

**State of Vermont**  
Vermont Communications Board



**Public Safety Agency  
Interoperable Communications  
Standard Operating Procedure (SOP)**

(DATE WHEN APPROVED)

**DRAFT DOCUMENT – FOR COMMENT ONLY, NOT FOR OPERATIONAL USE**

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**1. PURPOSE:** The purpose of this Standard Operating Procedure (SOP) is to provide a standardized way of passing speech traffic as securely as possible consistent with accuracy, speed and the needs of command and control. This SOP governs the usage of the statewide VCOMM Command Nets, VCOMM Tactical Channels, and VCOMM Calling Channels. Public safety agencies are free to choose what portions of this SOP may or may not apply to day-to-day operations. This SOP establishes standardized communications procedures not only for responses beyond traditional jurisdictional boundaries, but across disciplines as well.

**2. BACKGROUND:** There are over 18,000 public safety radio devices in the State of Vermont. Currently 87% of public safety agencies in the State of Vermont use VHF for public safety frequency needs. Fire services operate primarily in the VHF band, while the police services operate primarily in the UHF band. Interoperability between different agencies takes place in Vermont today due largely to the fact that agencies within the same service share the same frequency band. Adjoining towns have each other's frequencies programmed into their radios to facilitate communication. The major roadblock occurs where adequate radio coverage does not exist, or when public safety agencies travel outside their routine jurisdictional footprint.

The Steering Committee and the Technical Committees of the Vermont Communications Board (VCOMM) have worked tirelessly to build the necessary infrastructure to enable a common set of VHF and UHF frequencies, available statewide, for both contacting dispatchers and for conducting on-scene operations. The VCOMM Operations Committee is charged with drafting statewide procedures for using those frequencies.

However, simply having radios and a bank of frequencies that enables 'anyone to talk to anyone at anytime' is not interoperability. Although many local and state agencies nationwide have purchased technology which enables multiple public safety agencies to be on the same frequency at the same time, the reality is that without proper procedures, the supposed 'interoperable' frequencies are congested and unusable just when they are needed most. Nearly 1,000 law enforcement personnel and emergency personnel responded to the shootings at Columbine High School on April 20<sup>th</sup>, 1999. Despite considerable spending which enabled multiple public safety agencies to all be on the same frequencies, radios were "absolutely useless, as they were so overwhelmed with the amount of traffic in the air."<sup>1</sup> Similarly, following the Oklahoma City bombings, the radio channels available to the Oklahoma City police department were instantly congested.<sup>2</sup> Following the shootings in Essex Junction, Vermont, one hour after the event there were nearly 100 law enforcement personnel utilizing a common State Police channel.

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<sup>1</sup> Susan Rosegrant. *The Shootings at Columbine High School: Responding to a New Kind of Terrorism Sequel Case No. C16-01-1612.1* (2001), 16.

<sup>2</sup> Public Safety Wireless Network (PSWN), Program Symposium Compilation Report, August 1997-December 1999, pp. 19-23.

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This SOP addresses the State of Vermont’s need for a comprehensive document for radio communications, which sets out policies, procedures, and information sharing protocols at the operational or tactical level. This SOP addresses how radio communications of users (local, state and federal) are to be integrated in a large-scale and/or multi-agency response. Users of this State of Vermont interoperability SOP include approximately four hundred and fifty one (451) sheriff, municipal police, and fire departments and emergency medical organizations, fourteen state agencies, and any federal agencies performing public safety functions within the State of Vermont. This SOP includes dispatch integration, and ensures a process that uses the Incident Command System (ICS). By utilizing this SOP, regardless of the geographic location of the response, multiple agencies will know which frequencies are being used and how.

**The central concept of this SOP is the establishment of a Command Net.** The Command Net construct is referenced in *Communications Unit Leader* Position Manual, ICS-223-5, September 1, 1982 (the primary ICS Communications document). The intent of the Command Net is to take the senior member of each on-scene agency (or the senior member of each functional team, if function teams have been formed) and place them on the Command Net for common situational awareness, and for the senior member of each on-scene agency (or the senior member of each functional team) to direct their subordinates through separate tactical nets. For the purposes of this SOP, the senior member of each on-scene agency (or the senior member of each functional team) is called an Agency Commander. This can be a Chief, Supervisor, Commander, or single individual if the single individual is the only member or his or her agency on-scene.

This SOP is designed to provide structure to the first minutes and the first hours following an event. We recognize that the Incident Commander will designate a Communications Unit Leader, and that the second operational period may have procedures and frequency assignments far more in-depth than those provided here. This SOP is designed to produce procedures that are simple, scaleable, and flexible, which can fit on a card on the back of a radio or car visor, and which will provide some structure to the initial uncertainty surrounding a major or catastrophic event. These procedures incorporate recommendations from VCOMM Command Net public outreach meetings held with first responders in each Public Safety District. We appreciate your support of this SOP, and we are eager to incorporate any changes which may be required to make it better.

**3. COMMAND NET OVERVIEW.** To remedy the lack of ability to communicate among disciplines in the State of Vermont, the Vermont Communications Board (VCOMM) has worked with public safety agencies to develop infrastructure and procedures for statewide dedicated radio frequencies.

- a. **It is the responsibility of the Incident Commander to determine when to use the VCOMM Command Net.** When an event becomes multi-agency beyond normal mutual aid agreements, or if your agency is conducting operations beyond its normal geographic jurisdiction, a VCOMM Command Net should be used. A VCOMM Command Net may be used at other times for training, generally pre-

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planned and involving joint participation of two or more public safety agencies. The VCOMM Command Net should not be used as the primary means of communications during routine responses.

- b. **The Incident Commander and Agency Commanders use the VCOMM Command Net.** The VCOMM Command Net provides a scalable, flexible, and immediately accessible means for interoperable communications. Every public safety agency responding to an event (or functional section, if assigned by the IC) has a senior member on scene at any given time, and that senior member is called the Agency Commander for the purposes of this SOP. To minimize frequency congestion, the VCOMM Command Net is used for communications between the Incident Commander (or Unified Commanders) and Agency Commanders.
- c. **Agency Commanders communicate with Subordinates on Tactical Frequencies.** Agency Commanders communicate with agency or functional subordinates on VCOMM Tactical Frequencies, or on agency-specific tactical frequencies.
- d. **UHF and VHF Dual-Radios are required for Agency Commanders.** Agency Commanders will maintain dual-radio capabilities (1 x UHF, 1 x VHF). This will enable Agency Commanders to enter the VCOMM Command Net and also maintain radio communications with agency-specific or functional-specific tactical nets. For example, if the Incident Commander sets up a functional structure, then the Agency Commander for any ICS functional section (water supply, etc.) will be maintain dual radio capabilities on the VCOMM Command Net, and on the function-specific tactical net.

NOTE: If your agency operates on VHF, it is assumed that Agency Commanders will have the ability to have dual-radio capabilities on VHF. If your agency operates on UHF, it is assumed that Agency Commanders will have dual-radio capabilities on UHF.

- e. **Communications Unit Leader.** The Incident Commander should assign a Communications Unit Leader early during the response. The Incident Commander performs the functions of the Communications Unit Leader until a Communications Unit Leader is assigned.
- f. **Announcing use of VCOMM Command Net.** When the VCOMM Command Net is implemented, it is announced both to Dispatch and responding personnel in accordance with the procedures listed below.
- g. **Dispatch does not monitor the VCOMM Command Net.** VCOMM Command Net channels are not monitored by Dispatch.
- h. **The VCOMM Command Net Channels are:**  
V-TAC 1

U-TAC 1

**4. VCOMM TACTICAL CHANNELS.** VCOMM Tactical Channels are available for Agency Commanders to communicate with a subordinate agency or subordinate functional section.

a. **Dispatch does not monitor the VCOMM Tactical Channels.** VCOMM Tactical Channels are not monitored by Dispatch.

b. **VCOMM Tactical Channels are:**

V-TAC 2

V-TAC 3

V-TAC 4 (Air Operations; Available for ground use if there are no air operations)

U-TAC 2

U-TAC 3

**5. VCOMM CALLING CHANNELS.** VCOMM Calling Channels are available for communications with Dispatch.

a. **Arriving on Scene.** Arriving units should check in on VCOMM Calling Channels to determine critical dispatch information. Dispatch monitors the VCOMM Calling Channels, where incoming units can get information such as which VCOMM Command Net is in use, and where to stage.

b. **Lifeline / Reachback.** VCOMM Calling Channels provide a lifeline for public safety personnel to reach a dispatcher.

c. **VCOMM Calling Channels are:**

U-CALL

V-CALL

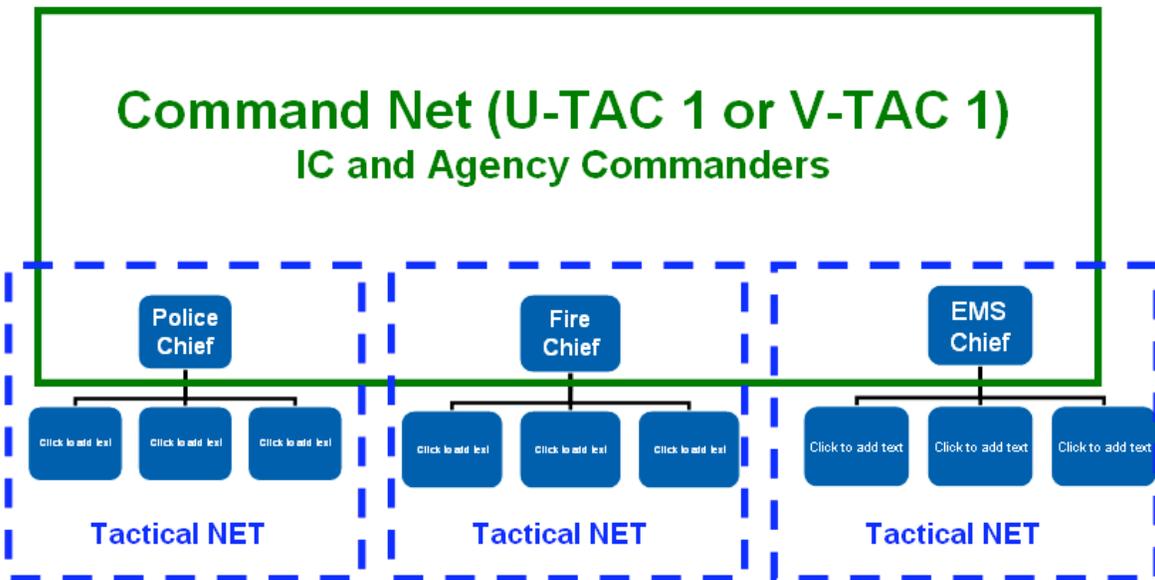
**6. IMPLEMENTING A VCOMM COMMAND NET**

a. **Ensure Proper Usage.** The VCOMM Channels are not designed for day-to-day use during incidents involving only your agency. VCOMM Channels are intended to be used in multi-agency incidents in which interoperability is essential for communicating between agencies or between functional groups.

b. **Notification.** The IC identifying the need for the VCOMM Command Net will contact the nearest Dispatch Center. The IC will direct Agency Commanders for each agency to switch their radios to the specific VCOMM Command Net. The

appropriate Dispatch Center is responsible for notifying all other affected agencies. If the IC changes for the incident, the Dispatch Center shall be notified immediately.

- c. **Implementation.** It is the responsibility of the IC to notify the units on scene that a VCOMM Command Net is being established. Units will be notified on the specific VCOMM Command Net channel they are on as well as the VCOMM Calling Channel that is monitored by the Dispatch Center.
  - (1) **V-TAC 1.** If the Incident Commander is Fire or EMS, then the VCOMM Command Net will be V-TAC 1 unless otherwise assigned by the IC. This will allow units arriving on scene to know what frequency is being used as the VCOMM Command Net if they know that the Incident Commander is Fire or EMS.
  - (2) **U-TAC 1.** If the Incident Commander is Law Enforcement, then the VCOMM Command Net will be U-TAC 1 unless otherwise assigned by the IC. This will allow units arriving on scene to know what frequency is being used as the VCOMM Command Net if they know that the Incident Commander is Law Enforcement.
  - (3) **Unified Command.** If there is Unified Command, the Incident Commander will direct the usage of either V-TAC 1 or U-Tac 1 as the VCOMM Command Net.



**Figure 1. Example of VCOMM Command Net with Subordinate Agencies (Police, Fire, and EMS)**

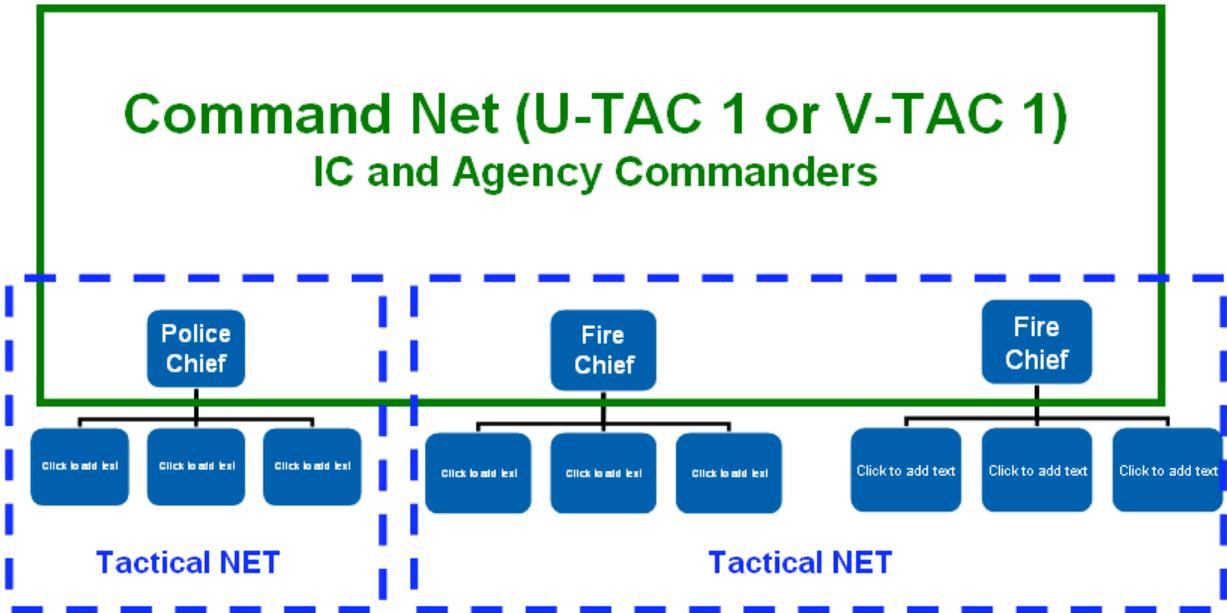


Figure 2. Example of VCOMM Command Net with Subordinate Agencies (Police on a Tactical Net, all Fire personnel on another Tactical Net)

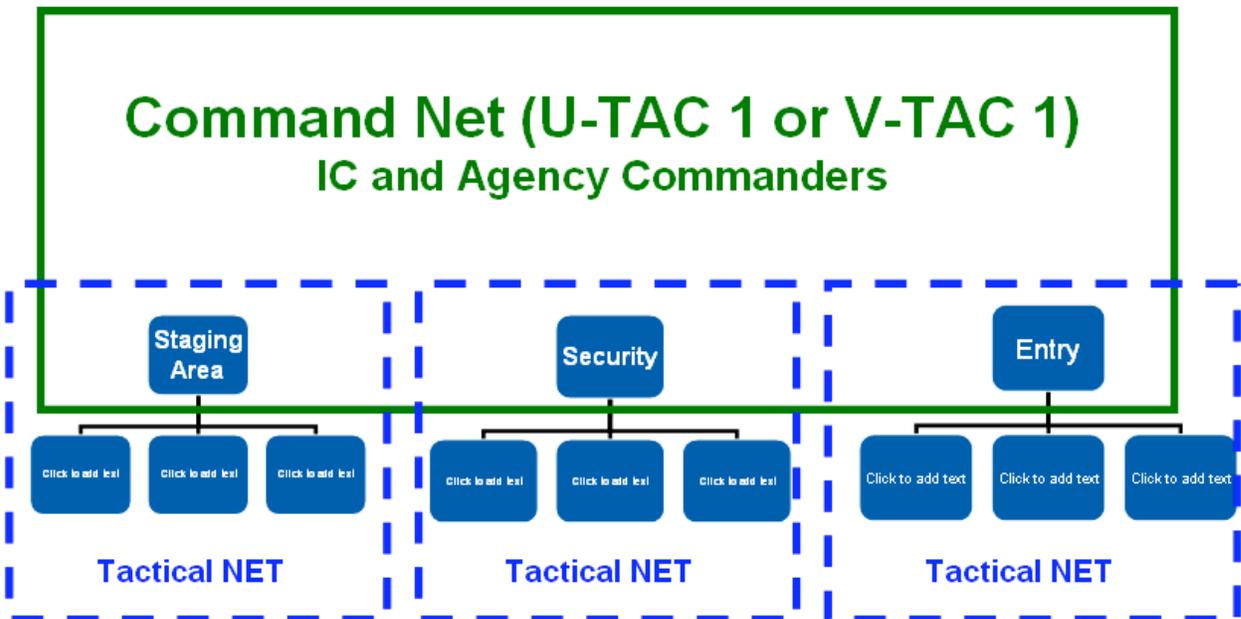


Figure 3. Example of VCOMM Command Net with Subordinate Functional Sections (Functional Sections being Staging Area, Security, and Entry)

**d. Example of Entering a VCOMM Command Net.**

- (1) Incoming Agency Commander wishing to enter the VCOMM Command Net will call the Communications Unit Leader on the net to request permission.
- (2) The Communications Unit Leader may authorize the requesting Agency Commander to enter the net. Example:

[Communication Leader] this is [EEE]  
(Wait for acknowledgement)  
[Communication Leader] THIS IS [EEE], REQUEST PERMISSION TO ENTER THE NET  
[EEE] THIS IS [Communication Leader], PERMISSION GRANTED

**e. VCOMM Calling Channels (U-Call/V-Call).** The VCOMM Calling Channels shall be used to enable communications between dispatch and responding agencies. The calling channels may also be used for assigning tactical frequencies. Dispatch will share with incoming units which VCOMM Command Net is being used for IC communications with Agency Commanders. All dispatch centers will be capable of communications on VCOMM Calling Channels to provide a lifeline capability throughout the state.

**f. Air Operations.** V-TAC 4 will be used for any air-to-ground communications for Landing Zone (LZ) coordination or any other air-to-ground mission coordination, such as aircraft communicating directly with ground Search and Rescue Teams. Memorandums of Understanding have been forwarded to appropriate agencies, including DHART, appropriate New York aviation units, and units from other New England states. V-TAC 4 is available as another ground tactical frequency if there are no air assets being used for the incident.

**g. Incident Command System.** It is imperative that all agencies utilize the Incident Command System on all incidents.

**h. Termination.** It shall be at the discretion of the Incident Commander when to discontinue the use of the VCOMM Command Net. The Dispatch Center shall be notified immediately when use of the VCOMM Command Net is terminated.

**i. Exiting a VCOMM Command Net**

- (1) Agency Commanders on a VCOMM Command Net are normally expected to be able to remain on the VCOMM Command Net for the duration of the response. Any Agency Commander wishing to exit the VCOMM Command Net prior to end of the event will call the Communications Unit Leader on the VCOMM Command Net to request permission. Example:

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[Communication Leader] THIS IS [EEE],

(Wait for acknowledgement)

[Communication Leader] THIS IS [EEE], REQUEST Permission TO EXIT THE NET

[EEE] THIS IS [Communication Leader], EXIT THE NET

**7. COMMUNICATIONS UNIT LEADER (ICS 223-5):** The Communications Unit Leader, under the direction of the Incident Commander, Service Branch Director, or Logistics Section Chief, is responsible for developing plans for the effective use of incident communications equipment and facilities; installing and testing of communications equipment; supervision of the Incident Communications Center; distribution of communications equipment to incident personnel; and the maintenance and repair of communications equipment.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Determine unit personnel needs.
- d. Prepare and implement the Incident Radio Communications Plan (ICS Form 205).
- e. Ensure the Incident Communications Center and Message Center are established.
- f. Establish appropriate communications distribution/maintenance locations within base/camp(s).
- g. Ensure communications systems are installed and tested.
- h. Ensure an equipment accountability system is established.
- i. Ensure personal portable radio equipment from cache is distributed per Incident Radio Communications Plan.
- j. Provide technical information as required on:
  - Adequacy of communications systems currently in operation.
  - Geographic limitation on communications systems.
  - Equipment capabilities/limitations.
  - Amount and types of equipment available.
  - Anticipated problems in the use of communications equipment.
- k. Supervise Communications Unit activities.
- l. Maintain records on all communications equipment as appropriate.
- m. Ensure equipment is tested and repaired.
- n. Recover equipment from relieved or released units.



**Figure 4. Organizational Chart**

**8. RADIO COMMUNICATIONS PROCEDURES.** At all times strict radio discipline should be adhered to. The following rules for radio discipline are mandatory on all VCOMM radio nets. Every person / agency must adhere to the following.

- a. All comments must, in some way, relate to the current event or mission.
- b. Comments need to be brief, consistent with clarity.
- c. The Communications Unit Leader may interrupt an exchange at any time and stop the exchange by calling for the VCOMM Command Net to be cleared. No explanation of the Communications Unit Leader's action in this regard is expected and none need be given.
- d. Volume. Speak at a volume as for normal conversation. Shouting causes distortion.
- e. Radio checks are permitted but are only to be used when required.
- f. Key the microphone a couple of seconds BEFORE you talk.

g. Basic Radio Transmission:

[AAA] THIS IS [BBB]–  
[BBB] THIS IS [AAA]–  
[AAA] THIS IS [BBB]– *message traffic* -  
[BBB] THIS IS [AAA]– UNDERSTOOD.

h. In accordance with NIMS protocols, plain text language and common and consistent terminology will be used at all times.

i. Always:

- 1. Use correct voice procedure.
- 2. Maintain a constant listening radio watch unless specific instructions or permission has been received to the contrary. This requires that at least one person be nominated to monitor the radio regardless of the circumstances. All

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aspects of voice procedure are based on the assumption that stations will respond to the call immediately.

3. Ensure that the correct frequency is in use.
4. Answer calls in the correct order and without delay.
5. Listen carefully before transmitting to ensure that the frequency is clear and, where possible allow for stations which cannot be heard.

j. Never:

1. Make unnecessary or unduly long transmissions.
2. Engage in unofficial conversation or operator's chat.
3. Speak faster than the station experiencing the worst reception conditions can be expected to receive, thus avoiding needless repetition.
4. Show loss of temper or resort to profane language.

**9. BREAKING THE NET.** Breaking the net is a rare event. Normally, waiting a minute or two is not going to make a difference. If the interruption involves a **life or safety issue**, it would be acceptable to interrupt an ongoing communication,

- a. Persons must pause between turnovers in transmission to allow for another station to break in.
- b. A person may interrupt the current flow of communications on a net if he or she has a communication of higher importance which must be conveyed as quickly as possible. Such communications includes:
  1. Communication traffic of a higher precedence than the traffic being passed;
  2. Communication traffic for one or more stations that is urgent, time sensitive, and may impact the safety of persons or property.
- c. The person wishing to break the net should wait for the next natural pause in the communication currently taking place; preferably waiting for the end of that communication.
- d. The content of the breaking person's communication should be the determining factor for establishing urgency, not simply that the person has, for example, a PRIORITY precedence message and a ROUTINE message is currently being sent.

**9. RESPONSIBILITY.** It shall be the responsibility of local and state public safety agency commanders to ensure that these standard operating procedures are followed. It shall be the responsibility of all public safety personnel to be familiar with and comply with these standard operating procedures.

**10. FREQUENCY TABLE.**

a. **VCOMM Channels.** The following VCOMM Channels have been established.

<b>Name</b>		<b>Purpose</b>
V-CALL	155.7525	DISPATCH / LIFELINE / REACHBACK
V-TAC 1	151.1375	COMMAND
V-TAC 2	154.4525	TACTICAL
V-TAC 3	158.7375	TACTICAL
V-TAC4	159.4725	TACTICAL (Primary Use: Air Operations)
U-CALL	453.2125	DISPATCH / LIFELINE / REACHBACK
U-TAC 1	453.4625	COMMAND
U-TAC 2	453.7125	TACTICAL
U-TAC 3	453.8625	TACTICAL

**NOTE:** It is imperative to note that Dispatch Center cannot monitor V-TAC 1 or U-TAC 1 channels. Therefore, it is essential that the IC (or their designee) monitor a VCOMM Calling Channel frequency to ensure that they can hear dispatch, and dispatch can communicate with the IC on scene. In large scale incidents, it would be prudent to assign a *Communication Unit Leader* to facilitate the appropriate use of channels being utilized at an incident. However, it is realistic to expect that in most instances, there will not be adequate personnel initially to assign this position. Therefore it will be the IC's responsibility to monitor the VCOMM Command Net as well as the VCOMM Calling Channel frequency until someone can be designated to fill that role.

**11. VCOMM CARD.** Cut-out, laminate and place on the back of hand-held radios, over vehicle visors, and/or in wallet.

**VCOMM**

- 1. If response is other than routine in size or location, use a VCOMM Command Net.**
- 2. If Fire or EMS is the IC, the Command Net is V-TAC 1 unless otherwise assigned.**
- 3. If Law Enforcement is the IC, the Command Net is U-TAC 1 unless otherwise assigned.**
- 4. U-Call and V-Call are used to reach Dispatch Centers.**
- 5. The IC and Agency Commanders will use the Command Net.**
- 6. Agency Commanders will direct agency or functional subordinates on Tactical Nets.**
- 7. Tactical Nets available:  
V-TAC 2, V-TAC 3, V-TAC 4  
U-TAC 2, U-TAC 3  
Agency-specific frequencies**
- 8. If there are Air Ops, V-TAC 4 is used solely for Air Ops.**



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**Sample Incident Communications Plan, ICS Form 205**

INCIDENT RADIO COMMUNICATIONS PLAN		1. Incident Name	2. Date/Time Prepared	3. Operational Period Date/Time	
<b>4. Basic Radio Channel Utilization</b>					
System/Cache	Channel	Function	Frequency/Tone	Assignment	Remarks
5. Prepared by (Communications Unit)					





## **Appendix B - Rules for Spelling and Numbers**

Use the following International Phonetic Alphabet to spell out words or acronyms that may not transmit clearly.

<b>Letter</b>	<b>Phonetic Equivalent</b>
A	Alpha
B	Bravo
C	Charlie
D	Delta
E	Echo
F	Fox Trot
G	Golf
H	Hotel
I	India
J	Juliet
K	Kilo
L	Lima
M	Mike
N	November
O	Oscar
P	Papa
Q	Quebec
R	Romeo
S	Sierra
T	Tango
U	Uniform
V	Victor
W	Whiskey
X	X-Ray
Y	Yankee
Z	Zulu

<b>Numeral</b>	<b>Spoken As</b>
0	Zero
1	Wun
2	Too
3	Thruh-Ree
4	Fo-Wer
5	Fife
6	Six
7	Seven
8	Ate
9	Niner

In general, numbers are transmitted digit by digit except that exact multiples of hundreds and thousand.

Example:

12	Twelve
44	Fo-wer Fo-wer
90	Niner Zero
136	Wun Thuh-ree six
500	Fife hundred
16000	Wun Six thousand

## **Appendix C - Acronyms / Definitions**

**Agency Commander** – The senior representative for an on-scene agency or for an on-scene functional section.

**Command Net** – A VHF or UHF frequency used by the Incident Commander (or Unified Command) for interoperable communications between the Incident Commander and Agency Commanders.

**Communications Unit Leader (COML)** – Responsible for developing plans for the effective use of incident communications equipment and facilities; installing and testing communications equipment; supervision of the Incident Communications Center; distribution of communications equipment to incident personnel; and the maintenance and repair of communications equipment.

**Dispatch Center** – A call center capable of performing dispatch services in Vermont. Dispatch Centers will be capable of communications on V-CALL and U-CALL channels to provide a lifeline capability throughout the state.

**Incident Command System (ICS)** – The combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure with the responsibility for the management of assigned resources to effectively accomplish stated objectives pertaining to an incident.

**Incident Commander (IC)** – the individual responsible for the management of all incident operations.

**National Incident Management System (NIMS)** - NIMS provides a consistent nationwide template to enable all government, private-sector, and non-governmental organizations to work together during domestic incidents. ICS is the national incident management model.

**UHF** – (Ultra High Frequency) – typically the frequency that most law enforcement agencies operate on in Vermont.

**U-Call** – A UHF radio to a Dispatch Center for “calling”. This channel will be used for first responders to call a Dispatch Center in the event they need resources or are responding on a mutual aid situation and need to call dispatch to determine what tactical frequency the incident is utilizing. The Dispatch Centers may use this frequency to direct responding units to an incident location or to advise what tactical channel to utilize.

**U-TAC 2, U-TAC 3**– UHF radio to radio frequencies for tactical use. For example, the law enforcement agency operating at a hostage situation involving more than one agency can utilize U-TAC 2 or U-TAC 3 frequencies to communicate on. The Incident

Commander may choose to move Hostage Negotiations to U-TAC 2 to lessen radio traffic on the Police Dispatch frequency.

**VHF** – (Very High Frequency) - typically the frequency that most fire departments and EMS agencies operate on in Vermont.

**V-Call** – A VHF radio to a Dispatch Center for “calling”. This channel will be used for first responders to call a Dispatch Center in the event they need resources or are responding on a mutual aid situation and need to call dispatch to determine what tactical frequency the incident is utilizing. Dispatch Centers may use this frequency to direct responding units to an incident location or to advise what tactical channel to utilize.

**V-TAC 2, V-TAC 3, V-TAC 4** – VHF radio to radio frequencies for tactical use. V-TAC 4 is reserved for Air Operations, but if not required for air assets, then can be used as a ground-to-ground tactical frequency. For example, the fire department operating at a structure fire involving more than one agency can utilize tactical frequencies for interoperable communications. The Incident Commander may choose to move Water Supply Operations to V-TAC 2, and Interior fire fighters to V-TAC 3 in order to lessen the radio traffic on the main dispatch channel.