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Phys 401

Final Paper – Ham Radio Aid for Hurricane Katrina Victims

At 6:10 on the morning of Monday, August 29, 2005, Hurricane Katrina made landfall near Buras-Triumph, Louisiana as a category three hurricane with maximum sustained winds of 125 mph and subsequently devastated the surrounding area, especially New Orleans (Wikipedia, 1). It will be remembered as one of the most catastrophic hurricanes to ever hit the United States. Initially forming on August 23, it became, at its peak, a category five hurricane with 175 mph sustained winds and was the third strongest hurricane to ever hit the United States, resulting in a total of over 1,836 human fatalities and $81.2 billion in damage (Wikipedia, 1). Had it not been for an old, but time-tested, rugged, and reliable form of communication, ham radio, many more lives might have been lost.

The September 19, 2005 issue of *Electronic Design* references an NBC Tonight Show race between Morse code and text messaging experts to transmit a particular message (Maliniak, 1). The outcome is a win for ham radio, but in a far greater demonstration of the modern value of an old technology, ham radio won again in the case of Hurricane Katrina. When the hurricane hit, it knocked out power and communication infrastructure necessary for cell phone, land line phone, and internet: the few places where it was intermittently available, the demand proved far too great for reliable communication (Maliniak, 2). Ham radio's lack of a need for complex, centralized, and power-demanding infrastructure makes it ideal for emergencies like Katrina.

Organized by the American Radio Relay League's (ARRL's) Amateur Radio Emergency Service (ARES), countless amateur radio operators provided significant aid

in the aftermath of the storm and flooding (Maliniak, 2). They relayed emergency communication, health and status reports, and weather reports in and out of the effected areas from person to person in different cities and states until the information got to its intended destination (Maliniak, 2). For example, using cell phone, phone, and ham radio in coordination was necessary to rescue 15 people on August 29: someone tried to call 911 to report 15 people stranded on a rooftop, but since it the 911 switchboard was too busy, they called a relative who contacted the Red Cross, which subsequently used amateur radio to contact emergency rescuers in the New Orleans area – the message ended up being relayed through Oregon and Utah (MSNBC, 2-3).

Many key nets of ham radio operators comprised the Katrina emergency support. According to the AARL, as of August 31, the West Gulf Emergency Net and the Salvation Army Team Emergency Radio Network (SATERN) were providing key support (AARLWeb, 1). As a part of studying for the license exams, one learns about the importance of using amateur radio for emergency traffic, and many hams later go on to receive emergency training from groups like ARES. For effective emergency communication, it is of course necessary to diligently coordinate transmissions on certain frequencies and for other users to always give emergency traffic priority. For example, an AARL internet publication on August 31, 2005 states, "The West Gulf Emergency Net remains active (7.285 MHz days/3.873 MHz nights)… health-and-welfare traffic is being moved to 7.290 MHz days/3.935 MHz nights. (SATERN) on 14.265 MHz has been accepting and handling health-and-welfare inquiries… (AARLWeb, 1)" These precise allocations of frequencies are determined by the emergency ham radio groups and broadcast, placed online, and transmitted through various other means into the effected

area. The change in frequency at night is generally due to the fact that ionospheric conditions are different at night, allowing better, farther radio communication at those frequencies.

Ham radio clearly provided vital help in the Hurricane Katrina disaster as it has in many others. Besides saving lives this situation has given the government even another example of why amateur radio should be protected from possible threats such as broadband over power lines that would create significant interference (Maliniak, 2) and also from those who would want the amateur bands for commercial usage. In the government's official response publication to the disaster, Ham radio is discussed in the "What Went Right" subsection, clearly recognizing the value of ham radio during and after Katrina in the mention of its use to rescue 15 people on a rooftop as well as the vast amount of weather information that was broadcast via ham radio ("Katrina – Lessons Learned", 135). Amateur radio has and will continue to be of significant value in emergencies.

Search for survivors in New Orleans after Hurricane Katrina

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