



# Introduction

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  - Henniker
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  - Bow



• Contoocook Valley Radio Club (CVRC)

## The Proposal

- Include Amateur "Ham" Radio at the Craney tower site
- Back-up or alternate radio channels
- Support sundry communications
- This involves:
  - Antenna(s) on the tower
  - Associated feed lines
  - Floor space in the building
  - Electric power
  - Ethernet access



#### Why Hams

- We use radios daily
- Federal Communications Commission licensed
- Frequency allocation for public service
- Technology savvy
- Hands on builders, engineers and technicians
- Trained in aspects of radio public service
- There are many hams in society
  - 5k in NH
  - 54 in Henniker



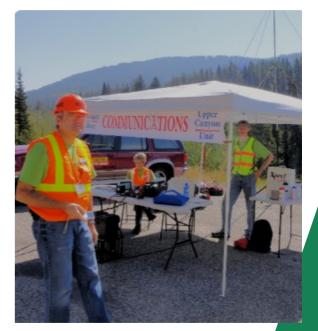
#### Hams Can Help

#### **Unplanned Events**

#### Scheduled Events

- Blizzard
- Hurricane
- Fires
- Aircraft crash
- Earthquake
- Flood
- Terrorist

- Marathons
- Bicycle race
- Festivals
- Car rallies
- River events



#### Benefits

- Citizens helping local government
- No cost to taxpayers
- Leveraging radio technologies
- Local resources
- Mutual advantages to all involved





## Ham Virtues

- FCC licensed and regulated
- Public service intentions
- Illegal for commercial activities
- Illegal to swear



- By convention, no politics, religion or pornography
  - Self policed
- State, country and global connections

# Money

- Radio systems are expensive
  - The hams will pay for their radio hardware
- Antenna installation by professionals
  - This includes feed-lines
- Electricity bills
- Self insured





## Radio Technologies

- Multiple frequency bands
- Repeaters
- Analog and digital voice modes
- Message handling
- Local and long distance communications
- Interacting directly to Internet
- Independent back-haul potential

MF - Medium Fred	quency bands
630 Meters (472 kHz) E,A,G S W EIRP max, except in Alaska within 496 miles of Russia where the limit is 1 W EIRP	160 Meters (1.8 MHz) E,A,G
a must first register with the Utilities Technology	1.800 1.900 2.000 MH
ateur-notification-process/. You need only	
60 Meters (5.3 MHz) E, A, G (100 W) 5.32 5.346 5.395 5.373 5.405 5.336 5.3465 5.371 5.405 Convert, Advanced, and Extra locroses may operate on a second pusits with anonamure EPP	40 Motors (7 MHz) E,A,G,T,N 7,000 mtu.s.krcc.hgsm.2 werd 7.300 7,075 17.00 50 werd 7.300 C C C C C C C C C C C C C C C C C C C
20 Meters (14 MHz) E,A,G 14.000 14.150 14.350	17 Meters (18 MHz) E,A,G 18.068 18.110 18.16
14.025 14.150 14.225 12 Meters (24 MHz) E,A,G	10 Meters (28 MHz) E,A,G,T,N 28.000 28.300 29.70 E, A, G
24.890 24.930 24.990	N,T (200 W) 28.000 28.500
s 2 Meters (144 MHz) E,A,G,T	1.25 Meters (222 MHz) E,A,G,T,N E, A, G, T N (25 W)
144.0 148.0	222.0 225.
\$	23 cm (1240 MHz) E,A,G,T,N
	1240 130

## Possibilities

- Repeater coverage, local towns
- ARES
- Access to Concord area directly
- Statewide "nets" in weather emergencies
- Linked repeater networks cover the state.
- Digital voice networks for national access
- Set up point to point for high speed connection
- Technology advancement opportunities at the hilltop site



### Risks

- Ham Radio is only a hobby, non-professional
- Voluntary, it can end at any time
- Low cost help. You get what you pay for.
- Humans are flawed. Mistakes
- Access to building



#### Site Photos



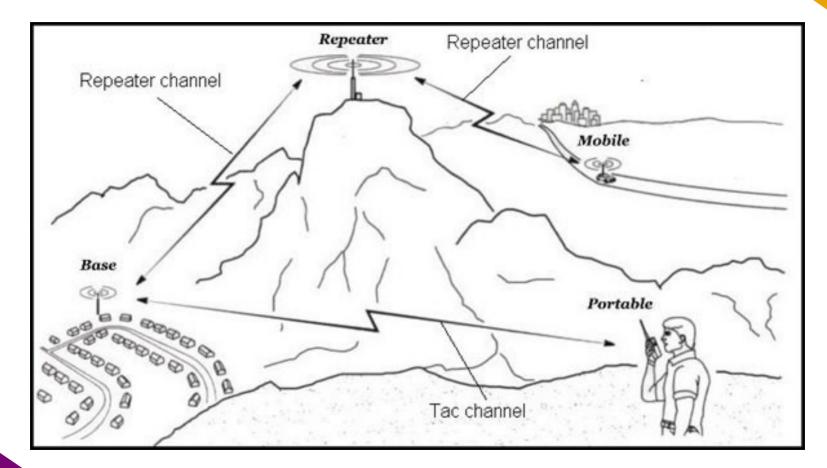




## Field Day



#### Radio Repeater Concept



#### Coverage Map

