



Public Safety Communication Services

Common Operating Practices

Table of Contents

- Introduction 4
 - Purpose: 4
 - Distribution: 4
 - Disclaimer: 4
 - Due Credit: 5
 - Contact Information..... 5
- 1. Version History..... 6
- 2. Background 7
- 3. Protocols for Radio Communications 8
 - a. Radio Voice Procedures 8
 - i. General..... 8
 - ii. Time and Date 8
 - iii. Aids to Accuracy 9
 - a. *Pronunciation of Letters*. 9
 - b. *Phonetic Alphabet*. 9
 - c. *Pronunciation of Numerals*. 9
 - d. *Numbers*. 10
 - e. *Call Signs*. 10
 - f. *All Station Calls*. 10
 - g. *Urgency Calls*. 11
 - iv. Passing a Message..... 11
 - v. Rules for Spelling..... 11
 - vi. Rules for Figures..... 12
 - vii. Discipline 13
 - viii. Rules for Radio Discipline..... 13
 - ix. Common Radio Terms..... 14
- 4. General Users Guide 15
 - a. General Procedure 15
 - b. Establishing Communication..... 16
 - c. Sequence of Call Signs..... 16

d.	Use of Mutual Aid Talkgroups.....	17
e.	Directing a Change in Radio/Talkgroup/Channel/Frequency	17
f.	Break-In or transmission interruption Procedures	17
g.	Radio Checks, Signal Strength and Readability	18
h.	Closing Down	18
5.	General Considerations.....	19
a.	Periodic Equipment Checks.....	19
b.	Proper Talkgroup/Channel.....	19
c.	Fleetmap/Channel Reference	19
d.	General Radio Safety.....	20
6.	Interoperability	20
a.	Frequency Assignments for Band	20
b.	Public Safety Users.....	20
c.	Agency Priority Levels	21
d.	Public Safety Users Multi-Agency Response.....	22
e.	Incident Protocols	23
f.	Interoperability Talkgroups.....	23
g.	Interoperability General Information	25
h.	Training	25
7.	Additional Policy	27
a.	ISED Categories	27
b.	Encryption	27
c.	Radio Encryption Keys.....	27
d.	Mobile Tower Unit (MTU).....	28
e.	Approving New PSEs on PSCS	28
8.	Appendices.....	29
	Appendix A – Glossary of Terms	29
i)	Definitions.....	29
ii)	Abbreviations	30
	Appendix B – PSCS Approved Radios.....	31
	Appendix C - PSCS Governance.....	32

Introduction

Purpose:

This manual was developed by the PSCS Technical Planning Committee. The purpose of this manual is to provide all Public Safety Entities (PSEs) with accessible information in order to ensure policies and procedures are followed at all times.

This material was developed as a result of a direct need and as a result of extensive consultation within the various PSEs – from executive decision makers to front line users. It is meant to reflect the best practices currently in use across Canada wherever possible as well as the principles embraced.

The goal of this document is to provide an effective tool for PSEs throughout Manitoba in order to ensure their safety as well as the safety of the public they serve.

Finally, this document does not have the force and effect of legislation or policy. Its foundation principle is the recognition of the need for willing compliance by all involved will translate into a safe and effective public safety communications environment.

Distribution:

This manual shall not be modified, published, sold, re-branded or otherwise distributed for commercial purposes. Any modifications to this document will be performed solely by the PSCS Technical Planning Committee members.

Disclaimer:

Any information included in this manual may include inaccuracies or typographical errors. Changes will be periodically made to the information herein. The PSCS Technical Planning Committee may make changes to this document, at any given time, in order to provide more up-to-date information to PSEs. The appropriate procedures will apply when making any policy changes and therefore all changes will require recommendation from PSCS Technical Planning Committee and final approval from the PSCS Business Management Committee (Appendix C – PSCS Governance). The PSCS Technical Planning Committee also makes no representations about the suitability, reliability and accuracy of the information contained within this manual.

Due Credit:

The PSCS Technical Planning Committee would like to provide credit to the Governments of Nova Scotia and Saskatchewan for sharing policy information that has been included within this document. Specifically, the Trunked Mobile Radio 2 (TMR2) in Nova Scotia and the Provincial Public Safety Telecommunications Network (PPSTN) in Saskatchewan.

The PSCS Technical Planning Committee also utilized the “Allied Communications Publication Communication Instructions Radiotelephone Procedures ACP 125(F)” material to assist with the Radio Procedures sections of this manual.

Contact Information

For questions or comments, please email PSCSSupport@gov.mb.ca

1. Version History

Date	Version	Description	Modified By
July 2020	1.0	Initial Release	Manitoba

2. Background

The previous P16 SmartZone 4.1 analog FleetNet system reached end of life and thus required an upgrade and expansion to P25 digital standards system. FleetNet was therefore replaced with the new Public Safety Communication Services (PSCS) network.

PSCS is a trunked radio system that uses a specialized repeater system with 154 towers and frequencies to provide wide coverage throughout ninety nine percent of the populated areas of Manitoba. These services are provided to the Government of Manitoba and other public safety and public service organizations by Bell Mobility Inc.

The project goals that were achieved by moving to a new system include:

- Expanded coverage
- Geographically redundant core for high availability
- Enhanced core and tower site security
- Higher level of encryption – managed by the RCMP
- Radio spectrum reserved for public safety and public service entities
- Standard operating procedures
- Centralized contract management
- Governance model with business, technical and service assurance committees
- Services level agreements and penalties
- System reporting
- Training and training materials
- Business continuity & disaster recovery planning

The requirement to develop appropriate procedures for Manitoba that will be used for daily radio operations and in case of emergencies is important. The need is further extended to include interoperability procedures to meet the needs of front line responders and their respective agencies.

3. Protocols for Radio Communications

a. Radio Voice Procedures

i. General

This section is to provide a standardized way of passing speech and data traffic as securely as possible, consistent with accuracy, speed and the needs of command and control.

- a) Voice procedure is necessary because:
 - i. Speech on a congested radio system must be clear, concise and unambiguous.
 - ii. Order is required to ensure that transmissions do not overlap.
- b) Adherence to the procedures prescribed in this manual is important. Departure from, or variations in these procedures is strongly discouraged. Such action can invalidate security precautions, reduce accuracy and speed, and create confusion. If the procedure does not cater for a specific situation, common sense and training experience should be used as a guide. Standard procedure should never be substituted with individually preferred methods or the latter used as an excuse for lack of procedural expertise.
- c) The rules for Voice Procedure will be reviewed and changed as necessary. Suggestions for change are welcome and should be forwarded to the appropriate governance structure.

ii. Time and Date

The twenty-four hour clock system should be used to express time during radio communications. Time should be expressed and transmitted by means of four figures, the first two denoting the hour past midnight and the last two the minutes past the hour.

Examples:

Time	Spoken as
12:45 a.m.	0045
12:00 noon	1200
11:45 p.m.	2345
12:00 midnight	2400 or 0000
1:30 a.m.	0130
1:45 p.m.	1345
4:30 p.m.	1630

Time is usually referenced to one standard time zone, Coordinated Universal Time (UTC) (often referred to as Greenwich Mean Time (GMT) or Zulu time (Z)) to avoid confusion between different time zones. When operations are conducted solely in one time zone, standard or local time may be used.

Where the date, as well as the time of day, is required, a six-figure group should be used. The first two figures indicate the day of the month and the following four figures indicate the time.

Examples:

Noon (EST) of the 16 th day of the month	161200 E
2:45 a.m. (PST) of the 24 th day of the month	240245

iii. Aids to Accuracy

a. Pronunciation of Letters. To help identify spoken letters of the alphabet a standard phonetic word alphabet is used. Each letter of the alphabet is represented by a uniquely pronounced word to enable consistent and accurate pronunciation. For example, BRAVO is the phonetic equivalent of the letter B and DELTA equates to the letter D.

b. Phonetic Alphabet. The following alphabet table shows the phonetic word equivalent of each Letter as it is written and then as it is spoken.

Letter	Phonetic	Spoken as	Letter	Phonetic	Spoken as
A	ALFA	L-FAH	N	NOVEMBER	NO-VEM-BER
B	BRAVO	BRAH-VO	O	OSCAR	OSS-CAH
C	CHARLIE	CHAR-LEE	P	PAPA	PAH-PAH
D	DELTA	DELL-TAH	Q	QUEBEC	KEH-BECK
E	ECHO	ECK-OH	R	ROMEO	ROW-ME-OH
F	FOXTROT	FOKS-TROT	S	SIERRA	SEE-AIR-RAH
G	GOLF	GOLF	T	TANGO	TANG-GO
H	HOTEL	HOH-TELL	U	UNIFORM	YOU-NEE-FORM
I	INDIA	IN-DEE-AH	V	VICTOR	VIK-TAH
J	JULIETT	JEW-LEE-ETT	W	WHISKEY	WISS-KEY
K	KILO	KEY-LOH	X	XRAY	ECKS-RAY
L	LIMA	LEE-MAH	Y	YANKEE	YANG-KEY
M	MIKE	MIKE	Z	ZULU	ZOO-LOO

c. Pronunciation of Numerals. Whenever figures are spoken in single digits over radio they are pronounced as shown in the following table.

Figure	Spoken as	Figure	Spoken as
1	WUN	6	SIX
2	TOO	7	SEV-EN
3	TREE	8	AIT
4	FOW-ER	9	NINE-ER
5	FIFE	0	ZE-RO

Example: “I SAY FIGURES Tree Nine-er Wun”

Note: When conditions are good there is no objection to pronouncing numerals in the regular way (IE. ‘THREE, FIVE, NINE’).

d. Numbers. All numbers except whole thousands should be transmitted by pronouncing each digit separately, except exact multiples of thousands may be spoken as such.

Numeral	Spoken as
44	FOW-ER FOW-ER
90	NINE-ER ZERO
7000	SEV-EN THOUSAND
5318	FIFE TREE WUN AIT

The decimal point is to be spoken as **‘DE-SEE-MAL’**.

Example: 987.6 is to be spoken as **‘Nin-er Ait Sev-en De-see-mal Six’**

Dates will be spoken digit by digit, with the months in full.

Example: 20 August is spoken as **‘Two Ze-ro August’**

Roman numerals shall be spoken as the corresponding Arabic letters proceeded by the prowords ROMAN NUMERAL.

Example: XX in Roman numerals would be spoken as **‘ROMAN NUMERALS X-ray X-ray’**.

Monetary denominations, when transmitted with groups of digits, should be sent in the sequence in which they are written.

Example: \$17.25 is spoken as **‘dollars one sev-en de-see-mal two fi fe’**.

.75 becomes **‘sev-en fi fe cents’**

e. Call Signs.

Use of regular radio Call Signs is mandatory at the beginning and end of a radio conversation. With the clear voice quality typical of today’s radio systems, intermediate transmissions need not have the Call Signs used as this simply adds unnecessary radio traffic to the system.

For ease of communication in emergency situations, tactical call signs may be assigned on multi-agency radio networks. The tactical call signs will describe the radio operator’s location or function.

Example: The Incident Commander at the Brandon Regional Health Centre incident might use the call sign **‘Brandon Regional Incident Commander’**.

Tactical Call Signs may have to change during a response if the selected Call Signs conflict.

f. All Station Calls.

When a radio message is to be broadcast to all field radio units that are likely to be monitoring a particular channel or talkgroup, rather than beginning by stating the call sign, the caller will begin the call by addressing **‘All Stations’** and then stating their call sign.

Example: A dispatcher with an urgent message for all parties involved in a forest fire situation states **‘All Stations, All Stations, All Stations....this is (your call sign). Please stand-by for (state type of message to follow).’**

g. Urgency Calls.

Although it is unlikely that urgency signals will be heard on public safety radio frequencies or talkgroups, it is possible that a radio operator in an Emergency Operations Centre (EOC) may be directed to operate Marine or Aeronautical Radios or one of these radios could be linked to another radio system via a public safety entity's (PSEs) unit. In these circumstances it is important that the radio operators be familiar with the following two urgency signals that may be heard and that take precedence over all other traffic.

MAYDAY: This signal, referred to as the International Distress Signal, indicates that a station is threatened by grave and imminent danger to life and property, and requires immediate assistance. The word '**MAYDAY**' will be transmitted three times. After the distress signal is sent **all traffic** will cease and all stations will monitor. Any station in a position to render assistance will do so and all other stations will continue to monitor until the situation is rectified and the frequency is released for normal use.

PAN PAN: This signal, referred to as the International Urgency Signal, indicates the calling station has a very urgent message concerning the safety of a ship, aircraft or other vehicle and/or the safety of a person or persons. The phrase '**PAN PAN**' is transmitted three times. All traffic will cease and all stations will monitor until the situation is rectified and the frequency is released for normal use.

iv. Passing a Message

Note: *examples of words intended to be spoken will be bold and enclosed in quotes. Prowords will be all upper case.*

Messages will be passed in the following order:

1. The call-sign of the station being called: '(your call sign) **Radio**'
2. The proword '**THIS IS**'
3. The call-sign of the sending station (your call-sign) '**RCMP Incident Commander**'

After receiving acknowledgement from the called party that s/he is ready to listen, the message is spoken completely in a clear voice.

v. Rules for Spelling

- a. **Plain Text.** Spelling is necessary when difficult radio conditions prevent the reception of an obscure word, or of a word or grouping of letters, which is unpronounceable. Such words or groups within the text of plain language messages may be spelt using the phonetic alphabet; they are preceded by the proword "**I SPELL**". If the word is pronounceable and it is advantageous to do so, then it should be spoken before and after the spelling to help identify the word.

Example 1: Pronounceable word – UNNA: ..."**UNNA- I SPELL, Uniform – November - November - Alfa**".

Example 2: Unpronounceable word or group – UTX: ...”**I SPELL, Uniform - Tango - Foxtrot - Xray**”.

b. **Exceptions.** Exceptions to this rule, when letters are always spoken phonetically wherever they appear, and without the proword “**I SPELL**” are:

- (1) Callsigns
- (2) Grid references (Universal Transverse Mercator – UTM).
- (3) Authentication
- (4) Address groups

vi. Rules for Figures

a. When radio conditions are satisfactory and confusion will not arise, figures in the text of a message may be spoken as in normal speech. During difficult conditions, or when extra care is necessary to avoid misunderstanding, figures are sent digit by digit preceded by the proword **FIGURES**. This proword warns that figures follow immediately, to help distinguish them from other similarly pronounced words.

Examples:

Figure	Satisfactory Conditions	Difficult Conditions
23	Twenty three	FIGURES two three
50	Fifty	FIGURES five zero
146	One hundred and forty six	FIGURES one four six
200	Two hundred	FIGURES two zero zero
1009	One thousand and nine	FIGURES one zero zero nine
1630	Sixteen thirty hours	FIGURES one six three zero hours
2800	Two thousand eight hundred	FIGURES two eight zero zero
12000	Twelve thousand	FIGURES one two zero zero zero

b. Exceptions to this rule, when figures are always spoken digit by digit whenever they appear, and without the proword **FIGURES** are:

- (1) Callsigns (if applicable)
- (2) Grid references
- (3) Authentication
- (4) Formal message date time groups (DTGs)
- (5) Drivers Licence Numbers
- (6) Licence Plates

vii. Discipline

- a. Radio discipline is a fundamental ingredient of voice procedure without which a radio network cannot function efficiently. In addition to reducing communications efficiency and accuracy, inadequate radio discipline can result in a serious degradation of security standards.
- b. It is the individual agency's responsibility to impose and maintain discipline on the radio network.
- c. During difficult conditions, network efficiency can deteriorate even more rapidly if proper radio procedures are not adhered to.

viii. Rules for Radio Discipline

The following rules for radio discipline are mandatory. Every agency must adhere to the following.

a. Always:

- (1) Use correct voice procedure.
- (2) Listen before transmitting to make certain the channels or talk-groups are clear, and organize your thoughts before transmitting.
- (3) Ensure that the correct talkgroup is in use.
- (4) Release the Push to Talk (PTT) switch promptly. On releasing the PTT switch, ensure that the radio returns to the receive condition.
- (5) Keep all transmissions brief and to the point. Avoid long-winded descriptions and unnecessary repetition. Accuracy, brevity, and speed are all important; however, they should be considered in that order.
- (6) Speak distinctly and pronounce words carefully. Speak at a moderate speed using your conversational tone of voice with emphasis and rhythm. A message should be spoken by phrases, not one word at a time.
- (7) Use official titles and authorized vehicle designations if applicable in all transmissions. Do not use nicknames or first names.
- (8) During all radio operations, remain cordial and calm.
- (9) All messages should be pre-planned, brief and straightforward if possible.

b. Never:

- (1) Make unnecessary or unduly long transmissions.
- (2) Engage in unofficial conversation or operator's chat.
- (3) Identify an individual, agency or unit by name, or any other recognizable identity.
- (4) Speak faster than the subscriber experiencing the worst reception conditions can be expected to receive, thus avoiding needless repetition.
- (5) Show loss of temper or resort to profane language.
- (6) Place the microphone directly in front of your mouth. Rather, place the microphone slightly to the side of your mouth at an angle of about 45 degrees so that you can talk across the face of the microphone instead of "blowing" into it.
- (7) Ensure that the Push to Talk (PTT) switch is only pressed during transition of your conversation. Do not jamb, or lock the PTT switch.

ix. Common Radio Terms

Here are some of the most common terms that should be used during radio transmissions. Please note that this is not exhaustive list and as such, words can be added to this document, at any given time.

Word or Phrase	Meaning
ACKNOWLEDGE/COPY/RECEIVED	Let me know that you have received and understood this message.
AFFIRMATIVE	Yes, or permission granted.
BREAK	Indicates the separation between portions of a message. (Used when there is no clear distinction between portions of a message.) May be repeated to request urgent access to a channel/talkgroup.
CHANNEL	Change to the channel specified before proceeding.
CLEARED	Authorized to proceed under conditions specified.
CONFIRM	I have received the following or did you receive the message?
CORRECTION	An error has been made in this transmission (message indicated). The correct version is....
DISREGARD	Consider this transmission as not sent.
GO AHEAD	Proceed with your message
HOW DO YOU READ?	What is the readability of my transmission?
I SAY AGAIN	Self-explanatory (use instead of "I REPEAT").
MAYDAY	The spoken word for distress communications.
MAYDAY RELAY	The spoken word for the distress relay signal.

Word or Phrase	Meaning
MONITOR	Listen on (frequency/talkgroup).
NEGATIVE	No, or that is not correct, or I do not agree.
OUT	Conversation is ended and no response is expected
PAN PAN PAN	The spoken word for urgency communications.
READ BACK	Repeat all, or a specified part of a message back exactly as received (do not use the word 'REPEAT'),
SAY AGAIN	Self-explanatory. (Do not use the word "REPEAT".)
STAND BY	I must pause for a few seconds or minutes, please wait and I will call you.
SEELONCE	An international expression to indicate that silence has been imposed on the frequency/talkgroup due to a distress situation.
SEELONCE FEENEE (Silence Fini)	An international expression to indicate that the distress situation has ended.
SEELONCE MAYDAY (Silence Mayday)	An international expression to advise that a distress situation is in progress. The command comes from the station in control of the distress traffic.
THAT IS CORRECT	Self-explanatory.
VERIFY	Check coding, check text with originator and send correct version.
WILCO	Your instructions received, understood and will be complied with.
WORDS TWICE	(a) As a request: Communication is difficult, please send each word, or group of words, twice. (b) As information: Since communication is difficult, I will send each word or group of words, twice.

4. General Users Guide

a. General Procedure

Transmissions by radio shall be as short and concise as possible without sacrificing accuracy. Transmissions should be clear, with natural emphasis on each word except for the prescribed pronunciation of numerals. If applicable, operators must speak slowly enough that the message can be written by the receiving party.

To avoid interfering with other traffic, operators shall listen for a few seconds to make sure that a channel is clear prior to making any transmission on it.

When it is necessary to initiate test signals for the adjustment of a transmitter or receiver, such signals shall not continue for more than 10 seconds. They shall be composed of the word '**TEST**' followed by spoken numerals (1, 2, 3 etc.) and the call sign of the station conducting the test.

b. Establishing Communication

Before passing radio traffic it is necessary to establish communication between the stations involved.

Example A. (Good conditions)

Ambulance 231 transmits: '**Grace Hospital - this is Ambulance 231, over**'.

Grace Hospital answers: '**Ambulance 231 - this is Grace Hospital, go ahead**'.

Ambulance 231 then transmits its message concluding with: '**- over**'.

Grace Hospital replies '**Roger, Grace Hospital out.**'

Example B. (Poor conditions)

Ambulance Dispatch transmits: '**Ambulance 231, Ambulance 231, Ambulance 231, this is Ambulance Dispatch, Ambulance Dispatch, Ambulance Dispatch for a radio check, over.**'

Ambulance 231 answers: '**Ambulance Dispatch, this is Ambulance 231 – your signal is weak but readable, over.**'

Ambulance Dispatch transmits the message for Ambulance 231, slower than normal with a very careful, clear voice concluding with '**- Over**'

Ambulance 231 replies '**Roger, Ambulance 231 out.**'

c. Sequence of Call Signs

When more than one station is called in one transmission, they shall respond in the same order in which they were called. This should normally be in alphabetical order. If one station fails to answer in its turn, the next in turn answers after a 5-second pause. The defaulting station then answers last, if able to do so.

Example:

Ambulance Dispatch transmits: '**St. Boniface Hospital, Health Sciences Centre, Grace Hospital, this is Ambulance Dispatch; over.**'

St. Boniface Hospital Answers: '**Ambulance Dispatch - this is St. Boniface Hospital; over**'

Not hearing Health Sciences Centre, Grace Hospital, waits for 5 seconds and answers: '**Ambulance Dispatch, this is Grace Hospital; over.**'

Ambulance Dispatch then responds with: '**St. Boniface General, Victoria General - roger; Health Sciences Centre, nothing heard**' then delivers the intended message.

d. Use of Mutual Aid Talkgroups

The Incident Commander or Communications Officer will establish networks according to the parties involved in the incident response and the radio systems on which they are operating. When all parties involved are using the PSCS network, the easiest method to establish networks is through a request for assignment of mutual aid talkgroups or to use the shared simplex frequencies when local line of site communications are achievable. Another method is through the use of PSCS console patches. The ability to effectively utilize any of these facilities should be determined through planning and training prior to an emergency event.

In order to receive authorization to use a mutual aid talkgroup, contact must be made directly with an Operations Communications Centre (OCC) for the agency making the request; for EMS this is Ambulance Dispatch at MTCC in Brandon; for RCMP this is RCMP OCC; for 911 services this is 911 Dispatch in Brandon.

e. Directing a Change in Radio/Talkgroup/Channel/Frequency

To prevent interference to other radio communications, or to enable multiple communications paths to operate simultaneously or to coordinate operations by using a common or shared talkgroup or frequency it may be necessary to change channels, talkgroups or frequencies.

Whenever a station moves from the normal operational talkgroup/channel to a different talkgroup/channel the OCC or dispatch agency of jurisdiction must be advised of how the station can be reached.

f. Break-In or transmission interruption Procedures

On occasion, a station having a message of higher priority than a routine transmission in progress may follow the procedure below to break in and thus suspend the original transmission. In no case shall any station break into a channel/talkgroup which has radio silence imposed or which is being used for distress, urgency, or safety messages. In most cases this 'break' will be requested by a dispatch operator who has important information of concern to all parties on this channel/talkgroup and who has the ability to pre-empt radio traffic.

The proword '**BREAK**' spoken three times means cease transmission and listen for an incoming message. Silence will be maintained until the station breaking-in has passed its message.

g. Radio Checks, Signal Strength and Readability

A station is understood to have good signal strength and readability unless otherwise notified. Strength of signals and reliability will not be exchanged unless one station cannot clearly hear another station.

When you require a radio signal check, call another known station and request a signal check. Signal checks should not last more than 10 seconds.

The signal check consists of:

‘(Call sign of known station) this is (your call sign) for a radio signal check. How do you read me? Over.’

When replying to a signal check, the following five-level readability scale should be used:

- 1 - Bad (unreadable)
- 2 - Poor (readable now and then)
- 3 - Fair (readable but with difficulty)
- 4 - Good (readable)
- 5 - Excellent (perfectly readable)

h. Closing Down

When an established multi-agency mutual aid talkgroup is no longer required and is to be closed down, notice must be given to all stations on that talkgroup and the respective dispatch agency. For console patches or for Interoperability or Interagency talkgroup assignment, the incident commander who requested the talkgroup must be the one to close it down.

The normal process will be that the Incident Commander will make a general broadcast to all mobile stations, then to the affected OCC or dispatch agency.

***Example:* ‘All Stations, All Stations, All Stations; this is Incident Command. We are terminating use of the Interagency 1 talkgroup. All stations shall return to their normal operational talkgroup (channel) - over.’ And wait for any outstation to reply. Once the Incident Commander has determined it is safe to do so he will order “All Stations, All Stations, All Stations this is Incident Command. Shutting down Interagency 1 talkgroup now. Out.**

Each individual radio user shall then switch to his/her normal operational talkgroup/channel and advise his/her dispatcher of the change.

Example: Treherne Fire would switch from Fire Talkgroup #1 to Fire Talkgroup #2: **'911, this is Treherne Fire - over.'**

911 acknowledges with: **'Treherne Fire, This is 911, go ahead.'**

Treherne transmits: **'Treherne Fire is returning to the fire talkgroup number two - over'**

911 Dispatch transmits: **'Roger; 911 out.'**

Treherne transmits: **'Treherne Fire out.'**

The Incident Commander will transmit to 911 on Operations 1 talkgroup: **'911 this is Incident Command; over'**

911 responds: **'Incident Command, this is 911; go ahead'**

Incident Command replies: **'911, we are finished with the Operations 1 talkgroup. Please advise all other affected stations; over'**

911 concludes with: **'Roger, use of Operations 1 is terminated; 911 out.'**

Incident Command concludes with: **'Incident Command, out.'**

5. General Considerations

a. Periodic Equipment Checks

All radio equipment should be tested periodically to ensure that it is functional, that the user is familiar with it and for portable radios, to ensure the state of battery charge. A radio test with a dispatcher or OCC should be done regularly for radios that are not used daily.

b. Proper Talkgroup/Channel

Periodically, during the work period every radio operator must check to ensure his/her radio is on the correct operational talkgroup/channel. This applies particularly to portable radios, and those radios without the larger full screen display, which may easily be switched to a different talkgroup/channel inadvertently or be switched off accidentally.

c. Fleetmap/Channel Reference

It is important to realize that the radios of each agency, although they may look like those from another agency, are programmed differently. That is to say, a fire agency, EMS, or police force radio may look identical, and may have some common talkgroups, however they are programmed very differently. Each agency must ensure its users have the appropriate fleetmap or reference-sheet for their respective radios.

d. General Radio Safety

DO NOT:

- Store batteries with flammable materials.
- Disassemble, crush, puncture, shred, or otherwise change the form of your battery.
- Discard your battery in a fire.
- Dry a wet battery with an appliance or heat source, such as a hair dryer or microwave oven. If the radio battery contacts are wet, dry the battery contacts before attaching the battery to the radio.

ALWAYS:

- Store batteries in a well ventilated, temperature (68°F/20°C to 86°F/30°C) and humidity (30%-60% controlled environment).
- Use the battery in accordance with its water and dust Ingress Protection (IP) rating.
- Exercise care in handling any charged battery, particularly when placing it inside a pocket, purse, or other container with metal objects such as jewelry, keys or coins.
- Monthly inspect all battery contacts for dirt, grime and dust. Clean the contacts using a microfiber cloth or a lint free cloth.

Care & Handling:

- Charge battery within 1 month of receipt.
- Always charge your battery using a manufacturer approved charger. Charging in non-approved chargers may lead to reduced performance and battery damage.

Generally, portable radios must be kept dry even though most portable radios are designed to withstand operation in blowing rain and are to a lesser degree, only water “resistant”. In the event that a radio becomes immersed it should be turned off, battery removed and air dried then taken to the advised repair facility for further assessment, repair and diagnostics.

6. Interoperability

a. Frequency Assignments for Band

Frequencies will be assigned per Innovation, Science and Economic Development (ISED) Canada standards pertaining to public safety radio spectrum use.

b. Public Safety Users

- 1) There are effectively three different types of public safety voice operable users in Manitoba
 - a. Those agencies that are utilizing the Public Safety Communications Service (PSCS). These agencies, via the network, have shared access to a number of shared, encrypted and un-encrypted interoperable talkgroups.

- b. Those agencies that utilize independent systems. These agencies usually maintain some sort of interoperable network interface with other systems (i.e. PSCS). These are usually agency specific in some way and are used for specific incident communication on a short term basis.
 - c. Those agencies that maintain some sort of capability on both proprietary and other systems (i.e. PSCS). Examples would be an agency that has their own system but carries radios for a second system (i.e. PSCS) for interoperability reasons.
- 2) These protocols and guidelines attempt to address the interoperable voice requirements of all three types of users to some degree.
 - 3) These protocols do not supersede or replace local memorandums of agreement between independent agencies that have been initiated for interoperable activities.

c. Agency Priority Levels

To ensure critical radio communications are able to be transmitted when required, all PSCS radio messages are assigned a priority. The priorities determine which message has precedence if the network is congested. The table below outlines the priority levels

Priority Level	Description	Example(s)
1	Emergency Alerts/ERTT (Emergency Request to Talk).	Emergency Alerts are programmed on various user radios, mainly law enforcement groups, to allow the user to quickly contact their dispatcher and/or co-workers in a life and death situation by simply pressing the emergency button on their radio.
2	System Use	
3	User groups that carry out criminal law enforcement, and who normally carry sidearms in the course of their duties.	<ul style="list-style-type: none"> • Police Agencies (RCMP, municipal forces) • Conservation Officers
4	Liaison talkgroups connecting police services with other emergency medical responders where interactions with police agencies seen as extremely time sensitive.	<ul style="list-style-type: none"> • Directing medical responders to a remote rural accident scene. • Emergency medical responders receiving medical instructions to be used in life saving activities. • Interagency and mutual aid. • Provincial EMO
5	Other general first responder operations/response talkgroups.	<ul style="list-style-type: none"> • Fire services/fire protection at all levels of government • General ambulance operations • Provincial response teams

Priority Level	Description	Example(s)
		<ul style="list-style-type: none"> Certain private entities which interact with first responders, such as gas pipeline operators and their emergency response teams.
6	Groups that provide non-first response emergency management services.	<ul style="list-style-type: none"> Municipal and provincial Emergency Management Offices. General operations of the Canadian Coast Guard.
7	Groups that do lower level law enforcement duties (unarmed officers) and to most other government organizations that support first responders and public safety.	<ul style="list-style-type: none"> Provincial Sheriffs Office and Corrections Health Services Emergency Management OFC Administration
8	Public works groups that are not providing public safety services in their normal operations.	<ul style="list-style-type: none"> Transportation - Highway Operations Public Works – Provincial and Municipal
9	Parks and recreation type users/school divisions.	<ul style="list-style-type: none"> Conservation – Parks Operations
10	Administrative or logistics purposes.	<ul style="list-style-type: none"> Transit - municipal Transportation – Administration

d. Public Safety Users Multi-Agency Response

1) The different types of multi-agency radio voice communication scenarios include:

- a. *User to User* – different systems – different agency types.
- b. *User to User* – different systems – same agency type – different jurisdictions.
- c. *User to User* – same system – same agency type – different jurisdictions.
- d. *User to User* – same system – different agency type.
- e. Some combinations of the above.

2) Foundation principles for multi-agency communications include:

- a. Respect for the autonomy, jurisdictional authority and operational requirements of other agencies.
- b. Agency line of business or tactical communications should remain on agency specific channels or talkgroups.

- c. Shared interoperability talkgroups or network level connected communications should be utilized for coordination and life safety purposes in multi-agency response situations.
- d. Shared Emergency Measures talkgroups should only be utilized for specific Incident Command and Control scene command post.
- e. Front line responders must observe proper radio etiquette and remember that multi-agency communications are not usually encrypted.
- f. Each agency is responsible to ensure that front line personnel are adequately trained in the operation and use of radio equipment and protocols.

e. Incident Protocols

- 1) There are two general types or scenarios involving multi-agency voice communications:
 - a. **Large Scale Incidents** – these incidents are characterized by a large number of agency participants or front line responders, extended operational periods, large areas of damage, mass casualties and the requirement for large scale command and control activities. An example would be a tornado striking a community. The Manitoba Emergency Measures talkgroups could be used under this situation, by agency incident commanders.
 - b. **Day to Day Incidents** – these incidents occur daily on a reduced scale in terms resources, victims, damage and activities. This does not suggest that these activities are not critical – rather they are typical and represent the vast majority of situations where front line responders from different agencies need to briefly “talk to one another”. The typical example would be a motor vehicle collision involving entrapment, multiple vehicles and casualties and the request for Police or Fire requirement for traffic control. The PSCS Interoperability talkgroup(s) could be used in under these situations, by the responding Police Fire and EMS agencies.

f. Interoperability Talkgroups

The following information outlines the interagency talkgroups and which organizations will have access to said talkgroups.

Interagency 1 to 6 (*encrypted talkgroup Alias name- IAGE 1 – 6*)

Provincial Inter agency group. Available only to Tier 1 Users (Police, Fire, Ambulance)

To be used on a shared basis for initial inter-agency emergency site coordination/communications between responding agencies (Police, Fire, Ambulance).

This is not intended for incident management of any duration

Interagency 7 (encrypted Alias name - IAGE 7)

Provincial Inter agency group. Available to Tier 2 Users

To be used on a shared basis for initial inter-agency emergency site coordination/communications between responding Tier 1 and Tier 2 user agencies when responding to a mutual event. This is not intended for incident management of any duration

Interagency 8 (clear talkgroup Alias name - IAGE 8)

Provincial Inter agency group. Available to Tier 3 Users

To be used on a shared basis for initial inter-agency emergency site coordination/communications between responding Tier 1, Tier 2 and Tier 3 user agencies when responding to a mutual event. This is not intended for incident management of any duration

EMO Ops1 (encrypted talkgroup Alias name – EMO OPS1)

Available to Tier 1, 2, and 3 Users. To be used by the emergency site manager/incident commander, command post fire, command post ambulance, command post police for inter-agency telecommunications. This talk group would be assigned by E911 consortium in conjunction with MTCC, Police and Manitoba EMO after request by the incident site commander or at initial dispatch by E911.

EMO Ops2 (encrypted talkgroup Alias name – EMO OPS2)

Available to Tier 1, 2, and 3 Users. To be used at a second major emergency by the emergency site manager/incident commander, command post fire, command post ambulance, command post police for inter-agency telecommunications. This talk group would be assigned by E911 consortium in conjunction with MTCC, Police and Manitoba EMO after request by the incident site commander or at initial dispatch by E911.

EMO Ops3 (clear talkgroup Alias name – EMO OPS3)

Available to Tier 1, 2, and 3 Users. To be used at a third major emergency by the emergency site manager/incident commander, command post fire, command post ambulance, command post police for inter-agency telecommunications. This talk group would be assigned by E911 consortium in conjunction with MTCC, Police and Manitoba EMO after request by the incident site commander or at initial dispatch by E911.

EMO SPX (clear frequency Alias name – EMO SPX)

Available to Tier 1, 2, 3 Users. This disaster simplex (conventional, non-trunked) channel is a short-range communications channel that does not require any part of the PSCS trunked network to function. This channel is to be used by agencies on a shared basis

for line of site interagency communications during emergency situations and mutual aid events.

POLICE (*encrypted talkgroup Alias name – POLICE*)

Available only to police forces (RCMP, municipal and first nations). To be used on a shared basis for site coordination/communications between forces. This is not intended for incident management of any duration.

g. Interoperability General Information

1. Use plain English – no 10 codes –
2. Do not use acronyms or abbreviations – your acronym may mean something else to another user.
3. Use proper radio protocol – identify who you are calling (agency and unit number if known) followed by who you are (agency and unit) – there could be more than one “Unit One” or “Bill Smith” on the air. Example: “Brandon 911 this is The Pas Fire.”
4. Be familiar with your radio – if you are not sure of radio function – check with your agency trainer.
5. Interoperable network talkgroups should be used for on scene command coordination only – tactical radio traffic should remain on agency specific talk network talkgroups or a simplex talkgroup as per normal agency practice.
6. Be familiar with how to access and use the simplex channels on your radio – if so equipped.
7. Tactical traffic on scene and to dispatch should remain on agency specific talkgroup where possible.
8. Should you need to call a specific Dispatch center on the interoperable talkgroup you must identify which dispatch center you are calling e.g. “Brandon 911, this is Portage la Prairie Fire”
9. As soon as the incident is resolved, scene command or primary units involved must advise dispatch that the talkgroup will be cleared.
10. Remember that interoperable talkgroups may not be encrypted therefore guard sensitive conversations.

h. Training

1. Training is critical in the development and maintenance of strong interoperable voice communications capacity. Various training materials will be continually maintained and shared with all respective agencies. Internal training manuals are also encouraged. The training materials provided by Manitoba will not replace internal training materials and practices as the material provided by Manitoba is meant to help provide applicable information that will apply to all on the PSCS.
2. The PSEs will be provided training material on the VEMA website owned and maintained by Manitoba. <http://www.vema.gov.mb.ca/public-safety-communications-service-pscs>
3. Mutual aid exercises are also very useful. The PSEs will be provided current and applicable materials that will encourage best practice exercises.

7. Additional Policy

a. ISED Categories

All procedures, where applicable, have been developed following ISED's categories as defined below regarding the use of the 700 MHz public safety spectrum.

- a) **Category 1** – police, fire and emergency medical services;

Examples: RCMP, Brandon Police Services, MTCC, Provincial 911, OFC, municipal volunteer fire departments.

- b) **Category 2** – forestry, public works, public transit, hazardous material clean-up, border protection and other agencies contributing to public safety

Examples: MIT – highway operations, CBSA, Brandon Transit, School Division School buses, private emergency support services

- c) **Category 3** – Other government agencies and certain non- government agencies or entities.

Examples: Hydro and gas utilities which may be permitted access during emergency situations

b. Encryption

Due to the sensitivity of the information relayed on the network, by some agencies (Police/Fire/Ambulance), communications on PSCS can be encrypted as a second layer of security in addition to the network authentication required for each radio. The following agencies must have encryption keys installed on their radios:

1. All police agencies
2. All municipal fire departments
3. All ambulance services
4. All Manitoba departments

The list above is not meant to be an exhaustive list. Additional agencies can be added to the list if a requirement is identified and approved by Manitoba.

c. Radio Encryption Keys

To enable encrypted communications, encryption keys will be installed on the required radios as part of the deployment process. To maintain on-going security and ensure no unauthorized parties can receive radio transmissions, the encryption keys will be refreshed and pushed out to all required radios. No action is required, by the PSEs, to apply the new encryption keys. If a radio

is powered off, when new keys are deployed, the new key will be pushed to that radio, over the air, when it is powered on.

d. Mobile Tower Unit (MTU)

The Mobile Tower Units (MTUs) are owned, maintained and deployed by Bell upon direction received from the Government of Manitoba. The MTUs will have two main usage purposes:

- a. Utilized in emergency situations throughout Manitoba (e.g. additional radio capacity the southern portion of the province during flood season).
- b. Utilized as a backup tower site by Manitoba and Bell for scheduled and unscheduled tower site outages (e.g. tornado destroys an existing tower).

e. Approving New PSEs on PSCS

In order to approve new PSEs on PSCS a formal approval process is necessary. Manitoba will follow the Innovation, Science and Economic Development (ISED) Canada - Standard Radio and System Plan (SRSP) guidelines.

- a. **Category 1** - police, fire and emergency medical services;
- b. **Category 2** - forestry, public works, public transit, dangerous chemical clean-up, customs and other agencies contributing to public safety; and
- c. **Category 3** - Other government agencies and certain non-government agencies.

The following process shall be applied:

- **Step 1** – Customer calls Bell 1800 or emails PSCSSupport@bellmts.ca
- **Step 2** – Bell reviews if customer is on authorized user list; if not, Bell provides the Request for Authorization to Access PSCS Network Application and Billing Information Form to customer.
- **Step 3** - Customer completes the form and sends it by email to Manitoba: PSCSSupport@gov.mb.ca.
- **Step 4** - Manitoba reviews application and approves the application (within 5 business days). If the application is declined, Manitoba works directly with potential customer to investigate further.
- **Step 5** - Manitoba sends the completed form (approved/declined) by email to Bell: PSCSSupport@bellmts.ca.
- **Step 6** - Bell processes the application and informs customer via email.

8. Appendices

Appendix A – Glossary of Terms

i) Definitions

- I. **Group** – Refers to any logical grouping of radio equipment, the membership of which is determined based on shared encryption-related attributes. For example, a group may be a collection of Subscriber Units that hold one or more identical keysets (i.e., TEKs). A group may be managed as a single subscriber by the KMF. A group may be a subset of a Key Management Group.
- II. **Incident Command Systems** – A command and control system featuring specific functions within a structure to effectively manage incidents that is scalable.
- III. **Incident Commander** – Person representing the agency having jurisdiction over and incident and in command of activities at that incident.
- IV. **Interoperable Network Talkgroup** – Talkgroup accessible to multiple user agencies on a radio network.
- V. **Network Talkgroup** – Talkgroup on a network accessible to specific users on the network
- VI. **Primary Agency Network Talkgroup** – Network talkgroup that is the primary talkgroup for user to Dispatch Center radio traffic
- VII. **Primary Dispatch Center** – The Dispatch center representing the agency having initial or primary jurisdiction over an incident.
- VIII. **Interoperable Network Talkgroup** – The Province of Manitoba is divided into 2 geographic zones. A series of province-wide shared non-agency specific Interoperability talkgroups will be provided for PSCS users.
- IX. **Public Safety User**- A front line radio user engaged in Public Safety emergency response, enforcement or support to critical infrastructure.
- X. **Public Safety User Agency** – Also known as a Public Safety Entity, this is the agency representing Public Safety User
- XI. **Secondary Dispatch Center** – Dispatch Center representing agencies responding to but not having primary jurisdiction over an incident.
- XII. **Simplex Talkgroup** – Radio to radio “line of site” talkgroup not connect to a network.
- XIII. **Tactical Agency Radio Traffic** – Tactical command communications at a localized site level. Usually between multiple single agency users. Utilized to keep radio traffic off network talkgroups to prevent radio traffic congestion.

ii) Abbreviations

ERTT Emergency Request to Talk

RTT Request to Talk

FIPS Federal Information Processing Standards

ID Identifier

MOU Memorandum of Understanding

MR Mobile Radio

OTAR Over-The-Air-Rekey

PTT Push To Talk

RF Radio Frequency

RTT Request to Talk

SLA Service Level Agreement

TG Talkgroup

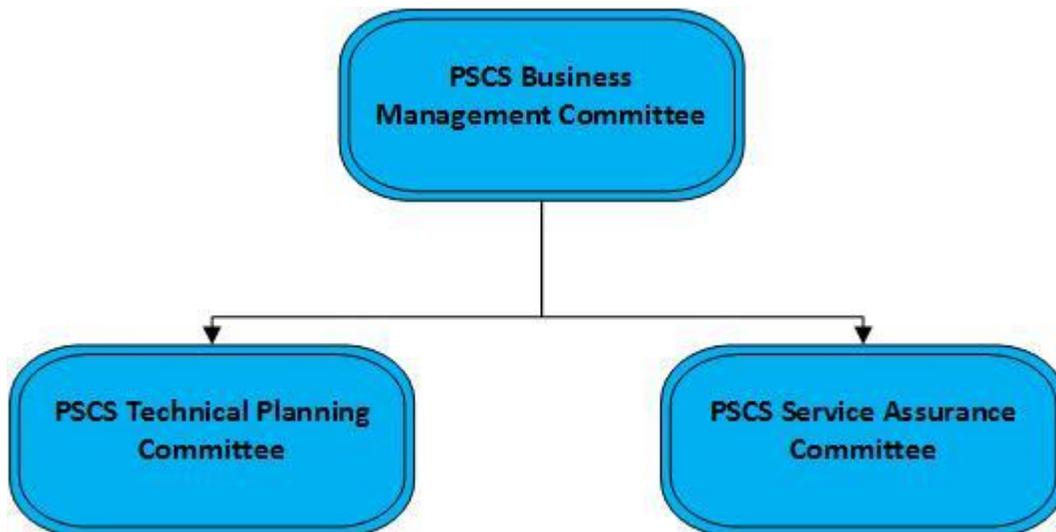
VR Vehicular Repeater

Appendix B – PSCS Approved Radios

Current approved radios on PSCS include:

Manufacturer	Model
Motorola Solutions	APX™ 8000H All-Band P25 Hazloc Portable Radio
Motorola Solutions	APX™ 8000HXE All-Band P25 Hazloc Portable Radio
Motorola Solutions	APX™ 8000XE All-Band Portable Radio
Motorola Solutions	APX™ 8000 All-Band P25 Portable Radio
Motorola Solutions	APX™ 8500 All-band P25 Mobile Radio
Motorola Solutions	APX™ 7000XE Multi-Band P25 Portable Radio
Motorola Solutions	APX™ 7000 Multi-Band Portable Radio
Motorola Solutions	APX™ 7500 Multi-Band Mobile Radio
Motorola Solutions	APX™ 6000XE P25 Enhanced Portable Radio
Motorola Solutions	APX™ 6000 P25 Enhanced Portable Radio
Motorola Solutions	APX™ 6500 Single-Band P25 Mobile Radio
Motorola Solutions	APX™ 4000XH Single-Band P25 Portable Radio
Motorola Solutions	APX™ 4000 Single-Band P25 Portable Radio
Motorola Solutions	APX™ 4500 Single-Band P25 Mobile Radio
Motorola Solutions	APX™ 3000 Single-Band P25 Covert Portable Radio
Motorola Solutions	APX™ 1500 Single-Band P25 Mobile Radio
Motorola Solutions	APX™ 2000 Single-Band P25 Portable Radio
Motorola Solutions	APX™ 2500 Single-Band P25 Mobile Radio
Motorola Solutions	APX™ 1000 Single-Band P25 Portable Radio
Motorola Solutions	APX 900 Single-Band P25 Portable Radio
Motorola Solutions	XTS™ 1500 Portable Radio
Motorola Solutions	XTL™ 1500 Mobile Radio
Motorola Solutions	XTS™ 2500 Portable Radio (B version only)
Motorola Solutions	XTL™ 2500 Mobile Radio

Appendix C - PSCS Governance



Manitoba/Bell PSCS Business Management Committee

The PSCS Business Management Committee is the collection of individuals who will maintain the strategic priorities and policies, and provide advice and direction to the PSCS Technical Planning Committee, and the PSCS Service Assurance Committee.

Responsibilities

- Approve or deny recommendations brought forward for service changes/improvements by the PSCS Technical Planning and Service Assurance Committees.
- Set priorities and monitor progress on PSCS initiatives.
- Resolve any significant issues arising from the interpretation or implementation of the PSCS agreement.
- Promote a harmonious working relationship between Bell and Manitoba

Manitoba/Bell PSCS Technical Planning Committee

The PSCS Technical Planning Committee is comprised of individuals who have technical expertise of public safety communication services and represent a cross section of the PSE's utilizing the service.

Responsibilities

- Identify technology planning cycles on a yearly basis
- Research, evaluate, provide cost estimates, and recommend which technological changes should be implemented to enhance the PSCS service.
- Bring forward the above item(s) to the PSCS Business Management Committee.

- Provide recommendations to remedy system issues arising out of problem management reporting, audits, and actions from the PSCS Service Assurance Committee.
- Respond to new or changed business requirements that would affect the system build/configuration and recommend the appropriate actions to the PSCS Business Management Committee.

Manitoba/Bell PSCS Service Assurance Committee

The PSCS Service Assurance Committee is tasked with monitoring and reporting the overall health of the system ensuring service level metrics are being met.

Responsibilities

- Generate a service baseline by reviewing existing FleetNet service statistics.
- Assist with the development and on-going reviews of the administration, operation, and maintenance guidelines/policies for the PSCS.
- Ensure the Incident Management, Problem Management, and Change Management processes are effectively managed.
- Review and resolve non-standard/exceptional service issues or new service requests.
- Identify and develop opportunities for continuous improvement including technology and services innovation which will be shared with the PSCS Technical Planning Committee.
- Escalate issues to the PSCS Business Management Committee.