Keeping up with Disaster Communication Technology

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More than at any time in the history of technological development, the world is witnessing the emergence and proliferation of new communication aides and media. The Amateur Radio Service can consider itself threatened by this development for two reasons: Many of the proponents of the new media are after our spectrum, and we must keep justifying the need for the Amateur Radio Service, a justification that will become more difficult over time.

Second, much of the new technology is user-friendly and efficient. It adds fuel to the fire for questioning the usefulness of Amateur Radio as a national disaster response resource. Will the FCC continue to support our service and our spectrum when a global Internet service can handle greater volumes of messages with enough technological redundancy to allow rerouting of e-mail with segments of the system destroyed by disaster?

In the next few years, at least three new satellite services will come on line, providing voice, fax, data (Internet), video, and radio determination services to portable hand-held phones and palm- top terminals--with little or no terrestrial infrastructure to be damaged in a disaster. We may have sewn the seeds of our own obsolescence by giving the world Low Earth Orbiting (LEO) Satellite technology--a technology that the world laughed at originally, and considered useless for commercial purposes. Now the telecommunications industry is putting LEOs to use in systems that will outstrip any applications that hams have been able to accomplish with the OSCARs. While we struggle over long years to develop and launch a single satellite, Motorola and associates have been launching 66 for the IRIDIUM satellite system. The system may be operational by the time you read this issue of QST. It will be accessible for world-wide communications by portable cell-phone-like instruments and pagers. Two competing satellite systems will be on-line within a yearthereafter, no doubt driving down costs to the point where satellite cell-phones will be affordable to the masses.

When this happens, what will be the continuing role of Amateur Radio in disasters? We can maintain our worn argument that there will always be a need for the ham with a 2-meter rig or an HF rig, and given Armageddon, even a straight key.

But remember that the expected efficiency of message handling will continue to rise as new systems come on-line. Will hams also rise to meet these expectations? Maybe yes, maybe no.

Some of us who have worked on ARRL planning and advisory committees have proposed greater integration of other telecommunication technologies with Amateur Radio. The fear always was that we would dilute the "purity" of Amateur Radio service, and give the commercial telecommunications would greater cause to lust after our spectrum.

Well, this is happening anyhow. APRS, an Amateur Radio developed technology, now incorporates computer, the Internet, weather stations, and the Global Positioning Satellite System. WinLink and NetLink developers are interfacing Internet-mail and HF radio using PAXTOR. Indeed, the most exciting areas of Amateur Radio are actually hybrid technologies, overlapping modes and telecom services.

In this day and age, Amateur Radio operators not only may need to integrate other communication technologies, but also become proficient in new technologies that do not directly integrate with Amateur Radio. Over the last few years, I've noticed members of Amateur Radio Communications teams to be the keepers of their municipal radios. In 1992, most municipal communication was still handled by conventional two-way radio. Today, in Florida, it's handled by 800-MHZ trunking.

Suppose a municipality handed hams an 800MHz trunking radio Would the hams understand the concepts of a trunked radio system, talk groups versus discrete frequencies, and be familiar with the tones the radio would emit indicating channel capture, queuing, or system-busy? Or suppose they turned over a satellite telephone terminal to the ham team to relay messages, and asked them to move from one location to another and aim it correctly at the satellite.

Would the amateurs rise to the occasion? Probably not. They would have to inform the municipality that they were not familiar with the technology, return the equipment or risk losing life and death messages.'

"What would that mean to the image of Amateur Radio? It would mean that they would be thought a lot less of in after-action reports, and eventually be taken less into account in the Comprehensive Emergency Management Plans of local emergency management agency. Eventually Paragraph 97.1 (a) of the FCC Regulations, the primary reason-for-being of the Amateur Radio Service would come to have less meaning:

"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.

"We must make the effort to learn about the new technologies, integrate them with Amateur Radio if technologically and legally possible, and continue to develop ourselves as "communications commandos" who are masters of all emergency communication technologies. I believe it is a matter of our survival as a radio service.

"To this end, I have asked the Telecommunications Committee of the Florida Emergency Planners Association (FEPA) to make available training to all ARES and RACES members in the new technologies that are adopted by county and state emergency management agencies. These should include radio systems, computer systems, satellite communication systems, Internet uses, disaster management software, telephone systems, weather systems, and any other technologies that the ARES or RACES members may come in contact with during a disaster.

"Start at your end as well. Do a mental inventory of systems you are not familiar with at your respective EOC's and inquire how your group may receive training on these systems.

"The investment in training by the emergency management agencies is minimal compared with the potential return on investment: namely access to telecom specialists who are willing to master these technologies and be available to manage them during a disaster. When it all blows over, we will be remembered for how useful we were to the response effort; not whether we were using our own equipment or just doing a better job with someone else's."

Source: Kentucky Amateur Radio Web Site – www.kyham.net