provide the following:
- a) The Technical Assistance Response Centre must assist the RCMP technical personnel to detect and correct technical problems associated with the radio system.
 - b) The Technical Assistance Response Centre must operate 24 hours per day, every day of the year and work in conjunction with the RCMP technical personnel and the Contractor's single point of contact.
- 4.2 The Contractor must provide the service on 24 hours per day seven days per week basis. The Contractor must ensure that the service issues are escalated for immediate resolution and the resources are dispatched quickly when necessary.
- 4.3 The following list is non-exhaustive, however, as a minimum, the Technical Assistance Response Centre must provide the following support:
- a) A single point of contact to solve problems without delay.
 - b) Escalation procedures for the more difficult problems/outages.
 - c) Call tracking and monitoring for all activities.
 - d) Monitoring of service requests for response and repair times.
 - e) On-line status and history of each service request.
 - f) Database and reports of system history, site history and response time.
 - g) Utilize the appropriate technical support services.
- 4.4 Schedule of Response Times, Resolution Times and Permanent Fix Times.
- 4.5 The Contractor must fulfil the following response times, resolution times and permanent fix times for all reported issues:

Severity	Definition	Response Time	Resolution Time	Permanent Fix
HIGH	System failure, or 25% of sites or channels are not functioning	1 hour	4 hours	30 days
MEDIUM	Ongoing reduction in system capacity or core system functionality	4 hours	8 hours	3 months
LOW	Intermittent reduction in system capacity	Next business day	5 business days	Next software release



5. SOFTWARE UPGRADE SERVICES

- 5.1 Once every two-years, the Contractor must provide necessary software and firmware upgrades for the radio system to a future system release, with an equivalent or greater level of functionality.

6. PREVENTATIVE MAINTENANCE

Preventative Maintenance of the radio system shall include all software and hardware maintenance to keep the radio system secure and in peak performance. This must include but is not limited to the following:

6.1 Radio System Software Updates

- 6.1.1 As system releases become available, the Contractor must provide RCMP with the software, hardware and implementation services required to execute system infrastructure upgrades every 2 years at a minimum during the contract period.
- 6.1.2 At the time of the system release upgrade, the Contractor must provide applicable patches and service pack updates when and if available. These patches and service pack updates include 3rd party software such as Microsoft Windows and Microsoft Server Operating System, Red Hat Linux, Sun Solaris and any Contractor software service packs that may be available.
- 6.1.3 The Contractor must only provide patch releases that have been analyzed, pre-tested and certified in a dedicated test lab to ensure that they are compatible and do not interfere with system functionality.
- 6.1.4 The Contractor must also provide previous software versions for the purpose of downgrading product software to a compatible release version as and when required.

6.2 Security Patches

- 6.2.1 The Contractor must provide security patches on a 30 day basis.
- 6.2.2 The Contractor must only provide security patches which have been analyzed, pre-tested and certified in a dedicated test lab to ensure that they are compatible and do not interfere with system functionality.
- 6.2.3 The contractor must evaluate and pre-test each Security update.
- 6.2.4 Each assessment will consist of no less than 36 hours of examination time to evaluate the impact each security patch has to the system.



6.2.5 The Contractor must coordinate technical resolutions with agreed upon third party vendor(s), as needed.

6.3 Viruscan

6.3.1 The Contractor must provide viruscan definitions on a weekly basis.

6.3.2 When anti-virus definitions classified as Severe, (difficult to contain) and Very Severe, (very difficult to contain) by the commercial supplier are released, the contractor must provide a high-priority release when necessary within 36 hours.

6.3.3 The Contractor must ensure the viruscan definitions are compatible with the system and do not interfere with system functionality.

6.4 Firmware Updates

6.4.1 The Contractor must provide firmware updates on “as and when” required basis.

7. ONSITE SERVICE

7.1 The Contractor must provide Field Service Representatives (FSR) for onsite service to provide corrective maintenance in order to address system issues on an as-needed basis.

8. TRAINING REQUIREMENTS

8.1 The Contractor must provide training on as and when requested basis.

8.2 Required Courses

The Contractor must provide the following training courses available in both English and/or French on an “as and when” requested basis at the site specified by the TA:

- a. **CLIN A:** A Console Operator Training Course
- b. **CLIN B:** A System Technician Training Course
- c. **CLIN C:** A System Administrator’s Training Course

8.3 The Contractor must coordinate and finalize the delivery dates of the courses with the TA or its delegate.

8.4 The Contractor must provide qualified instructors to deliver the proposed training at RCMP sites. The qualified instructor is defined as the contractor’s personnel who has minimum of two year experience in delivering similar courses that are required by this document.



- 8.5 The contractor must provide training materials in English and French as requested for each attendee and must complete the course in accordance with the agreed upon schedule. Course material must be releasable to government employees without risk of copyright infringement.
- 8.6 Optional training courses may be exercised at sites as determined by the TA on an “as and when requested” basis.
- 8.7 CLIN A: Console Operator Training Course**
- 8.7.1 The Contractor must deliver the training course, at the site specified by the TA. The course will be delivered to groups of up to ten (10) operators responsible for the operation of the equipment.
- 8.7.2 The course must concentrate on the features and proper operation of the installed system.
- 8.7.3 As a minimum, the course must instill students with the requisite skills and technical knowledge to meet the following objectives:
- 8.7.3.1 Access and operate console;
 - 8.7.3.2 Receive and transmit a variety of voice and data communications using all of the console’s features;
 - 8.7.3.3 Understand a high-level view of the system configuration; and
 - 8.7.3.4 General console operation.
- 8.8 CLIN B: System Technician Training Course**
- 8.8.1 The Contractor must deliver the training course, at the site specified in by the TA. The course will be delivered to groups of up to ten (10) technicians responsible for the maintenance of all equipment.
- 8.8.2 The course must concentrate on the basic competencies to operate the system, and also to troubleshoot the system, and to correct operating parameter or hardware faults. This includes the basic theory, safety precautions, site level 1 and 2 maintenance and trouble-shooting procedures. RCMP considers level 1 maintenance to be fault identification and correction by replacement of the LRU. Level 2- maintenance includes level 1 maintenance actions, but also includes LRU repair if possible, analysis of control and traffic network faults, and reconfiguration of the basic control and traffic network parameters.
- 8.8.3 As a minimum, the course must instill students with the requisite skills and technical knowledge to meet the following objectives:



- 8.8.3.1 In-depth knowledge of the system features and operating parameters necessary to install and configure the hardware and software components of radio system;
- 8.8.3.2 In-depth knowledge to diagnose and repair the radio system faults down to the LRU level;
- 8.8.3.3 Hands-on activities intended to teach the electrical, mechanical, and software skills needed to keep the radio system at peak operating efficiency

8.9 CLIN C: System Administrator's Training Course

- 8.9.1 The Contractor must deliver the training course, at the site specified in the task authorization, for up to ten (10) persons responsible for the system administration of the radio system, including but not limited to the consoles, KMF, system management clients.
- 8.9.2 The training must provide the selected RCMP personnel with the knowledge and tools required to perform system administration functions of the radio system in the most efficient way depending on the available system's features and options, in accordance with the requirements of Annex B. At a minimum, the course must provide:
 - 8.9.2.1 The ability to perform system administration functions of the radio system;
 - 8.9.2.2 Knowledge of the system administration capabilities of the radio system; and
 - 8.9.2.3 The tools and ability to create operator and technician user templates for users of the radio system.

9. WARRANTY

- 9.1 The warranty for repairs shall be for a period of ninety (90) calendar days, and shall apply to services performed and parts supplied by the contractor.
- 9.2 The ninety (90) calendar days period shall commence with the provision of the service or the completion of the repair under which the part is embodied.
- 9.3 During the warranty period, the Contractor must provide the service and/or repair or replace the parts as necessary at no cost to Canada.

10. SECURITY

- 10.1 All security rules, regulations and procedures applicable to public servants employed in RCMP shall apply to the Contractor, its Officers, servants and agents.



- 10.2 The Contractor is responsible to ensure the completion of all documentation required in the RCMP Personnel security program for the purpose of security clearance and reliability screening of its officers, servants or agents. Access to RCMP premises will be restricted to the contractor and its employees/sub-contractors until clearance documentation is submitted and processed.
- 10.3 The contractor's officers, servants and agents must consent to the necessary disclosure of personal information required to support the personnel security program and failure to consent to these disclosures will render the person unsuitable for service on RCMP premises.
- 10.4 The contractor's officers, servants and agents must comply with all standing orders or other regulations in force at the site where the work is to be performed.

11. SITE OPERATIONS

- 11.1 When required on site, the Contractor must take every precaution to minimize any disturbance to normal site operations. On-site work may have to be performed during periods set by the site.
- 11.2 The Contractor must also recognize that it is essential that his personnel working on-site cooperate fully with the security staff at the site by conforming to all security requirements.

12. REPORTING REQUIREMENTS

- 12.1 As required by the RCMP TA, the Contractor must provide a monthly repair, and task authorization report to the RCMP Project Authority, the Requisitioning Authority and the Contracting Authority. As a minimum, the report/s must include:
- a) the Site Address;
 - b) the Site ID;
 - c) the Contractor's Case Number;
 - d) equipment name;
 - e) serial number;
 - f) date received;
 - g) date completed;
 - h) a brief description of the Work performed;
 - i) the amount for each repair; and
 - j) cumulative total of expenditure from the contract award date.
- 12.2 The format of the report/s will be proposed by the contractor after the contract award. The report format is subject to approval of TA and/or the CA.



13. RCMP RESPONSIBILITIES

13.1 RCMP shall:

- 13.1.1 Keep the contractor informed of any changes to the technical on-site personnel on a regular basis;
- 13.1.2 Issue instruction to the on-site technical personnel on the procedures to be followed to request maintenance support;
- 13.1.3 Supply on-site technical personnel when required to assist contractor personnel; and
- 13.1.4 Provide approval for all repairs to be performed, on-site and off-site, through the Project Authority.

14. PROGRAM MANAGEMENT

The Contractor must assign a program manager, who will be the point of contact to RCMP and PSPC. In addition to the work detailed in the Statement of Work (SOW), Program Manager will perform generic service & support activities related to program issues and activities such as hosting team meetings, managing daily activities, providing guidance to maintenance team, managing communication with Canada, preparing program reviews, reporting or analyzing technical data, providing support to contractual and financial teams, resolution of technical issues, monitor system data and overall trends, supervision of touch labour activities and prioritizing flow through and managing and assigning resources as required.

15. SITE ACCESS

- 15.1 The contractor personnel shall be provided access to RCMP facilities during regular hours of work. No work should be performed beyond the regular hours. Regular hours are from 08:00 to 17:00 Hrs. local time.



ANNEX BB - BASIS OF PAYMENT

FIXED HOURLY LABOUR RATES FOR ENGINEERING & INSTALLATION SERVICES, ADDITIONAL WORK ARISING AND ISS (PHASE II)

Item No.	Labour Categories	Hourly Labour Rate from 1st January 2019 to 31st December 2019	Hourly Labour Rate from 1st January 2020 to 31st December 2020	Hourly Labour Rate from 1st January 2021 to 31st December 2021	Hourly Labour Rate from 1st January 2022 to 31st December 2022	Hourly Labour Rate from 1st January 2023 to 31st December 2023	Hourly Labour Rate from 1st January 2024 to 31st December 2024
1	Junior Technician					CPI	CPI
2	Senior Technician					CPI	CPI
3	Junior Engineer					CPI	CPI
4	Senior Engineer					CPI	CPI
5	Field Service Representative					CPI	CPI
6	Project Manager					CPI	CPI

Note: Please use white cells to input pricing information.

Note: The hourly labour rates must be firm fixed rates excluding applicable taxes.

Hourly Labour Rates for the last two years will be escalated based on Consumer Price Index (CPI).

FFP: Firm Fixed Price

**ANNEX BB - BASIS OF PAYMENT
FIRM FIXED MARK-UP FOR ISS CONTRACT - PHASE II**

A	B	C	D	E	F	G
Program Management Fee	Fixed Quarterly Fee 1st January 2019 to 31st December 2019	Fixed Quarterly Fee 1st January 2020 to 31st December 2020	Fixed Quarterly Fee 1st January 2021 to 31st December 2021	Fixed Quarterly Fee 1st January 2022 to 31st December 2022	Fixed Quarterly Fee 1st January 2023 to 31st December 2023	Fixed Quarterly Fee 1st January 2024 to 31st December 2024
Quarterly Firm Fixed Program Management Fee Excluding Taxes)	\$	\$	\$	\$	CPI	CPI

Sub-contractor Mark-up on Services	Year 1	Year 2	Year 3	Year 4	Option Period	Option Period
Proposed Mark-up for Subcontractor Services	%	%	%	%	%	%

Sub-contractor Material Mark-up	Year 1	Year 2	Year 3	Year 4	Option Period	Option Period
Proposed Mark-up for Sub-contractor Material	%	%	%		%	%

*Note: Please use white cells to input pricing information.
All applicable taxes must be extra.
Quarterly Program Management Fee for the last two years will be escalated based on Consumer Price Index (CPI).
Mark-up shall remain constant for the period of contract.
FFP: Firm Fixed Price*

**ANNEX BB - BASIS OF PAYMENT
FFP FOR OPTIONAL TRAINING COURSES FOR PHASE II**

A	B	C	D	E	F
CLIN	Training Courses and Quantity	Firm Fixed Unit Price For the Optional Courses 1st January 2019 to 31st December 2019	Firm Fixed Unit Price For the Optional Courses 1st January 2020 to 31st December 2020	Firm Fixed Unit Price For the Optional Courses 1st January 2021 to 31st December 2021	Firm Fixed Unit Price For the Optional Courses 1st January 2022 to 31st December 2022
CLIN A	Console Operator Training Course				
1	RCMP Site In Quebec City - Phase II - Optional Quantity Up to 5				
CLIN B	System Technician Training Course				
2	RCMP Site In Quebec City - Phase II - Optional Quantity Up to 5				
CLIN C	System Administrator Training Course				
3	Contractor Site - Phase II - Optional Quantity Up to 2				

*Note: FFP includes Shipping, Custom Duties, Travel & Living Expenses and exclude taxes, as applicable.
Please use white cells to input pricing information.
Training Courses Prices for the last two years will be escalated based on Consumer Price Index (CPI).
FFP: Firm Fixed Price*

ANNEX AAA

STATEMENT OF WORK

RADIO COMMUNICATION SYSTEM

FOR

PHASE III

THE ROYAL CANADIAN MOUNTED POLICE (RCMP)



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GLOSSARY

APCO	Association of Public Safety Communication Officers
AES	Advanced Encryption Standard
CA	Contracting Authority
CAI	Common Air Interface
CER	Common Equipment Room
FRU	Field Replaceable Unit
G7	Group of 7 (Nations)
GFE	Government Furnished Equipment
IP	Internet Protocol
LAN	Local Area Network
NIST	National Institute of Standards and Technology
PA	Project Authority
P25	Project 25
RF	Radio Frequency
TA	Technical Authority
TBD	To Be Determined
TIA	Telecommunications Industry Association



1. BACKGROUND

- 1.1 The Province of Quebec is referred to as "C" Division by the Royal Canadian Mounted Police (RCMP). The RCMP is responsible for two areas of law enforcement throughout Quebec. These areas of responsibility include:
 - 1.1.1 Federal and International policing by Parliamentary Act.
 - 1.1.2 Protective Policing by Federal Act.
- 1.2 The existing Land Mobile Radio (LMR) system used by the RCMP in Quebec is approaching its end of life. Consequently the system no longer meets the RCMP's stringent communication requirements. A major capital procurement is being planned to replace the existing Land Mobile Radio communication system in that province.
- 1.3 This capital procurement must be accelerated to meet the communication requirements of the G7 Leader's Summit hosted in Quebec. For more information relating to the G7, visit the following web link:

[http://pm.gc.ca/eng/news/2017/05/27/canada-host-2018-g7-summit-charlevoix- quebec](http://pm.gc.ca/eng/news/2017/05/27/canada-host-2018-g7-summit-charlevoix-quebec)

2. PROJECT SCOPE

- 2.1 The following paragraphs define the Technical Requirements for the 2018 G7 Radio Communication System Project.
- 2.2 The 2018 G7 Radio Communication System Project requirements are broken into 3 phases as per the following:
 - 2.2.1 Phase I - G7 Summit Phase: Delivery of a P25 LMR system for the Summit.
 - 2.2.2 Phase II - In-Service Support Services Requirements for RCMP "C" Division.
 - 2.2.3 Phase III – Post G7 Summit Phase: Expansion of a P25 LMR system for RCMP "C" Division.
- 2.3 In Phase I, the Contractor must deliver a fully functional P25 land mobile radio communication system in the province of Quebec, which must meet the communication requirements as defined in the Annex A and B.
- 2.4 All Phase III requirements will be firmed up after Phase I has been concluded.
- 2.5 Phase III requirements must be treated as **Optional**.
- 2.6 Should Phase III be exercised, the Contractor must remove, as required, a portion of the equipment deployed in Phase I, and reconfigure and redeploy it in other locations. These locations will be determined after the G7 Summit.



- 2.7 In Phase III, the Contractor must deliver a fully functional P25 land mobile radio communication system in the province of Quebec, which must meet the communication requirements of the RCMP "C" Division as specified in Annex AAA & BBB. Phase III may be completed over 3 years.
- 2.8 In Phase III, the Contractor must design, configure, deliver, install, test, and commission the fully operational Radio Communication System.
- 2.9 The Radio System Core Sites installed in Montreal and Quebec City will be the final location for both Phase I and Phase III.
- 2.10 The Contractor will not provide any radio subscriber user equipment as part of this requirement since the scope is limited to the infrastructure portion of the system only. The RCMP will provide its own P25 radio subscriber equipment. Subscriber equipment is defined as portable (handheld) radios and mobile (vehicle) radios.
- 2.11 The site locations for the radio equipment including the Basestation sites will be selected by the RCMP and provided to the Contractor. The Contractor will not be responsible for the Radio Frequency (RF) coverage design for this system.
- 2.12 The Contractor will not be responsible for identifying RF spectrum for this system. RCMP will be acquiring RF spectrum for the operation of this radio system. The P25 LMR system must be designed to operate in the spectrum band of 380MHz-470MHz.
- 2.13 The Contractor must provide tuned RF site filtration to connect transceiver equipment to radio antennas. RCMP will provide site RF frequencies to the Contractor upon contract award.
- 2.14 The Contractor will be responsible for the installation of all Basestation equipment within equipment shelters provided by the RCMP.
- 2.15 The Contractor must provide P25 Tier 2 GPS Mapping services and hardware integration to the land mobile radio communications system in order to allow for low frequency tracking of subscriber units.
- 2.16 The Contractor must provide training (both end user and technical) and in-service maintenance support. The Contractor must collaborate closely with the Technical Authority (TA) to ensure that the Contractor completely understands and complies with all the requirements of this Statement of Work.
- 2.17 The Contractor must obtain Technical Authority's approval at each milestone and deliverable in order to move on to the next. For details, please see Appendix AAA4 – Milestone Schedule.
- 2.18 All work described in this Annex AAA - Statement of Work (SOW) and Annex BBB - Performance Specifications must be performed in a "turnkey" manner with the contractor functioning both as a supplier and as a system integrator.



3. PHASE III INSTALLATION SITES

- 3.1 The Contractor must meet the Hardware Requirements as found in Appendix AAA1 – Phase III Hardware Requirements. At the end of Phase I, the Contractor must remove, as required, a portion of the equipment deployed in Phase I, and reconfigure and redeploy it in other locations. These locations will be determined after the G7 Summit.
- 3.2 The list of installation sites will be identified in Appendix AAA3 – Phase III Installation Sites and provided after completion of Phase I.

4. PHASE III SYSTEM DESIGN AND IMPLEMENTATION CONSTRAINTS

In the development of the overall G7 P25 Radio System Infrastructure Project for both phases, the contractor may be faced with several operational constraints. These constraints are in the form of existing Government Furnished Equipment (GFE) that the Contractor must utilize and interconnect with its proposed system, whereas in other cases some of the GFE cannot be made available to the contractor for utilization since that GFE may be reserved by RCMP for other purposes.

The G7 Summit has been announced by the Government of Canada and is a firm commitment. This is a major event involving international dignitaries that allows Canada to showcase its domestic and international priorities on the world stage. The Contractor must provide an operational “turnkey” P25 radio infrastructure as per the milestone dates established in this SOW.

With the event taking place in the Province of Quebec, respecting Canada’s language policies for the use of English and French will be crucial. Requirements for the Contractor are established in this SOW.

4.1 Network IP Design

- 4.1.1 The Contractor will be required to work closely with Shared Services Canada (SSC) who will act as RCMP’s data network manager and provider.
- 4.1.2 The Contractor must adhere to RCMP and SSC data network IP scheme and architecture.

4.2 Network Access and Security

- 4.2.1 Implementation of IT Security regarding the data network will be implemented by SSC on behalf of the RCMP.
- 4.2.2 Electronic access control will be implemented using IT security devices (e.g. firewalls) provided by the RCMP.
- 4.2.3 The Contractor must provide all IP network flows which must traverse IT security devices. This must include but is not limited to: source device IP, source name, destination device IP, destination name, port, protocol, service and detailed justification for each.



- 4.2.4 Radio equipment must support monitoring and logging of all electronic access and activity on the radio network.
- 4.2.5 Radio Infrastructure Components are defined as the following:
 - 4.2.5.1 Key Management Facility (KMF)
 - 4.2.5.2 Radio System Voice Loggers
 - 4.2.5.3 Dispatch Console Subsystems
- 4.2.6 Radio Infrastructure Components as defined in 4.2.5 must be deployed on separate dedicated LANs.
- 4.2.7 All Radio Infrastructure Components will be protected from the rest of the network with IT security device(s).
- 4.2.8 Contractor will not be permitted remote access to radio system infrastructure.

5. APPLICABLE DOCUMENTS

- 5.1 The equipment proposed for this requirement must meet applicable sections of the current issue of the following standards:
 - 5.1.1 ANSI/TIA102 Suite of the Association of Public-Safety Communications Officials-International (APCO) Project 25 (P25) Specifications.
 - 5.1.2 Alternating Current (AC) powered equipment must be certified to the Canadian Standards Association (CSA).
 - 5.1.3 ISEDC Radio Standards Specification, RSS 119 for all land mobile and fixed radio transmitters and receivers.
 - 5.1.4 Applicable parts of ISEDC CS-03 Telecommunication Apparatus Compliance Specification.
 - 5.1.5 Other applicable standards that may be required depending on equipment that shall be provided by the contractor.
 - 5.1.6 Canada Labour Code.
 - 5.1.7 Radio equipment requiring a technical acceptance certificate as per Section 4(2) of the Canadian Radio Communication Act must comply with RSS-Gen, RSS-119, RSS-102, and applicable parts of CS-03.



6. STANDARDS

- 6.1 Radio equipment must be based on APCO Project 25 standards as defined by the TIA-102 series of documents.
- 6.2 National Institute of Standards and Technology (NIST) FIPS 197 AES: All radio equipment supplied to the RCMP must utilize the encryption standard known as the Advanced Encryption Standard (AES) using the Rijndael algorithm and registered by the Federal Information Processing Standard (FIPS) as FIPS 197. This degree of encryption is specified in the Government Security Policy for the protection of sensitive, unclassified information.
- 6.3 Unless otherwise stated, all references made to the suite of TIA-102 documents refer to the most current published version, including addendums that have been signed-off by the P25 steering committee as of the time of issue of this RFP.
- 6.4 The Contractor must be ISO 9001:2008 certified prior to, and during all periods of the contract.
- 6.5 Internet Protocol (IP) and related protocols must conform to Internet Engineering Task Force (IETF) standards.
- 6.6 Radio equipment should meet the more stringent of this Technical Specification or the manufacturer's published specifications.
- 6.7 Radio equipment must meet the manufacturer's published specifications for any functional or performance parameter not called out in this Technical Specification.

7. PROJECT REQUIREMENTS - PHASE III

Following the G7 Summit, the RCMP may exercise the option to purchase additional radio equipment for the purpose of expanding coverage, capacity, functionality, and enhancing the security, quality and efficiency of radio communications used by the RCMP "C" Division. Phase III may be completed over three (3) years.

All equipment proposed by the Contractor for Phase III must be compatible to operate with the equipment provided in Phase I.

The Radio System Core Sites defined in paragraph 7 of Annex A will be the final location for Phase I and Phase III.

The equipment defined in 7.3 and 7.4 of Annex A will be redeployed to locations to be determined and identified to the Contractor at the time the Option would be exercised.

Please refer to Annex AAA1 for detailed list of deliverables required for Phase III.

The Contractor must:



- 7.1 Utilize and reconfigure the equipment installed in Phase I to incorporate into the Radio System Core Site in Montréal, as necessary.
- 7.2 Utilize and reconfigure the equipment installed in Phase I to incorporate into the Backup Radio System Core Site in Québec City, as necessary.
- 7.3 Utilize and reconfigure the equipment installed in Phase I to incorporate into the two Command Centers in the province of Québec, as necessary.
- 7.4 Deliver one hundred-fifty fully operational Radio Basestation Sites in the province of Québec utilizing and redeploying the equipment provided in Phase I, as necessary.
- 7.5 Deliver a fully operational radio system that meets all the specifications detailed in the technical documents.

8. TRAINING REQUIREMENTS

8.1 Required Courses

The Contractor must provide the following training courses available in both English and/or French on an “as and when” requested basis at the site specified by the TA:

- a. **CLIN A:** A Console Operator Training Course
- b. **CLIN B:** A System Technician Training Course
- c. **CLIN C:** A System Administrator’s Training Course

- 8.2 The Contractor must coordinate and finalize the delivery dates of the courses with the TA or its delegate.
- 8.3 The Contractor must provide qualified instructors to deliver the proposed training at RCMP sites. The qualified instructor is defined as the contractor’s personnel who has minimum of two year experience in delivering similar courses that are required by this document.
- 8.4 The contractor must provide training materials in English and French as requested for each attendee and must complete the course in accordance with the agreed upon schedule. Course material must be releasable to government employees without risk of copyright infringement.
- 8.5 Optional training courses may be exercised at sites as determined by the TA on an “as and when requested” basis.

8.6 CLIN A: Console Operator Training Course



- 8.6.1 The Contractor must deliver the training course, at the site specified by the TA. The course will be delivered to groups of up to ten (10) operators responsible for the operation of the equipment.
- 8.6.2 The course must concentrate on the features and proper operation of the installed system.
- 8.6.3 As a minimum, the course must instill students with the requisite skills and technical knowledge to meet the following objectives:
- 8.6.3.1 Access and operate console;
 - 8.6.3.2 Receive and transmit a variety of voice and data communications using all of the console's features;
 - 8.6.3.3 Understand a high-level view of the system configuration; and
 - 8.6.3.4 General console operation.

8.7 CLIN B: System Technician Training Course

- 8.7.1 The Contractor must deliver the training course, at the site specified in by the TA. The course will be delivered to groups of up to ten (10) technicians responsible for the maintenance of all equipment.
- 8.7.2 The course must concentrate on the basic competencies to operate the system, and also to troubleshoot the system, and to correct operating parameter or hardware faults. This includes the basic theory, safety precautions, site level 1 and 2 maintenance and trouble-shooting procedures. RCMP considers level 1 maintenance to be fault identification and correction by replacement of the LRU. Level 2- maintenance includes level 1 maintenance actions, but also includes LRU repair if possible, analysis of control and traffic network faults, and reconfiguration of the basic control and traffic network parameters.
- 8.7.3 As a minimum, the course must instill students with the requisite skills and technical knowledge to meet the following objectives:
- 8.7.3.1 In-depth knowledge of the system features and operating parameters necessary to install and configure the hardware and software components of radio system;
 - 8.7.3.2 In-depth knowledge to diagnose and repair the radio system faults down to the LRU level;
 - 8.7.3.3 Hands-on activities intended to teach the electrical, mechanical, and software skills needed to keep the radio system at peak operating efficiency



8.8 CLIN C: System Administrator's Training Course

- 8.8.1 The Contractor must deliver the training course, at the site specified in the task authorization, for up to ten (10) persons responsible for the system administration of the radio system, including but not limited to the consoles, KMF, system management clients.
- 8.8.2 The training must provide the selected RCMP personnel with the knowledge and tools required to perform system administration functions of the radio system in the most efficient way depending on the available system's features and options, in accordance with the requirements of Annex B. At a minimum, the course must provide:
- 8.8.2.1 The ability to perform system administration functions of the radio system;
 - 8.8.2.2 Knowledge of the system administration capabilities of the radio system; and
 - 8.8.2.3 The tools and ability to create operator and technician user templates for users of the radio system.

9. GOVERNMENT FURNISHED EQUIPMENT

- 9.1 RCMP shall provide the following GFE to the contractor where required. The Contractor must return all GFE to RCMP as per TA's instructions.
- 9.2 RCMP shall provide the following Government Furnished Equipment (GFE):
- 9.2.1 Radio subscriber units.
 - 9.2.2 Site shelter, electrical, grounding, HVAC, antenna(s), feed lines.
 - 9.2.3 IP Network connectivity as specified by the Contractor.
 - 9.2.4 RF coverage provided by the repeater sites.
 - 9.2.5 Radio repeater site spectrum.

Note:

Canada reserves the right to modify the GFE any time before and after the contract award due to necessary system modifications.

10. PHASE III PRELIMINARY DESIGN REVIEW (PDR)

- 10.1 Within sixty (60) days after the contract award, the Contractor must schedule a PDR Meeting at a RCMP facility in Ottawa, ON.



- 10.2 The Contractor must assign a project manager to represent its organization and conduct the meeting activities.
- 10.3 At minimum, the PDR must include the following:
 - 10.3.1 Introduction of team members.
 - 10.3.2 Review the security clearance of the contractor's personnel that will be required to work on the installation work.
 - 10.3.3 Comprehensive review of the detailed system design.
 - 10.3.4 The Contractor must provide IP addressing requirements and quantity of IP-connected devices per location.
 - 10.3.5 Detailed Project Management plan, deliverable and installation timelines, displaying the critical path throughout the life of the contract.

11. PHASE III CRITICAL DESIGN REVIEW (CDR)

- 11.1 Within ninety (90) days after contract award, the Contractor must schedule a CDR Meeting at an RCMP venue in Quebec City:
- 11.2 At minimum the CDR must include:
 - 11.2.1 Detailed scheduling charts for deliverables and installations, displaying the critical path throughout the life of the contract.
 - 11.2.2 Milestones must be identified as well as what will be required to complete (Milestone Certificate sign-off) each milestone.
 - 11.2.3 The Contractor must submit the following proposed documentation in draft form;
 - a. Technical Manuals
 - b. Operating Manuals
 - 11.2.4 The Contractor must provide physical size, power requirements and environmental requirements for all fixed equipment.
 - 11.2.5 The Contractor must validate IP addressing plan and provide required specifications including minimum bandwidth, delay and jitter requirements for all IP back-haul links.



12. PHASE III PROGRESS MEETINGS

- 12.1 Contractor must schedule and host bi-weekly meetings between RCMP, PSPC and the Contractor's PM team for the purpose of keeping a formal and continuous liaison on all aspects of the project.
- 12.2 As part of each progress meeting, the contractor must update the time scheduling charts for deliverables and installations including any changes to the critical path for the remaining life of the contract.
- 12.3 Upon mutual agreement between PSPC, RCMP and the Contractor, these meeting may be conducted via teleconference.
- 12.4 The Contractor must provide progress review meeting minutes to the RCMP within three (3) business days of each progress review meeting. These minutes must contain an updated time scheduling charts and may be sent in soft copy format via email to the RCMP TA and PM.

13. PHASE III FACTORY ACCEPTANCE TESTING (FAT)

- 13.1 The Contractor must schedule and host a Factory Acceptance Test by setting up a scale model of the radio system to be implemented in the field.
- 13.2 The FAT must be scheduled on a mutually agreeable date between the Contractor and the RCMP.
- 13.3 The Contractor must generate and submit a test acceptance plan for review and acceptance by the TA at least fourteen (14) days prior to the FAT.
- 13.4 RCMP TA reserves the right to modify Contractor's proposed test plan.
- 13.5 RCMP TA will provide the subscriber units for use during the FAT.
- 13.6 The Contractor must conduct testing and demonstrate full system conformance with all technical documents.
- 13.7 The Contractor must not ship any equipment until FAT approval has been granted by the TA. If the FAT reveals non-conformance to the performance specifications, the Contractor must carry out the necessary changes to achieve full conformance within fourteen (14) days.
- 13.8 After successful completion of the FAT, the Contractor must submit a report to the TA within fourteen (14) days that must establish the conformance.



14. PHASE III SITE ACCEPTANCE TESTING (SAT)

- 14.1 The Contractor must schedule and complete all Site Acceptance Tests on a mutually agreeable date between the Contractor and the RCMP.
- 14.2 The Contractor must generate and submit a Site Acceptance Test Plan (SATP) for review and acceptance by the TA at least fourteen (14) days prior to the first SAT. The SATs shall not start until the TA has approved the SATP.
- 14.3 RCMP TA reserves the right to modify Contractor's proposed test plan.
- 14.4 RCMP TA will provide the subscriber units for use during the SAT.
- 14.5 The Contractor must conduct testing and demonstrate full system conformance in accordance with Annex A and B.
- 14.6 The Contractor must supply all required test equipment to conduct the SAT. If any technical problems occur during the testing; the Contractor must resolve them in concert with the RCMP.
- 14.7 The testing will be witnessed by the TA, or delegate. In some cases, the TA, or its delegate, may choose to conduct some, or all, of the Site Acceptance Testing independently once the Contractor has performed the SAT for the TA.
- 14.8 The Contractor must record all of the SAT results in a Punchlist Report and provide them to the TA, or their delegate within five working days after the SAT. If any failures occur during SAT, the Contractor must document them by using the Punchlist. A Punchlist deficiency must be assigned a severity level of major or minor deficiency, by mutual agreement between RCMP and the Contractor, and the required corrective action must be recorded in the Punchlist Report.
- 14.9 Punchlist Report Major Deficiencies are defined as follows:
 - 14.9.1 System does not work. An error that prevents completion of an essential function.
 - 14.9.2 Adverse effect without a work-around. Problem not correctable with an alternate sequence.
- 14.10 Punchlist Report Minor Deficiencies are defined as follows:
 - 14.10.1 A work-around solution does exist.
 - 14.10.2 An annoyance that does not affect essential functions.
 - 14.10.3 Any item not covered by the above categories, which is either non-urgent or of an investigative nature.



- 14.11 If more than 20 Minor Deficiencies are found, this will become a Major Deficiency. A problem report will not be required for problems caused by any events not under the Contractor's control (i.e. AC power failures, telephone line failures, IT network failures, etc.).
- 14.12 If the Punchlist issue cannot be corrected during the course of testing, it must remain open until a corrective action has been taken. The Contractor must propose a corrective action that will be approved by the RCMP. Upon successful resolution of the issue, as verified by the RCMP, the Contractor must sign and date the Punchlist Report, in order to formally close the issue. Minor corrective actions should not impact any previous test results. Any deficiencies found must be rectified no later than March 31st 2018.
- 14.13 If, during the SAT, the TA, or its delegate, finds a minor deficiency that does not affect the operational effectiveness of the system, the SAT may continue in accordance with the approved SATP. However, if a number of unacceptable failed tests are encountered during the testing by the TA, or its delegate, the SAT will be halted until the Contractor has corrected the failures. If a major deficiency is found during the SAT that does affect the operational effectiveness of the logging system, the testing must cease until the deficiency has been corrected.
- 14.14 The TA or its delegate will sign-off on the Punchlist report upon the successful conclusion of the SAT. Any minor deficiencies noted during the testing will be recorded in the Punchlist Report.

15. PHASE III CONDITIONAL SYSTEM ACCEPTANCE & RCMP SIGN-OFF

- 15.1 The TA or its delegate shall grant conditional system acceptance by signing off the System Acceptance Certificate after the completion of the following milestones:
- 15.1.1 After a 2 week burn-in following the Site Acceptance Tests have been completed and there are no outstanding major deficiencies;
- 15.1.2 There are no more than ten (10) minor deficiencies still open; and
- 15.1.3 One of the following occurs:
- a. RCMP has deemed that the system is ready for productive, operational use;
 - b. The system is used for activities other than training or testing
- 15.2 The System Acceptance Certificate will certify that:
- 15.2.1 The installation and testing is completed.
- 15.2.2 All outstanding issues are summarized in the provided punchlist.
- 15.2.3 The Contractor prior to final project acceptance will successfully resolve all punchlist issues.

- 15.2.4 All system installation documentation has been provided to RCMP.
- 15.2.5 The System is conditionally accepted and subject to the final project acceptance.

16. PHASE III PROJECT ACCEPTANCE TEST (PAT)

- 16.1 The Contractor must conduct the PAT in accordance with the approved PAT plan.
- 16.2 The PAT will include site acceptance testing, conditional system acceptance and RCMP sign-off as described in this document.
- 16.3 The TA or its delegate shall grant project acceptance within five (5) working days after the completion of all the following:
 - 16.3.1 Resolution of all punchlist deficiencies identified subsequent to conditional station acceptances;
 - 16.3.2 Fourteen (14) calendar days have passed without any new deficiencies being reported by RCMP to the Contractor;
 - 16.3.3 Delivery of all documentation defined below:
 - a. Project Acceptance Certificate that will certify:
 - i. All issues identified during SAT have been resolved or have been deferred to warranty.
 - ii. All punchlist issues that will be addressed by warranty are specified in the provided revised punchlist report.
 - b. As-built drawings of the system that was proposed and agreed upon.
 - c. Bill of Material for inventory purposes.
 - d. Copy of approved design changes/deviations, if applicable.
 - 16.3.4 At this point, a Project Acceptance Certificate must be completed and signed by RCMP and the Contractor. The equipment and labour warranty period will start on the date of acceptance of each site and system, as applicable. Deficiencies found subsequent to project final acceptance shall be handled as warranty issues for the work performed.

17. PROJECT ADMINISTRATION

- 17.1 RCMP Technical Authority (TA)
 - 17.1.1 All technical and operational concerns relating to this project must be directed to the TA specified in the contract.



- 17.2 Contractor Project Manager (CPM)
 - 17.2.1 The Contractor must assign a Project Manager (PM) for this project who will be an overall point of contact for this contract.
 - 17.2.2 The PM shall be the primary interface between the contractor and the RCMP and PWGSC. The PM shall have full authority within the contractor's organization to assign and schedule the resources required to deliver all requirements of this project.
- 17.3 Contractor Installation Team Coordinator
 - 17.3.1 The Contractor must assign an installation team supervisor. The installation team supervisor must have completed a minimum of two radio system installations similar to the complexity of the 2018 G7 Radio System Project.
- 17.4 RCMP Project Manager (PM)
 - 17.4.1 The RCMP will assign a Project Manager for this project who will be an overall point of contact for this contract.
- 17.5 Contractor Technical Authority
 - 17.5.1 The Contractor must assign a Technical Authority (CTA). All technical and concerns relating to this project will be directed to the CTA.

18. VISIT CLEARANCE

- 18.1 All contractors' personnel accessing RCMP locations will be subject to the approval of RCMP. The Contractor must provide to the TA completed form TBS-330 at least 10 calendar days prior to a visit. Contractor must also provide date of visit, duration of visit, Itinerary and purpose.

19. DELIVERABLES

- 19.1 **Equipment:**
 - 19.1.1 Radio system core x2
 - 19.1.2 KMF x1
 - 19.1.3 KMF Client Workstation x2
 - 19.1.4 Radio Logger x2
 - 19.1.5 Logger Client Workstation x2
 - 19.1.6 Management Client Workstation x2



- 19.1.7 Operator Console Workstation x21
- 19.1.8 Tier 2 GPS Mapping Server x1
- 19.1.9 Tier 2 GPS Mapping Client Workstation x2

19.2 Software Licenses

- 19.2.1 The contractor must provide all required software licenses in perpetuity to operate the systems, while they are in-service.
- 19.2.2 The contractor must provide license inventory including, but not limited to, version number, release number and expiry date.

19.3 Equipment Serial Numbers

- 19.3.1 The Contractor must provide all radio system infrastructure equipment serial numbers in electronic format.

19.4 Publications and Documentation

- 19.4.1 The Contractor must provide all maintenance and operator manuals, punchlist reports, as-built drawings required by the project in accordance with the table below. Maintenance and operator manuals must be provided in both English and French.
- 19.4.2 All publications and documentation must be provided in the English language. If documents are available in the French language they must also be provided. The Contractor must provide the manuals and documentation before system acceptance.

All Documentation or Publications provided must:

1. be free of spelling or grammatical errors;
2. be written in plain language;
3. use proper technical terms and terminology; and
4. be delivered in MS Format 2003 or higher.

Recipient	Soft Copy	Hard Copy
Core Site (Montreal)	1	2
Backup Site (Québec City)	1	2
Technical Authority (TA)	1	1



19.4.3 As-Built Drawings

19.4.3.1 The Contractor must provide copies of the as-built drawings.

19.4.3.2 The Contractor must provide electronic and paper copies of as-built drawings for each site installation. An electronic copy of as-built drawings must include the following two (2) elements:

19.4.3.3 A Microsoft Visio file of the relevant as-built drawings; and

19.4.3.4 A Portable Document Format (PDF) file of the same drawings.

19.5 Recommended Spare Parts List as approved by the TA.

19.6 Spare Parts to be delivered “as and when” requested by the CA.

19.7 Firm and Optional Training Courses.

20. CONSIGNEE

20.1 The TA shall provide the name of the site supervisor and other pertinent details associated with each station and support facility prior to the contractor shipping the equipment to the site scheduled for implementation work. The Contractor must not ship hardware to any installation site without TA’s approval.

21. SITE ACCESS

21.1 The contractor personnel shall be provided access to RCMP facilities.

APPENDIX AAA1 – PHASE III HARDWARE REQUIREMENTS

- 1.1 Contractor must remove, as required, a portion of the equipment deployed in Phase I, and redeploy and reconfigure it in other locations as per the table below.
- 1.2 Where quantities are indicated, these are firm requirements.
- 1.3 Where quantities are not indicated, bidders must propose quantities of each equipment that are necessary based on their proposed system design.

INSTALLATION SITE NUMBER	INSTALLATION SITE NAME	EQUIPMENT REQUIRED AT SITE AND (QUANTITIES)	LOCATION
1	Radio System Core Site	CLIN 1: Radio System Core CLIN 2: KMF CLIN 3: KMF Client Workstation CLIN 4: Radio Logger CLIN 5: Logger Client Workstation CLIN 6: Management Client Workstation CLIN 7: Console Workstation - Quantity 4 CLIN 8: Tier 2 GPS Mapping Server	Montréal
2	Backup Radio System Core Site	CLIN 9: Radio System Backup Core CLIN 10: KMF Client Workstation CLIN 11: Radio Logger CLIN 12: Logger Client Workstation CLIN 13: Management Client Workstation CLIN 14: Console Workstation - Quantity 3	Québec City
3	Divisional Operational Command Centre	CLIN 15: Console Workstation Quantity 8 CLIN 16: Logger Client Workstation CLIN 17: Tier 2 GPS Mapping Client Workstation	Montréal
4	Backup Operational Command Centre	CLIN 18: Console Workstation - Quantity 6 CLIN 19: Logger Client Workstation CLIN 20: Tier 2 GPS Mapping Client Workstation	Province of Québec. TBD



5 through 9 (5 in Total)	5 Channel Trunked Radio Site	CLIN 21: 5 Channel Radio Repeater Site	Province of Québec. Actual locations TBD
10 through 27 (18 in Total)	4 Channel Capacity Radio Site	CLIN 22: 4 Channel Radio Repeater Site	Province of Québec. Actual locations TBD
28 through 68 (41 in Total)	3 Channel Capacity Radio Site	CLIN 23: 3 Channel Radio Repeater Site	Province of Québec. Actual locations TBD
69 through 77 (9 in Total)	Single Channel Conventional	CLIN 24: Single Channel Conventional	Province of Québec. Actual locations TBD
78 through 154 (77 in total)	Votescan	CLIN 25: Single Channel Votescan	Province of Québec. Actual locations TBD

Note: Addresses of the outstanding locations will be provided to the Contractor after contract award.



APPENDIX AAA2 – PHASE III OPTIONAL TRAINING REQUIREMENTS

CLIN	FIRM QUANTITY	OPTIONAL QUANTITY	LOCATION
A: Console Operator Training Course	0	3	RCMP Site
B: System Technician Training Course	0	2	RCMP Site
C: System Administrator's Training Course	0	2	Contractor Site

- 1.1 Contractor must provide each course in either English or French.
- 1.2 RCMP TA will specify language when requesting the course.

Legend: CLIN – Contract Line Item Number

APPENDIX AAA3 – PHASE III WORK SITE LOCATIONS

Notes:

- 1.3 *The addresses of the work sites will be provided to the contractor after the contract award.*

APPENDIX AAA4 – PHASE III MILESTONES SCHEDULE

MILESTONE	DATE	LOCATION
PDR	Within 60 days of contract award	RCMP Facility in Ottawa
CDR	Within 90 days of contract award	RCMP Facility in Quebec City
Progress Meetings	Every two weeks, starting after the CDR	Contractor hosted
Factory Acceptance Testing	TBD	Contractor hosted
Site Acceptance Testing	TBD	All sites
Conditional System Acceptance & RCMP Sign-off	TBD	RCMP Facility in Quebec City
Project Acceptance Test	TBD	TBD After Contract Award



APPENDIX AAA5 - RESPONSIBILITY MATRIX - PHASE III			
A	C	D	E
Item Number	Description	Responsibility of Canada	Responsibility of Contractor
1	Provide radio subscriber units	Yes	
2	Provide and install radio repeater site shelters.	Yes	
3	Provide and install electricity to shelter as identified by the Contractor	Yes	
4	Provide and install shelter facility electrical ground buses and bars if required.	Yes	
5	Provide and install connection between site equipment and shelter electricity.		Yes
6	Provide and install proper grounding from each piece of site radio equipment to shelter grounding		Yes
7	Inspect electrical connections.	Yes	Yes
8	Provide and install HVAC as identified by the Contractor	Yes	
9	Provide and install radio site antennas and feed lines	Yes	
10	Provide and install shelter cable trays and raceways if required.	Yes	
11	Provide and install site cabling for radio site equipment		Yes
12	Provide RF frequencies	Yes	
13	Provide and install tuned Filtration		Yes
14	Provide and install battery backup systems at Radio System Repeater Sites		Yes
15	Provide and install battery backup systems at Radio System Core Sites and Operational Command Centers	Yes	

Note: Do not submit this document with Bid Submission.



ANNEX BBB

2018 G7 RADIO COMMUNICATION SYSTEM

PERFORMANCE SPECIFICATIONS

FOR

(PHASE III)

THE ROYAL CANADIAN MOUNTED POLICE (RCMP)



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DEFINITIONS

System Affiliation – Whether a subscriber unit is on the radio system or not, and which site the radio is currently assigned to.

Logger Equipment – Any equipment relating to the logger functions, including the Logger Client Workstations

Logger Client Workstations – PC based workstation which provides access to Logger

Console Equipment – Any equipment related to the console functions, including the Console Client Workstations

Console Workstations – PC which provides user interface to console operator

Radio System Core - The centralized equipment within a radio network that provides services such as management and coordination to interconnect the various sub-systems.

Radio Resource – All trunked talkgroups and conventional resources on the radio system



1. General Requirements

- 1.1 All requirements found in this document must function with the following radios:
 - a. Motorola APX 8000
 - b. Motorola APX 8500
 - c. Motorola APX 6000
 - d. Motorola APX 6500

2. Radio System Infrastructure Functionality

- 2.1 The system must be capable of handling a minimum of 5,000 active subscriber units.
- 2.2 All radio communications for RCMP operations must utilize 12.5 kHz AES 256 Encrypted Project 25 Common Air Interface (CAI) digital modulation.
- 2.3 Radio system infrastructure must be software upgradable to P25 Phase 2 operation.
- 2.4 Voice communications must take precedence over data communications.
- 2.5 There must be no voice truncation.
- 2.6 The Contractor must ensure the system allows all subscriber units to seamlessly roam throughout the entire trunked radio coverage area of the system without any user intervention.
- 2.7 The Contractor must ensure the encrypted communication is implemented in an end-to-end manner.
- 2.8 The encryption and decryption process are solely at the origination and termination points of communication paths which are physically under the control of and/or are physically secured by the RCMP.

3. Required Paths of Communication

- 3.1 Radio system infrastructure must support dispatch communications initiated by selected group call signaling followed by voice call from the console equipment to any subscriber unit device in that group within radio network coverage area.
- 3.2 Radio system infrastructure must support subscriber unit device initiated voice group call via Push-To-Talk (PTT) to any other subscriber unit devices on the same group within the radio network coverage area and without the need of the console equipment setting up communication patches.



- 3.3 Radio system infrastructure must support inter-talk group communications with any user device within radio network coverage, via console equipment initiated talk group patches.
- 3.4 Radio system infrastructure must support dispatch communications initiated by individual call signaling followed by voice call from the console equipment to any system user device within radio network coverage.
- 3.5 Radio system infrastructure must support dispatch communications initiated by ALL CALL signaling followed by voice call from the console equipment to all system user devices within radio network coverage. Upon successful initiation of ALL CALLS, the radio system infrastructure must generate an alert tone to notify users that an ALL CALL has been initiated by the console equipment.
- 3.6 Where available, all radio system infrastructure must support SNMP allow remote monitoring of the equipment and must be configurable to allow for SNMP v2c or v3 transmissions on critical triggers such as loss of rack's external power.

4. Interface Requirements

- 4.1 Radio system infrastructure must support TIA-102.BACC-B Inter-RF Subsystem Interfaces.
- 4.2 Radio system infrastructure must be capable of interconnecting with a different radio system infrastructure which also supports TIA-102.BACC-B Inter-RF Subsystem Interfaces.
- 4.3 Only Internet Protocol (IP) connectivity will be utilized within all main system infrastructure, control equipment, recording equipment, dispatch console workstations, and remote site repeater equipment.
- 4.4 The Contractor must provide an interface to synchronize the system time clock to an external standard such as a GPS time reference.
- 4.5 Radio system infrastructure must provide the ability to communicate on conventional radio system resources.
- 4.6 Computerized Integrated Information and Dispatch System
 - 4.6.1 The Contractor must provide a method of interfacing the P25 system to the RCMP Computerized Integrated Information and Dispatch System (CIIDS). CIIDS is a Computer Aided Dispatch (CAD) application which supports member tracking and status keeping. A communications server is the gateway between CIIDS and the Radio System Core which provides automatic query and retrieval for the police member status keeping and reporting application on the RCMP CAD system.



- 4.6.2 CIIDS ties into the P25 radio system for the purpose of extracting unit ID, GPS location and other available data transmitted from the user devices.
- 4.6.3 The information updated to the CAD system must be initiated automatically upon every Request-To-Talk/Emergency Request-To-Talk received on the P25 radio system.

5. Licenses

- 5.1 Software, product usage, and/or capacity licenses must be transferrable, without cost to the RCMP, to replacement console equipment in the event of console equipment failure, replacement, or upgrade.
- 5.2 Contractor must provide the duration, in months, for which proposed radio equipment is eligible for firmware/software upgrades at no cost to the RCMP.

6. Radio System Core

- 6.1 The System Core must be provided with Hot Standby functionality.
 - 6.1.1 Hot standby functionality is defined as automatic switchover to a redundant Core, with one second or less of interruption, should the active Core fail.
- 6.2 The System Core must be provided with geographical redundancy.
- 6.3 Geographic redundancy is defined as automatic switchover to a geographically redundant Core, with 10 seconds or less of interruption, should the active Core fail.
- 6.4 The redundant site must provide full network management and administration over the P25 system.
- 6.5 Equipment Power
 - 6.5.1 All Radio System Core equipment must be powered by 120VAC.

7. P25 Management Client

- 7.1 The Contractor must supply a P25 Management client workstation with capabilities including, but not limited to:
 - a. System administration;
 - b. Radio system statistics and reporting;
 - c. Site provisioning;
 - d. User provisioning; and
 - e. Talkgroup provisioning



8. Secured Cabinets

- 8.1 The Contractor must provide all radio system infrastructure equipment in secured cabinets.
- 8.2 The Contractor must leave 5U of cabinet space available at the top of the cabinet for RCMP supplied equipment.
- 8.3 Cabinet dimensions must be:
- Between 22" to 25" outside width
 - Between 26" to 32" outside depth
 - Between 66" to 78" outside height exclusive of floor base or casters
 - Provides standard 19" racking on front and back
- 8.4 Top Panel requirements
- 8.4.1 The Contractor must provide terminations for all RF connections within all cabinet provided:
- Transmission terminations will be DIN 7/16 female to female.
 - Receive termination will be N type, female to female.
 - The Contractor will wire each of these terminals to the appropriate interface on the repeaters.
 - The Contractor will label each of the terminals.
- 8.4.2 Minimum of two (2) removable 3" diameter or greater cable plugs
- 8.4.3 Top panel not removable without access to interior of cabinet
- 8.5 Front Door requirements
- 8.5.1 Perforated to allow 50% to 75% airflow
- 8.5.2 Single door closure
- 8.5.3 Lockable with key
- 8.5.4 Ability to remove door after it is unlocked
- 8.5.5 Not removable without access to interior of cabinet
- 8.6 Rear Door requirements
- 8.6.1 Perforated to allow 50% to 75% airflow
- 8.6.2 Single door closure
- 8.6.3 Lockable with key
- 8.6.4 Ability to remove door after it is unlocked



- 8.6.5 Not removable without access to interior of cabinet
- 8.7 Side Panel requirements
 - 8.7.1 Solid side panels
 - 8.7.2 May be removable or permanent
 - 8.7.3 If removable, must only be possible with access to the interior of the cabinet
- 8.8 Base Panel Requirements
 - 8.8.1 Solid base panel
 - 8.8.2 Must be removable
 - 8.8.3 Not removable without access to interior of cabinet

9. Key Management Facility (KMF)

- 9.1 Radio system infrastructure must support a Key Management Facility (KMF).
- 9.2 Radio system infrastructure and KMF must support, at minimum, two (2) KMF Client workstations.
- 9.3 The Contractor must ensure full integration of Over-The-Air Re-keying (OTAR) with the KMF and subscriber equipment provided by the RCMP.
- 9.4 The KMF must use a Unique Key Encryption Key (UKEK) to transmit TEKs over the air securely.
- 9.5 KMF Client workstations must be able to access and perform functions OTAR functions utilizing the KMF.
- 9.6 At a minimum, the KMF must provide the following functionality:
 - a. Rekey multiple subscriber units concurrently
 - b. Send multiple keys per subscriber unit
 - c. Rekey multiple subscriber units over the air via multiple radio sites concurrently
 - d. Rekey multiple subscriber units over the air via multiple trunking channels on a given radio site concurrently
 - e. Must track the key currency and key inventory of each subscriber unit
 - f. Must have a method to track the System Affiliation of all subscriber units
 - g. Upon System Affiliation of subscriber units, the KMF must update the subscriber unit keyset if required
 - h. Must support automatic retries
- 9.7 At a minimum, the KMF Client workstations must provide the following functionality:
 - a. Inhibit/Uninhibit subscriber units



- b. Delete all traffic encryption keys from subscriber units
 - c. Zeroize subscriber units
 - d. Manually entry of encryption keys
 - e. Automatic creation of encryption keys
 - f. Generation of a UKEK and ability to assign it to a single subscriber unit
 - g. Automatically generate a different UKEK for each subscriber and assign it to each subscriber in a selected group via OTAR
- 9.8 The Contractor must ensure that the KMF is capable of rekeying and switching 5000 subscriber units to the new active keyset within a 7 day crypto period.
- 9.9 The KMF must be able to support both scheduled and manual backup of all databases contain key and/or subscriber unit information.
- 9.10 The KMF must provide a Storage Location Number (SLN) range of 1 to 4095 for Traffic Encryption Keys (TEK) as per TIA-102.AACE
- 9.11 The KMF must provide a Key ID (KID) range of 0x0000 to 0xFFFF as per TIA-102.AACA.
- 9.12 The KMF must provide the functionality to receive and process a manual re-key request from a subscriber unit utilizing the Hello Command initiated from a subscriber unit, as per section 7.1.2 in TIA-102.AACA-2.
- 9.13 KMF must support Advanced Encryption Standard (AES) as defined in Annex C of TIA-102.AAAD-A, Digital Land Mobile Radio Block Encryption Protocol.
- 9.14 KMF must utilize the encryption standard known as the Advanced Encryption Standard (AES 256 bits) and be registered by the Federal Information Processing Standard (FIPS) as FIPS 197.
- 9.15 Proof of KMF registration as FIPS 197 must be provided with the Offer.
- 9.16 Encryption keys must be stored within a cryptographic module in the KMF in a manner which conforms at a minimum to FIPS 140-2 Level 1 security.
- 9.17 Contractor must indicate to what level of FIPS 140-2 certification the KMF stores encryption keys.
- 9.18 Proof of KMF certification as FIPS 140-2 must be provided with the Offer.
- 9.19 The KMF must transfer encryption keys to Non-RF devices (e.g. consoles equipment and loggers) that are connected to the radio IP network using OTAR over Internet Protocol as defined in TIA-102.AACA-2 Annex A.
- 9.19.1 In reference to the above line, the Contractor must provide detailed information which identifies:
- a. Transport protocol, and



- b. P25 Standard interface being used

9.20 Security

- 9.20.1 KMF and KMF Client workstations must protect unauthorized access to equipment configuration.
- 9.20.2 KMF and KMF Client workstations must protect unauthorized access to encryption information.
- 9.20.3 KMF and KMF Client workstations must protect system disruption through improper or unauthorized use, or equipment failure.
- 9.20.4 KMF and KMF Client workstations must protect radio equipment configuration parameters from unauthorized modification and disclosure.
- 9.20.5 KMF and KMF Client workstations must support role based access control.
- 9.20.6 KMF Client workstations must support local and remote user authentication.
- 9.20.7 KMF Client workstations must support antivirus software installed on the console.
- 9.20.8 Contractor must provide a list of supported antivirus software for proposed KMF and KMF Client workstations.
- 9.20.9 KMF Client workstations must support manual OS patching methodology for KMF equipment proposed.
- 9.20.10 KMF Client workstations must support automatic OS patching via Windows Management Framework (WMF).
- 9.20.11 Contractor must provide step by step instructions on how to manually patch the KMF Client workstation OS.

9.21 Environmental Requirements

- 9.21.1 KMF and KMF Client workstations must be designed to be located inside shelters or building must operate within tolerances across an ambient temperature range of at least +5°C to +40°C.
- 9.21.2 KMF and KMF Client workstations must operate within defined tolerances when subjected to relative humidity of 45% to 85%, non-condensing.

9.22 Power

- a. KMF and KMF Client workstations must operate from on 120VAC, provided by the RCMP.



9.23 Physical

9.23.1 Contractor must specify the following for proposed KMF and KMF Client workstations:

- a. Model numbers;
- b. Metric Dimensions;
- c. Manufacturer specification sheets;
- d. Nominal power requirements in Watts;
- e. Maximum power consumption in Watts;
- f. Thermal load, in British Thermal Units (BTU) under maximum power consumption conditions; and
- g. Mean Time Between Failures for each component.

9.23.2 KMF must be provided in a secured cabinet as per Secured Cabinet.

9.24 Design Life

9.24.1 KMF and KMF Client workstations must have a minimum Useful Lifespan of 5 years unless otherwise stated.

9.25 Quality

9.25.1 KMF and KMF Client workstations must be actively used in a production environment in at least two other P25 public-safety systems of 1000+ users each, within North America at the time of this RFP closing date.

9.25.2 Contractor must provide a list of public safety customers, complete with contact information, within North America who have deployed proposed KMF and KMF Client workstations in their operational live radio system(s).

10. Conventional Site Requirements

10.1 Must support P25 Conventional Voice

10.2 In Phase III, Conventional Sites must support OTAR.

10.3 Each conventional repeater must be able to supply 100W transmit power.

10.4 External Power Supply

10.4.1 The Conventional Site must be able to be powered by a 120VAC or 48VDC power system.

10.5 Backup Power



- 10.5.1 The Contractor will supply a backup battery power system to allow for continuous and uninterrupted operation of all equipment in the case of External Power Source failure.
 - 10.5.2 Each site rack must provide a single 1500W 120VAC circuit for powering of RCMP equipment. This circuit must be included in the backup battery power system.
 - 10.5.3 From full charge, backup batteries must provide a minimum of 20 minutes of backup power for all Site Equipment, assuming 100% duty cycle of all site repeaters and typical power draws for all other equipment.
 - 10.5.4 Batteries must be housed in secure cabinets as per Secured Cabinets.
- 10.6 Battery Charging
- 10.6.1 The Contractor must ensure that their proposed power system will be able to re-charge the batteries, from 100% depletion, to a capacity that provides 5 minutes or more of backup power at 100% duty cycle, within 30 minutes of external power restoration.
- 10.7 Remote Monitoring
- 10.7.1 All power distribution systems must be IP addressable and allow remote monitoring of the equipment and must be configurable to allow for SNMP v2c or v3 transmissions on critical triggers such as loss of rack's external power.

11. Trunking Site Requirements

- 11.1 Must support P25 Trunking
- 11.2 Each trunking repeater must be able to supply 100W transmit power.
- 11.3 Each site rack must support at least 5 trunking repeaters.
- 11.4 External Power Supply
 - 11.4.1 The Conventional Site must be able to be powered by a 120VAC or 48VDC power system.
- 11.5 Backup Power
 - 11.5.1 The Contractor will supply a backup battery power system to allow for continuous and uninterrupted operation of all equipment in the case of External Power Source failure.



- 11.5.2 Each site rack must provide a single 1500W 120VAC circuit for powering of RCMP equipment. This circuit must be included in the backup battery power system.
 - 11.5.3 From full charge, backup batteries must provide a minimum of 20 minutes of backup power for all Site Equipment, assuming 100% duty cycle of all site repeaters and typical power draws for all other equipment.
 - 11.5.4 Batteries must be housed in secure cabinets as per Secured Cabinets.
- 11.6 Battery Charging
- 11.6.1 The Contractor must ensure that their proposed power system will be able to re-charge the batteries, from 100% depletion, to a capacity that provides 5min or more of backup power at 100% duty cycle, within 30 min of external power restoration.
- 11.7 Remote Monitoring
- 11.8 All power distribution systems must be IP addressable and allow remote monitoring of the equipment and must be configurable to allow for SNMP v2c or v3 transmissions on critical triggers such as loss of rack's external power.

12. Consoles

12.1 General Requirements

- 12.1.1 Consoles must be capable of radio dispatching functions.
- 12.1.2 The basic operating mode of the Console System must be via Group Voice Call.
- 12.1.3 Each console position must support, at minimum, 16 simultaneous, talk paths between the console position and the radio network.
- 12.1.4 In total, the console equipment must be able to support 100 concurrent talk paths per Event Command Centre.
- 12.1.5 Console equipment must be capable of monitoring and selecting for talk and listen operation, any applicable Talk groups configured on the System that are necessary for the usergroup(s) that the Console equipment is authorized to access.
- 12.1.6 Console equipment must be capable of monitoring a second priority Talk group on the select output. Note that a push to talk will only transmit on the select Talk group.



- 12.1.7 There must be a simple method of allowing one console operator to acquire access to a Talk group that is not normally assigned to their console position for the purpose of load sharing of incoming calls during peak traffic periods.
- 12.1.8 While maintaining an active PTT, the audio backhaul must maintain a full duplex audio path to all connected radio resources capable of full duplex operation.

12.2 Request to Talk (RTT)

- 12.2.1 Console equipment must support in full the Request to Talk and Emergency Request to Talk requirements as presented in the National Radio Services RBM Request To Talk Baseline Requirements Number: RT.06.00-1.1 specification document found in Appendix B1.

12.3 Architecture

- 12.3.1 The dispatch console workstation must be PC based system connected to associated peripherals.
- 12.3.2 Radio equipment must be capable of expansion to accommodate the maximum capacities specified in each Phase as per Annex A.
- 12.3.3 Console equipment must support with zero impact to functionality and performance, network security devices (i.e. Firewall) on all IP based interfaces between it and any systems it needs to interface with. Delay caused by network security devices will not be considered as performance impacting.
- 12.3.4 Failure of any console must not have any effect on the operation of the Radio System or other consoles.

12.4 Security

- 12.4.1 Console equipment must protect unauthorized access to equipment configuration.
- 12.4.2 Console equipment must protect unauthorized access to encryption information.
- 12.4.3 Console equipment must protect system disruption through improper or unauthorized use, or equipment failure.
- 12.4.4 Console equipment must protect radio equipment configuration parameters from unauthorized modification and disclosure.
- 12.4.5 Console equipment must support role based access control.
- 12.4.6 Console equipment must support local and remote user authentication.
- 12.4.7 Console equipment must support antivirus software installed on the console.



- 12.4.8 Contractor must provide a list of supported antivirus software for proposed radio equipment.
- 12.4.9 Console equipment must support manual OS patching methodology for radio equipment proposed.
- 12.4.10 Console equipment must support automatic OS patching via Windows Management Framework (WMF).
- 12.4.11 Contractor must provide step by step instructions on how to manually patch the console equipment OS.
- 12.4.12 It must be possible for an operator to lock the Console to prevent unauthorized access while the operator is absent.
- 12.5 Environmental Requirements
- 12.5.1 Console equipment must be designed to be located inside shelters or building must operate within tolerances across an ambient temperature range of at least +5°C to +40°C.
- 12.5.2 Console equipment must operate within defined tolerances when subjected to relative humidity of 45% to 85%, non-condensing.
- 12.6 Power
- 12.6.1 Console equipment must operate from on 120VAC, provided by the RCMP.
- 12.7 Physical
- 12.7.1 Contractor must specify the following for all unique proposed console equipment:
- Model numbers;
 - Metric Dimensions;
 - Manufacturer specification sheets;
 - Nominal power requirements in Watts;
 - Maximum power consumption in Watts;
 - Thermal load, in British Thermal Units (BTU) under maximum power consumption conditions; and
 - Mean Time Between Failures for each component.
- 12.7.2 Not including the console client workstations, all other console equipment must be provided in a secured cabinet as per Secured Rack.



12.8 Design Life

- 12.8.1 Console equipment must have a minimum Useful Lifespan of 5 years unless otherwise stated.

12.9 Quality

- 12.9.1 Console equipment must be actively used in a production environment in at least two other P25 public-safety systems of 1000+ users each, within North America at the time of this RFP closing date.
- 12.9.2 Contractor must provide a list of public safety customers, complete with contact information, within North America who have deployed proposed radio equipment in their operational live radio system(s).

12.10 Third Party Manufactured Equipment

- 12.10.1 Contractor must provide a list of any console equipment which is not directly manufactured and developed by the Contractor.
- 12.10.2 Contractor must describe the process, procedures and agreements in place to control quality, functionality, and support of any console equipment not manufactured and developed by the Contractor.

12.11 Licenses

- 12.11.1 Contractor must supply all appropriate network licenses required to support the required console equipment.
- 12.11.2 Software, product usage and/or capacity licenses must be transferrable, without cost to the RCMP, to replacement console equipment in the event of console equipment failure, replacement, or upgrade.
- 12.11.3 Contractor must provide the duration, in months, for which proposed radio equipment is eligible for firmware/software upgrades at no cost to the RCMP.

12.12 Console Equipment and Accessories

- 12.12.1 Display Technology
- a) Flat panel display technology must be used to preserve operator position furniture real estate; along with the reduction of weight and heat generation.
 - b) Each console position must include a single monitor with a minimum size of 22" viewable.

12.13 Foot Switch

- 12.13.1 Each console position must support a foot switch.



12.13.2 A console position is defined as having a single foot switch included.

12.14 User Interface

12.14.1 Console functionality must be accessible through:

- a. Keyboard and;
- b. Mouse

12.14.2 Consoles must present all resources at the operator's command in an easy to view and operate manner.

12.14.3 Console position main operational portion of the screen must have the capability to be divided into separate "pages" of Talk groups.

12.14.4 The Console must display all of the radio resources (including pre-set groups of Talk groups) and their associated functions in the main operational portion of the screen.

12.15 Audio Accessories

12.15.1 Consoles positions must be capable of both external speaker/microphone and headset earphone/microphone operation.

12.15.2 A console position is defined as having external operate and external monitor speakers, with individual volume controls, included.

12.15.3 Console equipment must provide a means of interconnecting and controlling two operator's headsets at each console position using a Plantronics P10 Dual Prong Plug Adapters; one as the main and the other for occasional supervisory support or training purposes.

12.15.4 A console position is defined as having two Plantronics headsets (Model HW710D) included.

12.16 Inter-Connectivity

12.16.1 The physical interface to all Console Equipment must be IEEE 802.3 10/100/1000Base-T, RJ45 (Ethernet).

12.16.2 Internet Protocol (IP) connectivity must be utilized within all Console equipment.

12.17 Time Reference

12.17.1 Console equipment time clock must synchronize to the Radio System Time Reference.



- 12.17.2 All transactions and other data collected from the console equipment that include a timestamp must use the time reference.

12.18 Audio Logger Interface

- 12.18.1 All console equipment must provide all voice signals sent or received by all consoles positions to the logger.
- 12.18.2 In addition to the voice signals, console positions must provide the logger with the following data associated with each voice signal in a defined format:
- a. date and time stamp;
 - b. source Talk group; and
 - c. radio or console Id;

12.19 Key Management Facility (KMF) Interface

- 12.19.1 Console equipment must have an Over The Network Re-keying (OTNR) interface to the KMF for the purpose of automatically obtaining Radio system keys.

12.20 Encryption

- 12.20.1 Console equipment must support Advanced Encryption Standard (AES) as defined in Annex C of TIA-102.AAAD-A, Digital Land Mobile Radio Block Encryption Protocol.
- 12.20.2 Console equipment must utilize the encryption standard known as the Advanced Encryption Standard (AES 256 bits) and be registered by the Federal Information Processing Standard (FIPS) as FIPS 197.
- 12.20.3 Proof of console equipment registration as FIPS 197 must be provided with the Offer.
- 12.20.4 Keys must be stored within a cryptographic module in the radio equipment in a manner which conforms at a minimum to FIPS 140-2 Level 1 security.
- 12.20.5 Contractor must indicate to what level of FIPS 140-2 certification the Console equipment stores encryption keys.
- 12.20.6 The Contract must provide a copy of the FIPS 140-2 certification with the Offer.
- 12.20.7 Console equipment must contain data ports suitable for manual loading of encryption keys.
- 12.20.8 A minimum of 16 unique active and 16 unique inactive traffic encryption keys must be supported in radio equipment.



- 12.20.9 Contractor must state the number of unique active and inactive traffic encryption keys supported in radio equipment.
 - 12.20.10 Console equipment must maintain its FIPS 140-2 certification level throughout its useful Design Lifespan.
 - 12.20.11 Hardware or Software changes that impact the FIPS 140-2 certification of Console equipment must undergo FIPS certification process prior to being made available for release to the RCMP.
- 12.21 Remote Management
- 12.21.1 All console equipment must support remote management capability, via IP network, for maintenance purposes.
- 12.22 Profiles
- 12.22.1 It must be possible to save, restore and transfer the screen layout and configuration of a console.
 - 12.22.2 It must be possible to recall a prior saved profile on one console at another console position.
- 12.23 Intercom
- 12.23.1 Console to console communications must be provided.
 - 12.23.2 Intercom voice traffic must be encrypted.
- 12.24 Individual Voice Call
- 12.24.1 The console must be capable of selected the radio resource ID for an individual call by entering that radio's ID through the console workstation's keyboard.
- 12.25 System All Call
- 12.25.1 Console equipment must support All Call.
- 12.26 Software Call Check (SWCC)
- 12.26.1 The consoles must support a digital Software Call Check (SWCC) feature which allows a console operator to recall telephone audio and 'select audio' from their radio system console.
 - 12.26.2 The SWCC feature must record and provide access to the past 30 minutes of telephone and radio system audio associated with the console.
 - 12.26.3 The SWCC audio must be assessable within two (2) seconds of it being recorded.



12.26.4 The SWCC application must be able to commence audible playback within one second of a playback request.

12.26.5 The SWCC's audio must be routed to the console operator's headset.

12.27 Patching

12.27.1 Patching is defined as a low level audio patch between radio resources. Voice transmissions out to each of the patched radio resources are treated as individual group calls. It is typically a function processed solely by the Console Equipment.

12.27.2 All inbound communications activity on a talkgroup associated to the patch must be re-transmitted outbound on all the other talkgroups within that patch.

12.27.3 Console patches must not cause any loss of RTT or PTT events on the Console equipment.

12.28 Announcement Group Call

12.28.1 The Console Equipment must support Announcement Group Calls.

12.28.2 The Voice Logger must be able and configured to record all Announcement Group Calls.

12.28.3 Alias Management

12.28.4 Contractor must provide a radio alias management function that enables the maintenance of a cross reference of aliases and radio IDs available to each console.

12.28.5 Console equipment must use the Radio Alias provided by the Radio Alias Management function in its presentation of a call to the console operator.

12.29 Audio Features

12.29.1 Console equipment must support Cross Mute.

12.29.2 Console equipment must support the ability to remotely open subscriber unit's microphone and monitor local audio.

12.29.3 Console positions must be capable of automatically adjusting the volume of received transmissions to a selected reference level (i.e. automatically increase volume of quiet transmissions and automatically decrease volume on loud transmissions).

12.29.4 Console positions must support a variety of unique tones and audio alerts, and warbles.



- 12.29.5 Association between events and alert tones must be configurable on a per Console position basis.
- 12.29.6 There must be an indicator on the console position display that shows when adequate dispatcher microphone audio is being transmitted.
- 12.29.7 The circuitry associated with microphone audio must provide headset microphone sensitivity level control to provide a steady transmit output level with microphone input variations that may range from nominal levels to 15 dB below nominal levels.
- 12.29.8 During headset operation, select speaker audio must be routed to the headset.
- 12.29.9 Console positions must provide audio level settings (including mute levels) with separate controls for individual console resources and for selected and unselected talk group audio.
- 12.29.10 Headset microphone audio must only be connected to a Console position radio resource when there is an active PTT.
- 12.29.11 Headset volume must be independent from the speaker volume and must include microphone side tone at a level of approximately 20dB below the receive audio for all microphone talk audio.
- 12.29.12 Headset audio must not be capable of exceeding damaging sound pressure levels of 90 dB (A) in compliance with Canada Labour Code section 2.
- 12.29.13 Console equipment must provide for monitoring of unselected (but assigned to Console position) Talk groups through a separate "unselect" or "monitor" speaker.
- 12.30 Warranty
- 12.30.1 The Contractor must provide a comprehensive warranty program for all console equipment offered in its Offer which provides, at a minimum, the following:
- 12.30.2 Product defect/malfunction correction and replacement;
- 12.30.3 Product security vulnerability (hardware/software) correction and replacement;
- 12.30.4 Product performance deficiencies correction from stated product specifications as of the time of this RFP solicitation period closing date;
- 12.30.5 Product replacement, testing and restoration to factory specifications;
- 12.30.6 Product shipping expenses, to and from Contractor's facilities.



- 12.30.7 Contractor must describe what services other than the ones listed above, their comprehensive warranty entails for their console equipment.
 - 12.30.8 Contractor must provide their product repair time lines for console equipment undergoing warranty repairs. The timeline must start when Contractor receives the console equipment at their facilities and ends when console equipment departs their facilities.
 - 12.30.9 Contractor must provide their product replacement time lines for console equipment undergoing warranty replacements. The timeline must start when Contractor receives the console equipment at their facilities and ends when console equipment departs their facilities.
- 12.31 Contractor must indicate the duration in months of their standard comprehensive warranty for their console equipment.

13. Logger

13.1 General

- 13.1.1 Logger equipment must have a method of logging all audio paths in digital format on multiple hard drives simultaneously for the purpose of redundancy.
- 13.1.2 The logger equipment must support and be licensed to a minimum of 200 radio resources.
- 13.1.3 The logger equipment must support and be licensed to a minimum of 40 PBX/PSTN channels.
- 13.1.4 The logger equipment must be capable of instant replays of any recorded conversations within five seconds.
- 13.1.5 The logger equipment must be a network appliance that can operate on a Local Area Network.
- 13.1.6 The logger equipment must be made available to any logger client workstation on the network with proper security privileges for playing back audio or configuring the recorder.
- 13.1.7 The logger client workstation interface must provide the ability to view and select recordings for playback according to date, start time, channel number and name, talkgroup alias, call type, call duration.
- 13.1.8 The logger client workstation must allow the user to search for calls across all archiving devices on the network.



- 13.1.9 The logger client workstation must provide the ability to mix audio data from as many as eight channels during playback.
- 13.1.10 The logger client workstation must provide the following audio controls during voice playback:
- a. Stop
 - b. Pause
 - c. Rewind
 - d. Fast Forward
 - e. Restart
- 13.1.11 The logger client workstation must allow the user to create a repeatable loop inside a call segment.
- 13.1.12 The logger client workstation must provide the ability to make a copy of the original recordings in wave format that can be played back or edited on standard, multi-media devices.
- 13.1.13 It must be possible to configure each channel individually with any combination of the following record triggers:
- a. DTMF detect
 - b. Ring detect
 - c. Off hook detect
 - d. Activity detect
 - e. VOX
 - f. Contact closure
 - g. Continuous record
- 13.1.14 The logger must be capable of keeping records of the dates and times for silent periods for non-event verification.
- 13.1.15 The logger must be able to represent silence in the original recordings in a form that does not consume space for silent audio.
- 13.1.16 The logger must have a file naming convention for recordings that incorporates the date, time and channel number into the file name.
- 13.1.17 Permanent or archive storage must be available on a removable storage disk media.
- 13.1.18 The logger must include methods to allow the data to be exported to an external database.
- 13.1.19 The logger must automatically recover and resume at the last operating state after a power failure.



- 13.1.1.20 Multiple users must be able to access calls simultaneously from a single logger.
 - 13.1.1.21 Radio resource audio data must be stamped with all available P25 information pertinent to the transmission including but not limited to:
 - a. Radio talkgroup ID and Alias
 - b. Time stamp
 - c. Date stamp
 - d. Duration
 - e. Call Type
 - f. Unit ID and Alias
 - g. Console ID and Alias
 - 13.1.1.22 Telephone audio data must be stamped with all available information pertinent to the communication including but not limited to:
 - a. Time stamp
 - b. Date stamp
 - c. Duration
 - d. Call Type
 - e. Incoming ANI/Automatic Location Information (ALI) information
 - f. Outgoing DTMF information
 - g. Trunk ID
 - h. Console ID and Alias
 - 13.1.1.23 The logger must have hard disk capacity to store not less than 500 hours of voice and its associated data.
 - 13.1.1.24 The logger must support logging on a network attached storage (NAS) device.
 - 13.1.1.25 The hard disk must be provided in a raid configuration and allow for hot swappable exchange of defective hard drives.
- 13.2 Key Management Facility (KMF) Interface
- 13.2.1 Logger must have an Over The Network Re-keying (OTNR) interface to the KMF for the purpose of automatically obtaining Radio system keys.
- 13.3 Remote Management
- 13.3.1 All logger equipment must support remote management capability, via IP network, for maintenance purposes.
- 13.4 Time Reference
- 13.4.1 Logger equipment time clock must synchronize to an external standard such as a GPS time reference (as a UTC reference source).



- 13.4.2 The time reference must be distributed to all logger equipment.
- 13.4.3 All transactions and other data collected from the logger equipment that include a timestamp must use the synchronized time.

13.5 Security

- 13.5.1 Logger must protect unauthorized access to equipment configuration.
- 13.5.2 Logger must protect unauthorized access to encryption information.
- 13.5.3 Logger security functions must allow channel-specific security privileges.
- 13.5.4 Logger must protect system disruption through improper or unauthorized use, or equipment failure.
- 13.5.5 Logger must protect radio equipment configuration parameters from unauthorized modification and disclosure.
- 13.5.6 Logger must support role based access control.
- 13.5.7 Logger must support local and remote user authentication.
- 13.5.8 Logger must support antivirus software installed on the console.
- 13.5.9 Contractor must provide a list of supported antivirus software for proposed logger.
- 13.5.10 Logger must support manual OS patching methodology.
- 13.5.11 Logger equipment must support automatic OS patching via Windows Server Update Services (WSUS).
- 13.5.12 Contractor must provide step by step instructions on how to manually patch the logger OS.

13.6 Encryption

- 13.6.1 Logger System must support Advanced Encryption Standard (AES) as defined in Annex C of TIA-102.AAAD-A, Digital Land Mobile Radio Block Encryption Protocol.
- 13.6.2 Logger System must utilize the encryption standard known as the Advanced Encryption Standard (AES 256 bits) and be registered by the Federal Information Processing Standard (FIPS) as FIPS 197.
- 13.6.3 Keys must be stored within a cryptographic module in the radio equipment in a manner which conforms at a minimum to FIPS 140-2 Level 1 security.



- 13.6.4 Logger System must contain data ports suitable for manual loading of encryption keys.
- 13.6.5 Logger System must maintain its FIPS 140-2 certification level throughout its useful lifespan as per section.
- 13.6.6 Hardware or Software changes that impact the FIPS 140-2 certification must undergo FIPS certification process prior to being made available for release to the RCMP.

13.7 Environmental Requirements

- 13.7.1 Logger system must be designed to be located inside shelters or building must operate within tolerances across an ambient temperature range of at least +5°C to +40°C.
- 13.7.2 Logger system must operate within defined tolerances when subjected to relative humidity of 45% to 85%, non-condensing.

13.8 Power

- 13.8.1 Logger system equipment must operate from on 120VAC, provided by the RCMP.

13.9 Physical

- 13.9.1 Contractor must specify the following for proposed logger system equipment:
 - a. Model numbers;
 - b. Metric Dimensions;
 - c. Manufacturer specification sheets;
 - d. Nominal power requirements in Watts;
 - e. Maximum power consumption in Watts;
 - f. Thermal load, in British Thermal Units (BTU) under maximum power consumption conditions; and
 - g. Mean Time Between Failures for each component.
- 13.9.2 Not including the logger client workstations, all other logger equipment must be provided in a secured rack as per Secured Rack.

13.10 Design Life

- 13.10.1 Logger must have a minimum Useful Lifespan of 10 years unless otherwise stated.

13.11 Quality



- 13.11.1 Logger system equipment must be actively used in a production environment in at least two other P25 public-safety systems of 1000+ users within North America at the time of this RFP closing date.
- 13.11.2 Contractor must provide a list of public safety customers, complete with contact information, within North America who have deployed proposed radio equipment in their operational live radio system(s).

14. Request to Talk (RTT) Feature

- 14.1 The RTT and ERTT function must operate on all RCMP Talk paths, whether a P25 trunked radio system or P25 conventional radio resources that will be associated with this specification.
- 14.2 All radio system infrastructure, excluding ISSI, must support in full the Request to Talk and Emergency Request to Talk requirements as presented in the National Radio Services RBM Request To Talk Baseline Requirements Number: RT.06.00-1.1 specification document found in Appendix B1.

15. Over-The-Air-Programming (OTAP)

- 15.1 Radio system infrastructure must support Over-The-Air-Programming (OTAP) functionality for the subscriber units provided in General Requirements.
- 15.2 OTAP process must maintain a log of OTAP data transmissions.

16. Location Services – Global Positioning System (GPS)

- 16.1 Radio infrastructure must conform to the recommendations and principles presented in TIA-102.BAJA-A, Locations Service Overview.
- 16.2 Radio infrastructure must conform to TIA-102.BAJC Tier 2 Location Services.
- 16.3 Radio infrastructure must utilize Sub-network Dependent Convergence Protocol (SNDCCP) as described in Section 2.3.2 of TIA-102.BAJC as the lower protocol for sending location information.
- 16.4 Radio infrastructure must conform to TIA-102.BAJD TCP/UDP Port Number Assignments.
- 16.5 Radio infrastructure must at a minimum support the following two triggering conditions:
 - a. Emergency; and
 - b. Host Request.



- 16.6 Contractor GPS Mapping System must provide resource location tracking via the radio infrastructure.
- 16.7 GPS Mapping System must conform with TIA-102.BAJC Tier 2 Location Services.
- 16.8 GPS Mapping System must support at a minimum, two (2) geographically separate GPS Mapping client workstations.
- 16.9 GPS Mapping client workstations must support, at a minimum, Host Request trigger.
- 16.10 GPS Mapping System must include, at a minimum, the geographical region of Quebec.

17. Third Party Manufactured Equipment

- 17.1 Contractor must provide a list of any equipment which is not directly manufactured and developed by the Contractor.
- 17.2 Contractor must describe the process, procedures and agreements in place to control quality, functionality, and support of any equipment not manufactured and developed by the Contractor.



ANNEX DDD - BASIS OF PAYMENT
FACTORY ACCEPTANCE TESTING AND P25-PHASE 2 SYSTEM UPGRADABILITY SOLUTION FOR PHASE III

Installation Site Number	Installation Site Name	Factory Acceptance Testing And P25-Phase 2 Upgradability Solution	Factory Acceptance Testing (FAT) (Only Level of Effort Excluding Material Costs)	Proposed Price for P25 Phase 2 Upgradable Solution Including Installation
A	B	C	D	E
NA	NA	Successful Factory Acceptance Testing (FAT) of the Proposed System Prior to the First Installation		
NA	NA	Radio System Software Upgradable to P25 Phase 2 Operations		

*Note: FFP includes Custom Duties but excludes Shipping, Travel & Living Expenses and Taxes, as applicable.
Please use white cells to input pricing information.
FFP: Firm Fixed Price*

**ANNEX DDD - BASIS OF PAYMENT - INSTALLATION SITES COST BREAKDOWN
HARDWARE & SOFTWARE, AND ENGINEERING & INSTALLATION WORK FOR PHASE III**

Installation Site Number	Installation Site Name	Hardware Requirements	RCMP Required Quantity	FFP For RCMP Required And Bidder Proposed Hardware Quantities	FFP For Engineering & Installation Services	Extended Price (Hardware and Engineering & Installation Services) (E + F)
A	B	C	D	E	F	G
1	Radio System Core Site - Montreal	CLIN 1 - Radio System Core	TBD			
		CLIN 2 - KMF - Quantity	TBD			
		CLIN 3 - KMF Client Workstation	TBD			
		CLIN 4 - Radio Logger- Quantity	TBD			
		CLIN 5 - Logger Client Workstation	TBD			
		CLIN 6 - Management Client Workstation	TBD			
		CLIN 7 - Operator Console Workstation	4			
		CLIN 8 - Tier 2 GPS Mapping Server	TBD			
2	Backup Radio System Core Site - Québec City	CLIN 9 - Radio System Backup Core	TBD			
		CLIN 10 - KMF Client Workstation	TBD			
		CLIN 11 - Radio Logger - Quantity	TBD			
		CLIN 12 - Logger Client Workstation	TBD			
		CLIN 13 - Management Client Workstation	TBD			
		CLIN 14 - Operator Console Workstation	3			
3	Divisional Operational Command Centre Montreal	CLIN 15 - Operator Console Workstation	8			
		CLIN 16 - Logger Client Workstation	TBD			
		CLIN 17 - Tier 2 GPS Mapping Client Workstation -	TBD			
4	Backup Operational Command Centre Province of Québec. TBD	CLIN 18 - Operator Console Workstation	6			
		CLIN 19 - Logger Client Workstation	TBD			
		CLIN 20 - Tier 2 GPS Mapping Client Workstation	TBD			

Note: Firm Fixed Price (FFP) includes Custom Duties but excludes Shipping, Travel & Living Expenses and Taxes, as applicable.

Addresses of the outstanding locations (TBD) will be provided to the Contractor after contract award.

Please use white cells to input pricing information.

CLIN: Contract Line Item Number

TBD: To be Determined

**ANNEX DDD - BASIS OF PAYMENT - INSTALLATION SITES COST BREAKDOWN
HARDWARE & SOFTWARE, AND ENGINEERING & INSTALLATION WORK FOR PHASE III**

Installation Site Number	Installation Site Name	Site Numbers	Bidder Proposed Hardware Required at Each Site	Bidder Proposed Quantity of each Hardware	FFP For the Proposed Hardware (Total Price Per Site)	FFP For Engineering & Installation Services (Total Price Per Site)	Extended Price (Hardware, and Engineering & Installation Services) (F + G)
A	B	C	D	E	F	G	H
5 through 9 (Total 5 Sites)	Five Channel Trunked Radio Sites -TBD (CLIN 21)	5					
		6					
		7					
		8					
		9					
10 through 27 (Total 18 Sites)	Four Channel Capacity Repeater Sites (CLIN 22)	10					
		11					
		12					
		13					
		14					
		15					
		16					
		17					
		18					
		19					
		20					
		21					
		22					
28 through 68 (Total 41 Sites)	Three Channel Capacity Radio Sites (CLIN 23)	28					
		29					
		30					
		31					
		32					
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		67					
		68					
69 through 77	Single Channel Conventional	69					
		70					
		71					
		72					

67 through 77 (Total 9 Sites)	Conventional Sites (CLIN 24)	73					
		74					
		75					
		76					
		77					
78 through 154 (Total 77 Sites)	Single Channel Votescan Sites (CLIN 25)	78					
		79					
		80					
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Note: Firm Fixed Price (FFP) includes Custom Duties but excludes Shipping, Travel & Living Expenses and Taxes, as applicable.

Addresses of the outstanding locations (TBD) will be provided to the Contractor after contract award.

Please use white cells to input pricing information.

CLIN: Contract Line Item Number

TBD: To be Determined

**ANNEX DDD - BASIS OF PAYMENT
FFP FOR OPTIONAL TRAINING COURSES FOR PHASE III**

A	B	C	D	E
CLIN	Training Courses and Quantity	Firm Fixed Unit Price For the Optional Courses (Year 1)	Firm Fixed Unit Price For the Optional Courses (Year 2)	Firm Fixed Unit Price For the Optional Courses (Year 3)
CLIN A	Console Operator Training Course			
1	RCMP Site In Quebec City - Phase III - Optional Quantity Up to 3			
CLIN B	System Technician Training Course			
2	RCMP Site In Quebec City - Phase III - Optional Quantity Up to 2			
CLIN C	System Administrator Training Course			
3	Contractor Site - Phase III - Optional Quantity Up to 2			

Note: Please use white cells to input pricing information.

Note: FFP includes Shipping, Custom Duties, Travel & Living Expenses and exclude taxes, as applicable.

FFP: Firm Fixed Price

ANNEX DDD - BASIS OF PAYMENT

FIXED HOURLY LABOUR RATES FOR ADDITIONAL WORK ARISING FOR PHASE III

Item No.	Labour Categories	Hourly Labour Rate for 1st January to 31st December 2019	Hourly Labour Rate for 1st January to 31st December 2020	Hourly Labour Rate for 1st January to 31st December 2021
1	Junior Technician			
2	Senior Technician			
3	Junior Engineer			
4	Senior Engineer			
5	Field Service Representative			
6	Project Manager			

Note: Please use white cells to input pricing information.

The hourly labour rates must be firm fixed rates excluding applicable taxes.

Should bidder propose different Labour Rates for particular period/s then the highest proposed rate/s will be selected for financial evaluation purposes.

FFP: Firm Fixed Price