

Agenda

- ★ Ground work & definitions
- ★ Do We *Really* Need Alternate Communications?
- ★ MN Dept of Health (MDH) Alt Communications Structure
- ★ *If you take nothing else from this presentation...*
- ★ Training and Guidance
- ★ A couple of last quick tips
- ★ Resources
- ★ Sign-off

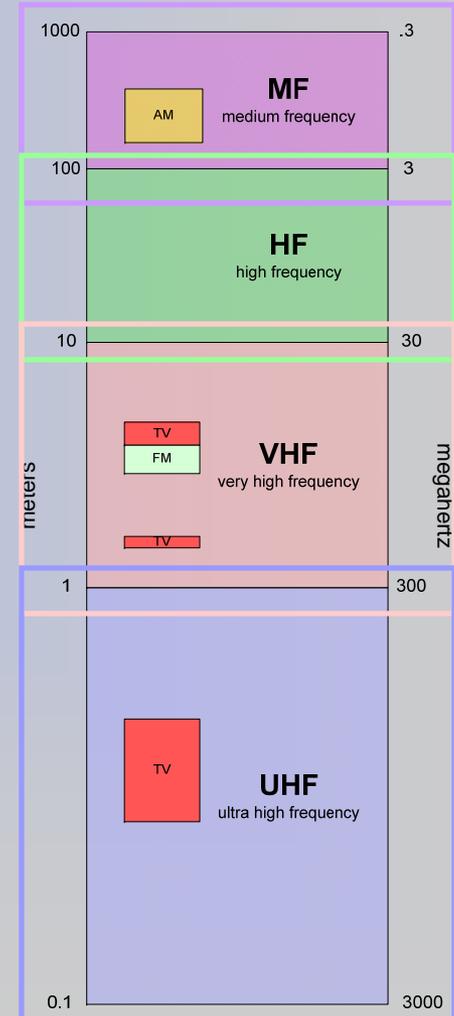
Definitions 2

Medium frequency (MF) – AM

High frequency (HF) – (CDC)

Very High frequency (VHF) – FM

Ultra High frequency (UHF) – TV



Definitions

★ VHF

think *line-of-sight*

★ HF

think *out 'a sight*



→ *Why we use HF for communicating with ATL*

Do we *REALLY* need HF?

- ★ All we need do is talk to Florida, Louisiana, South Carolina...
 - Hurricane states are *way ahead* of MN ...

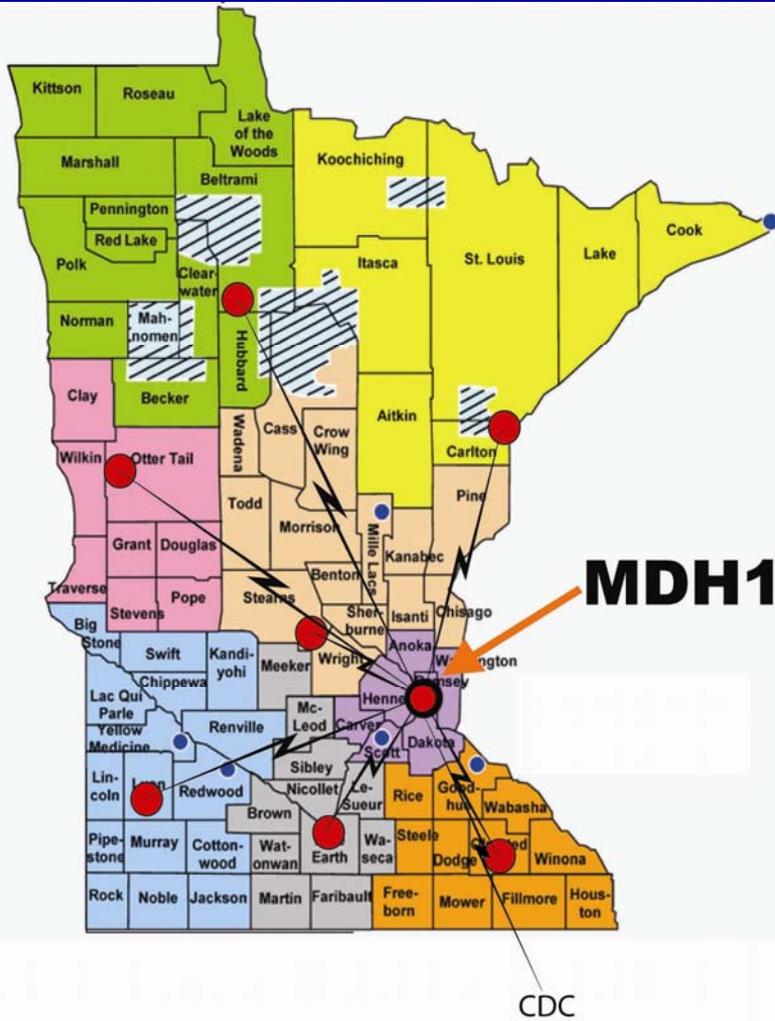
★ Ontario, 1998

Example

catastrophic Ice Storm demolished the utility & communications infrastructure

Alternate communication modes are not a luxury for PH

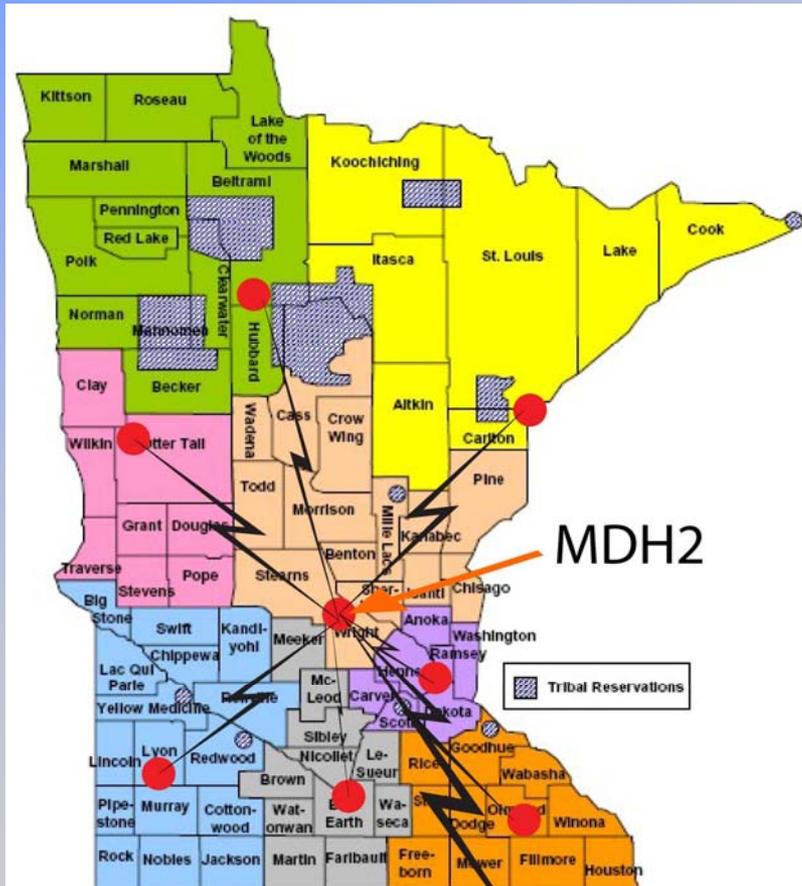
Regional HF Communications MDH1



MDH1 – MN Department of Health's main operations and communications center in St. Paul, MN

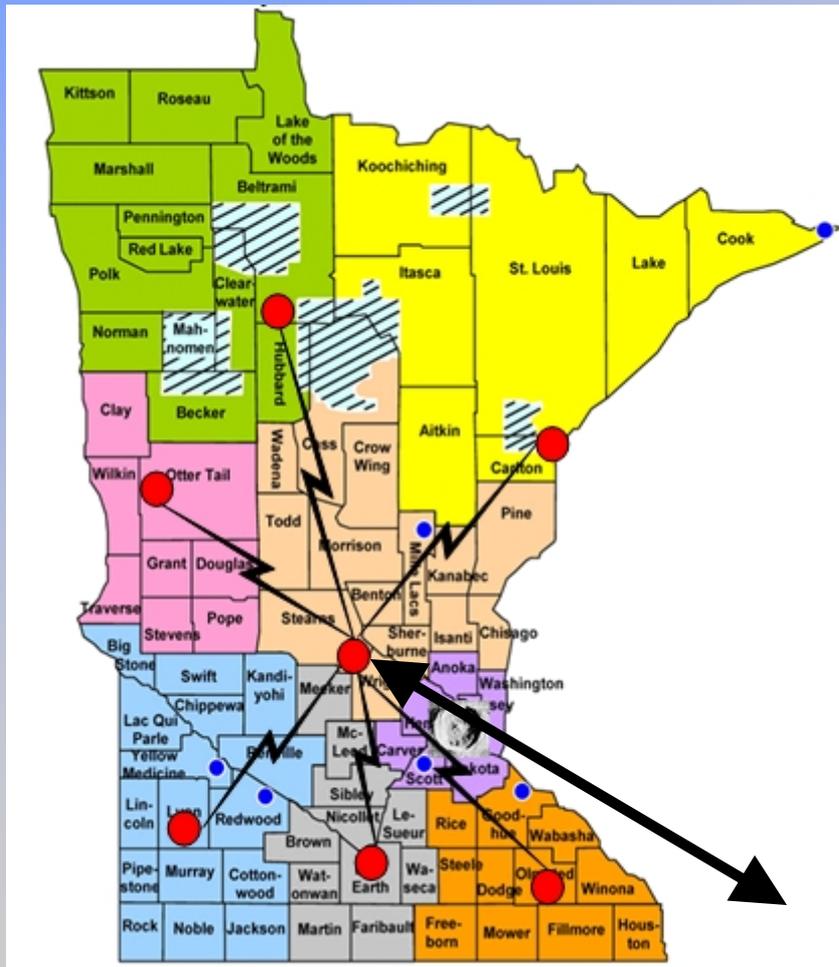
- ★ 8 Public Health Preparedness (PHP) Regions
- ★ each regional office staffed by a MDH PHP Coordinator
- ★ each site is capable of hosting the Department Operations Center
- ★ any or all regional sites may be activated during a public health emergency

Regional HF Communications MDH2



MDH2 – MN Department of Health's Back-up communications center in St. Cloud, MN

Smoking Hole Scenario



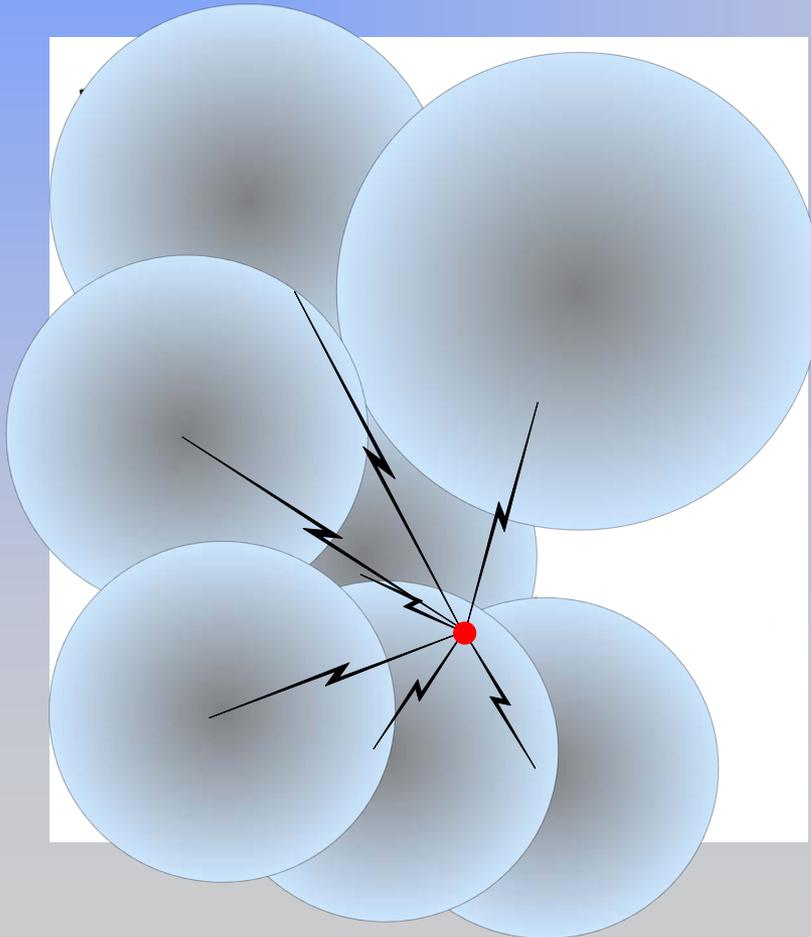
IF MDH1 goes off the air...

The emergency DOC functions would be assumed by a regional office

★ Continue to fulfill mission to citizens of Minnesota

★ Quickly reestablish HF communications to Atlanta

State-wide PH Communications



If any area in the state suffers a communications breakdown:

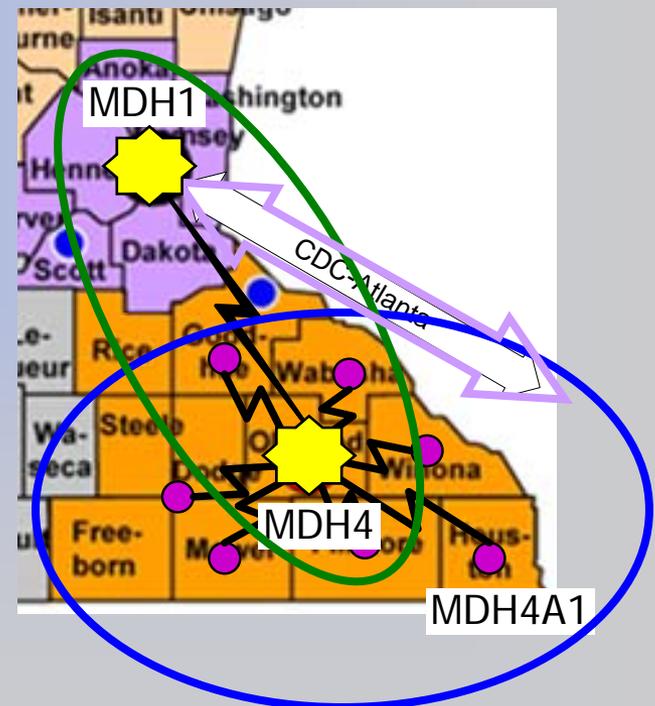
Partnering with Amateur Radio gives MDH:

- * statewide coverage
- * a network dedicated to public health
- * a state-owned, state-wide communications backbone independent of traditional infrastructure

How the System Works

Depends on coordination of 3 communications networks

- ★ A regional office (here called MDH4) runs the regional network – the purple dots are the locations of hospitals, LPH agencies, and amateur radio stations
- ★ MDH4 is a member of the state-wide MDH network
- ★ MDH1 is a member of the NPHRN



Partner!



- ★ National Association for Amateur Radio – ARRL
Amateur Radio Emergency Services – ARES
- ★ Radio Amateur Civil Emergency Service – RACES
in Minnesota...

Statewide Radio Board

Metropolitan Emergency
Services Board





What Need to Know?

HF communications are insurance. If HF is the only mode of long-range communications then a significant portion of the infrastructure is seriously degraded or simply gone

It will be a really poor time to figure it out.

Use your radio

Communicate over your radio

Planning & control



Keep it Clear, Concise, Simple

The NUMBER ONE Rule...

*Reference your message
XXX.*

*To control spread of
influenza I recommend
city close all public
venues.*



On the air

- ★ Take a moment to think about what you want to say
- ★ Listen to insure frequency is clear
- ★ Key the microphone for 1 sec. before speaking If using a hand-held microphone, speak across it (hold the microphone almost 90° to your mouth)
- ★ Speak slowly & distinctly – accuracy!

On the air – best practices

- ★ Use Standard Procedures - during an emergency you will “play how you practice”; frequent practice of Standard Procedures will pay off
- ★ There are several well known short-hand code systems worth becoming familiar with: ARRL Radiogram numbers, International Q Signals and Common Prowords are examples
- ★ Have the Phonetic Alphabet Memorized!

<i>Alpha</i>	<i>Golf</i>	<i>Mike</i>	<i>Sierra</i>	<i>Yankee</i>
<i>Bravo</i>	<i>Hotel</i>	<i>November</i>	<i>Tango</i>	<i>Zulu</i>
<i>Charlie</i>	<i>India</i>	<i>Oscar</i>	<i>Uniform</i>	
<i>Delta</i>	<i>Julieta</i>	<i>Papa</i>	<i>Victor</i>	
<i>Echo</i>	<i>Kilo</i>	<i>Quebec</i>	<i>Whiskey</i>	
<i>Foxtrot</i>	<i>Lima</i>	<i>Romeo</i>	<i>X-ray</i>	



On the air – your 1st words

Start your transmission; if contacting another station, say in this order:

- Give Radio Sign of Station You Are Calling
- “This Is”
- Your Call Sign
- “Over” telling the other station to go ahead

*Kilo Alpha Zulu 111 This Is Whiskey Delta Golf 444
Over*



Do's and Don't

Use the phrases *"over or out"*

OVER: This is the end of my transmission and I am waiting for your response.

OUT: This is the end of this exchange. No answer is required or expected.

NOT "OVER AND OUT"!



Keep a Station Log!

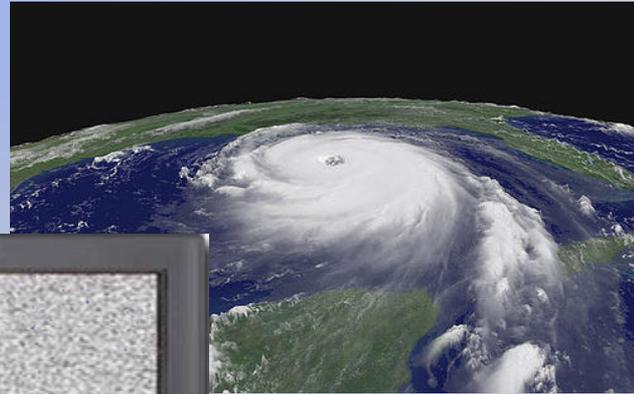
- ★ When it gets busy a log will save your sanity – and provide documentation
- ★ This slide shows a representative example and is not necessarily the format you will use
- ★ Log conveys
 - who (operator)
 - when (time)
 - what (net interaction, message traffic, shift change, etc.)

LOG		
Enter opening and closing time, frequencies, frequency checks and frequency changes, traffic delays and any incidents or conditions affecting circuit efficiency. Remarks need not be confined to one line.		
STATION—CHANNEL—NET (Write out words not applicable.)		DATE
B6F C4T		15 JAN 84
TIME	OPERATOR'S SIGN	REMARKS
ANY UNUSUAL CIRCUIT CONDITIONS WILL BE ENTERED IN THE LOG.		
0945z	CM	POWER FAILURE AT B9V
0956z	CM	POWER RESTORED AT B9V GEN. MALFUNCTION
WHEN THE NCB LEAVES THE NET, HE MUST PASS CONTROL TO THE ALTERNATE, WHO MUST THEN NOTIFY THE NET.		
1010z	CM	N5J DE B6F ZKJZ ZKD K B6F DE N5J R AR
1011z	CM	C4T DE N5J ZKAK N5J DE L2N R AR
1013z	CM	N5J DE B9V R AR
1030z	CM	C4T DE B6F ZKAK B6F DE N5J R AR B6F DE L2N R AR
1032z	CM	B6F DE B9V R AR
1033z	CM	B9V DE B6F R K B6F DE B9V R B9V DE B6F NR1 R 150825Z JAN84
1050z	CM	B6F DE B9V R AR
TIME WILL BE ENTERED IN ZULU OR LOCAL TIME TO INCLUDE ZONE SUFFIX.		
THE MESSAGE DTG WILL BE ENTERED IN THE APPROPRIATE COLUMN ON THE OPERATOR'S NUMBER SHEET ON THE REVERSE SIDE.		
1100z	CM	C4T DE B6F ZKJZ K B6F DE N5J R AR B6F DE L2N R AR
1103z	CM	B6F DE B9V R AR
1104z	CM	Charles G. Miller - OFF DUTY

Any station, any station...

- ★ What scenarios might see HF in use?
- ★ Planning perspective:

Event-based →



← Symptom-based

Recap

- ★ Partnerships!

- ★ Clarity, KISS

 - Hierarchy of communication modes

 - landline, cellular, internet, sat phones, 800mhz, VHF/HF

- ★ HF – independent, point-to-point

- ★ Planning

 - Event-based: SOP, SOI

 - Symptom-based: assessment

Resources

Great, succinct 3-page operator techniques document:
www.nacs.uci.edu/network/Radio_Operator.pdf

Amateur Radio Relay League:
www.arrl.org

Radio Amateur Civil Emergency Service (RACES)
www.races.net

Shared Resources High Frequency Radio Program
<http://www.ncs.gov/shares/>

FEMA's Urban Search and Rescue Response System
Appendix I, Task Force Communications Procedures
<http://www.fema.gov/doc/emergency/usr/usrrsom.doc>

This presentation is available at:
<http://www.health.state.mn.us/oep/comm/index.html>