



PROVINCE OF BRITISH COLUMBIA

**AMATEUR RADIO EMERGENCY
COMMUNICATIONS GUIDE**

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PROVINCIAL EMERGENCY PROGRAM AMATEUR RADIO EMERGENCY COMMUNICATIONS GUIDE

FOREWORD

Effective and reliable communications are essential to coordinate the response to emergencies and disasters. While many networks are in place to handle day-to-day communications, in case of major events these systems may not be available. All levels of government call upon Amateur Radio Operators to provide communications when other systems fail.

This manual, produced by the Amateur Radio Service volunteers associated with the Provincial Emergency Program, is designed to provide guidelines and policies in order to standardize radio operations in emergency situations.

Director
Provincial Emergency Program

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Editing

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and

Provincial Emergency Program Staff

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PEP Emergency Communications Centre (ECC) Supervisor, past and present

PEP ECC Radio Station Manager (VE7PEP), past and present

Provincial Amateur Radio Coordinator, past and present

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1.0 - INTRODUCTION

This document provides volunteer amateur radio operators with a written guide containing information for efficient emergency communications. The material presented will increase the efficiency of communications during emergencies and exercises between the:

- Municipal Emergency Operations Centre and the location of the emergency;
- Provincial Emergency Program (PEP) Regional Manager and the Municipal Emergency Operations Centre;
- Emergency Coordination Centre (ECC) at PEP headquarters and the PEP Regional Manager.

Note - the Regional Manager may be operating from or at an established Provincial Field Response Centre (PFRC) in support of the emergency.

The Amateur Radio Emergency Communications Guide shows by example, the parameters within which the amateur radio volunteer should operate in emergency communications. It is not intended to be a comprehensive training guide in all aspects of amateur radio.

1.1 - THE PEP AMATEUR RADIO SERVICE

The PEP Amateur Radio Service (ARS) is an emergency radio communications service staffed by amateur radio volunteers in the service of the public, usually in support of the local Municipal Emergency Program, but also, in some instances, directly to PEP or associated agencies. The Provincial Emergency Program (PEP) offers advice and administrative support to PEP ARS activities. The provincial government has recognized the PEP ARS as provider of emergency communications for the province of British Columbia.

To become a registered PEP volunteer, the radio operator fills in an application card provided by the Municipal Emergency Program Coordinator (MEPC). The completed application form is returned to the MEPC who forwards it to the PEP. The applicant will receive in the mail the form required to obtain a photo ID card. The form received will clarify the process by which the ID card is obtained.

Each volunteer to the communications service should possess either a Certificate of Proficiency in Amateur Radio or appropriate Radio Operators Certificate.. Although non-amateur volunteers are a valuable resource, their utilization in the communications section will be restricted to operating non-amateur radio equipment. Training to upgrade special skills is usually available, although training will not be given in the operating of equipment.

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The amount of time a radio amateur may give to the PEP ARS varies tremendously. Some donate an hour a week, others an hour a month. By statute, no amateur may receive any fees for services rendered while using his or her radio licence or equipment. Reimbursement of expenses and for loss/damage may be available (refer to Section 1.7 of this Guide). A typical claim will be for mileage if the coordinator of the task requests a vehicle. A volunteer is not required to provide station equipment but usually brings a personal radio. Task sponsors are expected to provide logistic support (eg. food and lodging). Special clothing (eg. safety and weather) is usually provided, but personal clothing is the responsibility of the volunteer. Volunteers may provide any extra equipment they feel is appropriate.

1.2 - EMERGENCY COMMUNICATIONS

The ability to communicate effectively in an emergency is the result of carefully prepared communications plans having been developed and tested. Yet communications plans do not "stand alone". It is the role of governments to produce an overall scheme, an example being a municipal emergency plan, of which the communications plan is a component.

Emergency plans are produced so that all available resources are used in the most efficient way possible. The communications plan, which is part of the emergency plan, is produced to organize the radio amateurs and others who offer their assistance with communications.

In the past radio amateurs have provided "First Response" and "Personal Communications" as described below. They are now being asked to provide "Disaster Management Communications".

"FIRST RESPONSE"

The radio amateur observes the emergency in progress and raises the alarm. The radio amateur then offers support by utilizing his or her own radio equipment at the scene of the emergency.

"PERSONAL COMMUNICATIONS"

A radio amateur (usually at home) which is unofficially involved in the relaying of emergency traffic such as Health and Welfare and Registration and Inquiry (R&I). In this situation, the radio amateur is not associated with or attached to any organized emergency response group or government agency.

"DISASTER MANAGEMENT COMMUNICATIONS"

In the PEP ARS, radio amateurs are involved in the handling of ESS, Reception Centre, EOC and Health and Welfare and Registration and Inquiry (R&I) traffic from the disaster area. In this capacity amateurs may be members of, or associated with, other amateur groups such as the Provincial Emergency Social Services Operations Centre (PESSOC) or the Amateur Radio Emergency Service (ARES).

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With respect to amateur radio emergency communications, all radio amateurs would be working towards the same objectives and common goals. This is illustrated with the PEP Radio Advisory Committee which includes members representing the PESSOC and ARES.

Potential disasters that confront communities in British Columbia that may require amateurs to provide "Disaster Management Communications" include:

Extreme Weather Conditions	Aircraft Crashes
Dangerous Good Incidents	Train Derailments
Forest Fires	Power Outages
Volcanic Ash Falls	Floods
Earthquakes/Tsunamis	Community Isolation

It is important that members of the PEP ARS understand that they are usually providing communications as detailed in Section 1.0 of this Guide.

1.3 - THE PROVINCIAL EMERGENCY PROGRAM

PEP sponsors volunteers of the PEP Amateur Radio Service (PEP ARS) providing emergency communications. Of the many PEP volunteers, several thousand are members of the PEP ARS.

VISION STATEMENT

The Provincial Emergency Program, as an essential part of the public safety network of British Columbia, will be the leader in emergency management, helping people prepare for, respond to and recover from emergencies and disasters.

MISSION STATEMENT

The Provincial Emergency Program's Mission is to enhance public safety and reduce property and economic loss from actual or imminent emergencies or disasters by:

- mitigating the effects of emergencies and disasters through education and awareness;
- promoting preparedness through planning, training and exercising;
- coordinating and assisting in response activities; and
- developing and implementing recovery measures.

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VALUES STATEMENT

The Provincial Emergency Program, in its relationship with the public, partners and employees, adheres to the principles of openness, honesty, fairness and mutual respect and strives to be:

- proactive, progressive and innovative,
- dependable, effective and accessible, and
- cooperative and consultative.

In Appendix A there is a simplified diagram of the Provincial Emergency Program's internal structure as well as the Program's interface with the PEP ARS.

1.4 - OPERATION OF THE PEP EMERGENCY COORDINATION CENTRE AND VE7PEP

The PEP Emergency Coordination Centre (ECC) is staffed 24 hours a day, 7 days a week. The ECC provides and maintains a province-wide ECC Communications System. The ECC receives, distributes and responds to information and reports of human-made and natural disasters and other emergency incidents that occur throughout the province of British Columbia.

Included as part of the ECC is the amateur radio station VE7PEP. During normal operations VE7PEP is on the air each Wednesday evening at 1900 hours local time, with an HF Net on 3735 KHz and simultaneous monitoring of 7060 KHz. Following the voice net is an HF packet net on 3615 KHz (LSB). All radio amateurs, including new amateurs, are welcome to participate in these nets.

During emergencies, VE7PEP and the ECC's commercial station XMV701 will attempt to be operational and guarding the following frequencies within one hour of receiving a call-out:

VE7PEP

3735 KHz
7060 KHz
147.420 MHz

XMV701

7550 KHz day
3245 KHz night
148.685 MHz

Repeater Rx 452.2375 MHz
Repeater Tx 457.2375 MHz

1.5 - EMERGENCY COORDINATION CENTRE (VE7PEP) RADIO STATION MANAGER

The ECC (VE7PEP) Radio Station Manager is responsible to the ECC Supervisor. The function of the ECC (VE7PEP) Radio Station Manager is to :

- to ensure the efficient operation of all the radio and auxiliary equipment in the ECC radio station ;
- recruit and train the staff necessary to operate the PEP HQ radio station.

A full description of roles and responsibilities can be found in Appendix H.

1.6 - INTRA PROVINCIAL RADIO SERVICE

The INTRA PROVINCIAL radio service is intended to provide contact between major centres in case of the failure of normal communications systems. Both commercial and amateur frequencies will be used. The differences between the two systems are the frequencies used and who operates the equipment. If frequencies assigned to the amateur radio service are used, only licensed radio amateurs can operate or supervise the operation of the equipment. If "commercial" frequencies are used, then a holder of an appropriate Radio Operators Certificate can operate the equipment. The beneficiaries of the INTRA PROVINCIAL service are the residents of the many municipalities and communities in British Columbia.

1.7 - THE ALLOCATION OF A PEP TASK NUMBER

The PEP assists registered volunteers by providing limited funding for training activities. The PEP assigns task numbers which provide volunteers with the following:

- Workers Compensation Board (WCB) coverage;
- third party liability insurance of one million dollars;
- replacement costs for material lost or damaged while carrying out a task;
- vehicle and other transportation and equipment usage costs;
- meals;
- accommodation costs;
- travel; and,
- other costs on approval by the PEP.

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The availability of and conditions for reimbursement of out-of-pocket costs are shown in the PEP Policy and Procedures Manual, Chapter 6, Section 05.

If a Municipal Amateur Coordinator (MAC) requires coverage of a communications training exercise, he/she should consult the Municipal Emergency Communications Coordinator (MECC) or the Municipal Emergency Program Coordinator (MEPC). The MEPC is the municipal authority responsible for requesting the PEP training and operational task number(s).

The MEPC and MAC complete the APPLICATION FOR TRAINING TASK NUMBER FORM (see Appendix B for sample form) which is sent to the Regional Manager at the local area Regional Office of the PEP. Examples of training activities for which training task number applications are made include: WCB coverage only; WCB coverage and mileage costs for vehicles, or; the reproduction of maps needed for a specific area of training. Application for Training Task Number forms are forwarded to the PEP HQ from the Regions. A task number is then issued by the PEP ECC and passed back to the Regional Manager with the original Application for Training Task Number form. The task number and the original Application for Training Task Number is then given to the MEPC. The task number the MEPC is given is found in the bottom right corner of the returned Application for Training Task Number form. It is a six-figure number, beginning with the year issued (eg. 99----). Standing training task numbers that last six months to a year can be issued to cover tasks such as monthly training meetings within a municipality.

Upon receiving the task number, the person in charge of the municipal communications exercise (eg. the MECC or MAC) completes the TASK REGISTRATION FORM (see Appendix C). On completion of the task, the Task Report Form (see Appendix D) must be filled out. Both the Task Registration form and the Task Report Form are returned to the MEPC who forwards them to the Regional Manager. The Regional Manager checks for any possible errors on both forms and sends them to the PEP HQ for close out.

Operational Task Numbers are only issued to cover an incident. For emergency incidents the task number provides coverage that includes any reasonable costs necessary to bring about a successful resolution.

2.0 - THE PEP AMATEUR RADIO SERVICE PROFILE

The Provincial Emergency Program (PEP) offers advise and administrative support to the activities and advancement of volunteers of the Amateur Radio Service (ARS).

2.1 - THE PEP RADIO ADVISORY COMMITTEE

The Radio Advisory Committee provides advise to the Provincial Emergency Program on issues relating to commercial and amateur radio communication services. In addition, the committee facilitates and encourages amateurs and amateur groups throughout the province to actively and effectively participate in emergency programs.

This is accomplished through the establishment of policies, procedures, standards and training which are intended to result in an effective communications response to whatever emergency may arise.

The committee is composed of the six Regional Amateur Radio Representatives, their Assistants, and a representative from each of the following; Provincial Emergency Program (PEP), Provincial Emergency Social Services (PESS), Amateur Radio Emergency Services (ARES), and selected other representatives as required. The Chair of this committee is elected from within the membership of this committee, by this committee. In this capacity, the Chair also serves as the Provincial Amateur Radio Coordinator, who reports to the PEP Telecommunications Officer.

Terms of Reference for the PEP Radio Advisory Committee can be found in Appendix I.

2.2 - THE PROVINCIAL AMATEUR RADIO COORDINATOR

The Provincial Amateur Radio Coordinator (PARC) is responsible to the PEP Telecommunications Officer. The function of the Provincial Amateur Radio Coordinator is to :

- provide radio communications advice to the PEP ;
- develop an intra-provincial amateur radio communications system ;
- preside as Chair of the PEP Radio Advisory Committee (RAC) ;
- advise Members of the Radio Advisory Committee and the ECC Radio Station Manager on communications system planning and training.

A full description of roles and responsibilities can be found in Appendix J.

3.0 - REGION PROFILE

For administrative purposes the PEP divides British Columbia into Regions, each with a Regional Manager and an Administrative Assistant (see Appendix B).

3.1 - PEP REGIONAL MANAGER

The PEP Regional Manager, an employee of the Provincial Government, advises and assists local governments, industry and volunteer organizations to develop plans that will enable them to react to emergencies. The Regional Manager provides a timely response to emergencies through the management of resources from appropriate agencies, government and the private sector. The Regional Manager sets up regional public information and training programs for local governments and volunteers.

3.2 - REGIONAL AMATEUR RADIO REPRESENTATIVE

The Regional Amateur Radio Representative (RARR) is first responsible to the PEP Regional Manager, and second to the Provincial Amateur Radio Coordinator. The function of the Regional Amateur Radio Representative is to :

- provide radio communications advice to the PEP Regional Manager ;
- develop an intra-regional amateur radio communications system ;
- preside as a Member of the Radio Advisory Committee (RAC) ;
- advise area Municipal Amateur Radio Coordinators on communications system planning and training ;
- will act as sponsor for the PEP Regional Office amateur radio licence(s).

A full description of roles and responsibilities can be found in Appendix K.

3.3 - REGIONAL EMERGENCY OPERATIONS CENTRE

Each Region may have an Emergency Operations Centre (EOC) for execution of tasks as required by the PEP. They would usually be located within the Regional Manager's office, and in the early stages of an emergency, would function as command centre(s) for the PEP. Dependant on the magnitude and location of the emergency, a Provincial Field Response Centre (PFRC) may be established in the proximity of the emergency to direct and coordinate activities. Local amateur radio volunteers may be requested to provide emergency communications at either of these EOCs. Note that the PFRC's are Provincial EOCs, not to be confused with EOCs that would be established by the municipal government or governments involved with the emergency in question.

4.0 - MUNICIPAL PROFILE

Municipalities are now required to create emergency plans. The method is to enact a bylaw that forms executive and planning committees in charge of formulation and execution of a municipal emergency plan. Municipal Emergency Committees are chaired by a Municipal Emergency Program Coordinator (MEPC). These committees should include a representative from the police, firefighting, public works, social services and a Municipal Emergency Communications Coordinator (MECC). Committee members are often a combination of municipal employees and volunteer organization representatives.

The Municipal Emergency Communications Coordinator (MECC) may produce an emergency communications plan in conjunction with the general municipal emergency plan. The communications plan may use many communications resources.

4.1 - MUNICIPAL EMERGENCY PROGRAM COORDINATOR

The Mayor and Council will hire or appoint a Municipal Emergency Program Coordinator (MEPC) who will oversee the Municipal Emergency Plan.

4.2 - MUNICIPAL EMERGENCY COMMUNICATIONS COORDINATOR

The Municipal Emergency Communications Coordinator (MECC) is responsible for all emergency communications within the municipality. The MECC is directly responsible to the MEPC. It is the responsibility of the MECC to utilize communication resources within a municipality to form an effective emergency communications plan.

4.3 - MUNICIPAL AMATEUR COORDINATOR

The Municipal Amateur Coordinator (MAC) is responsible to the local Emergency Planning Committee. The function of the Municipal Amateur Coordinator is to :

- provide radio communications advice to the local Emergency Planning Committee ;
- develop a local amateur radio communications system ;
- advise local amateur radio volunteers on communications system planning and training ;
- recruit and organize local amateur radio volunteers in the PEP Amateur Radio Service.

A full description of roles and responsibilities can be found in Appendix L.

4.4 - MUNICIPAL EMERGENCY PLANS

The communications section of the municipal emergency plan will provide for the following:

- emergency communications for the municipal government within the municipality during an emergency;
- emergency communications between municipal officials and the PEP Regional Headquarters and/or the PEP HQ in Victoria; and,
- emergency communications for agencies involved in the delivery of Emergency Social Services.

4.5 - MUNICIPAL EMERGENCY OPERATIONS CENTRE

Municipal Emergency Operations Centres (EOCs) are the command centres for each Emergency Program Coordinator, established in accordance with an individual municipal emergency plan. Characteristics of municipal EOCs may vary. A municipal EOC may be of fixed location or mobile. They can be of any size. Municipalities may establish permanent EOCs or have space that can be changed into an EOC in relatively short notice. Depending upon emergency plans developed by the MEPC, the PEP ARS may be an operating component of the municipal EOC. Amateur radio may not be the only communications resource used.

4.6 - MUNICIPAL PLAN ACTIVATION

When a situation arises which requires emergency amateur radio communications, the local MAC will be notified by the Municipal Emergency Program Coordinator. The mayor and/or council may activate or may have delegated the authority to activate the Emergency Plan on the advice of the Municipal Emergency Program Coordinator. The MAC will notify other amateurs in the area that assistance is required. He/she will do this by telephone "fan-out" system, personal contact, a tone alert system on a prearranged frequency, or a combination of the above as shown in the Emergency Plan.

After being notified of an event needing their assistance, amateurs should then check into the assigned frequency for their area. They should then inform the Net Control Station (NCS) of their availability. From then on, unless they have traffic, they should be silent unless called upon by the NCS.

If a radio amateur or group of radio amateurs is asked to go to a remote location to provide communications, it is strongly recommended that a Personnel Check Form be left behind with someone in authority. This form will record the names of the members of the group, who is in charge, how the group is travelling, if en route communication is possible, and the estimated time of arrival. A form for this purpose may be found in Appendix M.

5.0 - NET OPERATION AND CONTROL

A Net is a group of radio stations operating on a frequency or frequencies with a common interest or function.

5.1 - NET CONTROL STATION

The efficiency with which operations are carried out depends almost entirely on the operating ability, the signal strength, and the familiarity with procedures of the Net Control Station (NCS).

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The NCS is charged with the:

- clearing of "message traffic" in the Net;
- maintenance of order within the Net.

Success or failure of actual Net Operations depends on keeping the Net operating swiftly and smoothly by exercising the authority of the NCS for this purpose. The following are within the prerogative of the NCS:

- the NCS may break into the Net at anytime if, he/she thinks it is necessary to aid in the functioning of the Net. (A NCS that must break into his/her own net shows that control of the net has been lost; training exercises should help in eliminating the chances of such a breakdown);
- any station may be told to "wait" if they are interfering with transmissions; and,
- the NCS will keep a record of which stations report in and what "traffic" they have.

Other duties of the NCS include:

- knowing where each net member is located and what "traffic" that person can handle;
- keeping a station log.

Types of emergency communications the NCS and the Net Members will be expected to provide will vary according to:

- the size of community;
- the nature and extent of the emergency; and,
- what other communications links remain.

5.2 - NET PROTOCOL

- Transmit only when invited to do so by the NCS.
- Answer promptly when the NCS calls you, and do not leave the net without notifying the NCS that you are doing so. Report to the NCS on rejoining.
- Plain language should be used, "Q" signals are discouraged.
- Save all personal remarks and conversations until the net is closed. No "ragchewing", editorials or jokes.

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- Experienced operators must have patience with less experienced operators. Observations and constructive criticisms must wait until after operations are concluded. It is desirable to put the most experienced operator as the NCS operator.
- If you do not have traffic and wish to be of assistance, standby and do not interrupt the net.

6.0 - MESSAGE HANDLING

At the heart of all communications systems is the MESSAGE CENTRE. It is through this facility that all formal messages pass. It is not our intention to delve into Message Centre operations in detail but only to deal with those items that are critical to proper operation.

Messages for transmission are delivered to the message centre for dispatch by various means including telephone, runner and radio.

The person in the centre who receives these outgoing messages is the message centre clerk. It is the message centre clerk who checks the message for completeness, checking that all the necessary information needed to get the message to its intended recipient has been provided by the originator. The next sections show in a little more detail how the message clerk registers the incoming and outgoing traffic to provide a "paper trail".

6.1 - MESSAGE REGISTRATION

The purpose of message registration is to provide a "paper trail" through the Message Centre for both outgoing and incoming messages. Often originators of messages want to know when their message was sent, or why there was a delay between the time it was sent for transmission and the time it was received at the destination. The Message Registers hold the data that can answer most of these types of questions.

6.1.1 - OUTGOING MESSAGE REGISTER

When the message comes to the Message Clerk he first assigns it the next sequential LOG number from the Register (see Appendix N). For all future communications purposes this is the Message Number. He/she then enters in the Register the Originators Number if there is one on the message. Next he/she enters the Precedence of the message and the time the message was received in the Message Centre. Next, enter the name of the addressee (eg. PFRC Kamloops) in the "To" column and any special comment in the Remarks column.

When the registration is complete, the Message Clerk will fill in the corresponding blocks on the Message Form and hand the message to the operator for transmission.

6.1.2 - INCOMING MESSAGE REGISTER

Again the process is designed to provide a "paper trail" from the receiving operator through the Message Centre to the addressee.

When the receiving operator has filled in the required information on the bottom of the Message Form, he hands it to the Message Clerk who transfers the following information to the Incoming Message Register (Appendix O). The time the message was received, the message number, precedence, the originating station, any originator's number and lastly the time that it leaves the Message Centre for handing to the addressee.

With these two Message Registers it is now possible to track the movements of messages through the Message Centre and identify message handling problems should they occur. Even if only one person is working in the centre, all the steps must be taken. Message centre "paper trails" should be planned in advance.

6.2 - PRECEDENCE

Messages are to be processed in the following order:

EMERGENCY

Messages having life and death urgency to any person or group of persons, which are transmitted by amateur radio in the absence of regular commercial facilities. This includes welfare agency official messages during emergencies requesting supplies, materials or instructions vital to relief of people in emergency areas. **During normal times it will be very rare. When in doubt, do not use it.**

PRIORITY

Official messages not covered in the "Emergency" category. Important messages which are time sensitive. Notification of death or injury in a disaster area. Other emergency-related traffic not of the utmost urgency. Mark the Priority box on the message form.

ROUTINE

Most traffic in normal times will bear this designation. Traffic labelled "Routine" should be handled last, or not at all when circuits are busy with higher priority traffic. Remember, messages marked Routine may still be important although not so important as those marked Priority. Most traffic handled on amateur circuits in normal times will fall in this category. Mark the Routine box on the message form.

6.3 - DATE-TIME CONVENTIONS

RECORDING DATES AND TIME

The recording of time and date can be very confusing once you move beyond the local time zone. In order to remove any doubt about what time a message was transmitted or received, the communications world, including the PEP ARS, has adopted the convention of using Greenwich Mean Time (GMT) or more correctly Universal Time Coordinated (UTC), as the standard for traffic or messages outside the Province of British Columbia. This time standard is commonly referred to as ZULU (Z) time. The PEP ARS has adopted the use of LOCAL (L) time to be used for all traffic or messages originating and terminating within the Province of British Columbia.

In addition to using UTC (Z) or LOCAL (L) time, the 24-hour clock system is to be used.

For example, the date and time is recorded using the DDHHMMT format as follows:

031245L (represents the 3rd day of the month at 1245 hours local time)

24-HOUR CLOCK

The PEP ARS will use the 24-hour clock system as it eliminates the need to append A.M. or P.M. to designate 'which' time. All time is given in four figures. From midnight (0000) until noon there is no change other than a leading zero added, i.e. 9:30 A.M. is 0930. After 12:00 add 12 hours to the time, e.g. 1 P.M. is 1300, 7:45 P.M. is 1945, up to midnight (2400). Note that 2400 is the end of one day and 0000 is the start of the next day although they are the same time, midnight. Although there are 24 hours in a day, there is no 24:00. The time starts at 00:00:00 and goes to and ends at 23:59:59. It is common practice to omit 2400 when referring to time in the 24 hour format. For example, 2400 hrs would therefore be expressed as 0000 hrs the following calendar date.

DATE

The recording of date is also part of the recording of time. The date is "wrapped around" the time. For example, noon on the 16th day of January is expressed as 161200JAN. The first two figures show the day of month and the following four figures the time. The month is abbreviated to 3 letters. The addition of the month inclusive is not common to all message handling formats.

6.4 - RELEASING AUTHORITY

Not everyone is authorized to commit resources nor is everyone authorized to release messages over the system. Each organization using the communications system should produce a list of releasing authorities for the message centre. All outgoing messages will be checked against the list to ensure they have been authorized for transmission.

6.5 - NUMBERING

Each message must have a unique LOG number assigned by the message clerk at the originating station. This message number is selected from the list of consecutive numbers in the outgoing message register (see Appendix N). This list begins at number 1 either on the first day of the year or on the first day of each month depending on traffic volume.

6.6 - PROCEDURE WORDS AND PHRASES

Use the following words and phrases when applicable:

ACKNOWLEDGE - Let me know that you have received and understood this message.

AFFIRMATIVE - Yes, or permission granted

ALL AFTER - The portion of the message to which I have referred is all that which follows...

ALL BEFORE - The portion of the message to which I have referred is all that which precedes...

BREAK - I hereby indicate a separation between portions of this message. (May be used to break a message into more manageable pieces when transmission conditions are poor).

CONFIRM - My version is ... Is that correct? For example, "Confirm time is 1523 hours" to which the sender replies "That is correct".

CORRECTION - An error has been made in this transmission, the correct version is ... For example, "Will arrive at 1522 hours. Correction, 1523 hours".

FIGURES - Use before numbers if there might be confusion, e.g. "I am going to figures two three one Main Street".

GO AHEAD - I am ready, go ahead with your message.

HOW DO YOU READ ? - Self explanatory

I SAY AGAIN - Used as prowords before repeated text. Do not use word "Repeat".

NEGATIVE - No, or permission is not granted, or that is not correct, or I do not agree.

OVER - My transmission is ended and I expect you to respond.

OUT - My transmission is ended and no response from you is expected.

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QUERY - Use in formal messages instead of the punctuation symbol for a question mark.

READ BACK - I wish to confirm that you have received this message as sent. Read it all back to me.

ROGER - I have received all of your last transmission.

SAY AGAIN - Used to request a repetition; never use the word "Repeat".

WAIT/STANDBY - I am not prepared to receive your message at this time. Wait until called.

WILCO - Your instructions received, understood, and will be complied with.

WORD AFTER - Say again the word after ...

WORD BEFORE - Say again the word before ...

WORDS TWICE - Communication is difficult so send each word or phrase twice.

6.7 - OPERATING TIPS

Do not transmit faster than the receiving operator can write it down. Allow for poor conditions. Attempt to understand the difficulties the receiving operator may be experiencing. It also helps if you speak with an even **rhythm, speed, volume and pitch (RSVP)**. Use pauses in natural places such as between preamble and address. In message texts, try to keep to natural phrases.

When in doubt, spell difficult words and words that may have alternate spellings, e.g. LEWIS (Louis). When spelling words use the standard phonetic alphabet. (see Appendix P)

The exception to this is "TO". Ordinarily it is unnecessary to spell "To", since it occurs more frequently than "TOO" and "TWO", which should be spelled. ("TOO - I SPELL TANGO OSCAR OSCAR - TOO"). Also "FOR" is more common than "FOUR" or "FORE". "FOR", "FOUR" and "FORE" applies the same as "TO", "TOO" and "TWO".

Avoid "Q" signals when on phone. They are ideal for use with CW and internationally where language may be a problem, but unnecessary on voice circuits.

Avoid contractions of words such as we're (WE ARE).

When referring to a message number, do not include the precedence as a part of that number. When operating conditions are difficult, words or whole sentences are missed or tangled. The receiving operator will ask the sending station for a "fill" or corrections.

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The receiving operator calls the sending station and says "Say Again Word After.....Over" or "Say Again From...(last word received correctly) To...(next correctly received word)". The sending station will say "I say again Over". The receiving operator, if he is now satisfied with the message, will reply "Roger your message number..." and Over. Please note, each message must be acknowledged.

The other prowords "Word Before", "All After" and "All Before" are used similarly.

Transmission of Numbers.

All numbers except "whole thousands" should be transmitted by pronouncing each digit separately. "Whole thousands" should be transmitted by pronouncing each digit followed by the word "thousand". The following are examples:

<u>Number:</u>	<u>Transmitted as:</u>
10	One zero
75	Seven five
100	One zero zero
583	Five eight three
5000	Five thousand
11000	One one thousand
38143	Three eight one four three
\$19.95	Dollars one nine decimal nine five

7.0 - MESSAGE FORM

COMPLETING THE MESSAGE FORM

The PEP's suggested message form is a modified version of the standard message form developed by the American Radio Relay League (ARRL). An example of the form is shown in Appendix Q.

Three people are responsible for providing the information on this form. The first is the **message originator** who completes the central area of the form, providing the message itself, the addressee, his/her name and title, and the precedence of the message. All of these entries are within the heavy black lines.

The second and third persons are the **station operator** and/or the **message clerk** who provide the numbering, transmission and/or relay information in the fields at the top and bottom of the form (outside the black lines).

Note: All information provided on the message form must be printed using capital letters to ensure readability and to reduce errors.

Below is a description of each of the information areas to be completed by these two people.

Originator:

The originator is responsible for completing the text of the message. On the form (Appendix Q), the areas to be filled in by the originator are contained within the thick black lines. All of the fields that are the responsibility of the originator must be fully completed. Failure to complete these areas may result in the message being returned without transmission. The fields to be completed include:

PRECEDENCE:

This describes the priority of the message compared to other messages. Refer to Section 6.2 of this Guide, Emergency, Priority and Routine.

FROM:

The originator should print his or her name and title. This is necessary for verification of vital information.

TO:

The originator fills in the full name, title, and address of the person to whom the message is being sent, or as much of this information as possible.

ORIGINATOR'S NUMBER:

If the originator chooses to number messages, the number will be placed here. This information is for the use of the originator only, and is transmitted within the body of the message.

MESSAGE AREA:

The centre section of the form with the ruled lines is where the text of the message is printed. If the message is longer than the space provided, use an additional form for the remainder of the message. Be sure to number all pages. Complete the preamble on page one only.

Limited punctuation may be used within the text of the message. It is permissible to use FULLSTOP or "X" for a period. As well, COMMA ",", and QUERY "?" are allowed.

RELEASE/AUTH.:

The originator or releasing authority should sign the form to acknowledge the message is authorized for transmission.

Message Clerk:

NUMBER:

As each message is prepared for transmission, it will be assigned the next sequential number for messages passed by that station.

STATION OF ORIGIN:

The Message Clerk records station call sign.

PLACE OF ORIGIN:

Records the location of the station of origin.

DATE/TIME:

Message Clerk records the date and time at which the message was received from the originator. For example, the date and time is recorded using the DDHHMMT format as follows:

031245L (represents the 3rd day of the month at 1245 hours local time)

Time will be recorded using the 24-hour clock. Refer to Section 6.3 of this Guide.

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Radio Operator:

Along the bottom of the form, the operator completes the following fields:

For Incoming Messages -

RECEIVED FROM:

The station call sign from which the message was received.

DATE:

The date the message was received using 2 digits for day of month.

TIME:

This field shows the time the message was received from another station.
Enter as 4 digits and a time suffix (e.g. 0745Z).

Method of RX:

Enter the how the message was received, i.e. frequency or band on which the message was received.

Operator:

Enters his/her name to identify themselves as the person who handled the message.

For Outgoing Messages -

SENT TO:

Call sign of the station to which the message was sent.

DATE:

The date the message was sent using 2 digits for day of month.

TIME:

This field shows the time the message was sent to another station.
Enter as 4 digits and a time suffix (e.g. 1620Z).

Method of TX:

Enter the frequency or band on which the message was transmitted.

Operator:

Enters his/her name to identify themselves as the person who handled the message.

If the message is being relayed, both the **Received From** and **Sent To** areas of the form must be completed.

7.1 - DISTRIBUTION OF MESSAGE FORM:

The message form **suggested** by the PEP consists of three copies:

- (1). The **PINK copy** to be retained by the originator.
- (2). The **YELLOW copy** which may be returned to the originator (if requested) after it has been completed by the Radio Operator and the Message Clerk.
- (3). The **WHITE** which is the top copy of the message is to be kept as part of the station record of incoming and transmitted messages.

8.0 - LOGS

All radio stations should keep a log of operations. The log shows the time, frequency, and nature of each transmission of the station including the call sign of the station worked. The radio operator signs the log when: a shift begins, going off shift, or when another operator takes over temporarily. Appendix R is a sample log sheet.

9.0 - NET DIAGRAM

A net diagram shows all the stations on a net, their location and call sign. This diagram is made up regularly for each operating position and a master copy for the message centre clerk. The value of this diagram is that it allows an operator to visualize where the traffic is going and how to reroute it if a station is unavailable. Appendix S is a sample net diagram.

10.0 - TROUBLESHOOTING: ANSWERS TO VARIOUS QUESTIONS

The following is a "troubleshooting" section aimed at allowing a communications volunteer the opportunity to receive answers to general questions he or she may have pertaining to the role of the PEP ARS.

Q: HOW DO I FIND OUT ABOUT MY COMMUNICATIONS PROBLEMS? WHO MUST BE ABLE TO TALK TO WHOM ? WHEN ? HOW ?

A: These problems are discussed at the Municipal Planning Committee meetings.

Q: HOW DO I PROVE THE PLANS WILL WORK ?

A: Organize exercises. First you will probably want to exercise the volunteers; then exercise the communication plans. Always debrief an exercise, not to find fault, but to find out how to improve. There is little use in having a drill, if little is learned from it. Involve all participants and invite comments.

Q: HOW DOES THE MAC GET VOLUNTEERS ?

A: If the local radio operators do not come forward to become volunteers with your program, attempts should be made to find them and get them registered. Get a list from the PEP or local clubs and make the first contact. Encourage people to register now and get involved early, instead of when a major emergency occurs.

Q: WHERE DO WE MEET AND HOW OFTEN ?

A: Meetings, when necessary, are usually held in your EOC. This is a "rule of thumb" only, it does not matter where the meetings occur. Formal business meetings may be very intimidating to some. Meet only when something needs to be accomplished.

Q: WHERE DOES ALL THE GEAR COME FROM ?

A: Equipment should be the responsibility of the municipality or sponsor. Volunteers usually bring their own gear to use in the field. Volunteers may not be compelled to supply a particular piece of equipment. If something additional is required, it should be paid for by the sponsor. Usually school boards pay for antennas on schools and hospitals pay for antennas on hospitals, etc.

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Q: WHAT SHOULD THE PEP ARS MEMBER DO IN THE INITIAL STAGES OF AN EMERGENCY ?

A: If the phone lines are working, a telephone fanout system can go ahead according to plan. If the phone lines are not working, the volunteer should follow procedure learned in training exercises. Refer to Section 4.6 of this guide.. Use your own initiative.

Q: WHAT HAPPENS IF A NEIGHBOURING COMMUNITY HAS NO AMATEURS ?

A: There are only a few towns in B.C. that do not have any resident amateurs. In these cases, a mutual-aid plan is required. Mutual-aid is an arrangement between communities to render assistance to each other when local resources are overextended or exhausted. In the amateur radio world, the plan would provide for a group of amateurs in a neighbouring community committing themselves to assist the other community in the event of a disaster. The Regional Amateur Radio Representative will assist in making the arrangements.

Q: CAN SOMEONE ELSE'S COMMERCIAL FREQUENCY BE LEGALLY USED ?

A: Yes. Write a letter to the frequency holder asking permission to install the frequency in your (licensed and type approved) radio. By licensed and type-approved we mean a radio licensed and approved by Industry Canada (IC) for commercial use. Most amateur radio equipment is NOT type-approved. State the conditions for use; emergencies and the occasional drills for example. If approval is received, send a copy of both letters to IC. IC will then issue an amendment to your commercial license, adding the requested frequency. Unfortunately there is no short cut. Only the holder of the frequency can approve, and only IC can grant permission.

Q: I BELONG TO A "CLOSE KNIT CLUB". CAN WE HELP WITH THE EMERGENCY COMMUNICATIONS SYSTEM IN OUR OWN TOWN, AS A GROUP ?

A: A communications resource offered to a Municipal Emergency Program Coordinator may be of great assistance in the compilation of a more effective municipal plan. The MEPC does not have to use the amateur radio group, but usually the offer will be accepted, with thanks.

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Q: I HAVE TRIED TO VOLUNTEER, BUT MY MEPC IS NOT USING AMATEUR RADIO AS PART OF THE MUNICIPAL EMERGENCY COMMUNICATIONS PLAN. WHAT CAN I DO ?

A: Be tactful. Remember, the MEPC is appointed by City Hall. The MEPC is not required to use amateur radio volunteers. You can volunteer in another capacity and become part of the planning process. Verbalize the advantages of amateur radio in meetings; the benefits of amateur radio may become more apparent to municipal emergency planners. If all attempts at volunteering fail, organize yourself independently. You may report to VE7PEP and be ready in an emergency. Your PEP Regional Manager and your Regional Amateur Radio Representative are available to provide advice.

Q: THERE ARE FEW AMATEURS IN MY COMMUNITY. HOW CAN I HAVE A VIABLE ORGANIZATION WITHOUT ASSISTANCE ?

A: If there is only one amateur in a town, and he/she volunteers, this amateur will still be a valid resource for the MEPC and may offer communications advice, train others as operators and form an HF anchor for the community. The amateur may also be of assistance in formulating a municipal emergency communications plan.

Q: DURING A POST EXERCISE DEBRIEF, IT IS DIFFICULT TO BE CRITICAL OF VOLUNTEER EFFORT. HOW DOES A GROUP LEARN IF WE CAN'T DISCUSS SHORTCOMINGS OF OTHERS ?

A: It is possible to have debriefings that include constructive criticism that increase the effectiveness of the debrief. Some may always be overly sensitive of criticism. Unfortunately the need to examine flaws may override overly sensitive individuals. A means of reducing potential ill feelings is the appointment of an Amateur Official Observer (OO) for every exercise. An outside observer is usually more objective than someone from within the group. The observer will not be a player, but will monitor any frequency, travel anywhere and observe communications. The observer could chair the debrief. Although this method is only a suggestion, it has proven effective in practise.

Q: THERE ARE ITEMS WE NEED TO PURCHASE; WHERE CAN I GET FINANCING FOR THIS GEAR ?

A: Funding may be available from the following sources (the list is not in order of accessibility or priority):

- through your MEPC, from City Hall via the budget process;
- through your MEPC, from the Joint Emergency Preparedness Program (JEPP);
- through your MEPC, private donations from corporate sponsorship or service clubs.

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Q: I HAVE VOLUNTEERED AND HAVE BEEN APPOINTED MAC FOR MY TOWN. SINCE THERE IS NO COMMUNICATIONS COORDINATOR ON THE PLANNING COMMITTEE, AM I TO ASSUME THAT I HAVE THIS RESPONSIBILITY AS WELL ?

A: There is a need for both a MAC and MECC on a planning committee. There is more to disaster communications than amateur radio. Someone must look after these other resources as well. Your Emergency Plan should show the other responsibilities. Be sure you talk to your MEPC and receive clear instructions on who does what and with whom. Throughout British Columbia the MAC is usually asked to be the MECC as well. Amateur radio is one resource of many.

Q: WE BRING EXPENSIVE EQUIPMENT TO THE TASK. CAN WE EXPECT TO BE REIMBURSED FOR THE LOST OR DAMAGED EQUIPMENT ?

A: Probably the largest job of the MAC, is to look after the welfare of the amateur radio volunteers. Any claim for lost or damaged equipment, illness or injury, vehicle mileage, or other items is part of the PEP policy. Refer to Section 2.2 of this Guide, *The Allocation of Task Numbers* for further details. Do not assume that the organization has liability for your equipment.

Q: I HAVE BEEN A VOLUNTEER FOR MONTHS NOW. HOW DO I GET MY ID CARD ?

A: You should have filled-in the PEP registration card when you "signed-up". The form was given to your MEPC who sent it to the PEP. The photograph taken is made into an ID card, as described when submitting the PEP volunteer registration form.

Q: I VOLUNTEER WITH MY COMMUNITY ORGANIZATION. WHY REGISTER WITH PEP?

A: Registration with the PEP places your name in the computer as a volunteer to the Program. The PEP provides you with photo ID and, what are probably the most important benefits, Workers' Compensation coverage and liability insurance (at no cost). No one has to register; yet if you do not, you will receive neither of the above. Without WCB coverage, your services cannot be accepted.

DEFINITION OF TERMS AND ABBREVIATIONS

Area Coordinator (AC): In context with municipality, AC is a term used interchangeably with Municipal Emergency Program Coordinator (MEPC). This guide will use only MEPC to remove possible confusion.

British Columbia Response Centre (BCRC): A PFRC (see below) to which has been added a federal government support component. Only used in major events.

Disaster Management Communications: Communications between agencies engaged in the mitigation of a disaster. The radio amateurs will not be the originators of any of the "traffic". This type of communication will be the prime concern of the PEP ARS.

Emergency Coordination Centre (ECC): The ECC, located at the PEP Headquarters, receives, distributes and responds to information and reports of human-made and natural disasters and other emergency incidents that occur throughout the province. This centre operates 24 hours a day 7 days a week.

Municipal/Regional Emergency Operations Centre (EOC): A command centre used in a disaster. EOCs will be used by both the province and municipalities. Individual municipalities decide if and where they will have an EOC. There is no generic municipal EOC Plan. The provincial command centres will provide advice to public service agencies and municipal governments; municipal EOCs will be directed by the respective Municipal Emergency Program Coordinator.

Joint Emergency Preparedness Program (JEPP): A joint federal-provincial program that encourages the provinces and territories to undertake emergency preparedness projects that support national objectives and priorities. Guidelines have been written to aid applicants who are seeking assistance in funding emergency preparedness projects within their jurisdictions.

Municipal Amateur Coordinator (MAC): The MAC is appointed to: provide amateur radio communications advice to the Municipal Emergency Program Coordinator (MEPC); develop and provide communications according to a municipal emergency plan and coordinate activities of amateur volunteers. The MAC is responsible to the Municipal Emergency Communications Coordinator (MECC) if applicable.

Municipal Emergency Communications Coordinator (MECC): The MECC coordinates the communications resource to be utilized in a disaster (eg. taxi, CB, PEP ARS). The MECC may also be the MAC. The MECC is a member of the municipality's Emergency Planning Committee.

Municipal Emergency Program Coordinator (MEPC): The role of the MEPC is to manage the resources of a municipality in time of disaster to: preserve life; relieve personal suffering; minimize property damage; protect the environment; promote the continuity of government.

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Net: A net is a group of radio stations operating on a common frequency or frequencies with a common interest or function.

Net Control Station (NCS): The NCS is in charge of stations on a specific net. Duties of the NCS are described in Section 5.1 of this Guide.

Provincial Amateur Radio Coordinator: The Provincial Amateur Radio Coordinator provides amateur radio communications advice to the PEP; assists in the development of an INTRA PROVINCIAL amateur communications system; advises Regional Amateur Radio Representatives on communications system planning and training. The Provincial Amateur Radio Coordinator is responsible to the PEP Telecommunications Officer.

Provincial Field Response Centre (PFRC): The name given to the provincial regional operations centre which coordinates emergency response. "Regional" refers to the PEP Regions in this guide.

Precedence: Precedence is the order of handling messages. In order of importance they are emergency, priority, and routine. (see Section 6.2)

Provincial Emergency Program (PEP): The PEP coordinates emergency response plans and emergency response activities of the provincial government. In direct relation to the PEP ARS, the PEP provides WCB coverage to registered PEP ARS volunteers and advice to all municipalities regarding the PEP ARS.

PEP Amateur Radio Service (PEP ARS): The PEP ARS is an emergency radio communications service staffed by amateur radio volunteers in the service of the public sponsored by the PEP.

Regional Amateur Radio Representative (RARR): The Regional Amateur Radio Representative: provides radio communications advice to the Regional Manager; aids the development of and provides for an INTRA PROVINCIAL communications system; advises MACs on their communication system planning and training. The RARR reports directly to their respective PEP Regional Manager.

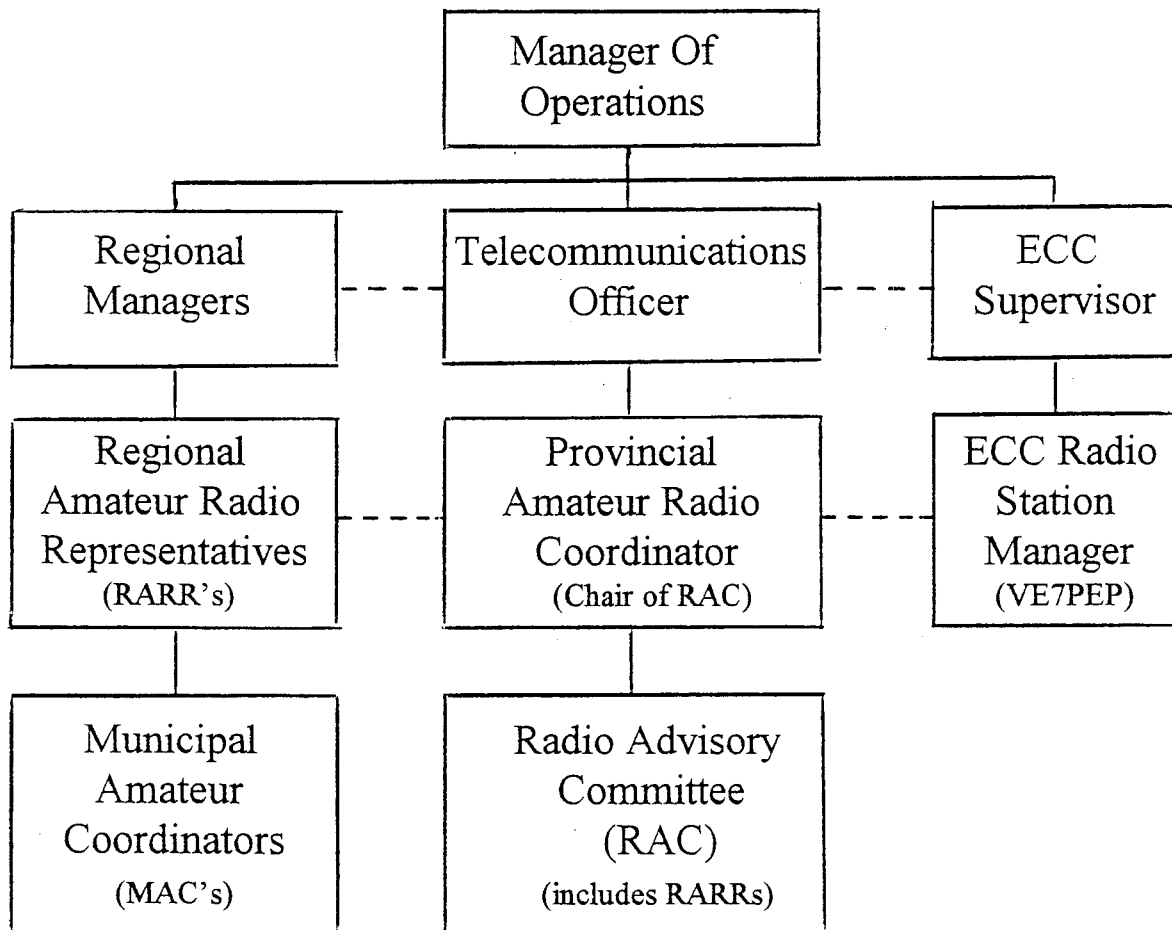
Regional Manager: The PEP Regional Manager advises and helps local governments, industry and volunteer organizations to develop plans that will enable them to react to emergencies. The Regional Manager prepares and/or supervises tests and exercises of emergency plans at all levels.

PEP RESPONSIBILITIES and **PEP ARS ORGANIZATION**

The Provincial Emergency Program (PEP) is responsible for maintaining and enhancing effective emergency preparedness, response and recovery programs to mitigate human suffering and property loss by actual or imminent emergencies and disasters in British Columbia. Specific responsibilities include:

- provision of a leadership role in emergency planning for the Provincial Government and its agencies. This involves the status of plans, their content, standards and specifications, training in preparing plans and coordination of planning through such mechanisms as the Inter-agency Emergency Preparedness Council (IEPC) of the Provincial Government;
- provision of advice and assistance to Regional and Municipal Governments in emergency planning. This involves development of standard operating procedures, assistance in training for plan writing and exercising plans;
- provision of advice and assistance to business and industry in emergency planning;
- administration of the Disaster Financial Assistance Program (DFA) of The Emergency Program Act.
- administration of the Joint Emergency Preparedness Program (JEPP);
- promotion of public awareness of the need for emergency preparedness;
- coordination of provincial response to emergencies. This involves notification, assessment of need, logistic support, communications and public information;
- direction of operations for those emergencies which are not assigned to another Provincial Ministry;
- provision of training for provincial government staff, regional officials, municipal officials, volunteers and the public;
- establishment, maintenance and operation of the Emergency Coordination Centre (ECC) and Provincial Field Response Centre (PFRC) as required for major emergencies;
- provision of support to search and rescue agencies; and
- provision of support and assistance to emergency services workers and others.

PEP ARS ORGANIZATION CHART

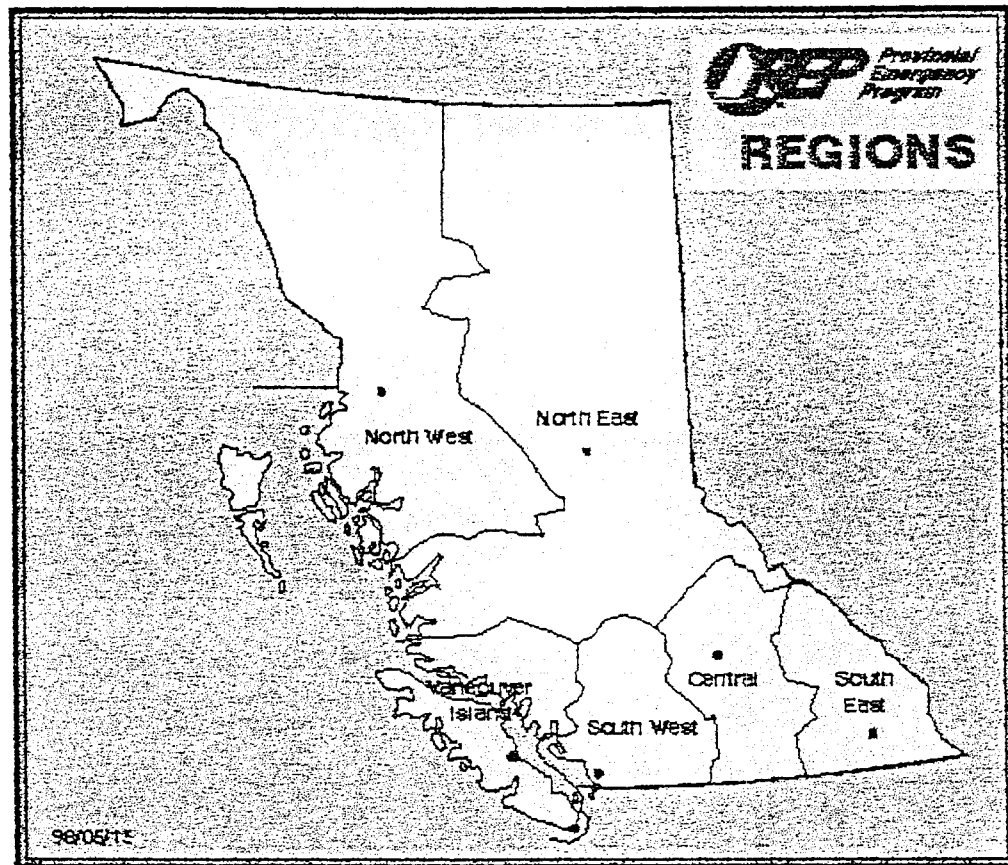


—— Responsible to

----- Advisor to

Note : In the interest of brevity, this organizational chart only shows reporting structure up to, but not beyond, the Manager of Operations of the PEP. The Manager of Operations, along with several other positions, report to the Director of the PEP.

PEP REGIONAL BOUNDARIES



This map is only an approximation. The PEP Regions are based on the existing boundaries of regional districts, and PEP Regions incorporate the following regional districts:

PEP STAFF - LOCATIONS AND PHONE NUMBERS

VANCOUVER ISLAND REGION, (VIS)

3151 Barons Road
Nanaimo, B.C.
V9T 5W5

Phone: 751-7209
FAX: 751-7239

SOUTH WEST REGION, (SWE)

#262-2154 Surrey Place Mall
Surrey, B.C.
V3T 2W1

Phone: 586-2939
FAX: 586-2959

CENTRAL REGION, (CTL)

102 - 310 Nicola Street
Kamloops, B.C.
V2C 2P5

Phone: 828-4357
FAX: 828-4971

SOUTH EAST REGION, (SEA)

403 Vernon Street
Nelson, B.C.
V1L 4E6

Phone: 354-6395
FAX: 354-6561

NORTH EAST REGION, (NEA)

1541 Ogilvie Street
Prince George, B.C.
V2N 1W7

Phone: 565-6115
FAX: 565-6886

NORTH WEST REGION, (NWE)

2914 Eby Street
Terrace, B.C.
V8G 2X5

Phone: 638-2151

FAX: 638-2152

PEP HQ

455 Boleskine Road
Victoria, B.C.
V8Z 1E7

Phone: 387-5956

FAX: 387-9900

Toll Free Number
1-800-663-3456

PEP ECC

455 Boleskine Road
Victoria, B.C.
V8Z 1E7

Phone: 387-3753

FAX: 387-2957

Toll Free Number
1-800-565-2500

PEP TELECOMMUNICATIONS OFFICER

Phone: 387-9915

PEP ECC SUPERVISOR

Phone: 387-8788

AMATEUR RADIO STATION ROOM

Phone: 387-3754

AMATEUR RADIO PACKET VE7PEP@VE7VBB .#SVI.BC.CAN.NOAM

PEP CONTROLLED FREQUENCIES
and
EMERGENCY PREPAREDNESS CANADA
NATIONAL EMERGENCY FREQUENCIES

The following is a list of frequencies controlled by the PEP. These frequencies may only be used with the written approval of the PEP Telecommunications Officer. As well, a copy of this permission must be presented to Industry Canada when the license or license change application is being made.

H.F.	1724 KHz	H.F.	2666 KHz
	3245 KHz		4020 KHz
	5262 KHz		7550 KHz
	9255 KHz		

Operation on these frequencies is **upper side-band**.

V.H.F.	148.655 MHz	V.H.F.	149.525 MHz
	148.685 MHz		153.950 MHz
	149.495 MHz		
U.H.F.	Repeater	Rx	452.2375 MHz
		Tx	457.2375 MHz

Note: These are NOT Amateur Radio assigned frequencies and therefore must only be installed in Industry Canada Type Approved and licensed radio equipment. Your local Industry Canada Office can tell you if the equipment you propose to use is approved.

Emergency Preparedness Canada (EPC) has the responsibility of coordinating the response to large scale civil disasters within Canada. Part of the response plan is the designation of specific radio frequencies that may be used for both local and long distance radio communications.

To facilitate the participation of radio amateurs, EPC has designated bands and spot frequencies within many of the amateur bands. In addition, several frequencies outside the amateur bands have also been designated as emergency communications frequencies. The frequencies within the amateur bands are of course available to all amateurs but those outside the amateur bands are only licensable by provincial governments, municipalities or other agencies directly involved in emergency response.

The following bands and spot frequencies within the amateur bands have been allocated for civil emergency use during a national emergency.

- Bands

- Within the band 1800 - 2000 KHz
 - 1875 - 1881 KHz
 - 1881 - 1887 KHz
 - 1900 - 1906 KHz
 - 1906 - 1912 KHz
- Within the band 3500 - 4000 KHz
 - 3720 - 3800 KHz
- Within the band 7000 - 7300 KHz
 - 7072 - 7078 KHz
 - 7147 - 7153 KHz
 - 7157 - 7165 KHz
- Within the band 28.000 - 29.700 Mhz
 - 28.750 - 29.150 MHz

- Spot Frequencies

MHz	Mhz
145.740**	146.340
145.800	146.400
145.860	146.460
145.920	146.520
145.980	146.580
146.040	146.640
146.100	146.700
146.160	146.760
146.220	146.820**
146.280	

** The frequencies 145.740 and 146.820 MHz are common to both Emergency Planning Canada (EPC) and United States Federal Emergency Management Agency (FEMA) and may be used for cross-border communications where required.

Amateur and spot frequencies as mentioned above are not generally available for civil emergency communications for peacetime operations, but peacetime tests and exercises may be conducted on these frequencies by amateurs enrolled in EPC under the terms of their amateur licenses utilizing their respective amateur call signs.

In addition to the frequencies listed above, the PEP has access to several other HF, VHF and UHF frequencies. The amateur and commercial frequencies that PEP has elected to use for its operations are shown in Section 1.4 of the Guide, and in this Appendix.

APPLICATION FOR TASK NUMBER FORM



APPLICATION FOR TRAINING TASK NUMBER



Province of
British Columbia

Provincial
Emergency Program

Date of Application _____ Date of Training _____

Training Location _____ Originator (please print) _____

Region Name and Number _____ Area Name and Number _____

_____ Category & Type (see reverse) _____

Brief Description of Training _____

_____ Emergency/Area Coord. Signature _____

#1 - VOLUNTEER COST ESTIMATES		#2 - STAFF COST ESTIMATES	
Number of Days		Name of Staff (Enter Below)	
Number of Participants			
		Accommodation	\$
Accommodation	\$	Meals	\$
Meals	\$	Travel	\$
Mileage/Travel	\$	Overtime Hours	CTO <input type="checkbox"/> Cash <input type="checkbox"/>
Instructor Fees	\$	Other (Enter Below)	
Other Costs (Describe Below)			\$
	\$	Total Staff Cost Estimates	\$
Total Volunteer Cost Estimates	\$		
Total Estimated Task Costs		CASARA <input type="checkbox"/>	WCB <input type="checkbox"/>

Region Manager Recommended ☐ Not Recommended ☐ Approved ☐

Comments _____

Region Manager Signature _____ Date _____

Funds Committed ☐ Copy to Region ☐ Copy to PEP Headquarters ☐

REGION TASK NUMBER _____ HEADQUARTERS TASK NUMBER _____

PEP / 006 / SEPT. 1996

DATE EFFECTIVE: JANUARY 1999

TASK REPORT FORM



TASK REPORT FORM



Province of
British Columbia

Provincial
Emergency Program

TASK NUMBER _____ RCC INCIDENT NUMBER _____

A. TO BE COMPLETED BY TASK LEADER

Region _____ Area _____ Task Type _____

Date Task Commenced _____ Time Task Commenced _____

Date Task Completed _____ Time Task Completed _____

Number of Registered Volunteers Involved _____ Number of Person Hours _____

Number of Other Response Personnel Involved _____ Number of Person Hours _____

Number of Victims _____ Injured _____ Fatalities _____ Still Lost _____

B. TO BE COMPLETED BY TASK LEADER

Printed name of task leader _____

Details of Task (attach additional pages if needed) _____

Equipment Used/Lost _____

Signature Task Leader _____ Date _____

Forward to Emergency Coordinator along with Task Registration Form, Invoices and other Support Material. Complete Section D if applicable.

Signature Emergency Coordinator _____ Date _____

Forward approved task package to regional office.

C. TO BE COMPLETED BY REGION MANAGER

Comments/Recommendations _____

Region Manager Signature _____ Date _____

D. EQUIPMENT REPLACE/REPAIR REQUEST

	DESCRIPTION OF ITEM	QUANTITY	ESTIMATED COST	NOT APPROVED	APPROVED
1.			\$		
2.			\$		
3.			\$		
4.			\$		
5.			\$		

Details Supporting Lost/Damaged Equipment _____

Recommended YES / NO Emergency Coord. Signature _____ Date _____

Instructions to Emergency Coord. Regarding Equipment Request _____

Recommended YES / NO Region Manager Signature _____ Date _____

PEP / 001 / SEPT. 96

ECC (VE7PEP) RADIO STATION MANAGER

The ECC (VE7PEP) Radio Station Manager is a volunteer selected by the ECC Supervisor.

The ECC (VE7PEP) Radio Station Manager is responsible to the ECC Supervisor. The function of the ECC (VE7PEP) Radio Station Manager is to ensure the efficient operation of all the radio and auxiliary equipment in the ECC radio station, and recruit and train the staff necessary to operate the PEP HQ radio station.

The ECC (VE7PEP) Radio Station Manager will :

- ensure the readiness and efficient operation of all ECC radio equipment ;
- with direction from the ECC and advice from the Radio Advisory Committee, design, improve and maintain the ECC communications center and mobile facilities as required ;
- will act as sponsor for the PEP HQ amateur radio licence(s).

The ECC (VE7PEP) Radio Station Manager will also :

- advise the Chair of the Radio Advisory Committee of developments when appropriate ;
- be familiar with the Policies and Procedures Manuals of the PEP.

Essential Qualifications include the possession of :

- a Certification of Proficiency in Radio of the Advanced Amateur Grade with operating privileges and experience on all amateur bands in all modes ;
- a willingness to sponsor amateur radio calls issued to the PEP for stations maintained and operated under the guidance of the Station Manager ;
- leadership and management skills, and the ability to interact tactfully with a diverse group of individuals.

Within twelve (12) months of assuming the duties, the incumbent should endeavor to participate in the Emergency Telecommunications Course at the Emergency Preparedness Canada facility at EPC expense, space permitting.

PROVINCIAL EMERGENCY PROGRAM
RADIO COMMUNICATIONS ADVISORY COMMITTEE

TERMS OF REFERENCE - COMMITTEE

OBJECTIVE

To advise on the coordinated development and maintenance of effective commercial and amateur radio communications services in support of the Provincial Emergency Program of B.C.

The Committee will :

1. Advise the Provincial Emergency Program on radio communications policy, legislation, standards, resources, training, and related topics;
2. Provide channels of communication among participating communications groups as well as between agencies and the Provincial Emergency Program;
3. Facilitate the development of one (1) standard communications operating procedures manual to be adopted by government(s) and to assess the quality of delivery of the service.

DIRECTION AND AGENDA

- the maintenance of a minimum training standard for Regional Representatives, Municipal Amateur Co-Ordinators, and Radio Amateur Volunteers.
- to review and advise on Emergency Communications Plans for the PEP.
- to advise, update, and define radio communications requirement(s) of the PEP and local Municipal Government(s).
- to identify radio communications deficiencies affecting Emergency Communications in the Province of B.C.

PROCESS

Meetings :

- semi-annually, or at the call of the Committee Chair.

Sub-Committees :

- may be formed at the discretion of the Committee Chair.
- sub-committee reports are to be submitted to the Committee on date specified at formation.

Recommendations :

- Committee provides written recommendations to the Province of British Columbia through the Director of the Provincial Emergency Program.

Voting Members :

- a) Chair (person selected by the Committee) - one
- b) Regional Amateur Radio Representatives - one each
- c) Assistant Regional Amateur Radio Representatives - one each
- d) Amateur Radio Emergency Service (ARES) Representative - one
- e) Provincial Emergency Social Service Operations Centre (PESSOC) Representative - one

Non-Voting Members :

- a) Provincial Emergency Program (PEP)
(Telecommunications Officer or designate)

CONDITIONS

- the PEP provide funding to facilitate the semi-annual meeting requirement of all identified Members of the Committee.
- the PEP provide a suitable meeting place, recording secretary, and PEP Staff representative.
- the PEP provide outside representation when requested by the Committee.

PROVINCIAL AMATEUR RADIO COORDINATOR

The Provincial Amateur Radio Coordinator is an elected volunteer of the PEP Radio Advisory Committee (RAC) working in conjunction with the PEP Amateur Radio Service (PEP ARS). The term as Provincial Coordinator shall not exceed 3 years, and no more than 2 consecutive terms will be permitted. The Provincial Amateur Radio Coordinator may or may not be a Regional Amateur Radio Representative.

The Provincial Amateur Radio Coordinator (PARC) is responsible to the PEP Telecommunications Officer. The function of the Provincial Amateur Radio Coordinator is to provide radio communications advice to the PEP, develop an intra-provincial amateur radio communications system, preside as Chair of the PEP Radio Advisory Committee (RAC), and advise Members of the Radio Advisory Committee and the ECC Radio Station Manager on communications system planning and training.

The Provincial Amateur Radio Coordinator will :

- observe the Terms of Reference established for the Radio Advisory Committee ;
- establish close contact with Members of the Radio Advisory Committee in order to advise the PEP of availability of communications in an emergency ;
- establish in conjunction with the PEP Management and the ECC Radio Station Manager, a fixed and remote Provincial HQ amateur radio station(s) capable of operating under emergency conditions.

The Provincial Amateur Radio Coordinator will also :

- act as liaison between the ECC Radio Station Manager and the RAC Members ;
- advise the PEP Management and Regional Managers of developments when appropriate ;
- be familiar with the Policy and Procedure Manuals of the PEP.

Essential Qualifications include the possession of :

- a Certification of Proficiency in Radio of the Advanced Amateur grade with operating privileges and experience on all amateur bands in all modes ;

- an advanced knowledge of radio systems, particularly as they relate to emergency communications ;
- leadership and management skills, and the ability to interact tactfully with a diverse group of individuals.

Within twelve (12) months of assuming the duties, the incumbent should endeavor to participate in the Emergency Telecommunications Course at the Emergency Preparedness Canada facility at EPC expense, space permitting.

REGIONAL AMATEUR RADIO REPRESENTATIVE

The Regional Amateur Radio Representative is a selected volunteer of the local Amateur Radio community by the PEP Regional Manager. The term as Regional Representative shall not exceed 3 years, and no more than 2 consecutive terms will be permitted

The Regional Amateur Radio Representative (RARR) is first responsible to the PEP Regional Manager, and second to the Provincial Amateur Radio Coordinator. The function of the Regional Amateur Radio Representative is to provide radio communications advice to the PEP Regional Manager, develop an intra-regional amateur radio communications system, preside as a Member of the Radio Advisory Committee (RAC), advise area Municipal Amateur Coordinators on communications system planning and training, and will act as sponsor for the PEP Regional Office amateur radio licence(s).

The Regional Amateur Radio Representative will :

- preside as a Member of the Radio Advisory Committee ;
- establish close contact with area Municipal Amateur Coordinators in order to advise the PEP Regional Manager of availability in an emergency ;
- establish in conjunction with the PEP Regional Manager and the Radio Advisory Committee, a PEP Regional amateur radio station capable of operating under emergency conditions.

The Regional Amateur Radio Representative will also :

- advise area Municipal Amateur Coordinators of developments when appropriate ;
- train the staff necessary to operate the PEP Regional amateur radio station ;
- organize Regional meetings and communications exercises ;
- be familiar with the Policies and Procedures Manuals of the PEP.

Essential Qualifications include the possession of :

- a Certification of Proficiency in Radio of a least Amateur grade, preferably Advanced Amateur grade ;

- a knowledge of radio systems, particularly as they relate to emergency communications;
- leadership and management skills, and the ability to interact tactfully with a diverse group of individuals.

Within twelve (12) months of assuming the duties, the incumbent should endeavor to participate in the Emergency Telecommunications Course at the Emergency Preparedness Canada facility at EPC expense, space permitting.

MUNICIPAL AMATEUR COORDINATOR

The Municipal Amateur Coordinator is a selected volunteer of the local Amateur Radio community by the local Emergency Planning Committee.

The Municipal Amateur Coordinator (MAC) is responsible to the local Emergency Planning Committee. The function of the Municipal Amateur Coordinator is to provide radio communications advice to the local Emergency Planning Committee, develop a local amateur radio communications system, advise local amateur radio volunteers on communications system planning and training, and recruit and organize local amateur radio volunteers in the PEP Amateur Radio Service.

The Municipal Amateur Coordinator will :

- maintain up-to-date records of available local communications resources ;
- establish close contact with the local Emergency Planning Committee in order to advise of availability in an emergency ;
- provide and develop local emergency communications systems in accordance with the Emergency Plan of the community.

The Municipal Amateur Coordinator will also :

- recruit and train local volunteers to provide emergency communications capability ;
- oversee the equipping, staffing and sponsorship of a local Emergency Operations Center (EOC) amateur radio station.

Essential Qualifications include the possession of :

- a Certification of Proficiency in Radio of a least Amateur grade.

PERSONNEL CHECK FORM

PERSONNEL TRAVEL CHECK FORM		
TRAVELLER	GROUP	LEADER

TRAVEL		
From	Time	ETA
To	Vehicle	Arrived

COMMUNICATIONS
Departure
En Route
Destination

ROUTE TAKEN

NOTES

YEAR _____ STATION _____ SHEET NO. _____

[illegible]


PHONETIC ALPHABET

Letter	Word	Pronunciation
A	Alfa	AL fah
B	Bravo	BRAH VOH
C	Charlie	CHAR lee
D	Delta	DELL tah
E	Echo	ECK oh
F	Foxtrot	FOKS trot
G	Golf	GOLF
H	Hotel	Hoh TELL
I	India	IN dee ah
J	Juliet	JEW lee ETT
K	Kilo	Key loh
L	Lima	LEE mah
M	Mike	MIKE
N	November	Nov VEM ber
O	Oscar	OSS cah
P	Papa	Pah PAH
Q	Quebec	Keh BECK
R	Romeo	ROW me oh
S	Sierra	See AIR rah
T	Tango	TANG go
U	Uniform	YOU nee form
V	Victor	VIK tah
W	Whiskey	WISS KEY
X	X-ray	ECKS ray
Y	Yankee	YANG key
Z	Zulu	ZOO loo

SAMPLE PEP MESSAGE FORM

B.C. PROVINCIAL EMERGENCY PROGRAM

MESSAGE FORM



*Provincial
Emergency
Program*

NUMBER	PRECEDENCE	TX	STATION OF ORIGIN	CHECK	PLACE OF ORIGIN	TIME FILED	DATE
<p style="margin-top: 0;">TO</p> <p style="margin-top: 100px; margin-left: 10px;">Telephone No.</p>							
<p style="margin-top: 0;">FROM</p>							

Please Print
Originator responsible for all inside lined area.

Originator's Hr.

RECEIVED FROM	DATE	SIGNATURE	TIME	SENT TO	DATE	TIME

Operator

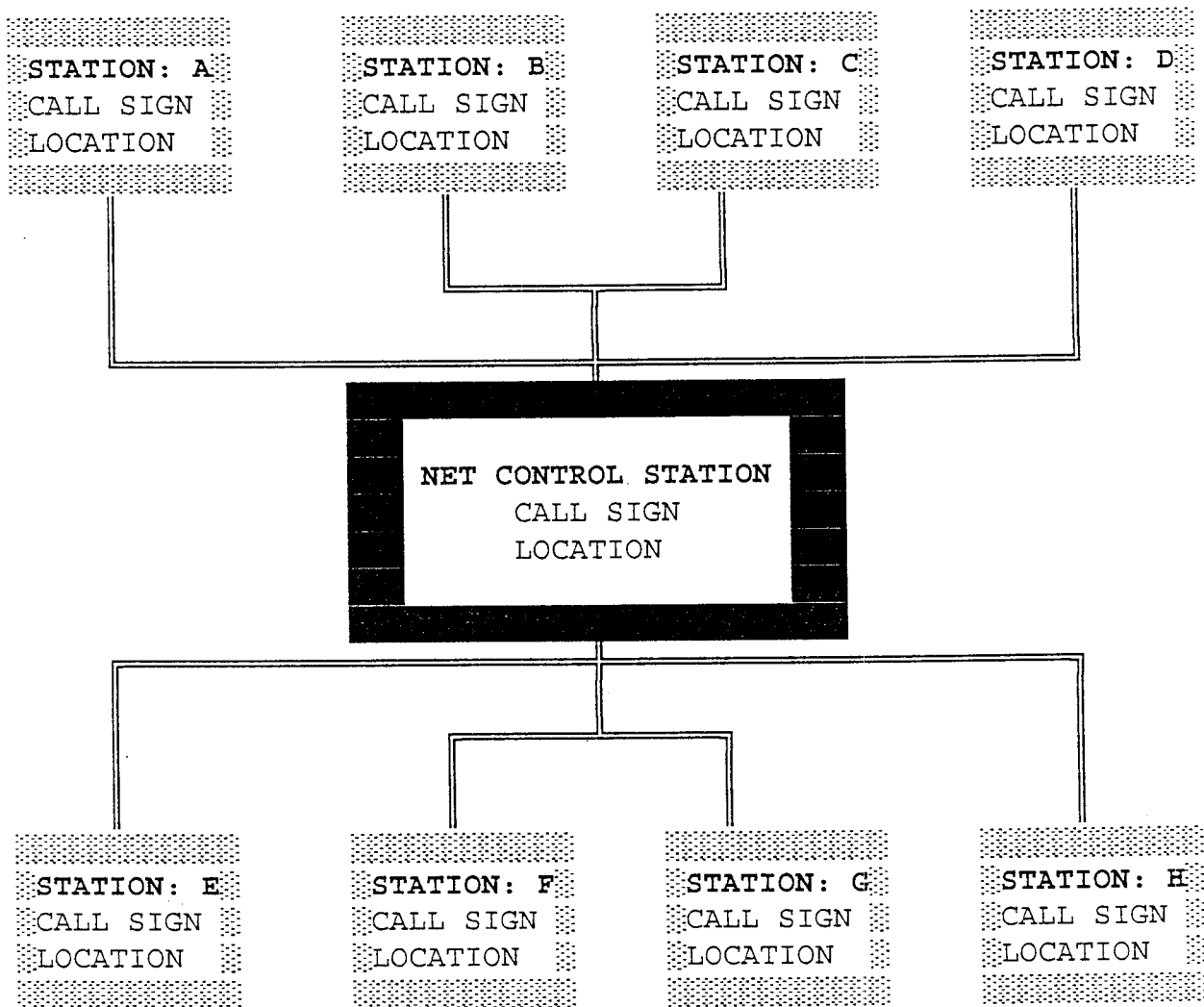
Method of TX

LOG SHEET # _____

YEAR _____

[illegible]

SAMPLE NET DIAGRAM



MISC. INFO
ON STATION

SAMPLE STATION BOX

THE STATIONS ABOVE ARE ONLY EXAMPLES.
ANY RELEVANT INFORMATION SHOULD BE
PLACED WITHIN.

SAMPLE MUNICIPAL COMMUNICATIONS REGISTRATION FORM

NAME _____ CALL SIGN _____
ADDRESS _____ CITY _____
POSTAL _____ PHONE# _____
CODE|_|_|_|_|_|_|_|HOME|_|_|_|_|_|_|_|WORK|_|_|_|_|_|_|_|_|_|

COMMUNICATIONS FACILITIES

A) BASE STATION, BANDS, ANTENNAS, POWER, PHONE, PATCH

B) MOBILE EQUIPMENT AND POWER

C) OTHER RELEVANT EQUIPMENT

IF YOU CONSIDER YOUR HOME SUITABLE, WOULD YOU BE WILLING TO HAVE IT UTILIZED FOR AN EMERGENCY BASE STATION OVER AND EXTENDED PERIOD OF TIME ? (PLEASE CIRCLE) YES / NO.

OPERATING SPECIALTIES (PLEASE CHECK)

CW ☐ RTTY ☐ PACKET ☐ NETS ☐ OTHER _____

VEHICLE: WOULD YOU CONSIDER USING YOUR VEHICLE FOR TASKS AND/OR TRAINING AND IS IT FITTED WITH COMMUNICATIONS. INDICATE THE TYPE OF VEHICLE THAT MAY BE AVAILABLE FOR USE (PLEASE CHECK).

CAR ☐ PICKUP ☐ CAMPER/VAN ☐ 4X4 ☐ MOTOR HOME ☐

5TH WHEEL ☐ BOAT ☐ SNOWMOBILE ☐ ALL TERRAIN VEHICLE ☐

PERSONAL AVAILABILITY RATING

ANYTIME ☐ SHORT NOTICE ☐ EVENINGS AND WEEKENDS ☐

VARIED (E.G. SHIFT WORK) ☐ NOT NORMALLY AVAILABLE ☐

ARE THERE ANY FACTORS, (E.G. MEDICAL), THAT MAY LIMIT YOUR ABILITY TO PARTICIPATE IN A TASK ?

PROVINCIAL EMERGENCY PROGRAM
AMATEUR RADIO EMERGENCY COMMUNICATIONS GUIDE

APPENDIX T

BRITISH COLUMBIA EMERGENCY
AMATEUR RADIO SERVICE
INFORMATION FORM

Last Name: _____ First Name: _____
Amateur Radio Callsign: _____
Address: _____ City: _____ Pcode: _____
Phone: () - _____ Work: () - _____ Cell: () - _____ Fax: () - _____
Email: _____ Packet: _____
Lic Type: (A)(B12)(B5)(B) (Vol) Member of PEP-ARS: _____ RAC: _____ ESS: _____
Position with ARES: — SEC: _____ DEC: _____ EC: _____ AEC: _____
Position with PEP: — PARC: _____ RARR: _____ MAC: _____ DMAC: _____ ESS: _____
Will your base radio station remain operational during power failures?: Y/N
Do you have spare Handheld Batteries?: Y/N

Please mark with an X the boxes as relevant

	160 m	80 m	40 m	30 m	20 m	17 m	15 m	12 m	10 m	6 m	2 m	1.25 m	70 cm	33 cm	23 cm
PORTABLE															
MOBILE															
BASE															
• CW															
• Phone															
• Packet															
• Amtor															
• RTTY															
• ESTV															

MY STANDBY FREQUENCIES ARE: HF _____ VHF _____

Special interests and or notes

To all Radio Amateurs:

The B.C. Emergency Amateur Radio Service is made up of volunteer licensed Radio Amateurs who have registered their capabilities and equipment for the purpose of providing emergency communications as a public service to the communities of British Columbia. Radio Amateurs have responded countless times to communications emergencies. Experience has proven that Radio Amateurs respond more capably in time of emergency when practice has been conducted in an organized group. There is no substitute for experience. To register yourself and your equipment in the BC Emergency Amateur Radio Service database send or give this information form directly to your EC, MAC or DMAC.

Information available from or on the data-base is available to local emergency planning committees upon request to SEC, RARR, Provincial ESS Communications coordinator, PEP Telecommunications Officer, Radio Amateurs of Canada Section Manager, or the Radio Advisory Committee.

Membership in Radio Amateurs of Canada is desirable but not required for registration.

Registration does not require possession of any special equipment. All Amateurs can be of assistance in emergency communications.

Supported by:

B.C. Radio Advisory Committee
Provincial Emergency Program - Amateur Radio Service
Emergency Social Services - Amateur Radio
Radio Amateurs of Canada

DATE EFFECTIVE: JANUARY 1999

SAMPLE COMMUNICATIONS EXERCISE

SCENARIO

- ☐ Summarize the situation. Just a couple of lines "to set the stage" for the exercise.

AIM

- ☐ List the reasons for the exercise.
- ☐ If the aim is to demonstrate to a specific group, identify that group.
- ☐ Indicate unique or special equipment to be used.

SCOPE

Exercise "drill name" is a single incident disaster involving the following agencies:

- ☐ This will be a list of all agencies involved in the exercise.
- ☐ Indicate special equipment if borrowed from another source.
- ☐ Any special groups (observers or minor applicants).
- ☐ Community associations, clubs and/or volunteers.
- ☐ Government agencies, police, fire and/or other emergency responders.

Note: This exercise may be terminated at any time due to real emergency.

SCHEDULE (START/END, DATE AND TIME)

- ☐ Record step by step procedure (actual clock times are not available, so step by step may suffice). Indicate who must be where, so they can achieve individual tasks.
- ☐ "On completion" jobs to be done may be specified, i.e. lock gates or secure a building.

EXERCISE CONTROL

- ☐ "Exercise (drill name)" will precede the text of all exercise messages and word "Exercise" will also be the final word in the text.
- ☐ "Noduff" will precede any messages transmitted during the exercise to indicate a "REAL" emergency. The last word of the text will be "Noduff." This may suspend operations, but not necessarily result in the cancellation message (there should never be an exercise of a "Noduff" message - ALWAYS REAL).
- ☐ A message will be sent to all stations if it becomes necessary to cancel the exercises.

EXERCISE PLAN

- ☐ Indicate frequencies to be used with primary, secondary and an alternate.
- ☐ Indicate all frequencies to be used, regardless of importance.
- ☐ Mention all tests or equipment checks to be done whether in drill or not.
- ☐ Describe how frequencies will be changed, should it become necessary.

DEBRIEFING

A debriefing is a vital component of any meaningful exercise. It need not be lengthy or formal, but some mention of performance should be made. The designation of an Amateur from a neighbouring club to be an Official Observer (OO) is very practical. An Official Observer is "invisible" to the drill. The OO may listen in on any frequency, go anywhere and talk with anyone he/she chooses.

EMERGENCY COMMUNICATIONS EQUIPMENT CHECKLIST

The following emergency communications checklist is only a sample list of the equipment that may be found useful to have in case of emergency or while on exercise.

RADIO EQUIPMENT

- ☐ 2 meter handheld(s) with batteries, A/C adapter(s), charger(s)
- ☐ 2 meter mobile and portable equipment with battery charger(s) and adapter(s)
- ☐ HF base transceiver
- ☐ HF portable with A/C power supply and battery
- ☐ VHF/UHF radio scanner with emergency battery
- ☐ Marine/aircraft communications equipment
- ☐ Microphone/earphone/headset(s)

ANTENNAS

- ☐ Mobile antennas, 2 meter mag mount
 - ☐ 5/8 wave portable antennas with radials
 - ☐ Several 15m lengths of coaxial cable with fittings
 - ☐ BNC to PL-259 (UHF) adapter(s)
 - ☐ PL-259 to BNC adapter(s)
 - ☐ Portable HF antennas (Longwire/Dipoles)
 - ☐ Rubber duck antennas (VHF/UHF)
 - ☐ Spare PL-259 connectors and SO-239 splices
-

- ☐ Insulators, guy wire, nylon cord, fishline and weight, stakes, ground clamps, ground rods, ground wire, masts, gutter clips, etc.

POWER

- ☐ AC generator and fuel
- ☐ Extension cord(s)
- ☐ Power bar(s)
- ☐ Battery charger(s)
- ☐ Spare batteries (i.e. nicad, AA, C, D, 9-volt)

PERSONAL EQUIPMENT

- ☐ Large container of drinking water
- ☐ Mess kit (i.e. plate, mug, knife, can opener, fork, spoon)
- ☐ Emergency food rations
- ☐ Toiletries (i.e. razor, toothbrush, soap, toilet paper, towel)
- ☐ Sleeping bag and/or blankets and pad
- ☐ Spare clothing, socks, sweater, boots, gloves; Adjust for season
- ☐ Personal First Aid kit
- ☐ PEP (registered volunteer) Identification
- ☐ Money (including some 25 cent coins for pay phones)
- ☐ Watch or battery operated clock
- ☐ Transistor radio with spare battery
- ☐ Flashlight with spare battery

- ☐ Clipboard
- ☐ Note pad, pen and/or pencils
- ☐ Enough food for 24 hours

TOOLS

- ☐ Assortment of screwdrivers
- ☐ Common and needle nose pliers
- ☐ Wire cutters
- ☐ Knife/wire stripper
- ☐ Hammer
- ☐ Hook-up wire
- ☐ Electrical tape

