

Amateur Radio



Communications & Messaging Workshop



Communicating is what we do best...
WE ARE MESSAGE HANDLERS
NOT ORIGINATORS

ARES – PERCS Objectives



- ◆ To establish and provide training for a core group of emergency communicators.
- ◆ To provide emergency communications in time of need for ESS, Red Cross, Hospitals, Emergency response, Municipal or other agencies as requested.

ARES – PERCS Objectives



- ◆ Consist of licensed Amateur Radio operators and other volunteers who will respond to training, exercises and public service activities which require radio communications, including declared emergencies.
- ◆ Will become the nucleus of skilled and trained radio operators who will establish the first line of communications at the emergency site and will assume supervision of the amateur communications network.

Overview



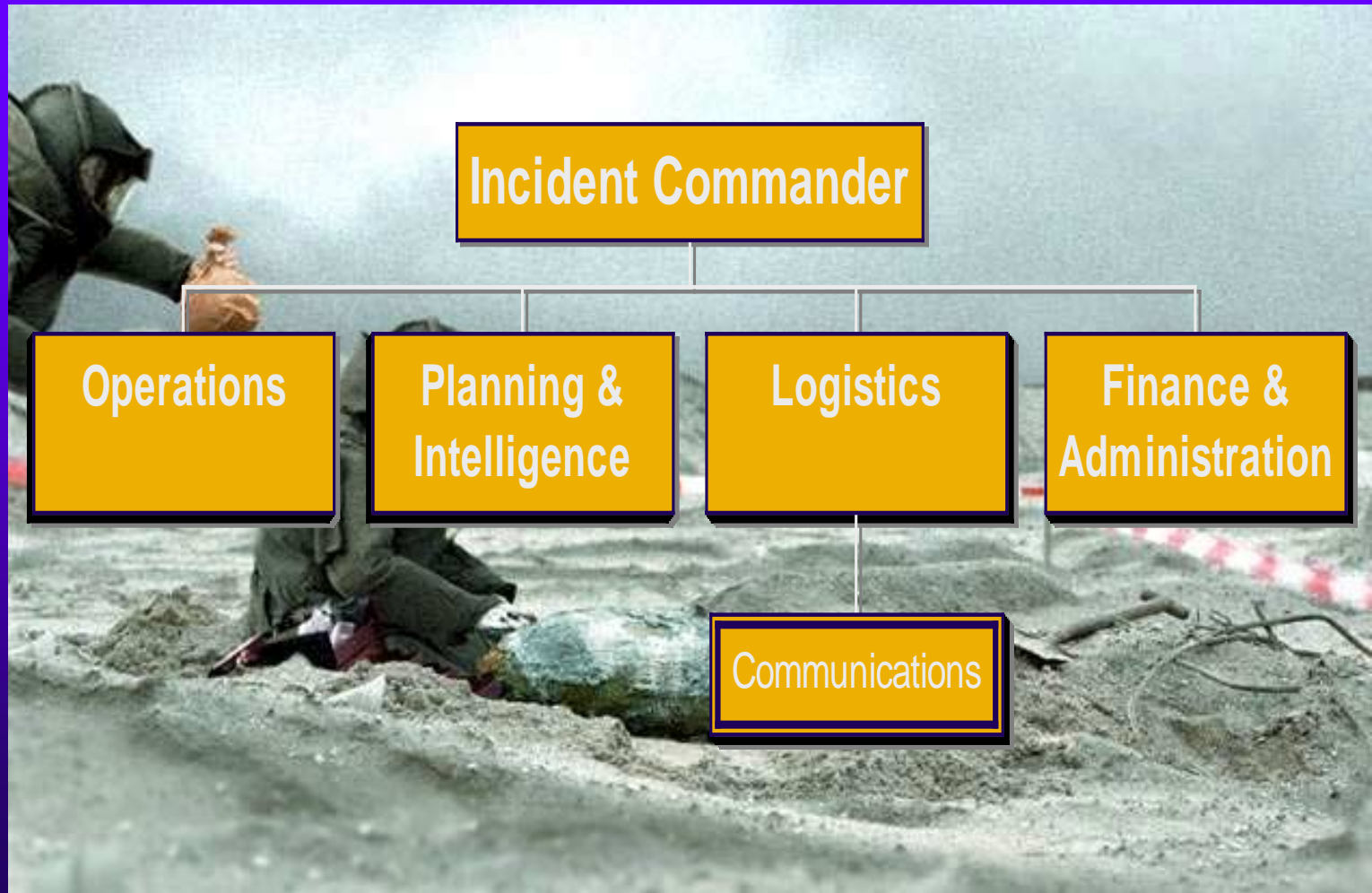
- ◆ Amateur Radio Emergency Service (ARES) created by ARRL in 1935
- ◆ Radio Amateurs of Canada was formed in 1993 with the merger of Canadian Radio Relay League and Canadian Amateur Radio Federation.
- ◆ PERCS adopted RAC model in 2000
- ◆ This model is proposed to standardize municipal messaging

Overview



- ◆ More than 70,000 ARES members throughout North America
- ◆ Canadian radio amateurs agree to provide communications for the Canadian Red Cross in 1980 agreement, following successful co-operation during Mississauga train derailment and evacuation

ICS: The Incident Command System



Municipal Plans



Must Provide

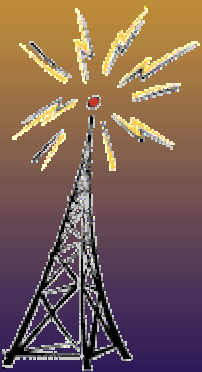
- ◆ Emergency communications for the municipal government within the municipality
- ◆ Emergency communications between municipal officials and the PEP Regional HQ in Victoria
- ◆ Emergency communications for ESS

Emergency Communications



Must Include

- ◆ Municipal EOC
- ◆ Regional EOCs
- ◆ Provincial Regional Emergency Operations Centres (PREOC) may be required near the site of an emergency

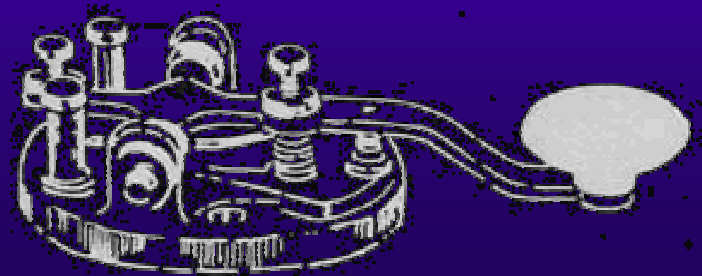


Messaging Options - Modes

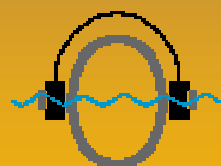


Digital

- E-mail
- EM2000
- Packet
- PSK-31
- CW

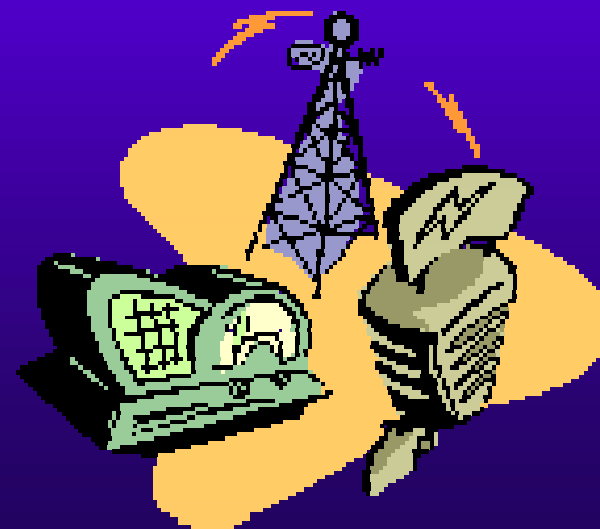


Voice



- ◆ VHF
- ◆ UHF
- ◆ HF

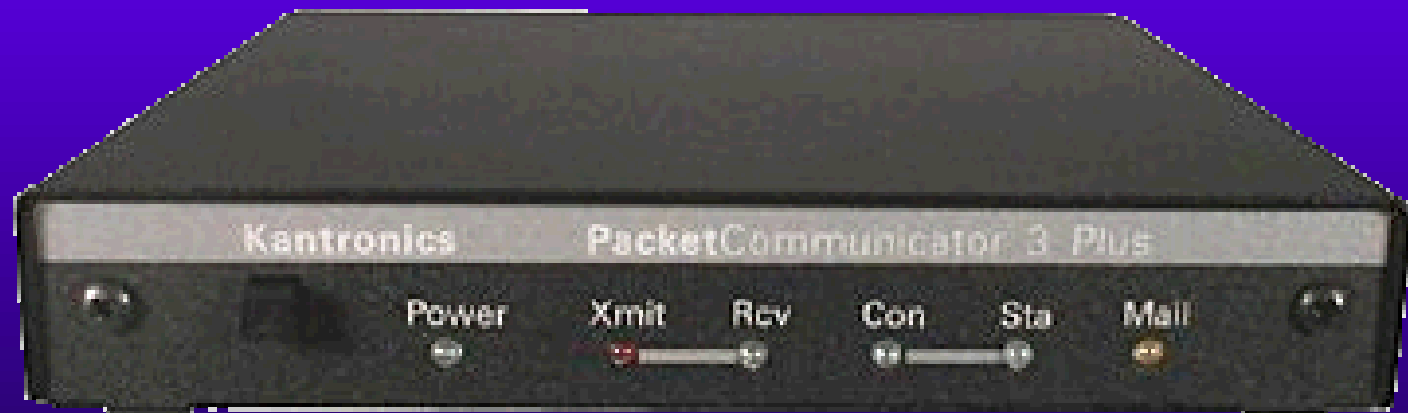
- ◆ Simplex vs Repeater



Packet



- ◆ BCEP
- ◆ Paket



PSK31



WinPSK 2.07 -- VE7LNX

File Edit View Settings Clear Rcv Clear Xmit TX Tune Send File Help

VE7XF VE7LNX I can copy just fine. 599 in Coquitlam. We're considered neighbours in the PSK arena. I've been in touch with Louisiana tonight and had a QSO with an XE2 station Mexico yesterday. I'm quite new to PSK myself so I understand where you're coming from
VE7XF VE7LNX kn kn

<<TX Ended - 13 Feb 2001 05:22:08 UTC>>

t0etlee yVE7LNX de VE7XF - OK, OM, this seems to be working fine - now if I could just learn to type. I'm using 4 fingers, and going as fast as I can, so excuse the mistakes. UR also 599 here. I'd always imagined that my first PSK QSO would be with some fancy DX station, but I'll be glad THAT I'VE BEEN ABLE TO DO THIS BY MYSELF. I'M USING a Rig

RX Freq 1542
TX Freq 1539
Net
BPSK
QPSK (usb)
200 Hz
Slow
Zoom X1
3500 Hz

Spectrum Waterfall Input Data Sync

Auto Text Select ☒ VE7XF

Their Call
Their Name
Text Grab
Clear QSO Info

(Rt-Click on Macros to Edit)

F1=CQ	F6=QTH
F2=QSO Start	F7=My Setup
F3=QSO Final	F8=Undefined
F4=Routine ID	F9=Undefined
F5=Undefined	F10=Undefined

<<< Home F11 >>>
Macro Set = 1

Rx F12

No IMD Reading Clk ppm = -400 13 Feb 2001 5:23:59 UTC

Start QRZ.COM Database ... Central WinPSK 2.07 -- V... untitled - Paint 21:23

Emergency Station Setup



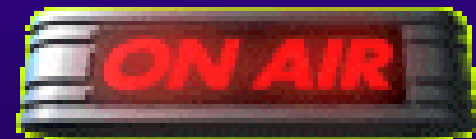
- ◆ Authorized
- ◆ Locations pre-determined, alternates considered
- ◆ Minimum three staff per station
- ◆ Messages handled according to procedure



Station Protocol



- ◆ Be on time for shift
- ◆ Sign the staffing log (or task form) when arriving and leaving
- ◆ Leave the station for breaks
- ◆ Avoid idle chatter inside the station or on the air.
- ◆ Use Tactical Callsigns
- ◆ Leave pauses



Net Operation & Control



What is a Net?

- ◆ A group of radio stations on a frequency or frequencies with a common interest or function
- ◆ Two Types
 - Directed (Controlled)
 - Open

Net Control Station



TO BE EFFECTIVE MUST HAVE

- ◆ Operating ability
- ◆ Signal strength
- ◆ Familiarity with procedures
 - Clears message traffic
 - Maintains order on the net
 - Lengthy messages between two stations moved to another frequency, if possible



Emergency Nets

- ◆ Net Control Station(s)
- ◆ Provides organization
- ◆ Provides situation reports and updates
- ◆ Announces the frequencies to be used
- ◆ In emergencies, Amateurs responding should check into the assigned net frequency for the area

Net Protocol



- ◆ Patience, self-control and discretion

Station Positions



Minimum 3 positions:

- ◆ Station Manager (Supervisor)
- ◆ Operator
- ◆ Logger (Message Clerk)

Station Manager



- ◆ On-Duty Manager is in charge – must be familiar with all aspects of station operation
- ◆ Starts a Station Log to provide a ‘paper trail’ and a situation status board
- ◆ Briefs on-coming shifts and debriefs shifts going off duty
- ◆ Ensures required documentation is completed
- ◆ Liaises with other ICS sections

Positions: Net Control



- ◆ Announces the net
- ◆ Announce repeater is out of service
- ◆ Re-announce at regular intervals
- ◆ Indicate 'Exercise' or 'Real'
- ◆ Controls traffic

Positions: Message Clerk



- ◆ Also known as Logger
- ◆ Ensures messages are properly routed
- ◆ Prioritizes Messages
- ◆ Scrutinizes message content for proper format, completeness and that it is signed
- ◆ Numbers and files messages
- ◆ Tracks paperwork

percs

PERCUTANEOUS RADIOFREQUENCY

PROJECT NAME _____ DATE _____ NET LOCATION _____

PROJECT LOCATION _____ NET CONTROL OPERATOR _____

[illegible]

Station Log



- ◆ Established radio room at Red Cross office using call VE7RCP. VE7UXW Shift Supervisor, VE7WKJ and VE7HHA assisting. Began monitoring of VE7RPT Rptr.
- ◆ 1622 - Contact established with VE7RCO at Victoria Div. Red Cross Branch on VE7VIC repeater.
- ◆ 1625-1653 - Informal traffic between VE7RCO (B.Larrabee - Vancouver ESS) and VE7RCP (J. Rogers – City Manager) re: Need for additional Reception Centres
- ◆ Jan. 27 2001 0030 - VE7WKJ, VE7HHA, VE7UXW relieved by VA7JAK (Shift Supervisor), VE7SZV, VE7XB.
- ◆ 0321 - Loss of electrical power at Red Cross office. Began operation on emergency power (car batteries).

EM/2000



EM Incident Recorder - By Location - Lotus Notes Desktop

File Edit View Create Actions Window Help

New Incident Add Comment Incident Update Go to Incident # Go To...

INCIDENT RECORDER

EXIT HELP

By Location(City)

All Incidents

By Incident Type

Open Incidents

Chronology

By Dept/Agency

By Caller

Status Reports

AreaView

History

Count	#	Incident Name	Type	Address	Status	Date & Time	By
8		VEOC					
1		Arbutus Ridge					
3		mva - gas spill	Hazardous Materials	1600 Arbutus Vancouver	Closed	02/12/2000 09:57 AM	EOC Engineering
		Incident Update (EOC Police1 02/12 10:23)					
		Incident Update (EOC Engineering2 02/12 10:20)					
		Hazardous Materials Medium Incident Plan (EOC Engineering2 02/12 10:9)					
2		Downtown					
7		Flooded basement	Flood	1234 West 12 Ave Vancouver	Open	02/12/2000 10:00 AM	EOC Police Traffic
		Incident Update (EOC Police1 02/12 10:19)					
		Flood Low Incident Plan (EOC Police Traffic 02/12 10:10)					
		Response to Incident Flooded basement (EOC Police1 02/12 10:15)					
		wellResponse to Incident Flooded basement (EOC BCAS 02/12 10:14)					
		Response to Incident Flooded basement (EOC Permits 02/12 10:14)					
4		Building collapsed	Infrastructure Failure	123 main street Vancouver	Closed	02/12/2000 10:02 AM	EOC EngTransport
		Incident Update (EOC CadGis2 02/12 10:22)					
		Incident Update (EOC Hazardous Waste 02/12 10:21)					
		Incident Update (EOC EngTransport 02/12 10:21)					
		Infrastructure Failure High Incident Plan (EOC EngTransport 02/12 10:9)					
		Response to Incident Building collapsed (EOC Engineering1 02/12 10:13)					
		Response to Incident Building collapsed (EOC Hazardous Waste 02/12 10:12)					
1		Grandview/Woodlands					
6		Chemical Spill/Queen Alexandra School	VPD-CHEMSP	1300 East Broadway Vancouver	Closed	02/12/2000 09:57 AM	EOC Hazardous Waste
		Incident Update (EOC Hazardous Waste 02/12 10:23)					
		VPD-CHEMSP Priority 1 Incident Plan (EOC Hazardous Waste 02/12 10:11)					
		Response to Incident Chemical Spill/Queen Alexandra School (EOC CadGis2 02/12 10:12)					
1		Killarney					
5		Red Box	Hazardous Materials	244 K Vancouver	Open	02/12/2000 09:58 AM	EOC Fire Resource
		Incident Update (EOC Fire Resource 02/12 11:30)					
		Hazardous Materials Medium Incident Plan (EOC Fire Resource 02/12 10:9)					
		Response to Incident Red Box (EOC Engineering2 02/12 10:13)					
2		Kitsilano					
9		severe flooding	Severe Weather/Storm	3637 west 12th ave Vancouver	Open	02/12/2000 09:58 AM	EOC Police1
		Incident Update (EOC Police1 02/12 11:37)					

Office 1:55 PM

Precedence



- ◆ Emergency
- ◆ Priority
- ◆ Welfare
- ◆ Routine



Time Conventions



- ◆ Universal Time Coordinated (UTC) for traffic outside the province
- ◆ Local time within the province
- ◆ +8 for UTC

HHMMT

1215 L

2015 U



24-Hour Clock Examples



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

Date Conventions



- ◆ Year – Month - Day (YYMMDD)

010327

27th Day of March 2001



Phonetic Alphabet

- ◆ Used when spelling mistakes may occur
- ◆ Numerical figures
- ◆ It is good practise to identify your station using phonetics
- ◆ Use ITU alphabet - do not make up catchy phrases or use non-standard words

Key Message Rules



- ◆ Accuracy
- ◆ Brevity
- ◆ Understandability

Accuracy



Exercise:

You will be given a typical message verbally. Whisper it to the person to your right.



Accuracy



Exercise:

You will be given a typical message verbally. Write it down and pass it verbatim to the person on your left without showing them the message.



Use Imperative • Not Question

Instead of:

“How many beds do you have?”

Use:

“Advise number of beds.”

Politeness is not required
or recommended



Brevity

Please send one hundred blankets to the Main Community Centre for the evacuees that are housed here.

Could become...

Require 100 blankets



Brevity

The following two people have been given a room at the Best Western Motel at 3300 Kingsway:

Could become...

**Housed at Best Western Motel,
3300 Kingsway:**

Brevity



Reduce this message:

A Red Cross worker has located two more homeless residents that require housing. Please advise which location to take them to.

Thank you

Brevity



Brevity exercise

“We have a number of people walking around with various injuries such as superficial cuts and bruises, patients complaining of deafness, and patients that we believe have shock and trauma. Can we request nursing staff to assist our First Aid volunteers? Also, we should have someone with a van or cars for shuttle service to the nearest hospital.”

Understandability



- ◆ To comprehend the meaning and significance of; know.
- ◆ To comprehend the language, sounds, form, or symbols of.

Do *you* understand what the message says?

Outgoing Message



RadioGram

Via Amateur Radio



Number	Precedence	HX	Station of Origin	Check	Place of Origin	Time Filed L - U	Date YYMMDD

TO:

MESSAGE OF REPLY: LOCATION OF WRITER: SIGNATURE

E - P - W or R

Word Count
i.e. 15

Used in Complex Messaging
i.e. HXC

Time Composed by Orig
i.e. 1345 L

Date Composed by Orig
i.e. 010327

Signature

REC'D	From	Date	Time

SENT	To	Date	Time

The ORIGINATOR starts the process

Outgoing Message



RadioGram

Via Amateur Radio



Number	Precedence	HX	Station of Origin	Check	Place of Origin	Time Filed L - U	Date YYMMDD

MESSAGE ORIGINATOR: LOG OF WRITER: SIGNATURES

TO:

[Redacted]

Destination
Name, Title, Address

Telephone Number: (

[Redacted]

Message Text
Up to 25 words

Telephone
with Area Code if avail

Originator Signature & Phone
MUST BE SIGNED!

Signature

[Redacted]

[Redacted]

REC'D	From	Date	Time

SENT	To	Date	Time

Body may include words, numbers or punctuation

Outgoing Message



RadioGram

Via Amateur Radio



Number	Precedence	HX	Station of Origin	Check	Place of Origin	Time Filed L - U	Date YYMMDD

TO:

By 1st Amateur Transmitting
i.e. 025

Location of Origin
i.e. Vancouver EOC

Telephone Number: ()

Orig Station Callsign
i.e. VE7PEP

Operator Filled
and initialled

REC'D	From	Date	Time	SENT	To	Date	Time

ORIGINATOR does not fill in the shaded boxes



Outgoing Messages Work Flow

- ◆ Originator takes message to the Communications Centre (On foot, EM/2000, by telephone or otherwise)
- ◆ Message is sent by the mode determined most efficient by the communications Centre
- ◆ Mode will be determined by length, complexity and available means

Incoming Message



RADIOGRAM

VIA AMATEUR RADIO



NUMBER	PRECEDENCE	H X	STATION OF ORIGIN	CHECK	PLACE OF ORIGIN	TIME FILED	UTC	DATE	UTC

IO: Provided by the originator

TELEPHONE NUMBER
i.e. 025

Station Call Date Time
i.e. VE7VGH 010327 1935 L

SIGN _____

REC'D	FROM	DATE	TIME	SENT	TO	DATE	TIME

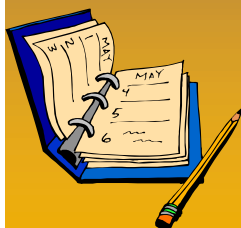
Recap – Message Forms



A formal message contains four parts:

- ◆ PREAMBLE – The record keeping part
- ◆ ADDRESS – Information about the recipient
- ◆ TEXT – What the sender wants to tell the addressee
- ◆ SIGNATURE – Identifies the person sending the message

Message Registers



INCOMING MESSAGE REGISTER

YEAR 0103

STATION VE7PEP

SHEET NO. 1

TIME IN	MSG #	P	FROM	ORIG #	REMARKS	TIME OUT
1935 L	001	R	Salvation Army	054	Meal request	1935 L
	002					
	003					

Brief Summary

From Lower Left Corner

Precedence

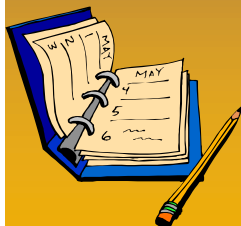
Number Box

Consecutive

Station of Origin

Message Clears

Blue Information Comes From the Message Form



YEAR 0103

STATION VE7PEP

SHEET NO. 1

LOG #	ORIG #	P	D/TIME Z	TO	REMARKS
001	054	R	27/1935 L	Salvation Army	Meal request
002					
003					

ive

umber Box

Day & Time Sent

Brief Summary

To Box

Prioritize!

Blue Information Comes From the Message Form

Informal Messages



- ◆ Restricted to direct personal communications between officials of the agency being served
- ◆ Radio operators establish the contact first
- ◆ Noted in the Station Log

Forms



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 South West Area Name and Number _____

Category & Type (see reverse) _____

Brief Description of Training _____

Emergency Program 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	\$
Mileage/Travel	\$	Travel	\$
Instructor Fees	\$	Overtime Hours CTO <input type="checkbox"/> Cash <input type="checkbox"/>	
Other Costs (Describe Below)		Other (Enter Below)	\$
	\$	Total Staff Cost Estimates	\$
Total Volunteer Cost Estimates	\$		
Total Estimated Task Costs		CASARA <input type="checkbox"/> WCB <input type="checkbox"/>	

Regional Manager Recommended ☐ Not Recommended ☐ Approved ☐

Comments _____

Regional Manager Signature _____ Date _____

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

REGION TASK NUMBER _____ HEADQUARTERS TASK NUMBER _____
PEP / 006 /



**Provincial
Emergency
Program**

Region: _____ **Task Description :** _____ **Date:** _____

[illegible]

Task Leader Name: _____ Signature : _____ Date : _____ Page: ____ of: ____



Forms



TASK REPORT FORM



Task Number: _____ RCC/RCMP/BCAS File Number: _____

A. TO BE COMPLETED BY TASK LEADER

Group: _____ 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 Missing: _____

Details of Task (attach additional pages if required): _____

Equipment Used/Lost (Equipment Repair/Replacement Request attached YES/NO)

Task Leader's Name: _____ Signature: _____ Date: _____

Where applicable
EP Coordinator's Name: _____ Signature: _____ Date: _____

B. TO BE COMPLETED BY PEP REGIONAL MANAGER

Comments/Recommendations: _____

Regional Manager Signature: _____ Date: _____



PROJECT NAME _____ DATE _____ NET LOCATION _____

PROJECT LOCATION _____ NET CONTROL OPERATOR _____

P=PORTABLE
H=HANDHELD
F=FIXED
M=MOBILE
PK=PACKET
TV=TELEVISION

[illegible]

percs

PERCUTANEOUS RADIOFREQUENCY

PRIMARY NET CONTROL MASTER ASSEMBLY ROSTER

PROJECT NAME _____ DATE _____ NET LOCATION _____
PROJECT LOCATION _____ NET CONTROL OPERATOR _____

FILE NET_CON.GIF_09/97_VESX

PRIMARY E.O.C.				SECONDARY E.O.C.			
NAME	CALL	TIME IN	TIME OUT	NAME	CALL	TIME IN	TIME OUT

911 CENTRE				RED CROSS			
NAME	CALL	TIME IN	TIME OUT	NAME	CALL	TIME IN	TIME OUT

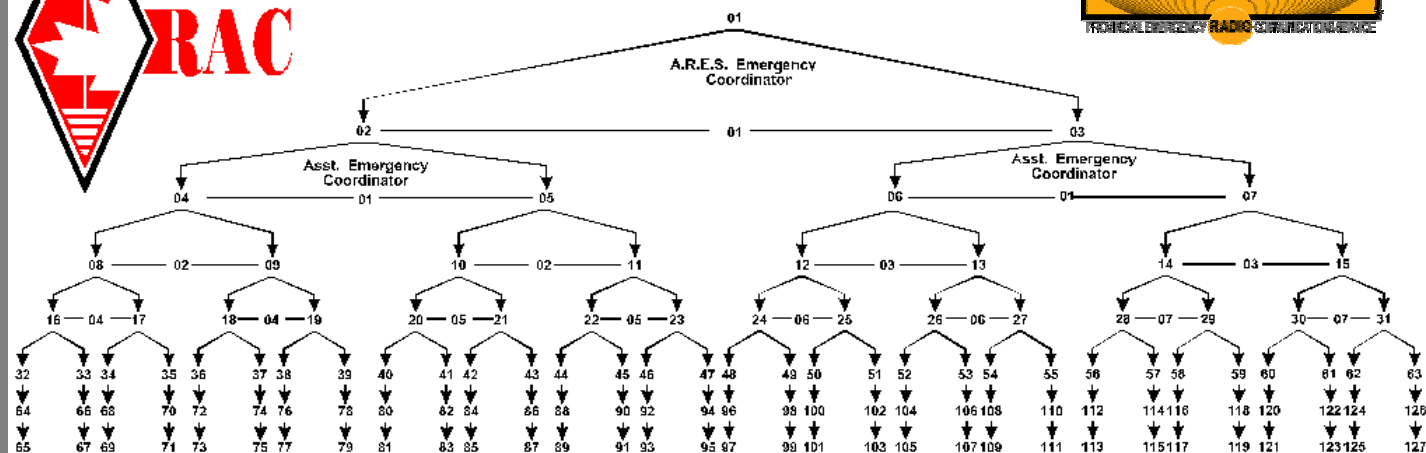
HOSPITALS					
NAME	CALL	TIME IN	TIME OUT	HOSPITAL ASSIGNED TO	REMARKS

AMBULANCE				OTHER			
NAME	CALL	TIME IN	TIME OUT	NAME	CALL	TIME IN	TIME OUT

Forms



TELEPHONE TREE



EXAMPLE INSTRUCTIONS FOR TELEPHONING SEQUENCE

- 01 NORMALLY CALLS 02 AND 03, IF 02 UNREACHABLE THEN CALL 04 AND 05
IF 03 UNREACHABLE THEN CALL 06 AND 07
- 02 NORMALLY CALLS 04 AND 05, IF 04 UNREACHABLE THEN CALL 08 AND 09
IF 05 UNREACHABLE THEN CALL 10 AND 11
- 03 NORMALLY CALLS 06 AND 07, IF 06 UNREACHABLE THEN CALL 12 AND 13
IF 07 UNREACHABLE THEN CALL 14 AND 15
- 04 NORMALLY CALLS 08 AND 09, IF 08 UNREACHABLE THEN CALL 16 AND 17
IF 09 UNREACHABLE THEN CALL 18 AND 19
- 05 NORMALLY CALLS 10 AND 11, IF 10 UNREACHABLE THEN CALL 20 AND 21
IF 11 UNREACHABLE THEN CALL 22 AND 23
- 06 NORMALLY CALLS 12 AND 13, IF 12 UNREACHABLE THEN CALL 24 AND 25
IF 13 UNREACHABLE THEN CALL 26 AND 27
- 07 NORMALLY CALLS 14 AND 15, IF 14 UNREACHABLE THEN CALL 28 AND 29
IF 15 UNREACHABLE THEN CALL 30 AND 31
- 08 NORMALLY CALLS 16 AND 17, IF 16 UNREACHABLE THEN CALL 32 AND 33
IF 17 UNREACHABLE THEN CALL 34 AND 35 ETC. ETC. ...

IF FOR ANY REASON NO ONE IS HOME, PLEASE KEEP FOLLOWING YOUR BRANCH UNTIL YOU FINALLY REACH SOMEONE AND OR REACH THE BOTTOM OF YOUR TREE BRANCHES.

Preparedness



- ◆ In a major emergency, look after your own family first
- ◆ Have something to eat
- ◆ Dress appropriately
- ◆ Keep a 'Grab 'n Go' bag ready
- ◆ Get there in one piece



Don't take on more than you can manage

As Snoopy said...



Five minutes before the party is not
the time to learn to dance

Message Exercise



- ◆ In double syndicates of 3, handle the following messages in the appropriate manner
- ◆ Designate an Originator, Operator and Message Clerk
- ◆ Pass messages between syndicates

More Information?



www.percs.bc.ca

www.pep.bc.ca

www.rac.ca





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