

**Before the
Federal Communications Commission
Washington, DC 20554**

In the Matter of:

Commission seeks comments on)	
Emergency Communications by)	GN Docket No. 12-91
Amateur Radio and Impediments to)	
Amateur Radio Communications)	

To The Commission:

**Comments From
Charles F. Rothrock**

Introduction

I am an Extra Class Amateur Radio Operator with the FCC assigned call K3SR and hold a general class radiotelephone license. The art of communications is both an avocation and a vocation for me. I utilize amateur radio to support various events including emergency communications and other events that support the public good. Examples include hurricane relief, county Amateur Radio Emergency Service and fund raising bike rides and walks. I also enjoy amateur radio as a hobby and utilize hobby as one mechanism to stay technically current in the communications field. The art and engineering of communications is a vocation as well as an avocation for me.

Questions and Comments – Section 1

1. FCC question – Section 2 paragraph 1 -- Importance of emergency Amateur Radio Service communications. Sub-part a – Cite examples.

Comments: Amateur radio operators provide support of the public without remuneration in many areas including collecting and publishing data regarding weather, traffic and other such events. Radio operators are a trained cadre who utilize the hobby to assist others. Amateur radio operator activities as far as disaster support is both ad hoc and planned. Radio operators could be call upon for additional support, if the various agencies had a better idea of how the support could be effectively used. For example: the government at various levels monitors traffic and yet amateurs with radios in the cars could be used to determine localized traffic levels. Radio operators can be utilized with amateur radio frequencies to collect data on all sorts of phenomena such as tornados, thunders storms and other weather events. When a major tragedy occurs, frequently the commercial telephone system become overloaded or fails – in this case radio amateurs need to be prepared to provide wideband connectivity to the Internet to the first operational ISP.

2. FCC question – Sub-part b -- Under what circumstances does Amateur Radio Service provide advantages over other communications systems...?

Comments: Amateur Radio service can provide advantages not offered by any other single service because of the number of different frequencies and modes that are available to amateur radio service. Examples include high frequency allocations that support long distance communication via data, picture (slow scan video) and voice. Further examples add satellite, television, telemetry, high-speed wideband data and other digital modes on VHF, UHF and microwave frequencies. Amateurs frequently have capabilities and skills to operate multi-modes over a large spectrum of frequencies – depending on the requirements.

3. FCC question – Sub-part c – What additional plans, policies and training programs would benefit from the inclusion of Amateur Radio Service operations?

Comments: Many situations would benefit from the inclusion of Amateur operators and their equipment. Many operators willingly provide from their own resources in support of the public. What frequently isn't understood by emergency agencies are the capabilities and availability of amateur operators. Several of the events that I have supported, I have passed only minimal traffic. Closer coordination regarding communications requirements and capabilities would better enable responding agencies to take advantage of amateur radio.

4. FCC Question – Subpart e – What changes in Part 97 Subsection E would enhance the ability of radio amateurs to support emergency and disaster response?

Comments: Changing of the rules to support band plans based on bandwidth rather than modes. This would enable a wider range of emission types, especially the digital modes. Changing the rules would allow for the transmission of still pictures, attachments to emails, etc on the same portion of the bands that digital data is being passed.

Relaxation of rules to allow content to be included in emergency communications that is not allowed today. (E.g. names) If necessary change the rules to allow encryption; not allowed under Part 97.

5. FCC Question – Subpart g – FCC asked what communications capabilities for example voice, video and data are available from Radio Amateurs for emergency and disaster relief communications? Are there

any future technical innovations that might further improve the Amateur Radio Service?

Comments: Amateur radio operators can provide voice, still picture, slow scan video, fast scan video and narrow and wide band data. The most common modes are voice and slow speed data including email over hf portions of the spectrum. The result of amateur radio allocations over many octaves of frequency spectrum is a great deal of versatility in modes, distances covered and ability to support the public.

Amateur radio operators are constantly improving the state of the hobby through innovation and adaptation. Amateurs have developed a number of spectrum efficient data modes that did not exist a few years ago. While, it is hard to know what will be developed in the future, expectations are that advances will be made in the areas of coupling amateur radio more tightly to the advantages of the Internet, the utilization of software to replace discrete circuits and components and a much greater use of video over the air.

6. FCC question – Subpart I – Would it enhance emergency response a disaster relief activities if Amateur Radio Service operators were able to interconnect with public safety and land mobile radio (LMR) systems? What could be done to enhance such interconnections? Issues?

Comments: An interconnection between public safety, LMR and amateur radio would enhance all agencies ability to handle emergencies. A standard interface could be designed that could enable emergency agencies to turn off transmissions on a transmission by transmission basis to enable the emergency responders to pass traffic that shouldn't be passed over amateur radio. A software-defined radio that responded to a large number of different modulation formats and frequencies was developed over a decade ago. Another project with similar goals is the standardized radio project undertaken by the Department of Defense at great expense. The point is that a standard gateway or interface would enhance communications between and among responders. Amateur radio could also supplement responder communications when responder communications either won't work (e.g. within the world trade towers on 9/11) or supplemental bandwidth is needed due to traffic loads.

7. FCC question – Subpart j – Should there be national programs to standardize amateur radio communications?

Comments: There are currently regimented programs that have been developed by FEMA and other emergency agencies that are already in being used to address disasters. The amateur community needs to be aware and avail themselves of this training. Government agencies already have developed methods and procedures so the real question is

how can the amateur community be tightly and effectively coupled into existing programs.

Section 2

1. Section 2 – Impediments to enhanced Amateur Radio Service communications. FCC question -- Subpart a – What private land use restrictions on residential antenna installation have amateur radio operators encountered?

Comments: The use of restrictive covenants is pervasive throughout northern Virginia, where I live. It is my understanding similar covenants exist throughout the country. These covenants make it difficult, if not impossible, to erect effective antennas. Being a covenant, there is little recourse when difficulty is encountered. In the case of satellite antennae, federal law overrode the local covenants. Since amateur radio operators do not have as effective a lobbying group as commercial operators, little has been done to allow reasonable outside antennas. The federal government has made accommodations for many groups including handicapped, commercial operators, etc., but not radio amateurs.

Cellular carriers may have to file multiple plans but ultimately one must be accepted and tower installation proceeds. No such accommodation exists for Amateur Radio operators.

2. FCC question – Subpart b – What criteria distinguish unreasonable or unnecessary restrictions from reasonable and necessary restrictions? How does the availability of alternative transmitting locations or power sources affect the reasonableness of a particular land use restriction?

Comments: The erection of outdoor antennas limits amateurs' effective use of his or her property and a reasonable accommodation of the covenants would aid in amateurs being able to effectively support the public in routine data gathering, (e.g. weather) as well in the event of a disaster. Many amateurs are unable or unwilling to leave loved ones in a disaster and yet could provide much needed support from home – if equipped with appropriate equipment, power and antennas.

To operate a station remotely would cause additional expense that many amateurs – even if they could get the tower space at a transmitting site – cannot afford. Many transmitting site are already in full use.

Respectively submitted,
Charles F. Rothrock