



TENDER ADDENDUM

**Design, Supply, Installation and Commissioning of Radio Communication System
SS007**

November 4, 2022

ADDENDUM No. 3

The present addendum is raised to answer the questions below.
This shall be read in conjunction with and shall form an integral part of the Tender /
Proposal and Agreement Documents:

Clarification to previous response:

Question 20:

is 4.9 GHZ spectrum considered certifiable and would it be acceptable for microwave?

Answer 20:

ISED has indicated that 4.9 GHz is not acceptable.

Clarifications

ISED has confirmed that 4.9 GHz is not available in the Ottawa -Gatineau region.

For correspondence regarding other microwave frequency bands, please send enquiries to:

Spectrum Toronto / Spectre Toronto (IC) spectrumtoronto-spectretoronto@ised-isde.gc.ca

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Question 32:

Can you grant a supplementary delay of 3 months for the deposit of the proposal, as a project of this size, evaluated in millions of dollars, will require 8 to 12 sites to achieve the desired coverage, and will therefore necessitate negotiation with the different site owners for pre-authorization and rental site fees (based on loading tower equipment and engineer structural analysis), which is a long process ?

Answer 32:

The new deadline is January 16, 2023 and the deadline for questions is also extended.

Question 33:

Considering there is a firm requirement for coverage inside the park, and that no new infrastructure can be deployed as indicated in the tender form, can you please revise the project of decommissioning the Chelsea fire tower and allow the use of this tower site ? This tower infrastructure is absolutely mandatory for the coverage inside the park.

Answer 33:

No.

Question 34:

Can you send more details about the solar equipment already in use inside the chalets? (brands & models of the solar panels and the chargers)

Answer 34:

Not relevant as existing solar panel, regulators and batteries need to be replaced at all sites refer to addendum #2 section 13.

Question 35:

1. Bidders Meeting

During the mandatory bidders meeting/site visits, Bidders attended a garage location which has not been identified in the RFP document. Please confirm that equipment is to be installed at this site and if so, what type of equipment (e.g. Chalet radio, etc.)?

Answer 35:

Yes, this site must be equipped with a mobile base station please refer to section 7 in the comprehensive Radio system report that has been or should be shared with all bidders

Question 36:

2. RFP Part 1:

a) Section 7: Is there a minimum requirement that a Bidder must achieve before the Commercial envelope is opened and evaluated? (i.e. Must a Bidder meet the minimum requirements for Stage 2 before passing to Stage 3) Please clarify what the minimum requirement is to pass Stage 2.

Answer 36:

Refer to appendix F 1.0 technical evaluation for mandatory criteria.

Question 37:

b) Section 16: States the following:

“16) The attached General Conditions, Occupational Health & Safety Requirements and the Security Requirements will also form part of the resulting contract.”

Please identify where in the provided RFP documents that the OSHA requirements can be found?

Answer 37:

Please refer to new attachment.

Question 38:

b) Section 6.10: Please clarify if there is a cost to the Contractor to have security clearances completed by the NCC. If yes, please identify how often the security clearances must be renewed

Answer 38:

There is no cost to the Contractor to have security clearances by the NCC.

Question 39:

c) Section 6.16: States Contractors are responsible for “reprogramming, reconfiguring, and verification of performance and operation of any existing NCC equipment that may be retained for the new (replacement) system.” Other than antenna structures, mounts and hardware (incl. solar panels) at the chalet’s and shelters that the NCC may ask the Contractor to evaluate, please clarify what other existing NCC equipment may be retained for the new system.

Answer 39:

Nothing to be retained.

Question 40:

d) Section 12.3.1:

Throughout this section the NCC is requesting PTT-ID capabilities that are characteristic of a dispatch console and not available on a standard fixed transceiver (mobile radio).

Please clarify the following requirements:

- i. NCC Editable lookup table: what parameters does the NCC expect to edit related to the PTT-ID caller/alias/timestamp information?
- ii. PTT-ID shall remain on the display until the next PTT-ID is received. Is it

acceptable for the inbound PTT-ID to be cleared when the dispatch radio transmits?

iii. Please clarify the purpose of the capability of the dispatch radio to provide an industry standard electronic data output that can provide data source to an external database. Is this interface expected to be permanent (always available) or is it acceptable to have access to this information on an as required basis (i.e. through temporary connection of an external device)?

iv. No one shall be able to clear the PTT-ID from the display or list history. Typical operation of a mobile radio will clear the inbound caller display information when the radio operator transmits on the radio. Please remove the requirement that a user cannot clear the PTT-ID from the radio display.

v. Is the capability for an authorized user to edit and update the alias list required through the radio control interface (i.e. buttons on the front of the radio) or is an external device considered acceptable?

Answer 40:

The following address the PTT ID questions and provides additional clarification. The following are grouped for readability and clarification, and do not necessarily follow the detailed order of the questions or the items in the RFP.

1. As a starting point, the following are excerpts from Section 12 in the published RFP that will be included below in the clarifications and responses:
 - a) Excerpted term, “(...PTT ID with “user recognizable IDs...)”.
 - b) Excerpted term, “industry standard (common) electronic data output“.
 - c) Excerpted term, “...external database device. The NCC may want to include this device as an option initially...”
 - d) Excerpted term, “The technology shall enable authorized NCC personnel to edit and update the lookup table (cross referencing PTT ID with user recognizable IDs)...”
2. The requirement is for PTT ID with “user recognizable IDs” is referring to the requirement to alias the hard-coded radio (hardware IDs) so that the PTT IDs that are displayed on the radios and included in the PTT ID logs are to “user friendly”, that can be familiar and quickly and easily recognizable by NCC staff/users.
3. The “lookup table” refers to the software/firmware location (computer and/or radio) that will provide the alias (“cross reference” between the radio hard-co hardware ID, and the ID that will be displayed on the radios and as part of the PTT ID log information. (Please also refer to other requirements in this section for additional lookup table information.)

The aliased ID shall be alphanumeric allowing NCC to use all number, all letters, or a mix.

4. It is presumed that a copy of the master lookup table will reside in each radio for receiving the radio hardware PTT ID of the transmitting radio and aliasing it to the user recognizable ID.
5. Bidders shall state if the proposed alias process differs in any way from the requirements, if it does not use a copy of the table residing in the software/firmware of each radio receiver.
6. The “external database device” described in the RFP shall be an NCC supplied computer connected (interfaced) to the Dispatch Base Station via the “industry standard (common) electronic data output”. The NCC shall identify / select the primary base station that will normally be connected to the computer; however the NCC shall be able to change which base station is connected.
 - a) The interface shall be included by the Bidder in the proposal.
 - b) Note that a separate “field” interface shall be included that shall enable an NCC computer to connect to any radio for PTT ID database interface as described in this section.
 - c) To clarify, instead of NCC considering this option at a later time, the interface is now an option that NCC wants the Contractor to include at this time and provide as part of the initial system.
 - d) The interface may include software and/or files installed on the NCC supplied computer.
 - e) If specialized software is required, the software and full required licenses shall be included proposal and System.
7. The industry standard interface between the NCC computer and the radio shall also be included as part of the technology that “shall enable authorized NCC personnel to edit and update the lookup table”.
8. The editing shall not be via the radio front panel controls, but shall be via the NCC computer connected to the radio using industry standard interface.
9. For the NCC Dispatch Base Station connected to the NCC computer (to be selected by NCC), an authorized, trained NCC administrator shall be able to use the computer to:
 - a) Read the PTT ID log in real-time and also read the historical log, but unable to delete or modify the original of the log.

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- b) The PTT ID log shall include:
 - i. the aliased PTT ID and the radio hardware PTT ID.
 - ii. The time and date stamp of the start of transmission
 - iii. The duration of the transmission and/or the time and date stamp of the end of the transmission.
 - c) Read and edit the Contractor created PTT ID master, common PTT ID alias lookup table.
 - d) Export the original PTT ID log including PTT ID alias IDs to a standard CSV file or other industry standard format. The NCC shall be able to use the exported file for various other purposes, as is normal for any standard exported file.

10. For editing and distributing the table to all NCC radios, NCC or an authorized technician shall be able easily edit a single common “master” table and then upload copies of the single table to individual radios.

When NCC conducts the distribution, it is presumed that this will be conducted via an NCC computer interfaced to each radio or other method such as over the air programming, etc.

11. PTT ID for **emergency** transmissions clarifications:

- a) The PTT ID (for aliased IDs) shall appear on the user “front panel” of receiving radios when another radio in the System activates (and transmits) its emergency alert operation.
- b) The ID shall be accompanied by a positive and persistent indication on the radio display that the transmitting radio is in “emergency mode”.(e.g. icon or light on the receiving radio).
- c) The persistent indication on the display of the receiving radios shall extinguish when the emergency radio cancels its emergency alert operation (no longer in emergency mode).
- d) The persistent indication on the display of the emergency mode radio shall extinguish the emergency alert operation is cancelled (no longer in emergency mode).
- e) The PTT ID of the latest transmission from an emergency radio shall remain on a receiving radio until that receiving radio activates its PTT to transmit (stops being displayed on the receiving radio after it transmits).

12. Additional PTT ID and lookup table clarifications:

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- a) The table shall remain unchanged until it is intentionally reprogrammed (uploaded), which shall include non-volatile storage, including any software that will retain the table regardless of whether or not the radio is powered for extended durations.
 - b) The Contractor shall create and install (upload, etc.) the initial table into each radio working with NCC to establish the initial alias table.
 - c) The table shall only be able to be changed by an authorized technician or NCC by someone with administrator authorization and appropriate training.
 - d) Examples of reasons to update the table include:
 - (i) When a radio is reassigned,
 - (ii) When a radio is exchanged for repair or replacement.
 - (iii) When NCC determines the PTT ID as displayed should be revised for improved understanding, etc.
 - e) If a radio hardware PTT ID is not aliased in the table or the receiving radio does not have a valid lookup table, then the hardware ID shall be displayed on the receiving radios (or radios).

Question 41:

Section 13.2: To ensure all Bidders are providing comparable proposal responses, please provide the required availability (in hrs) for a solar powered site.

Answer 41:

Refer to section 13.2 in addendum #2 understanding that the battery capacity must support predicted worst-case continuous periods of no usable sunlight.

For clarification purposes, the battery capacity shall support predicted worst-case sunlight conditions based on the amount of sunlight that will reach the solar panels, including considering the specific location of the site and panels for the site, which includes periods of significant cloud.

The conditions this includes significant periods of low sunlight (low solar energy) and significant periods of poor or no sunlight. The battery capacity shall also take into account the predicted worst-case solar energy conditions when there are the worst- case conditions of:

- a) Continuous periods of no usable sunlight.
- b) virtually continuous periods of no usable sunlight during which there may be

periods of significant sunlight and some charging, but the amount of charging between the periods of “no usable sunlight” results in less than a 15% increase in battery capacity.

Question 42:

f) Section 13.3: States “The Contractor may be requested by the NCC to evaluate all existing antenna structures, mounts and hardware at the chalets and shelters to determine if any of the existing antenna structures, mounts and hardware are suitable for re-use for the new antennas.” For the purposes of completing the Price & Delivery Forms, please confirm that Bidders are to quote new antenna infrastructure at all locations in accordance with this section.

Answer 42:

for purposes of pricing please assume all antenna, antenna mounting structures and mounts need to be replaced

Question 43:

g) Section 14.1: To ensure all Bidders are providing comparable proposal responses, please provide the required availability (in hrs) for a infrastructure site in the event of an extended power outage.

Answer 43:

Replace Section 14.1 in its entirety with the following wording:

14.1 Infrastructure Backup Power Requirements

All infrastructure radio equipment, linking, and control systems (LMR and microwave) shall be electrically powered from an uninterruptable power supply system that shall provide continuous electrical power to all System technology at all infrastructure sites in the event of a commercial utility power failure or interruption of suitable, reliable primary power (utility, etc.). The power failure event includes full interruption, significant voltage change, limited current, etc.

The uninterruptable power supply system shall include a battery backup power supply to provide continuous operating power, and to provide back-up electrical power in the event of “primary” AC input power failure (utility, backup generator, or other).

The infrastructure equipment may either be powered by the uninterruptable power supply system by one of the following methods:

- a) continuously and directly by the battery system (DC), which is continually recharged by the “primary” AC input power;

OR

- b) continuously by an AC output system that is continuously powered by the battery system (DC), which is continually recharged by the “primary” AC input power.

The uninterruptable power source shall ensure that each the LMR and microwave systems at each site maintains full, uninterrupted operation without degradation of LMR and microwave system performance, including full system programming and configuration, and full interconnection and communication with other sites in the system.

It is acceptable if the LMR transmitters and receivers be powered by an uninterruptable battery supply that is separate from an uninterruptable supply that powers lower power equipment, for example microwave separate from LMR.

The supply (or supplies) at a site shall be a common for all radio sites/locations and the design, configuration, manufacturer, suitable for all radio sites/locations, with only capacity differences between the sites that are transmitter-receiver, and the sites that are receiver only, and hub or control sites (if applicable).

The supply including batteries shall be suitable for radio sites and office environments, which shall include sealed "maintenance free" long life gel electrolyte or "starved" electrolyte battery design etc. that does not normally emit gasses into the atmosphere and does not require the regular addition of water or electrolyte, or testing the electrolyte.

The battery supply shall be capable of maintaining full capacity during extended periods of low charge/discharge rates and infrequent discharge/charge cycles without damage to the batteries or degradation of battery performance.

The life of the batteries shall be a minimum of 5 years while providing the capacity for the required autonomy and recharging.

Batteries may have a 3 year life if they are specifically high energy density batteries such as lithium ion, and Bidders shall clearly state this difference and the advantages of the proposed 3 year batteries compared to 5 year batteries.

14.1.1 Autonomy (Capacity) During Inadequate Primary Power

The power supply shall provide autonomy for a minimum of 4 hours normal operation during a single continuous “primary” power event, or multiple primary power failure events that total result in a 4 hours of inadequate primary power.

LMR or microwave system performance degradation based on the following duty cycles:

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1. Sites With LMR Transmit and Receive:
 - a) 20% LMR transmitter duty cycle
 - b) 20% LMR receive duty cycle
 - c) 60% LMR standby
 - d) 100% (continuous) microwave.
 - e) 100% (continuous) control or “hub” operation if applicable.

 2. Sites With LMR Receiver Only (No LMR Tx)
 - a) 20% LMR receive duty cycle.
 - c) 80% LMR standby.
 - d) 100% (continuous) microwave.
 - e) 100% (continuous) control or “hub” operation if applicable.

 3. Sites With Only Control or “Hub” Operation (No LMR Tx or Rx) If Applicable (Other)
 - a) 100% (continuous) control or “hub” operation.
 - b) 100% (continuous) microwave (if applicable).

14.1.2 Recharging Of Battery Supply

The battery supply of each uninterruptable power supply shall be recharged to provide the full 4 hours of autonomy (discharge during loss of primary power) within 10 hours of available primary power.

A fully discharged battery supply shall be able to provide at least 60 minutes of autonomy after 2 hours of charging.

The charging shall occur whenever the primary power failure event has ended and shall charge while the powering the System equipment operating with the same duty cycles and full performance operating conditions as required for the autonomy operation.

Question 44:

Section 15.1: To ensure all Bidders are providing comparable proposal responses, please provide the required reliability for system infrastructure (site) connectivity. (e.g. three 9's, four 9's, etc.)

Answer 44:

The total two-way annual (yearly) microwave path outage for any end to end link (e.g. LMR site to LMR site, LMR site, to “hub” site, etc.) shall be no greater than 300 seconds (5 minutes), including rain fade, multipath fade, etc., while maintaining the required data

throughput necessary for the full system performance (including LMR audio and control).

If an end-to-end link is a “single hop” (1 path), the maximum outage of 300 seconds (5 minutes) shall be for the single hop, and the end-to-end link a “multiple hop” the maximum total outage of the multiple hops shall be 300 seconds (5 minutes).

Bidders shall also state the microwave reliability as the annual two-way reliability for each hop and the total of multiple hop links expressed in percentage (%) to at least per year and two-way outage expressed in seconds per year.

The microwave paths shall be unobstructed, providing at least full first Fresnel zone clearance (no incursion of vegetation, terrain, structures, etc. within first Fresnel zone). In addition, all paths shall be projected to provide the minimum first Fresnel zone clearance for the projected life of the System; for example, if the Bidder is aware of potential tree growth or building development, that may result in incursion into the first Fresnel zone, this potential shall be clearly identified in the Bidders Proposal.

The path reliability shall include all of the typical and required RF prediction factors that will be encountered for the specific proposed microwave paths in the specific areas in the Ottawa-Gatineau region for operation in 2024 including:

- a) Vigants-Barnett reliability including multipath
- b) Weather / climatic conditions for the specific path locations and routings including, Crane rain model and tables, appropriate terrain roughness, climatic factor, etc.
- c) Effects of calculated interference from links within this system (intra-system).
- d) Effects of calculated interference from systems outside of this system (inter-system).
- e) Maximum physical deflection of the installed microwave antennas due to wind, etc. for each specific structure.

Question 45:

i) Section 16.3.4: Please provide detailed information for all vehicles that require mobile installation to ensure that Bidders can properly comply and price this requirement. Please include vehicle year, make, model, special safety equipment included, existing operational equipment such as consoles or data terminal equipment, photos of the vehicle interior that clearly show where the radio is to be installed, and any other equipment or constraints that may impede radio installation in a timely fashion.

Answer 45:

Refer back to the list of provided vehicle asset list. All radios are to be mounted (under dash) with 1/4 wave roof mounted whip antenna

Question 46:

j) Section 20: Is there any requirement for interfacing to dispatch consoles? Section 5 clearly states dispatch consoles are not required, but Section 20 mentions testing of consoles, adjustments that affect console performance, telephone interfaces, and logging recorder interfaces, equipment and installation manuals of consoles, etc.

Answer 46:

Dispatch console not required "section 20.0 for example purposes only".

Question 47:

k) Section 21: The NCC is requesting training for up to four (4) trainers and the pricing sheets identify four (4) separate sessions with a qty of one (1). Please clarify that the requirement is to provide four (4) separate training sessions and not one session to accommodate four (4) trainers.

Answer 47:

4 separate sessions.

Question 48:

4. Appendix A: Price and Delivery Forms
. Pages 3-11 (Section 1, New NCC LMR Radio System Price) and then 12 through 15 (Section 2, New NCC Microwave System Price).

i. In section 2, please clarify if the first two (2) sections (p.12 of the PDF) should have the term "LMR" replaced with "Microwave". That is the following headings:

- LMR SYSTEM DESIGN & DOCUMENTATION
- LMR INFRASTRUCTURE SITES WITH TRANSMITTERS AND/OR RECEIVERS

Answer 48:

Appendix A has been updated. Please see attached Appendix A - Price and Delivery Forms_Revision 1

Question 49:

Please verify if the headings in section 2 (Microwave) (i.e. System Design, Warranty, Maintenance Contract, 10 year lifecycle costs) are to only include products and services associated with the Connectivity requirements of this RFP or if they have been mistakenly duplicated from the LMR section. For further clarity, is the NCC requesting that Bidders separate microwave design, maintenance, warranty, and lifecycle costs from the LMR costs?

Answer 49:

LMR and Microwave systems are to be priced separately in accordance with the Price and Delivery Forms.

Appendix A has been updated for other changes. Please see attached Appendix A – Price and Delivery Forms_Revision 1

Question 50:

iii. Section 2 (Microwave) includes the following categories of equipment which are duplicated from section 1:

- HANDHELD RADIOS & ACCESSORIES - SINGLE BAND VHF
- ENHANCED HANDHELD RADIOS & ACCESSORIES
- VEHICLE RADIOS & ACCESSORIES

Please confirm if there is a requirement to provide this equipment to support connectivity between the LMR sites and if Bidders are to complete these sections in the pricing sheets.

Answer 50:

Appendix A has been updated. Please see attached Appendix A - Price and Delivery Forms_Revision 1.

Question 51:

iv. Section 2 (Microwave) includes the following categories of equipment:

- BASE STATIONS FOR OFFICES
- BASE STATIONS FOR SHELTERS AND CHALETS

These sections appear to capture a summary of the unique Base Stations (Dispatch Radios) and Shelters (Public Access Radios) listed in the first section however the quantities appear to be different.

Please clarify if this equipment is different from the LMR equipment identified in Section 1 of Appendix A. For example, are the “Base Stations for Shelters and Chalets” in section 2, the same as the following equipment in section 1?

- Western Chalet
- Brown Chalet
- Renaud Shelter
- Lusk Shelter
- McKinstry Shelter
- Herridge Shelter
- Healey Shelter
- Huron Shelter
- Keogan Shelter

Similarly, are the “Base Stations for Offices” in section 2, the same as the following equipment in section 1?

- NCC Office Base Station
- MRC de la Colline Base Station

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- Conservation Officer Central Office
 - Gatineau Park Visitor's Centre
- b) On the Total Price Summary Page, there are two notes under “Delivery”. Can you please clarify the purpose of these notes? Are these intended to be progress payments whereby the Supplier can invoice for the work completed to date based on an agreed implementation plan?

Answer 51:

Appendix A has been updated. Please see attached Appendix A - Price and Delivery Forms_Revision 1.

On the Pricing Summary page, notes 1 and 2 are only for project scheduling purposes and not for progress or any payments.

Question 52:

5. Appendix J: TENDER & CONTRACT SECURITY REQUIREMENTS
- a) This appendix is entitled “GOVERNMENT SITES TENDER & CONTRACT SECURITY REQUIREMENTS” however the Appendix provided does not include any details pertaining to the “Government Sites”, it only includes “Tender and Contract Security Requirements”. Please confirm that there are no Government Sites that are missing from this Appendix and they are all listed in Appendices D and E.

Answer 52:

There is no Government Sites missing from Appendix J.

Question 53:

What are the "Articles of Agreement" referred to in the RFP

Answer 53:

The "Articles of Agreement" refer to the clauses in the contract. It is not a separate document.

Question 54:

Concerning the Bid Bond, are we able to submit a bank transfer?

Answer 54:

The NCC will accept wire transfers as form of tender security. The bidders who which to submit a wire transfer must contact the contracting authority in order to obtain the NCC's banking information.

Question 55:

Would it be possible to schedule another visit?

Answer 55:

We are unable to organize an official visit with NCC vehicles at this time, however you may return to see the site for yourself on foot if possible.

Question 56:

Are you expecting a point to point response to the RFP or are we allowed to create our own document while following the order of what we believe needs to be answered?

Answer 56:

You may submit your own document while following the order of what you believe needs to be answered.

All other terms and conditions remain the same.

Stacy Semé
Senior Contract Officer
Procurement Services
Corporate Services Branch