

**Talking points:**

**You've seen images like these on TV, you've heard that power and communications have been affected and you start thinking, could this happen here to me?**

**You've probably done all the right things to ensure power and communications won't fail in your facility...**

**You hired consultants and had meetings with your engineering and emergency and safety people... you've backed up your power with emergency Generators**

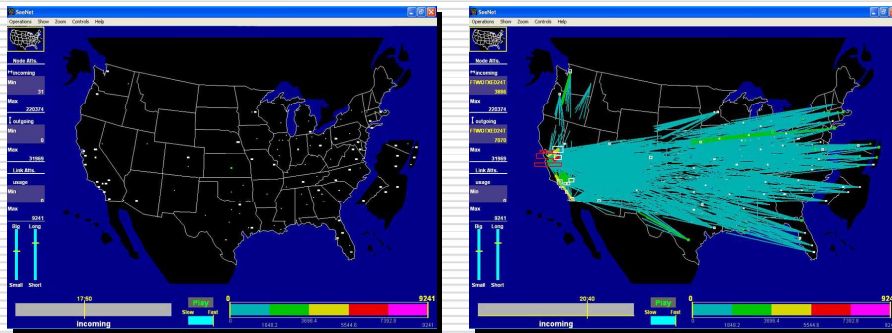
**You've contacted the telephone company and internet service provider. . They've assured you and you assured management that there is backups in place..**

**.....But are you really sure?!! Let's look at some history.....**

**(next slide)**

## Loss of Telephone Service and jam up during a disaster:

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*Fast forward to 2005* →

### Talking points:

Here are two charts showing that the entire US phone system (landline, not cell) completely jammed up shortly after the San Francisco earthquake of 1989.

This was a wake up call that communications could be lost or significantly slowed due to a natural or man made disaster.. Each event triggers improvements. That was of course,

over 20 years ago and the engineers did make changes to the telephone systems based on that earthquake..... Fast Forward to 2005..


(next slide)

**Thomas Stone, Fire Chief, St Bernard Parish  
(Hurricane Katrina 2005)**

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***“We lost our communications system,  
and when you are not able to communicate,  
you can’t coordinate your response.***

***You never think that you will lose  
your entire infrastructure”***

***Fast forward to 2011*** 

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**Talking Points:**

Hurricane Katrina, Officials of New Orleans knew that it wasn't IF but when a HURRICANE would hit New Orleans and if it was big enough, it would cause significant flooding. Hurricanes, in the past seem to just miss New Orleans or weren't as powerful as Katrina.

The Army Corps of Engineers and the city knew that there would be significant damage and they did develop a plan. Fast Forward to a more recent event, 2011.....

(next slide)

# Joplin Missouri 2011

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**St Johns Regional Medical Center**



***Fast forward to 2012*** →

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## **Talking points:**

**A EF5 Tornado with 200 mile per hour winds devastated Joplin Missouri on May 22<sup>nd</sup> 2011. The tornado hit the St Johns Regional Medical Center. 183 Patients had to be evacuated. The tornado took out the emergency power. The 200 mph hour winds sucked out the backup emergency generator! (next slide)**





**Hurricane Sandy:**

**Huffington Post: Dated 1 Nov 2012 EDT**

**Major Internet, television and phone provider Verizon saw major damage to its telecom equipment located in Lower Manhattan, Queens and Long Island — areas that saw some of the worst of the storm's surge floods.**

**Talking points:**

**When New York and New Jersey and the Northeast was hit with Hurricane Sandy in November of 2012...again officials knew that IF a hurricane hit it would be a big problem..**

**(next slide)**



*Northern New Jersey Ref ARRL News 1 Nov 2012*

**Two hospitals in New Jersey requested assistance from radio amateurs.**

**Talking points:**

**Beside the destruction to the homes and businesses, there was a loss of power and communications. According to Amateur Radio Relay League (ARRL),**

**Northern New Jersey Section Emergency Coordinator George Sabbi, KC2GLG,....**

**the hospitals were experiencing issues with their communications systems they use for direct communications between their facilities in Middlesex and Union Counties...**

**(next slide)**



**Hurricanes, firestorms, flooding, power failures, telephone interruptions switching gear failures...**

**Ham radio operators can keep you connected.**

**Talking points:**

Hurricanes, firestorms, flooding, power failures telephone interruptions, switching gear failures...HAM radio operators, have been providing emergency communications for years.

Sometimes you hear about them from the media more likely you didn't. They come in, setup their equipment, do their thing, provide communications until normal communications come back. (next slide)

# The Amateur Radio Service

**FCC-Title 47 – Part 97  
Subpart A—General Provisions  
§ 97.1 Basis and purpose.**

- ☐ (a) **Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications.**
- ☐ (b) Continuation and extension of the amateur's proven ability to contribute to the advancement of the radio art.
- ☐ (c) Encouragement and improvement of the amateur service through rules which provide for advancing skills in both the communication and technical phases of the art.
- ☐ (d) Expansion of the existing reservoir within the amateur radio service of trained operators, technicians, and electronics experts.
- ☐ (e) Continuation and extension of the amateur's unique ability to enhance international goodwill.

## Talking points:

**Who are Amateur radio operators? they have been acknowledged for over 100 years as a resource for emergency communications. They are governed by international Treaties.**

**In the US, the Amateur Radio service is governed by Part 97 of the FCC rules.**

**The US Congress has been aware of potential points of public safety communications failure since at least 1912, when the RMS TITANIC sank. The massive loss of life on the Titanic prompted the “Radio Act of 1912” which among other things, formalized the amateur radio Service. Part of it’s mission is to provide a pool of experts that can be drawn upon to provide backup communications during emergencies.**

**(next slide)**

## **There are over 700,000 HAM Radio Operators in the US**

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- ☐ There are over 40,000 in Florida!
  - ☐ Good chance they're in your neighborhood
  - ☐ Good chance they're in your Hospital or healthcare facility!
- 

### **Talking points:**

“How did HAM operators get the name HAM operators?” There’s several answers, one was... that it was a derogatory name given to the Amateur Radio Operators by the professional Radio operators.

However, this is no longer a negative connotation. Primarily because the Amateur radio operators are “Fanatics” about their communications equipment, modes of operations, skills and experimentation.

HAMS are From all walks of life. Including Astronauts, School Teachers, Airline pilots, engineers, politicians (remember Barry Goldwater?) News reporters.. remember Walter Cronkite? and many more who enjoy the challenges, and rewards of obtaining a HAM radio call Sign.... About the call sign...The FCC issues the call signs to individuals who successfully complete examinations on rules and technical competence. The call sign is how we identify our station and is mandatory for identification over the radio. Among hams we know each other more by our “Call sign” than our real names! There are over 700, 000 ham radio operators in the US, over 40,000 in Florida. There’s a very good chance that there is some ham operators in your neighborhood and really good chance that there are some ham operators working for you or are volunteers in your hospitals!

(next slide)

## **Munroe Regional Medical Center Ocala, Florida**

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Utilizes HAM radio operators for backup communications between three hospitals, an offsite emergency department and to the Marion County Florida Emergency Operations Center.

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**Talking points: HAM radio to some is all about experimentation, about talking to other people from different parts of the city, county, state, or other countries. HAM operators use all communications modes available to them including satellites, Morse code, Digital and many more modes. Some enjoy building and problem solving, while others have dedicated themselves to do all they can with their skills and radio knowledge to provide Public service. Munroe Regional Medical Center, here in Ocala, uses ham radio for backup emergency communications.**

**(next slide)**





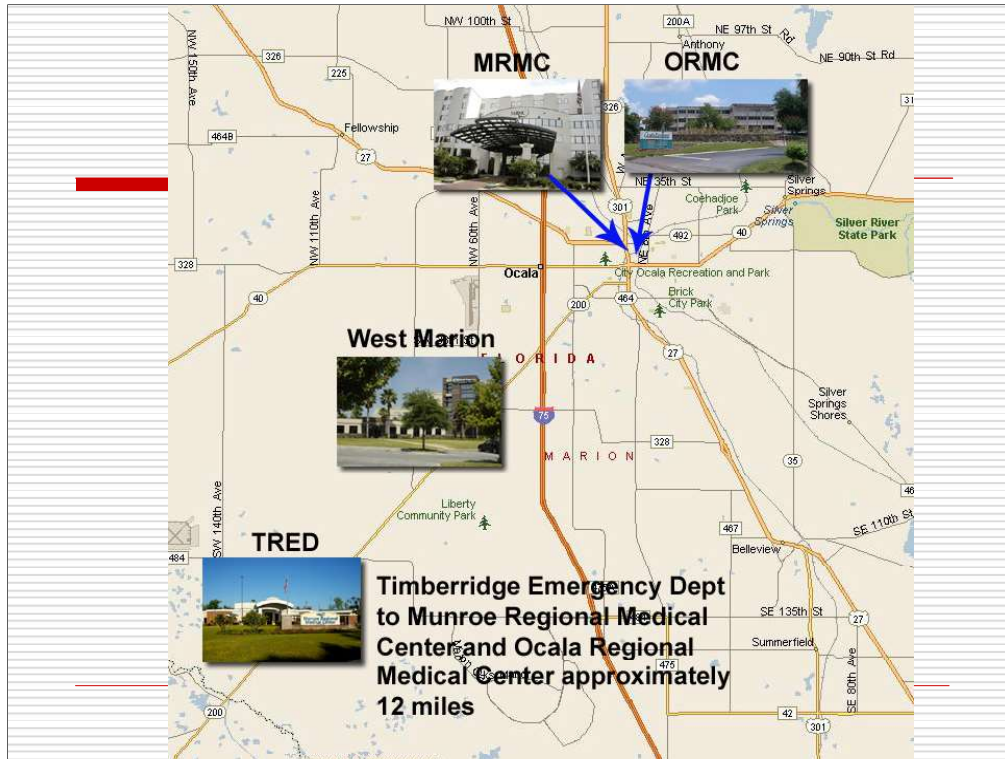
(Munroe also hosts Kindred Hospital, which is a independent health care facility)



### Talking points:

The four or actually five Medical Facilities in Marion county Florida, are Munroe Regional Medical Center, with it's satellite, Timberridge Emergency Dept. Ocala Regional Medical Center with it's sister hospital West Marion Community Hospital. All facilities would be the primary source of healthcare for the county in an disastrous event. Kindred Hospital, is physically located at Munroe Regional..

(next slide)



### Talking points:

The Munroe Regional Med Cntr is located just next to Ocala Regional Medical Center. They are two separate hospitals under different management. The Timberidge Emergency Dept is located about 12 miles from Munroe and the West Marion Community Hospital is about 5 miles from Ocala Regional. The Marion County Bureau of Emergency Management or EOC is about 3 miles from MRMC and ORMC. The ability to communicate to each of these facilities is very important. Also, in a particular emergency scenario, there might be an off site casualty site activated. Hospitals are not intended to be shelters in Marion county so efforts to coordinate evacuees might be sent to a specific location other than the hospitals.

(next slide)



## **How it started**

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2005, The Munroe Regional Medical Center emergency coordinator at the time, saw a need for redundant and backup communications.

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### **Talking points: How it started**

Prior to 2004 Marion county enjoyed relatively little concern for hurricanes. It was said that it had been about 70 years without a hurricane in the county. In 2004 when Hurricane Charlie, Francis, Ivan and Jeanne, hit Florida and did some significant damage in Marion county. it became a concern and put on the top of everyone's list. Munroe Medical Center took the lead on preparing for communications redundancy and the use of HAM radio operators between the hospitals and the EOC.

In 2005, Munroe Regional Medical Center Emergency coordinator at the time, saw a need for redundant and backup communications.

(next slide)

## EM.02.02.01

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"The hospital maintains reliable communications capabilities for the purpose of communicating response efforts to staff, patients, and external organizations. The hospital establishes backup communications process and technologies (for example cell phones, landlines, bulletin boards, fax machines, satellite phones, **amateur radio**, text messages) to communicate essential information if primary communications systems fail."

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### Talking points:

The rationale from the Comprehensive Accreditation Manual was the catalyst to forge a comprehensive communications plan to include HAM radio as a backup communication for the hospital. After all, developing a backup communication plan became a requirement for accreditation and possibly for future grant money.

(next slide)

## **A simple question**

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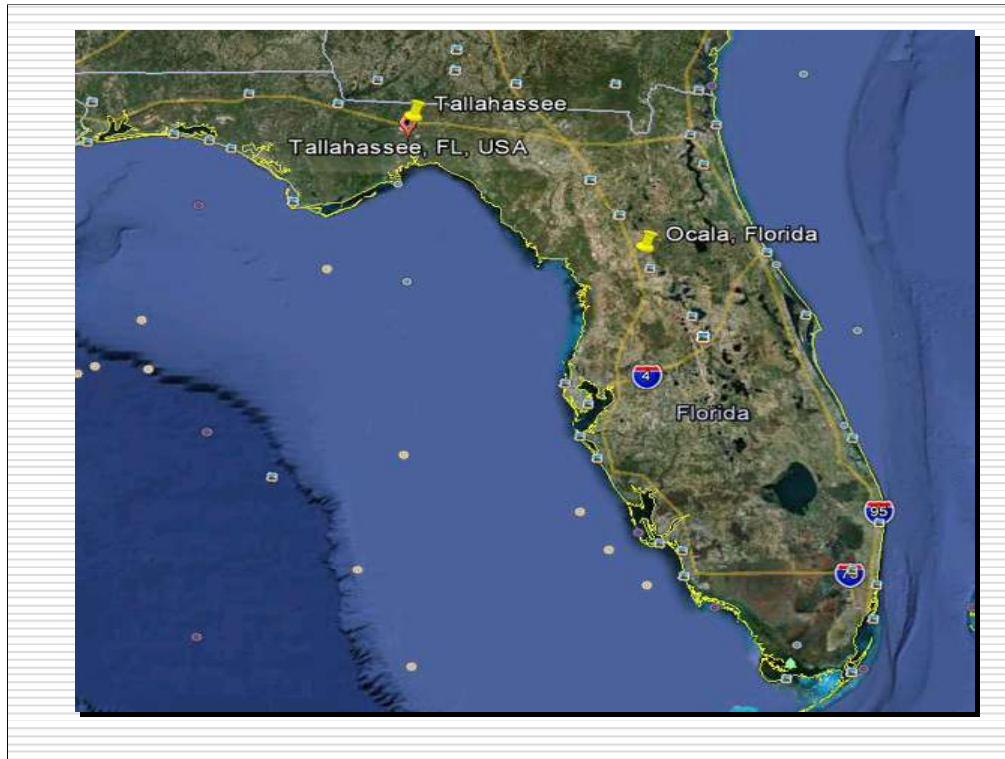
*"How do we contact Tallahassee if all of our normal means of communications fail?"*

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Talking points:

The question was asked "How do we contact Tallahassee if all of our normal means of communications fail?" It was a simple question and a means to identify the GOAL.

(next slide)



**Talking points:**

**Munroe Regional is in a unique location within Florida, It is about in the middle of the state. During hurricane threats In south Florida, there would be early evacuations out of that area and likely start an inflow of people to get out of the way. This means that Marion County may receive a lot of folks from Hurricane threatened areas. Also, Ocala is more “Inland” in it’s relationship to the gulf, The areas just West of Ocala would be designated to evacuate if a Hurricane was in the Gulf near Florida. Now if we, should loose our communications we would still need to send status reports to Tallahassee (or elsewhere)..**

**There would be specific reports that may need to be sent to ESF-8 Tallahassee (emergency support function -8 Healthcare). Those include Status of the hospitals and bed reports. In Marion County, There is a plan in place which outlines how the county would handle communications.**

**But.. what if the local communications were overloaded or without communications to Tallahassee? Based on the past experience of the possibility of loosing our normal communications, the need was there to find a backup to the backup communications plan!**

**(next slide)**

## **Communications Normally Used**

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- ☐ Telephone
  - ☐ Cell phones
  - ☐ Internet (E-mail)
  - ☐ Fax
  - ☐ Satellite (Sat Phone)
  - ☐ Hospital commercial radio's
- 

### **Talking points:**

Hospitals would normally count on Telephones, Cell phones, the Internet for E-mail, Fax, Satellite comms phones and commercial hospital radio's.

#### **Who really uses a telephone anymore?**

Now days, most folks rely on the cell phone for voice and for texting. For local communications within the county, hospitals and emergency services use the digital 800 voice radio systems.

These modes tend to be really useful and have been well thought out for redundancy.... But consider,--- during a emergency, wouldn't these be used to the point of possible slow down?

I emphasize "slow down" or possible loss... in your own facility! How about between departments in your hospital?

Between your hospital incident command and to the County Emergency Operations Center?

(next slide)

## **Ham Radio Communications**

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- ☐ High Frequency on the Amateur Radio Bands (Includes multiple bands and numerous modes)
  
  - ☐ VHF and UHF on the Amateur Radio Bands (Includes numerous frequencies modes)
- 

**Talking points:**

**HAMS have capabilities that no single commercial or private services have.**

**HAM radio operators have been allowed many portions of the electromagnetic spectrum of available frequencies to just the Amateur Radio Service.**

**This makes them unique in a way that the hospitals and emergency services radio communications don't have..**

**(next slide)**

## Many bands and frequencies are available to the amateur radio operator



### Talking points:

As this band plan indicates, there are many frequencies and bands of frequencies allocated. The HAM operators “Class” of license provides increasing privileges to those who upgrade their license class.

There used to be a Morse code requirement and a written test. Morse code is no longer a requirement to obtaining a license to operate. The written tests must be completed successfully for each class of license before progressing to the next higher. The Technician class is the “Entry” license class. The technician licensee would in almost all cases be able to provide emergency communications. It’s been said that all disasters are local. In almost every instance a Ham radio operator with a Technician class license could bring a minimum of equipment to the scene and be very useful. ( Actually may make the difference in a life and death situation).

The classes of amateur operator license grants are: Novice, Technician, General, Advanced, and Amateur Extra. The FCC currently issues Technician, General and Amateur Extra class licenses.

(next slide)

## **Munroe Regional Medical Center HAM radio communications station**

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### **Talking points:**

Thanks to the concerns of a few who realized that the hospital could be vulnerable, The hospital has invested in it's ham radio backup communications ability. The equipment was funded by a grant. Since the initial investment has been only minimal dollars spent to keep the system working. The volunteer ham operators provide non compensated service,. The ham radio operators often "donate" to the cause themselves with pieces of equipment and make repairs to equipment. If it's a bigger repair issue, the hospitals Biomedical engineering dept can get involved. (some of them are ham operators!) They are sympathetic to the needs! Thanks to the hospitals administration, and the emergency coordinator, Jimmie Enderle, The ham radio project continues with whole hearted support.

(next slide)



## Hospital Incident Command



### Talking points:

The radio room is located just adjacent to the hospital's conference room. The conference room doubles as the hospital's incident Command. This is a very convenient position for the ham radio station, it's in another room but very close by. (the door can be closed to mitigate radio sounds)

(Next slide)....



**Talking points:**

**Messages can be created by the incident command positions walked to the ham radio station. Or, a message can be created on a Laptop in the Incident command, which is a dedicated computer to send messages directly to the ham radio room. There it is inspected by a ham operator and can be sent by voice or e-mail using radio...**

**Yes.... e-mail by ham radio! You can address a email to anyone in the world by using the WINLINK ham radio system. Think of it as a wireless network but with greater distance. Radio email can connect to a HAM radio "Hotspot" (or Gateway) hundreds of miles away. Other modes can be chosen by the ham operator depending on the message content and distance it must travel. Thus the power and many capabilities of ham radio.!!**

**The HAM network is purposely off the system in case the hospitals network should fail. Any messages that would need to be sent by ham radio is composed on this computer with a familiar e-mail program such as Outlook. When the message is sent by OUTLOOK, it goes directly into the radio room, at the same time if there are any messages waiting, they will be retrieved. All messages can also be printed out from either this computer or the computers in the radio room.**

**(next slide)**

# **Timberridge Emergency Dept**

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## **Talking points**

**Timberridge Emergency Dept is a satellite facility run by Munroe Regional Medical Center. It has HAM radio equipment available to be brought out for drills or emergencies.**

**(next slide)**

# Timberridge Emergency Dept

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## Talking points:

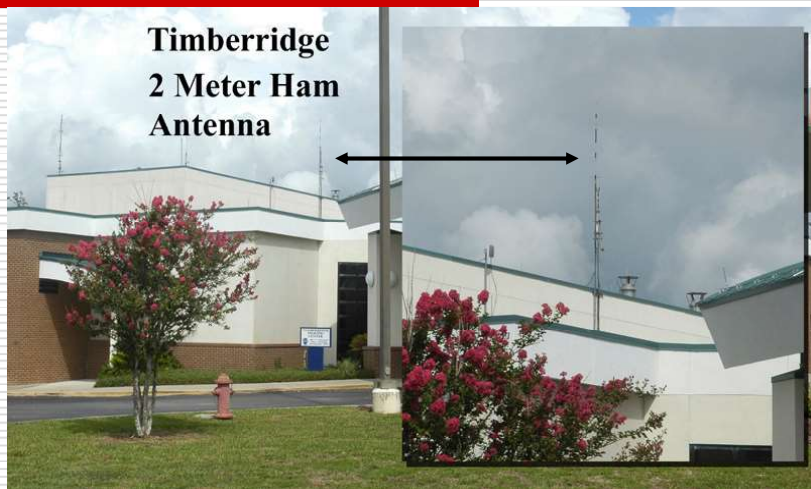
Timberridge has a modest ham radio station. It's physically located within a "Break Room" near the nursing station. It's proximity to the designated decision maker is important.

The radio and power supply is stored until needed, than brought out and connected to a antenna cable. Sometimes the ham operators may bring their own equipment with them and

connect to the antenna. This provides an additional layer of redundancy in case the facilities equipment has a technical problem. The ham operators are skilled at making quick repairs and they are trained to use any available power source if needed. For example, the parking lot, probably has vehicles with 12 volt car batteries which could be pulled out and used to power the ham radio equipment.

Thank you to our ham volunteers, who regularly participate at Timberridge. Rich Holmquist, KJ4VKG, John Wiley, W4FID and Ron Viola, KS4SW.

# Timberridge



## Talking points

The is a typical ham radio antenna installation. Very simple, cost effective. About \$200.00 The higher the antenna the better of course... and consideration must be given for mounting on the facility. Antenna's should be grounded properly not only for good operations but also for lightning. Wind load is important to consider, hurricanes could significantly affect antennas so local code requirements will determine the usual best practices for the antenna's, locations and mounting positions. Also to consider, is proximity to other radio antenna's , we don't want to interfere with them and vice/versa. The antenna shown here is a 2 meter VHF and 70 cm UHF dual band antenna. It's adequate for communications to Munroe Regional or to the Marion County Emergency operations center without the use of a HAM repeater. A repeater is an unmanned, automatic forwarding radio, designed to extend the range of radio signals. They are usually positioned at high points in the area. To send messages without the use of repeaters is an important consideration. We have considered that repeaters are a possible point of failure. We need to be able to communicate directly without ANY points of failure possibilities in between.

(next slide)

# Timberridge

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## Talking points

Some emergency messages are best suited to sent by digital means... Formal messages are the best choice for accuracy. Here our ham operator is composing a message for transmission using the WINLINK radio email program. There are other modes available to transmit data and forms like the WINLINK system. One that is also used in Marion County is the

D-STAR system. This mode uses different radio's and software. Choosing the right mode depends on your particular need. Do you need to send and receive forms and Images? Or Just voice, the simplest mode..? each mode brings it's own challenges and operator skills.

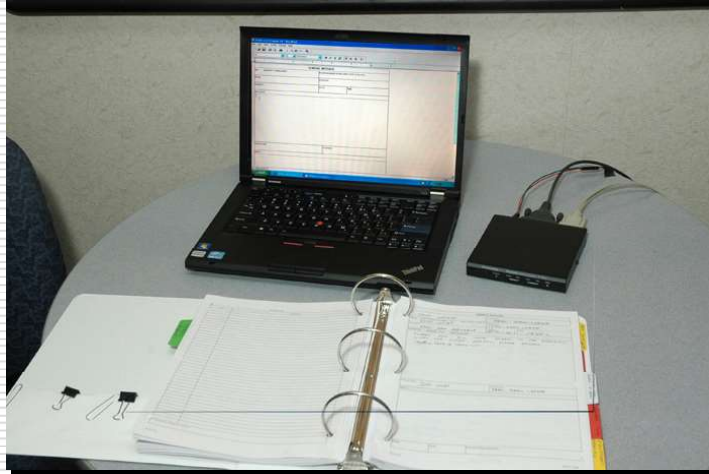
Choose modes and equipment by the mission. I suggest to start with voice communications first.

(next slide)



# Timberridge

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## Talking points

We maintain documentation, it's important to include Radio manuals, operating radio practices, and ICS FORMS with instructions.

(next slide)

## **Ocala Regional Medical Center and West Marion Community Hospital**

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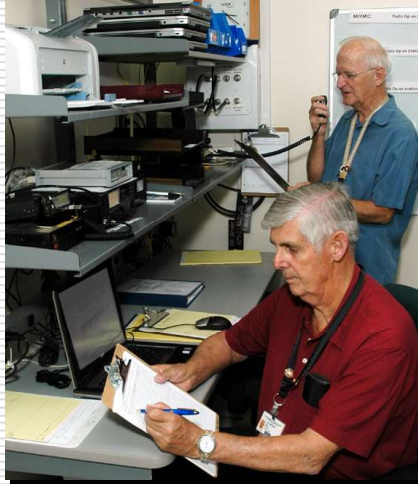
### **Talking points:**

Ocala Regional Medical Center and West Marion Community hospital have a ham station as well, similar to that at Timberridge. The equipment is stored and is brought out and setup for use by a ham operator.

They will also be adjacent to their Incident command. They do not have all the capabilities as that at Munroe, But by using voice ham radio communications equipment, they can easily communicate to all the hospitals and to the county emergency operations center.



# Drills



## **“Operation Smoke Signal”**

**A monthly  
HAM radio  
communications drill**

### **Talking points:**

**we conduct a monthly drill. (which is about 2 hours) “Operation Smoke Signal” tests ham radio equipment, modes and procedures.**

**About the drill name; it’s a METAPHOR, if you consider communications loss as a last resort, when all else fails, one way or another we must communicate! I attended a meeting where an instructor was conducting a presentation on drills and exercises. He encouraged giving a memorable name to a drill. The idea is to recognize the drill and it’s purpose.**

**.....Operation Smoke Signal has become easily recognizable as the “Hospitals” ham radio communication drill.....Thank you to Earl Sweeney, K4LSB (foreground) and Harold Wood, W3HII for their volunteer service**

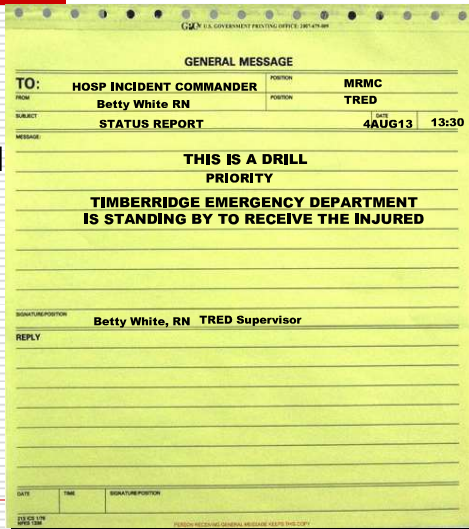
**Pictured here.**

**(next slide)**

## Drill Goal

### When all normal means of communications fail

To maintain a state of communications readiness between Munroe Regional Medical Center, Ocala Regional Medical Center, surrounding hospitals, and the Emergency Operations Center ham radio operators.



U.S. GOVERNMENT PRINTING OFFICE: 2014-404-001

GENERAL MESSAGE

TO: HOSP INCIDENT COMMANDER	POSITION: MRMCM
FROM: Betty White RN	POSITION: TRED
SUBJECT: STATUS REPORT	DATE: 4AUG13 TIME: 13:30

MESSAGE:

**THIS IS A DRILL**

**PRIORITY**

**TIMBERRIDGE EMERGENCY DEPARTMENT**

**IS STANDING BY TO RECEIVE THE INJURED**

SIGNATURE/POSITION: Betty White, RN TRED Supervisor

REPLY:

DATE: TIME: SIGNATURE/POSITION:

### Talking points:

The goal of Operation Smoke Signal drill is to maintain a state of communications readiness the hospitals, surrounding hospitals, The Emergency operations center ham radio operators and strategically located ham radio operators around the city, county and state./// .. Regarding drills and hospital employees, which I need to mention; There was an Important Rule change which effects hospital employees who are licensed ham radio operators.. In the past...employees of a healthcare facility could not participate in drills while working. This rule had to do with a conflict between the FCC AMATEUR Radio service and the other types of FCC license services. The American Medical Association partitioned the FCC to make a rule change. The FCC adopted the change. The rules now permit amateur radio operators to transmit messages, under certain limited circumstances, during either government-sponsored or non-government sponsored emergency disaster preparedness drills, regardless of whether the operators are employees of entities participating in the drill... //// Note the message example here is written on a ICS 213 General Message form. When conducting drills, we use NIMS forms which are consistent with interoperability between hospitals and agencies.

(NEXT SLIDE)

# ICS Forms

- ❑ ICS 213 General Message
- ❑ ICS 214 Unit Activity Log
- ❑ ICS 309 Message log
- ❑ ICS 205 Communications Plan
- ❑ ICS 205a Communications List

The image displays three ICS forms. The top form is ICS 213 General Message, which is a yellow form with fields for TO, FROM, SUBJECT, and a large text area for the message. Below it is ICS 214 Unit Activity Log, a white form with a table for recording unit activities. To the right is ICS 205 Communications Plan, a white form with a table for recording communication tasks.

## Talking points:

We use ICS or Incident Command system forms. These are just some of the important ICS Forms used by NIMS compliant agencies. There are many others but these in particular are essential for communications. . You may have seen the HICS forms? Used by hospitals...they are possibly modifications of the standard forms. There is a statement in the NIMS ICS forms use, that forms can be customized for your particular organizational needs. NIMS encourages consistency to maintain interoperability. In other words, if modifying a form you should indicate the form is a modification but use the same form number and content. There is more on how to use NIMS ICS forms and where to obtain them on the web. I have to stress that as a radio communicator, we may see message forms come in from ALL different sources. The problem we see is inconsistency in the forms

and this inconsistency may create a slow down in interpreting the messages. As NIMS suggests, for interoperability, its recommended to maintain the form in it's original content.

(next slide)

## Objectives

- ☐ Conduct equipment checks
- ☐ Utilize ICS Forms and exchange simulated emergency messages
- ☐ Conduct a test of communications between agencies
- ☐ Add new objectives each month
- ☐ Conduct HOTWASH reviews
- ☐ Create an After Action Report and publish for all to benefit.
- ☐ **Stimulate interest and educate with a challenge question.**

### Talking points:

Here are some suggestions which I believe helps to develop and manage a successful DRILL. First, I would advise anyone tackling the job of creating a drill or exercise take the online NIMS courses on Drills. Ones in particular are IS 120A, An Introduction to Exercises, IS 139, Exercise Design and IS 130, Exercise Evaluation and Improvement Planning. Use clear objectives to create a drill.

I use the SMART method of developing Objectives. Simple, Measurable Achievable, Realistic and finally Task oriented.

\*Conduct a test of communications between agencies...\*Utilize ICS Forms and exchange simulated emergency messages, \*Conduct a test of communications between agencies, \*Add new objectives each month...\*Conduct a HOTWASH review...\*Create an after action report and publish it for all to benefit.

\*To help stimulate interest and educate at the same time, we will include a “challenge Question”.

(next slide)

**This was a drill challenge question, do you know the answer?**

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**The purpose of communications system redundancy is to:**

- A. Collect the same information from multiple sources so that facts can be verified**
- B. Use repetition in training to familiarize responders with communications equipment prior to an incident**
- C. Ensure that communications can be maintained if primary systems fail.**
- D. Maintain the security of sensitive information**

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**Answer at the end of this presentation**

**Talking points:**

**This is a “Challenge Question” from one of our recent drills...Do you know the answer?... The purpose of communications system redundancy is to: A. Collect the same information from multiple sources so that facts can be verified, B. Use repetition in training to familiarize responders with communications equipment prior to an incident...C. Ensure that communications can be maintained if primary systems fail. Or Maintain the security of sensitive information.**

**The answer will be at the end of this presentation....**

**(next slide)**

## **Minimum requirements for HAM radio Operators**

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- ✓ **Vetted**
- ✓ **Trained**
- ✓ **Credentialed**



### **Talking points:**

We have minimum requirements for our ham operators. We actively recruit for new volunteers, they must be “vetted”, with a background check, continue being active by attending drills and training sessions. They must be credentialed. Having a ID badge is important because in an emergency event, they must be able to get to their radio stations. Sometimes hospitals will “lock down” a facility. No one will be allowed in without a proper ID badge. The training and by participating in regularly scheduled drills, the staff will become more familiar with the ham operators. They will be more likely to be allowed into the facility without question.

Another reason for actively recruiting is that for we expect to NOT have everyone around if something happens. Volunteers are often retirees. They have other personal plans, traveling and family visits. We respect this so in order to ensure enough resources, there's a safety net in numbers plan. If we recruit and train large numbers of qualified volunteers..we should have enough available to place in all our hospitals.

(next slide)

## **NIMS compliant**

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Each hospital ham radio operator has IS 100, 200, 700 and 800 minimum.  
(or is working toward completing).

Each undergoes a background check and are credentialed as hospital volunteers.

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### **Talking points:**

**All our hams as well as the hospitals and the Emergency operations center are NIMS compliant. Which means that we all use the same terminology, use the same forms and organize the same way during an event. We all meet the NIMS Training requirements for emergency responders and stakeholders. Each hospital ham radio operator, is required to complete the FEMA NIMS courses , IS 100, 200, 700 and 800. Being NIMS compliant may make the difference in applying for grant money and for hospital requirements' for accreditation as well.**

**(next slide)**

## Keeping track of qualified HAM Operators

Developed by  
Dave Welker  
W2SRP to place  
qualified HAMS  
at Hospital  
facilities for  
emergency  
communications

### HOSPITAL HAMS data

Ham volunteers available this year for Hospitals and healthcare facilities- Info at a glance:

First Name	Last Name	Callsign	MRMC	ORMC	Timberidge	West Marion	1st Baptist	Volunteer this year
HAROLD	WOOD*	W3HH	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2013
SCOTT	HARTSHORN*	KW4SH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2013
CLINNON	ALEXANDER	K44MYD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2013
DAVID	WELKER*	W2SRP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2013
DAVE	GUSTAFSON*	WB9EEH	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2013
STEVE	NELSON	KB2GLJ	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2013
DON	FORTCH*	KD1QDK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2013
PETER	KAMINSKI**	K44EXQ	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2012

Record: 14 of 56  
 \*MRMC ID badge \*\*ORMC ID badge  
 Checked boxes indicates experience at that facility N/A = Not Available

### Talking points:

Keeping track of qualified HAM operators/// I developed a Microsoft Access Database to keep track of our hospital ham operators. There are some who are newly licensed hams, some with a lot of experience. All continue to learn and advance their skills, I rotate the operators between each hospital so they are familiar with the equipment, familiar with the staff and the staff becomes familiar with them/// I use the Microsoft Access database program to track who's been where and who I can rely on to operate at any of these hospitals.. ..

(next slide)



**Remember that the hams have MANY modes of operations and frequencies available to them? They do their own experimentations, and upgrade their licenses, their interest often change, that's the nature of ham radio operators. they will gain knowledge and skills by themselves.. The nice thing about the Access database program, is that a single entry into this window adds it to all the queries I may need.**

**(NEXT SLIDE)**

## Pairing operators with skills

Callsign	AMS Training	2B AMS	VHF WJLK	VHF Tower	VHF Packet	SEADAY	SP Tower	WISDOM HP WJLK	FACTOR HP WJLK	K2 WINDOWS	PC NETWORKING	RCMART	NETCON system	PeerTo Peer	Portable WJLK	D-Star Voice	D-Star Data
N4H0J	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N4JKZ	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N4US	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N4XC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NBVGOM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
W1EP1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
W1JHU	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
W2SRP	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
W3BPP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
W3BI	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
W4FID	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
W4QZQ	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
W4REL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
W9CHA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
WA2ENY	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WA3VOX	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WB40AA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WB9EEH	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
WD4HL	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Talking points:

This is one QUERY from the database, Pairing operators with skills; I can easily find the right ham operator for the task at hand. I ask that our hams update their information at the beginning of each year.

Many of our ham operators, or most are retirees...have a lifetime of experience!....All this MAY be very important to the success of the projects and during a real

emergency. In this query, I'm comparing the ham radio operators to the ham radio skill. Other queries or reports include, pairing operators with experience at hospitals, drills, NIMS courses completed and ID badges

(next slide)

## **Adding HAM radio as part of a plan for emergency communications**

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### **Suggested steps to incorporate HAM radio communications in your organization**

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#### **Talking points:**

Adding HAM radio as part of a plan for emergency communications, here's some suggested steps to consider:

Munroe Regional started it's HAM radio backup communications project with the question "How do we contact Tallahassee if all normal means of communications are down"...that was stimulus to get things moving. What would be yours? Consider what you already have and what might be needed. Remember, it's very cost effective to use HAM radio operators as a backup communications plan.

(next slide)

## **Adding HAM radio as part of a plan for emergency communications**

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- ❑ First, obtain the blessing of the those in your organization who are the decision makers.
  - ❑ Create a fact finding team and survey your current capabilities. Include the emergency management coordinator a hospital administrator, a engineering representative, a "IT" representative and maintenance. Identify your needs if normal communications are slow or lost and determine if ham radio would serve to fill those needs.
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### **Talking points:**

**First, and probably most important, is to obtain the blessing of the those in our organization who are the decision makers. I was a department head, manager and Supervisor, and owned a business. My own ability to make things happen was dependant on the need to convince upper management, or to get a much needed bank loan for my business.. A great deal of preparation and a bit of psychology was in order...Sometimes you just have to keep at it and make others part of your project to get it moving.. You have to agree, you need the support of others. Bottom line, if it comes from the top it will get done!**

**(next slide)**

## **Adding HAM radio as part of a plan for emergency communications**

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- ☐ Determine if there are ham radio operators in your facility
- ☐ Determine if there is a space available to setup the ham station.
- ☐ Recommend to employ only minimal communications equipment to meet your emergency communications needs.
- ☐ Find some money!

### **Talking points:**

**Determine if there are ham operators in your facility:** This is a preferred starting point because this person understands your organization but if not.. try the local ham club or ARES (Amateur Radio Emergency Service), Local ARES groups can be found by searching the ARRL.org website or use the internet to find ham operators in your ZIP code.

**Determine if there is space available to setup the ham station:** The location should be close to the Incident command center. The ham operator will need to meet the incident command staff and coordinate with them early. You shouldn't have to walk a great distance to find the ham op and vice versa. A message needs to be sent out and receive quickly as possible.

**I recommend to try to employ only the minimal communications equipment to meet your emergency communications needs:** Some facilities will install just the antenna and cable to a room near the Incident Command position. Often the ham operators will bring their own equipment and just hook it up to the antenna already installed on the building. By soliciting the help of an "Experienced" ham operator, they will work with your team to make suggestion. I really suggest you contact them early on in the process. Find some money!: Often there are funds available from grants or philanthropy if you look for it. FEMA and other grant money is available.

## **Adding HAM radio as part of a plan for emergency communications**

- ☐ Sign up your ham operators as hospital volunteers if you have a volunteer program.
- ☐ Establish who will lead and manage the ham operators.
- ☐ Develop an ongoing training and drill schedule just for ham radio communications. (*Insist on NIMS compliancy, require the minimum courses for all ham operators and encourage continuing education*)

### **Talking points:**

If your hams are not already employees, We found it a good idea to sign up the ham volunteers with the existing volunteer service. The main reason is for an ID badge! Also, by being a volunteer, they will access training and many more opportunities as a member of the volunteer services. The most important reason, however, is for Proper ID..An ID badge may be needed just to get into the building during a possible “lockdown” situation.

Establish who the ham operators will report to..this is important because when they are working as part of the Incident Command Structure during an event or during a exercise, it should be clear who they report to..who gives them direction. During normal training and day to day operations, they will NOT be under the ICS or HICS (Hospital Incident command structure.)

Who do you want them to report to? Do they report to the head of the volunteer office? Or do they report the emergency coordinator? It's important for the hams to know

the organizational structure both when not in a event and during an event..those are two distinct structures..Sometimes, they may come from an outside group, such as the Amateur Radio emergency

Service (ARES).. These ham operators are available to you, but I would be sure they are vetted and credentialed properly BEFORE an event.

(next slide)

## **Adding HAM radio as part of a plan for emergency communications**

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- ☐ Establish a "Call up" plan to bring in the qualified ham operators when needed.
- ☐ Include the ham operators in the hospital's or organizations mandatory exercises. (Communications)
- ☐ Make regular evaluations and create after action reports from drills and emergencies that ham operators participate in.



### **Talking points:**

**Establish a "Call up" plan to bring in the qualified ham operators when needed:**

**Munroe Regional Medical Center uses a program called "LIVE PROCESS" to manage call ups. Jimmie Enderle can tell you more about it.**

**Include the ham operators in the hospital's or your organizations mandatory exercises.**

**Create some scenarios where you actually loose your normal means of communications. Let the hams go to work and see how they do.**

**Be sure to include their observations in your After Action Reports!**

**(next slide)**



## **Drill Challenge Question answer**

The purpose of communications system redundancy is to:

Correct answer “C”

**Ensure that communications can be maintained if primary systems fail.**

ref: IS-704: NIMS Communications and Information Management

Effective emergency response depends on communication.

The ability to maintain a common operating picture through the constant flow of information.

Talking points:

Remember the drill challenge question I mentioned earlier?

Did you get it right? The purpose of communications system redundancy is to **ENSURE THAT COMMUNICATIONS CAN BE MAINTAINED IF PRIMARY SYSTEMS FAIL.**

The correct answer is “C” This is right out of the NIMS online course IS-704 Communications and information Management.

**During and after Hurricane Katrina, communications systems failed, severely hampering information flow and response operations. In New Orleans, most of the city was flooded.**

**The combined effects of wind, rain, storm surge, breached levees, and flooding knocked out virtually the entire infrastructure—electrical power, roads,**

**water supply and sewage, and communications systems.**

**(next slide)**

# Questions?

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## **Talking points:**

**At the end of this presentation there is a list of references. For example how and where you can purchase ICS 213 three part forms. Information about how to find ham operators and many more websites and literature to help you if you want to consider using HAM radio operators for backup emergency communications.**

**A final thought, do your own research, there's a lot of data on the web. Locate and engage a ham operator who shares your vision.**

**Thank you....are there questions?**

# Reference

- 
- ❑ **FCC Amateur Radio Service**  
<http://wireless.fcc.gov/services/index.htm?job=about&id=amateur>
  - ❑ **HAM radio operators in the US**  
<http://www.arrl.org/what-is-amateur-radio>
  - ❑ **Report to US Congress; Uses and capabilities of Amateur Radio Service Communications in emergencies and Disaster relief.**  
  
[http://transition.fcc.gov/Daily\\_Releases/Daily\\_Business/2012/db0820/DA-12-1342A1.pdf](http://transition.fcc.gov/Daily_Releases/Daily_Business/2012/db0820/DA-12-1342A1.pdf)
  - ❑ **Report & Order US Congress FCC-124  
AMENDMENT OF PART 97 OF THE COMMISSION'S RULES REGARDING AMATEUR  
RADIO SERVICE COMMUNICATIONS DURING GOVERNMENT DISASTER DRILLS**  
[http://transition.fcc.gov/Daily\\_Releases/Daily\\_Digest/2010/dd100715.html](http://transition.fcc.gov/Daily_Releases/Daily_Digest/2010/dd100715.html)  
  
[http://www.calhospitalprepare.org/sites/main/files/file-attachments/amateur\\_radio\\_order.pdf](http://www.calhospitalprepare.org/sites/main/files/file-attachments/amateur_radio_order.pdf)
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# Reference

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- ❑ **Department of Homeland Security case Study on Amateur Radio**  
[http://www.dhs.gov/sites/default/files/publications/nppd/Case%20Study\\_Tennessee%20Violent%20Storms.pdf](http://www.dhs.gov/sites/default/files/publications/nppd/Case%20Study_Tennessee%20Violent%20Storms.pdf)
  - ❑ **Why Ham radio is still handy** [www.technewsworld.com/](http://www.technewsworld.com/)
  - ❑ **HIPPA and Amateur Radio**  
<http://hdscs.org/hipaa.html>
  - ❑ **NIMS On-line training:**  
<http://training.fema.gov/IS/NIMS.aspx>
  - ❑ **Florida ICS course schedule:**  
<http://trac.floridadisaster.org/trac/trainingcalendar.aspx>
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# Reference

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☐ **FEMA radio communications worksheet**

(Assess your communications capability)

<http://emilms.fema.gov/IS775/assets/AssessingRadioCommunicationsCapabilityWorksheet.pdf>

☐ **The Florida 2011-2013 Public Health and Health Care Preparedness (PHHP) Strategic Plan**

**2.2 Interoperable Voice and Data Appendix A**

Communications - A continuous flow of critical information is maintained as needed among multi jurisdictional and multidisciplinary emergency responders, command posts, agencies and the governmental officials for the duration of the emergency response operation

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## Reference

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- ❑ **TJC**, The Joint Commission Emergency Management Standard
  - ❑ **Order ICS Forms:** NWCG National Fire System Catalog part 2 publication 2013.  
[www.NWCG.gov/pms/pubs/catalog.htm](http://www.NWCG.gov/pms/pubs/catalog.htm)
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## Reference

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- ❑ **HAM Look up information** to find licensed ham operators in your area, enter the ZIP code in the look up field.  
<http://www.radioqth.net/ZipLookup.aspx>
  
  - ❑ **FCC Call sign look up**  
<http://wireless2.fcc.gov/UlsApp/UlsSearch/searchLicense.jsp>
-