

AMATEUR RADIO
PROPOSAL
FOR THE NEW
DOWNEY HOSPITAL

BELLFLOWER
JANUARY 16, 2008

LESSONS LEARNED

9/11 TELEPHONE

- On 9/11 the telephone infrastructure in downtown Manhattan went down, causing long term outages to 300,000 telephone lines and 3.6 million high capacity data circuits.

LESSONS LEARNED

KATRINA

- Katrina knocked out more than 3 million customer telephone lines.
- More than 1,000 cell phone sites were out of service due to Katrina
- Over 20 million telephone calls did not get through the day after Katrina hit
- Thirty-eight 9-1-1 centers were disabled due to Katrina
- Of 41 AM and FM broadcast stations in the New Orleans area, only 4 were on the air post Katrina

December, 2007- Oregon Storms

Officials: Ham Radio Operators Are Storm's 'Unsung Heroes'

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PORTLAND, Ore. -- When parts of Oregon were overwhelmed by wind and water during the recent storm, vital communication often was lacking, with trees down and across phone lines and cell coverage limited.

Even the state police had difficulty in reaching some of their own troops.

But ham radio worked.

In fact, amateur radio operators were heralded by state emergency officials as heroes. Ham radio is more than just a hobby to some. It can set up networks for government and emergency officials to communicate when other communication services fail.

"One of the problems in this is always communication," Gov. Ted Kulongoski said after a visit Tuesday to Vernonia and a fly-over there and other affected areas. "I'm going to tell you who the heroes were from the very beginning of this...the ham radio operators. These people just came in and actually provided a tremendous communication link to us."

A network of at least 60 volunteer amateur radio operators working along the coast and inland helped from keep crucial systems such as 911 calls, American Red Cross and hospital services connected. They relayed information about patient care and relayed lists of supplies needed in areas cut off by water.

In addition to getting an FCC license to operate, certain groups of operators are cleared by the federal government to work as emergency responders.

"You are amateur in name only," said Steve Sanders, a spokesman for District One of the Amateur Radio Emergency Service, which helped in several key counties hit by the storm.

The Oregon Office of Emergency Management said the radio operators were tireless in their efforts to keep the systems connected. It was ham radio that kept New York City agencies in touch with each other after their command center was destroyed on 9-11, according to the National Association for Amateur Radio. When hurricanes like Katrina hit, amateur radio helped provide life-and-death communication services when everything else failed.

Amateur radio works on a set of radio frequencies known as "amateur bands" just above the AM broadcast band all the way up to high microwave frequencies. Operators use their own equipment to communicate with other operators, using different equipment and frequencies than emergency responders.

So when some services won't work, they can relay messages.

Sometimes it takes creativity and a lot of leg work, such as setting up a new link on the top of a mountain when no other options are available.

The only major limitation, Sanders said, is the number of volunteers.

"This was just the poster child storm for what we do," Sander said.

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TELEPHONE SYSTEM

- The telephone network is designed based on the amount of traffic it is expected to carry during the busiest hour of the day
- Busiest Hour defined as approximately 10% of everyone within that area dialing or receiving a call during that hour.
- In earthquake, fire and burglar alarm systems initiate dialing sequence due to tremors, further overloading system.

AMATEUR RADIO

- Amateur Radio (Ham Radio) – the time between the onset of the disaster and restoration of normal communications
- **Diversity**
- **Redundancy**
- **Operability**

AMATEUR RADIO FOR HOSPITALS

- VERSATILE, FLEXIBLE, REDUNDANT
- TRAINED, PROFESSIONAL, COMMUNICATORS WHO VOLUNTEER THEIR EXPERTISE
- ACCUSTOMED TO WORKING IN ENVIRONMENTS WITH EMERGENCY MANAGEMENT, SEARCH & RESCUE, ETC.
- DEDICATED TEAM FOR SUPPORTING HEALTHCARE CONTINUUM
- PROVEN MODEL – KP HISTORY, ORANGE COUNTY, WASHINGTON STATE

KP AMATEUR RADIO NETWORK (KPARN)

- In existence since 1989
- National model in mid 1990's
- Amateur Radio equipment installed in ALL North and South California hospitals
- Amateur Radio equipment installed in key locations (Corona Data Center, Pasadena Regional EOC, etc)
- Monthly Drills
- KP employee (Nurses, Pharmacists, Technicians, MD's) volunteers
- Community volunteers

KP AMATEUR RADIO NETWORK (KPARN)

- Coordinating authorized activities in support of KP Operation
- Augmenting the KP communications system, when required.
- Communicating urgent matters of official KP business.
- Assisting KP national resources in time of disaster.
- Oversight provided by Threat Assessment
- Dedicated “Ham Radio Room” included in all new “Template” Hospitals

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Minimal Ham Radio Request

- Request space near, but not in the emergency operations center
- Request three vertical (small profile) antennas mounted on roof
- Request three coax cables between radio room and roof antennas
- Request approximately \$9,000 funding for new radios
- Request telephone, IT network, etc.
- Above configuration “standard” for S CA hospitals.

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Long Range Ham Radio Request

- Request installation of Long Range (High Frequency) Radio System
- Similar system to currently installed at Bellflower Hospital.
- Pasadena, San Diego and Bellflower are KP S CA “hubs” for long range communications.
- Includes voice and nationwide digital (radio via email) network.
- Requires 30 foot tower on roof of new Downey Hospital
- Requires approximately \$25,000 in new equipment and antennas.

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ALTERNATE Long Range Ham Radio

Request

- Request installation of Long Range (High Frequency) Radio System
- Bellflower would continue to be one of three “hubs” for High Frequency Long Range communications.
- Install HF station in conference area and roof of four story Imperial MOB.
- Requires emergency power, cabinetry, 30 foot tower installation, network, telephone, etc.
- Requires approximately \$25,000 in new equipment and antennas.

THANK YOU

