

North East / North West Regional

Amateur Radio Emergency Communication Plan

<p>100 Mile House Anaheim Lake (see Hagensborg) * Bella Bella * Bella Coola (see Hagensborg) * Chetwynd Dawson Creek Dunster Fort Nelson Fort St. John Hagensborg Horsefly Hudson's Hope Mackenzie McBride Nimpo Lake (see Hagensborg) * Pink Mountain Prince George Quesnel Taylor (see Fort St. John) * Tumbler Ridge Valemount Wells (see Quesnel) * Williams Lake</p>	<p>Burns Lake Fort Fraser Fort Saint James Fraser Lake Granisle (see Burns Lake or Smithers)* Hazelton Houston (see Smithers)* Kitwanga (see Hazelton)* Cedervale (see Hazelton)* Kemano * Kitimat Lakelse (see Terrace)* Masset Port Clements Prince Rupert Queen Charlotte City Sandspit Stewart Smithers Telkwa (see Smithers) Thornhill (See Terrace) Tlell (See Port Clements) Topley (see Burns Lake or Smithers)* Vanderhoof</p>
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* = No Radio Amateurs in the community

None of the regional districts has an emergency plan! We should, however, be prepared to use our local knowledge and expertise to do the best we can to assist them during an emergency or a disaster.

Emergency preparedness and response in the many aboriginal communities in these regions is the responsibility of the federal government. However, we should be prepared to assist them if requested.

Introduction

The purpose of this document is to establish an Amateur Radio emergency communication plan for the British Columbia communities in the northern two thirds of the province. The North East and North West regions have similar communication requirements, geography, and logistics. Common HF and VHF networks are regularly used by the Radio Amateurs in the two regions. They have also been working together on repeater projects and emergency preparedness issues for many years. Due to the high degree of cooperation and commonality, the advantages of combining the two regional plans into one document became obvious.

This plan covers emergency management communications for the provincial and municipal governments, public safety (health and welfare) messages and emergency communication support for essential services and industries such as BC Hydro. Messages will be prioritized and handled accordingly. The facilities and frequencies described in this plan will be used with other frequencies, personnel and equipment assigned as required.

There is a permanent *Provincial Regional Emergency Operating Center* (PREOC) located in the Prince George *Provincial Emergency Program* regional office. The greatest number of Amateur Radio resources in the two regions, both equipment and people, are also located in Prince George. It is therefore expected that Prince George will become the primary communication centre for the two regions. The communication facilities and office space in the Terrace regional office are limited so Terrace will be used as a secondary or backup communication hub. In addition to these two locations, personnel in other communities may be requested to assume some or all of these duties depending upon the situation.

Depending on the extent of an emergency or disaster, part of the VHF network may be isolated from the rest of the network to allow handling a local event without tying up the entire network. Simplex frequencies will be used where appropriate, leaving the repeater network available for inter-community traffic.

References

- *PERCS Amateur Radio Emergency Communication Guide*. This book is written by amateur radio operators who are members of the *PEP Radio Advisory Committee*. The *Provincial Emergency Program* publishes it for us. Paper copies are provided to each community and the entire document is published on the Internet in Acrobat format. The *Municipal Amateur Coordinator* (MAC) and the *Deputy Municipal Amateur Coordinator* (DMAC) should each have a printed copy as should each EOC communication room and each of the key people in every community.
- Municipal Emergency Plan. (Most regional districts do not have a plan.)
- Municipal Emergency Plan for neighboring communities.
- Other regional Amateur Radio plans
- *PEP And The Radio Amateur* brochure from PEP
- *Surviving A Heating and Power Failure* by Graig Pearen
- *Communicating Without The Power Grid* by Graig Pearen
- Prince George Amateur Radio Club Internet site www.pgarc.org
- PERCS Internet site www.percs.bc.ca

PEP North East Regional Office

1541 South Ogilvie Street
Prince George, BC
V2N 1W7
250-612-4172 (Tel)
250-565-6886 (Fax)
250-612-4147 (Radio Room)

PEP North West Regional Office

2914 Eby St.
Terrace, BC
V2G 2X5
250-638-2151 (Tel)
250-638-2152 (Fax)
250-635-7259 (Radio room)

Emergency Coordination Centre

455 Boleskine Road
Victoria, BC
V8Z 1E7
800-663-3456 (Tel)
250-387-2957 (Fax)
250-387-3754 (Radio room)

Amateur Radio personnel are radio operators only. They are not interpreters, evaluators, field commanders or media liaisons. Their sole purpose is to transmit messages given to them by responsible officials!

By this plan, Amateurs are prohibited from transmitting personal observations or opinions, unless specifically requested to do so by a responsible official. This avoids misinterpretation (including by citizens who may be listening in on scanners).

Acknowledgements

Numerous amateur radio operators in the communities in these regions have helped in the production of this emergency communication plan. A special thanks goes to the people who have installed and maintain the repeater equipment linking our communities.

Updates

This plan will require constant updating as people move and equipment or conditions change. Please fax or e-mail all changes or suggestions for inclusion in the next update of this plan to either of your Regional Amateur Radio Representatives as listed below.

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Overview

In an emergency, all available communication methods will be used. The primary role of Amateur Radio is to provide backup communications to all the telephone, cell, fax, commercial radio and other systems that are used in our society. This includes the provincial government, primary emergency response agencies (police, fire, and ambulance), other volunteer groups, such as SAR, PEP-AIR, and ESS, and essential services such as BC Hydro.

Government disaster management operations will be controlled from one or more *Provincial Regional Emergency Operating Centres* (PREOC). The primary PREOC is usually located near but outside the disaster area with an alternate PREOC location established if required. A communication centre is set up in the PREOC. Existing Amateur Radio nets and their net control stations will be utilized where available. Home stations that are functional on emergency power will be designated as “key stations”.

BC Northern Emergency Net:	Joint (NE & NW) regional net run by a BC Northern Net NCS
BC Emergency Management Net:	Government communications between regions and headquarters.
BC Public Service Net:	Standby, dispatch, and ESS (health and welfare) traffic.
BC Emergency Net:	Interface to the National Traffic System (NTS).

When notice of a disaster in any community in the NE region is received, radio station VE7PGZ will be activated in the Prince George PREOC. Similarly, VE7EOC in the Terrace regional office will be activated to handle emergencies in that area. The VHF radio network extends across much of the NW region but can not be accessed from the Terrace office. Therefore, VE7PGZ in Prince George may be activated to assist with a situation in the NW region. Large events may result in VE7PGZ becoming the primary communication hub and the VHF net control station for both regions. The Northern Net NCS will become the NCS for the Northern Emergency Net on HF.

VE7PGZ will first operate on the VHF repeater network, and when appropriate, on one of the BC Emergency Management Net (BCEMN) or BC Northern Emergency Net (BCNEN) frequencies. VE7EOC will first operate on either the BCEMN or BCNEN frequencies. The first choice for HF operations will be on the 80-meter band and the second choice would be the 40-meter band.

Announcements will be made on all repeaters and appropriate HF nets to apprise the neighboring areas that an event is in progress. When the regularly scheduled Amateur nets are activated, the NCS should be notified of on-going or recently resolved events so they can answer questions.

In addition to helping in their own community, all Radio Amateurs should to be prepared to assist the affected area by handling messages via radio and by supplying relief radio operators to other communities if required.

Customers

Our “customers” will vary depending on the situation. They may include the following organizations and any other group or company that is deemed at the time to be essential, provided that we have the resources to assist them. This decision is to be made by the EOC manager, PEP manager, RARR, or the MECC in consultation with the MAC. Our pre-defined customers include PEP, provincial government, municipal governments, primary responders, ESS, SAR, PEP-Air, public works, BC Hydro, etc.

All Communities

Your *Municipal Amateur Radio Coordinator* (MAC) and Deputy (DMAC) are responsible for providing a Municipal (local) Amateur Radio Communications Plan. All local Amateurs, the City’s Emergency Plan Coordinator(s), and the Regional Amateur Radio Representative (RARR) and Deputy(s), and the MAC and DMAC in the neighboring communities should all have copies of this plan.

The MAC and DMAC are “employed” by the City’s Emergency Plan Coordinator and/or Municipal Emergency Communication Coordinator. The MAC and DMAC should work with the municipal emergency staff to ensure that the Amateur Radio plan fits into the municipal plan. The City should have a Municipal Emergency Communication Coordinator

(MECC) to oversee all modes of communication, not just radio. In smaller communities, the MAC or DMAC often also fills this role. The MECC function is not covered by any Amateur Radio plan.

All communities may be affected by power outages, a shortage of natural gas, and possibly limited telephone or cellular service. Be prepared to live and operate your radio station in blackout conditions! In addition to helping in their own communities, Radio Amateurs should to be prepared to assist the affected area by handling messages and by supplying radio operators to neighboring communities if required.

Activation

The initial call out should come from the municipal or regional staff. They will provide a PEP task number. If they forget to do so, ask them for it and record it along with the name of the caller, date, and time that you received the call. If the MAC or DMAC does not receive the initial call, they must be notified immediately by the person who did receive the call. All activities including calls to dispatch or notify personnel must be logged with date, time, and a brief description.

Only the MAC and DMAC should proceed to the EOC. If neither is available, another Amateur should temporarily assume this responsibility. After they have assessed the situation with the other EOC participants, the MAC or DMAC will dispatch Amateur Radio operators as required.

The person who received the emergency call must:

- Start an event log and record every event with date, time, and brief description
- Activate the local call out procedure as per this Plan. Amateurs who not dispatched immediately should be asked to standby for possible call-out.
- Ask the repeater maintenance people to stand-by to take batteries or power plants to the radio sites or to solve any problem that may arise.
- Upon arrival at the EOC or PREOC each person must:
 - Identify themselves to the staff who is there.
 - Sign in on the PEP task registration form.
 - Report to the MECC, MAC or DMAC.
 - Assist as requested to set up the communication room.
 - Establish VHF communication within the affected area as required.
 - Assist the MECC to assess communication needs.
 - Establish VHF and HF links with neighboring communities if required.
 - Establish VHF and HF links to the regional office if required.
 - Post the communication state-of-readiness and keep it current.
 - Do not leave without the knowledge of your supervisor.
- Upon arrival at any other location, each person must:
 - Identify themselves to the staff that is there and report for duty.
 - Sign in on the PEP task registration form.
 - Establish VHF communication to the EOC.
 - Do not leave without the knowledge of the site supervisor and the EOC (MAC).

NOTE: The first station on the air will assume temporary net control duties.

Prince George

VE7PGZ has been set up as a permanent radio station in the PREOC (Provincial Regional Emergency Operating Centre) in the PEP office in Prince George. Standby power and all supplies are provided on site.

When word of a disaster or emergency is received, the call out procedure will be activated to alert all Amateurs to “Standby for possible call-out”. Designated Radio Amateurs will go to the PREOC and activate radio station VE7PGZ on the assigned frequencies. Communication will be established with the Amateurs in the affected and neighboring area.

VE7PGZ will assume net control duties to relieve the radio staff in the affected communities of this added workload. If required, radio operators in another community may be requested to act as net control.

Many Prince George Amateurs have taken traffic control training and have gained experience during parades and community events. They may be asked to assist police at roadblocks, queue ambulances for loading, etc.

Terrace

VE7EOC has been set up as a permanent radio station similar to VE7PGZ. The office space and communications facilities are limited. In the event of a major emergency, this location may function in a supporting role with the Prince George station taking the leading role. This office is equipped with both HF and VHF equipment complete with a diesel power generator back up.

Municipal Amateur Radio Plans

The Municipal Amateur Radio plans for each community in the two regions are appended to the printed version of this document. These appendices contain only the details and call out lists that apply specifically to that individual community.

The appendices must be treated as confidential and are not to be posted on the Internet.

Staff Duties

Communication Supervisors (RARR, ECC, MAC)

- Assign staff duties
 - Radio operators
 - Message clerks
 - Support staff
- Schedule replacement staff for 24-hour coverage (including your own help)
- Assign alternate VHF frequencies for local operations (reception centres etc.)
- Ensure an adequate supply of forms etc.
- Ensure that all staff gets regular work breaks to prevent burnout
- Coordinate all other radio room functions

Radio Operators

- Identify and state the purpose of the net
- Keep a record of stations joining the net
- Keep a record of what traffic stations have to send
- Pass necessary traffic in order of priority (Emergency, Priority, Routine)
- Record all messages received or sent on the STATION LOG form
- Assign incoming and outgoing message clerks

Incoming Message Clerk

- **Log** all (amateur and commercial) messages received by the radio operators.
- **Deliver** or arrange delivery of every incoming message.
- Does not have to be a licensed Amateur but should know proper message formatting.

Outgoing Message Clerk

- **Check** all (amateur and commercial) outgoing messages prior to giving them to the radio operators
 - Addressee name and location
 - Sender name & location
 - Date (yyyy mm dd)
 - Time (24 hour format)
 - EMERGENCY.....life & death urgency
 - PRIORITY.....important time-sensitive messages
 - ROUTINE.....all other messages
- **Assign** the next sequential message number to the message
- **Log** all messages that are to be sent in the Outgoing Message Register
- **Deliver** the message to the radio operators
- Does not have to be a licensed Amateur but should know proper message formatting.

Forms

A supply of forms and stationary should be provided as part of the EOC. Samples and the procedure to fill them out are included in the PERCS Amateur Radio Guide.

Net Operation

Standby HF Frequency

The BC Public Service Net on 3729 KHz will be used to assign jobs and dispatch Amateur Radio operators. Therefore, Amateurs should check into this net and stand by on its frequency for further instruction and to handle traffic.

Regional Nets

The primary Amateur Radio communication paths within the regions will be the interior VHF repeater network where available and the BC Northern Emergency Net on HF to communities not served by the VHF network. These nets will operate as combined nets for the North West and North East regions of the province (everything from 70 Mile House north). One of the following HF frequencies will be used depending on propagation.

80M band	3.775 MHz	LSB
40M band	7.050 MHz	LSB
15M band	21.130 MHz	USB

BC Emergency Management Net

*The following frequencies will be used for a **closed net** between the PREOCs, (regional EOCs) and PEOC (Provincial EOC) in the PEP headquarters and the municipal EOCs. If this frequency is too busy, EOC to PREOC traffic may have to move to the Northern Emergency Net.*

160M band	1.900 MHz	LSB	
80M band	3.735 MHz	LSB primary	3.745 MHz LSB secondary
40M band	7.060 MHz	LSB primary	7.070 MHz LSB secondary
15M band	21.120 MHz	USB primary	21.130 MHz USB secondary

Net Control Duties

The first station on the air will act as temporary net control. Stations in close proximity to the disaster will have a heavy workload. To make their job easier, VE7PGZ in Prince George or another designated station will assume the net control job as soon as possible.

The net shall be run as a formal “**directed net**”. The net control station (NCS) will ask for traffic on a regular and frequent schedule. When all emergency traffic has been passed, ask for priority traffic. When all priority traffic has been passed, ask for routine traffic. When all traffic has been handled, bulletins and announcements may be read. Following that, general check-ins and personal chatter may be used to relieve stress and hold the frequency. This would be a good opportunity to promote and discuss upcoming Amateur Radio meetings, events, etc.

HF Regional Net

Since both the northern regions (NE and NW) are small in terms of the number of communities but large in area, the BC Northern Emergency Net will be run as a joint regional net to cover the province from 70-Mile House north. The net control stations of the BC Northern Net have agreed to operate the **Northern Emergency Net**. When alerted to a problem they will establish a joint (North East / North West) regional net on this frequency. If the 80M band is dead, **7.050 MHz** (40m, LSB) will be used and if that band is dead, **21.130 MHz** (15m, USB) will be used.

VHF Regional Net

The North / South leg of the northern interior VHF network covers the highway 97 corridor from below the southern boundary of the NE region to Fort Saint John and east into Alberta. The East / West branches cover the highway 16 corridor from McBride to the Hazeltons in the NW region. The NCS for this network will be VE7PGZ in the Prince PEOC or a designated station. Many of the repeaters on this network have battery backup and some are co-located in commercial sites and are backed up by diesel power plants. If an event is localized, this network may be sectionalized to suit the situation.

However, the integrity of the regional net must not be broken by taking repeaters off the net for local operations. Local nets on other frequencies will be used for local communications.

Net Preamble

This is the BC <HF/VHF> Northern Emergency Net. Net control is VE7 _____. My name is _____. This net is being sponsored by the Provincial Emergency Radio Communication Service in support of the communities in Northern BC. Check-ins will be called for every hour and bulletins will be read as they become available. Directed net procedures will be used followed by general check-ins. Traffic will be handled as required.

Net Holding Announcement

This frequency is being used for the BC Northern Emergency Net. This net is sponsored by the Provincial Emergency Radio Communication Service in support of the communities in our area. Net control station is VE7_____ and my name is _____. Roll call will be held every hour and bulletins will be read when available. When this frequency is not in use for the net, you are welcome to use it for personal communications. We ask that you keep each transmission short to permit Net Control to interrupt if required.

Optional announcements

PERCS is the Provincial Emergency Radio Communication Service. It is a joint venture between Radio Amateurs of Canada, the Provincial Emergency Program Radio Advisory Committee, Amateur Radio Emergency Service, and all the HF and VHF nets in BC. More information can be obtained from your Regional Amateur Radio Rep or at www.percs.bc.ca.

The Provincial Emergency Management Net is operating on <3735 KHz> +/- QRM for communications between the Regional PREOCs and PEP headquarters.

The BC Public Service Net is operating on 3729 KHz for check-ins from interested Amateurs. This net. is responsible for province-wide job assignment, radio operator dispatch, and health and welfare traffic

We'll start the roll call with the MAC or designated Amateur from each community...

Northern Emergency Net Control Stations

The *Northern Net* control stations run the *Northern Emergency Net* when it is activated. A list of these stations and their contact information is contained in an appendix to this plan.

Key stations

The following is a list of "key stations" which have facilities that may enable them to operate when other stations are temporarily unable to do so.

VE7PGZ Northeast PREOC station in Prince George with UPS and Diesel back up.

VE7EOC Northwest Regional PEP station in Terrace with diesel back up.

VE7ZZZ Rural private club station south of Prince George is completely self-contained.

VE7EAP VE7EOJ, VE7EAQ, VA7AOK: This rural station west of Prince George is "power failure proof".

Glossary

EOC: *Emergency Operations Centre.* The generic term for the control centre from which emergency management functions are performed. An EOC consists of conference rooms, a radio room, rest area, etc. Each community and each region should have a primary and an alternate EOC. The EOC may be permanent or a pre-defined facility that can be quickly set up in an emergency.

PEOC: *Provincial Emergency Operations Centre.* The EOC in the Provincial Emergency Program headquarters building in Victoria.

PREOC: *Provincial Regional Emergency Operations Centre.* The temporary field headquarters of the provincial government agencies involved in the disaster management and recovery. The PREOC in Prince George is a permanent facility located at the PEP regional office.

PERCS: *Provincial Emergency Radio Communication Service.* A joint venture between Radio Amateurs of Canada, the Provincial Emergency Program Radio Advisory Committee, ARES, and all the HF and VHF nets in British Columbia. PERCS was officially formed on April 30, 2000 at the Radio Advisory Committee meeting in Victoria. More information can be obtained from your Regional Amateur Radio Rep, the PEP regional office, or at www.percs.bc.ca.

PEP: *Provincial Emergency Program.* A government organization which supports volunteer municipal emergency preparedness groups such as Amateur Radio, Search and Rescue (SAR), and Emergency Social services (ESS). Note that by provincial statute, emergency preparedness is a **municipal** responsibility. For Amateur Radio, PEP is primarily an advisory and support group.

PEP-RAC: *Radio Advisory Committee.* A committee sponsored by PEP that provides recommendations and support on both commercial and Amateur radio issues to the Provincial Emergency Program managers and the other volunteer groups that are sponsored by PEP. This is the group that spearheaded the formation of PERCS and owns the PERCS logo. Membership includes the Regional Amateur Radio Representatives, ARES, PESSOC, and SAR, with regular participation by net control radio operators, Industry Canada, and various other guests as required by the agenda. In 2000, BC Hydro became a corporate sponsor of PERCS and as such is invited to join the meetings.

NCS: *Net Control Station.* The NCS is the radio station that is in charge of radio procedures on the frequency in use.

Formal Message: A written message preferably in the standard format

Tactical Message: A verbal message that is not recorded in the incoming or outgoing message register but should be recorded in the station log that is maintained by the radio operator. These messages often consist of conversations between the sender and the addressee.

<p>Note: It <u>is</u> legal for non-amateurs to talk to each other on Amateur Radio as long as the Amateur Radio operator is present (in control of the station). Proper procedures must still be followed.</p>

Personal Preparedness

As amateur radio operators, we are expected to be able to help our communities during emergency conditions. To do this we must first be confident that our families are safe. You and your family should analyze your personal situation and implement any changes necessary to insure their comfort and safety during blackout conditions. Plan for no power, no natural gas, no telephone and no community services for a minimum of 7 days. Pay particular attention to heat, food, and water and human waste disposal. After you have done this, prepare the equipment and supplies that you will need to be part of the radio communication team for your community.

In addition to the standard emergency kit, the Radio Amateur should:

- Keep your vehicle fuel tanks at least half full at all times. Don't park it even over night with an empty tank!
- If you have a safe storage area, keep extra fuel, oil, propane etc. on hand.
- Keep your radio batteries charged.
- Have extra radio batteries, and a battery pack for alkaline batteries.
- Have 12VDC power cords for all radio equipment *including hand held radios*.
- Your emergency tool kit should include basic tools for electrical & electronic work and a multi-meter.
- Keep HF & VHF radio equipment (including antennas) ready to go at a moments' notice.
- If you have a power plant, test it regularly and keep fuel on hand for it.
- Survival clothing as appropriate for the season in an old suitcase, bag, or backpack ready to grab & run.

Technical Notes

Battery Charging

A battery should be bulk charged at 1/10c that is 20 amps for a 200 amp-hour battery. More than this will shorten the life of the battery and a lower current takes too long to recharge it. Charge gelled electrolyte batteries at half this rate.

Battery Selection

When selecting a battery for repeaters or base stations, use a pair of 220 amp-hour 6 volt golf cart batteries in series and parallel as many sets as required to provide the desired operating time. Golf cart batteries cost about the same per amp-hour as other lead-acid battery types but they will have a much longer life span. A starting battery, even a 'cat battery' is designed for high current, shallow cycle service and shouldn't be discharged more than 10 - 20 % of its rated capacity. Deep cycle RV or marine batteries are slightly better but not much. Golf cart or forklift batteries may be discharged repeatedly to 80% of their rated capacity without damaging them.

Repeaters – North East Region

CITY	RPTR	NTWK	FREQ	LINKS	BKUP	NOTES
100 Mile House	VE7TMR	*	146.62-	WLLK	-	Timothy
		-	146.74-		-	Mt. Begbie (S of 100 Mile)
Chetwynd	VE7ATY	*	146.91-	FSJN link normally on	-	100Hz CTCSS
Dawson Creek	VE7RMS	*	146.76-	FSJN, TMRG, Grand Prairie	UPS	100Hz CTCSS 6-8 hours battery
	VE7RDC	-	146.94-	Autopatch	-	100Hz CTCSS Bear Mountain
	VE7RMS		146.76-	FSJN, Beaver Lodge, Grand Pr.		100Hz CTCSS
Fort St. John	VE7RSJ	*	146.64-	Hub (all directions)		100Hz CTCSS
	VE7RUC	*	147.28+	Link normally off	-	100Hz CTCSS
Fort Nelson	VE7VFN	-	146.94-		-	Not linked
Loos	VE7PAB	*	147.06+	MBRD, PGRG		Between Prince Geo. & McBride
Mackenzie	VE7MKR	*	146.82-	PGRG	Gen.	Morfee Mountain (Telus site)
McLeod Lake	VE7ZBK/R	-	147.33-		Bat/Gen	Chingee Mtn. (autopatch)
McBride	VE7RMB	*	146.76-	LOOS	Gen.	Lucille Mt., Robson Valley
		-	146.10+			Autopatch
Tumbler Ridge	VE7RTR	*	147.27+	FSJN	-	100Hz CTCSS
Pink Mountain	VE7RPI		146.72-	FSJN, Ft Nelson	-	100Hz tone (off the air)
Prince George	VE7RPM	*	146.94-	QUES, VRHF, RES	Bat	Pilot Mountain. Link normally off
	VE7RTA	*	146.94+	VE7RPM	Gen.	Down town
	VE7FFF	-	146.70+	Autopatch, internet	Gen.	Tabor Major (Telus site)
	VE7RES	*	145.43-	Hub (all directions)	Bat.	Tabor Minor
	VE7RWT	*	146.91-	VE7RES	Gen.	Baldy Hughes (Telus site) Covers Hwy 97 south
	VE7RUN	-	147.00+		Gen.	Autopatch
Quesnel	VE7RQL	*	147.06-	PGRG, WLLK, Clearwater	-	Dragon Mountain
	VE7DTM	-	146.72-		-	Bill's repeater
Valemount	VE7YCR	-	147.00-			Status unknown
Williams Lake	VE7RWL	*	147.12+		-	
	VE7WLA	*	146.88-	QSNL, 100 Mile	-	
	VE7WLP	*	147.18+	QSNL, 100 Mile	-	
Wells	VE7RLS		147.38+			Two Sisters Mt.

Repeater Control Codes – NE Region

VE7RPM 146.94- Prince George	5110 All links on, drop repeater disconnected (normal configuration) 5111 All on
VE7RES 145.43- Prince George	Main hub. All links always on unless there is an equipment failure.
VE7RSJ 146.88- Ft. St. John	
Vanderhoof 146.80- VE7RSM	561* repeater linked 560* not linked
Quesnel 147.06- VE7RQL	97*00 North on, 97*01 North off 97*02 South on, 97*03 South off

Repeaters – North West Region

CITY	RPTR	NTWK	FREQ	LINKS	BKUP	NOTES
Vanderhoof	VE7RSM	*	146.80-	PGRG, BULK	-	Sinkut Mountain
	VE7RON	-	146.88-	Autopatch (*=on #=off)	-	Down town
Burns Lake	VE7RLD	*	146.94-	VRHF, HSTN	-	Boar Mountain
Fort Saint James		*	147.03+	PGRG	-	Murray Ridge
Houston	VE7RHN	*	147.06+	BULK, SMTR	Gen	Mt. Harry Davis
Smithers	VE7RBH	*	146.88-	HSTN, NZTN	Batt	End of Snake Road: Large battery
Hazelton	VE7RHD	*	146.94-	SMTR	Batt	Seeley Hill: Small battery
			146.85-			
Terrace			146.94-			
			147.28+	PRRT	Batt	Solar & wind power
McLean Mt.			146.88-			
			146.94-			
Prince Rupert			146.82-			
			146.94-			
Kitimat	VE7SNO		146.82-			
			146.94-			
	VE7RAF		147.06-			
Queen Charlotte	VE7RQI		146.68-			Mt. Thomas
Ketchikan, AK		-	146.79-			Can work it from Prince Rupert

NTWK: Part of the Central Interior VHF network.

Note 1: Fort St John repeater equipment is all 12 vdc powered. Batteries can be transported to the site if required.

Note 2: Other repeater links from Prince George are available East, West, and South.

* Part of Central Interior VHF network

Repeater Control Codes - NW Region

Vanderhoof 146.80- VE7RSM	5611 linked 5610 not linked
Burns Lake 146.72-	Everything on = 4111 West link: on = 4121, off = 4120 East link: on = 4331, off = 4130
Houston 147.06+ VE7RHN	Everything on = 4211 West link: on = 4221, off = 4220 East link: on = 4231, off = 4230
Smithers 146.88- VE7RBH	Everything on = 4311 West link: on = 4321, off = 4320 East link: on = 4331, off = 4330
Hazelton 146.94- VE7RHD	Everything on = 4411 West link: on = 4421, off = 4420 East link: on = 4431, off = 4430
Fort Saint James 147.03+	5911 linked 5900 not linked