

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)
)
Emergency Communications by Amateur) **GN Docket 12-91**
Radio and Impediments to Amateur Radio)
Communications)

To: The Commission
Via: Office of the Secretary

**COMMENTS OF ARRL, THE NATIONAL ASSOCIATION
FOR AMATEUR RADIO, IN RESPONSE TO PUBLIC NOTICE**

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EXECUTIVE SUMMARY

ARRL, the national association for Amateur Radio, formally known as the American Radio Relay League, Incorporated (ARRL), submits its comments on the uses and capabilities of Amateur Radio Service communications in emergencies and disaster relief; on the importance to the United States of emergency Amateur Radio Service communications; and on impediments to enhanced Amateur Radio Service emergency communications. These comments are submitted pursuant to the *Public Notice*, DA 12-523, released April 2, 2012.

Of the several fundamental purposes of the Amateur Radio Service, volunteer emergency communications are most obvious to the public. Emergency communications efforts of radio Amateurs are enhanced and facilitated by their ability to refine, adapt and improve equipment; to experiment with new and varied communications technologies and systems; and to effectively provide supplemental and restorative communications for emergency and disaster relief agencies and organizations.

The frequency agility, resiliency and flexibility of the Amateur Radio Service and the communications skills of its licensees are principal reasons why it is considered a valuable resource by emergency officials. Regardless of atmospheric conditions, radio wave propagation, availability of commercial power, or the need for varied emissions types, the Amateur Service has a frequency allocation that will allow communications to be conducted into, within and out of an affected area and the ability to provide voice and data interoperability for disaster relief agencies and public safety services.

The single most challenging aspect of Amateur Radio emergency communications efforts is the complete preclusion of their ability to install and maintain at their residences an effective, reliable antenna system for Amateur Radio communications. This due to the pervasiveness and severity of private land use restrictions imposed by common-interest communities (CICs). CICs include planned unit developments; master planned communities; condominiums; cooperatives; gated communities; and any community with a community or homeowners' association. There has been an exponential increase in the number of these communities since 1970. Now, entire cities are privately regulated. This increase in CICs is a very serious concern to radio Amateurs because the ability of a buyer of real property to acquire property that is not burdened by private land use regulations (and thus the ability to erect a reasonable, efficient Amateur Radio antenna at his or her residence) is decreasing at a very rapid rate. Private land use regulations, including covenants, conditions and restrictions (CC&Rs) invariably preclude or severely limit antennas within the CIC. As can be easily seen from *Exhibit C* hereto, they effectively prohibit Amateur Radio antennas, or leave the regulation of them to a committee which operates without objective standards. As can be seen from *Exhibit D* hereto, the presence of private land use regulations has a widespread, prohibitive effect on effective Amateur Radio emergency communications.

There is no contractual element in modern real estate transactions involving CICs. The decision to purchase property in a CIC, which is often dictated by family or career requirements and factors other than the ability to erect an antenna for avocational purposes, invariably subjects the purchaser to the CC&Rs applicable to the parcel, the terms of which were imposed on the land long ago.

While modern Amateur stations are portable, and transportable to remote disaster locations, it is critical to have a station located at one's residence in order to regularly participate in disaster preparedness training exercises and drills. It is also necessary to have Amateur Radio stations evenly distributed throughout residential areas in order to preserve and enhance the decentralized network of stations which are ready to be placed into service immediately wherever and whenever a disaster may strike. It is impossible to look toward enhancements in the use of Amateur Radio communications when the ability to self-train and self-educate by means of an effective, reliable Amateur Radio station at one's residence is steadily and quickly being diminished by prohibitive CC&Rs.

The Commission, 27 years ago, established a limited and workable policy which balanced and accommodated important local land use considerations and the strong Federal interest in effective Amateur Radio communications. *Amateur Radio Preemption*, 101 FCC 2d 952 (1985); *codified at* 47 C.F.R. Section 97.15(b). The justification for it, protecting that strong Federal interest in effective Amateur Radio communications, logically applies equally to all types of land use regulations which preclude those communications; fail to reasonably accommodate them; or do not constitute the minimum practicable regulation of Amateur antennas consistent with the local authority's legitimate purpose. However, the Commission has heretofore refused to apply this policy to CC&Rs.

The fact that private land use regulations are rooted in the concept of private contract (though they have certainly evolved far from that original concept) cannot be argued to preclude the even exercise of the Commission's jurisdiction. It cannot any longer justify the disparate treatment of Commission licensees in the Amateur Radio Service or the inequitable application of fundamentally sound Commission (and Congressional) policy. Since the Commission clearly has the jurisdiction to apply its limited preemption policy to all types of land use regulation; as it has found that private land use regulation of Amateur Service communications is entitled to *less deference* than is governmental land use regulation of the same facilities (because the former are principally based on aesthetics whereas governmental land use regulations can be based on health and safety considerations); and because it has already expressed its precatory encouragement to CICs to apply the *Amateur Radio Preemption* policy when addressing Amateur Radio facilities within the CIC, the Commission should include in the Study being prepared in the context of this proceeding the following findings: (1) that private land use regulations are substantially and increasingly detrimental to Amateur Radio emergency communications; (2) that the rapidly increasing number of CICs in the United States is significantly decreasing the ability of licensed Amateur Radio operators to provide traditional or enhanced emergency communications within their communities; and (3) that the Commission's flexible *Amateur Radio Preemption* policy should be applied to all types of land use regulation equally, including private land use regulations in CICs.

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ARRL, the national association for Amateur Radio, formally known as the American Radio Relay League, Incorporated (ARRL), by counsel and pursuant to the *Public Notice*, DA 12-523, released April 2, 2012 (the *Public Notice*), hereby respectfully submits its comments on the uses and capabilities of Amateur Radio Service communications in emergencies and disaster relief; on the importance to the United States of emergency Amateur Radio Service communications; and on impediments to enhanced Amateur Radio Service emergency communications. For its comments, ARRL submits the following, and incorporates by reference the Exhibits attached hereto.

I. Introduction

1. As the Commission notes in the *Public Notice*, the basis for this docket proceeding is the instruction to the Commission contained in Section 6414 of the *Middle Class Tax Relief and Job Creation Act of 2012*, Public Law 112-96. This legislation called on the Commission, in consultation with the Office of Emergency Communications of the Department of Homeland Security, to complete a study on “the uses and capabilities of Amateur Radio Service communications in emergencies and disaster relief”; and to submit to the Committee on Energy

and Commerce of the House of Representatives and the Committee on Commerce, Science and Transportation of the Senate a report on the findings of such study. To be included within the scope of the study are: (1) a review of the importance of emergency Amateur Radio Service communications relating to disasters, severe weather, and other threats to lives and property in the United States; (2) recommendations for enhancement in the voluntary deployment of Amateur Radio operators in disaster and emergency communications and disaster relief efforts; (3) the improved integration of Amateur Radio operators in the planning and furtherance of initiatives of the Federal government; (4) an identification of impediments to enhanced Amateur Radio Service communications, such as the effects of unreasonable or unnecessary private land use restrictions on residential antenna installations; and (5) recommendations regarding the removal of such impediments. These issues are addressed below.

2. The *Public Notice* asks a series of questions in two categories. The first category relates to the importance of emergency Amateur Radio Service communications to the United States, and the second relates to impediments to enhanced Amateur Radio Service emergency communications. The following comments address the questions in each category.

II. The Importance of Emergency Amateur Radio Service Communications Relating to Disasters, Severe Weather, and Other Threats to Lives and Property in the United States

3. Since its inception and at the commencement of Federal licensing in the early 1910s, the Amateur Radio Service has always been *far more* than a “hobby” - a means for those curious in electronics and radio to expand their knowledge. The varied purposes and goals for the Service summarized by the Commission’s rules (47 C.F.R. §97.1) establishing the Amateur Service illustrate its versatility:

The rules and regulations in this part are designed to provide an amateur radio service having a fundamental purpose as expressed in the following principles:

(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.

4. Each of those five principles is interrelated, having in common as a foundation the radio Amateur's ability to communicate effectively and efficiently in a variety of circumstances. Of these fundamental purposes, volunteer emergency communications are most obvious to the public. Emergency communications efforts of radio Amateurs are enhanced and facilitated by their ability to refine, adapt and improve equipment (including better and more efficient antennas). They experiment with new and varied communications technologies and systems in order to better understand and utilize the propagation of radio waves. By virtue of this technical self-training and the educational programs available to the Amateur Radio community, the Service can effectively provide supplemental and restorative communications for emergency and disaster relief agencies and organizations.

5. A non-commercial, public service avocation, Amateur Radio emergency communications are provided on a voluntary basis. They are nonetheless reliable because their infrastructure is largely decentralized and not dependent on commercial power mains or fixed facilities that can fail. This resiliency is based on the multitude of individual stations deployed

ubiquitously throughout towns, counties, states and the United States. These volunteers offer their stations and their skills for emergency and disaster relief communications at no cost to States, municipalities, disaster relief agencies, and agencies of the Federal Government. Radio amateurs respond immediately, upon a call from served agencies following any type of emergency or disaster, with working communications facilities and systems, manned by volunteer, trained communicators. They assist in restoring public safety communications facilities that have failed because they possess the technical knowledge and innovative creativity to do so.

6. They provide communications until those public safety facilities are restored to operation. They provide interoperability and mutual aid communications between and among public safety and other entities (interoperability that typically does not, even now, exist generally on an interagency basis). They provide efficient communications for disaster relief agencies, such as the American Red Cross and the Salvation Army, for the duration of disaster recovery efforts. Amateurs are known for their immediate responses to hurricanes, tornadoes, earthquakes, snow and ice storms, floods and other natural disasters. They are available during and in the aftermath of such events, and they are prepared to deploy and commence communications without any advance requests.

7. This preparation for emergency communications deployment is enabled by the technical self-training that is inherent in the service and facilitated by the licensing process. Many, perhaps most, telecommunications professionals derived their interest, and most of their basic technical and communications skills, from their avocational activities in Amateur Radio. Many developments in modern telecommunications, including low-Earth-orbit microsatellite technology, and many refinements and adaptations of new technologies, were and are the direct

result of Amateur Radio experimentation and inventiveness. That innovative spirit still exists today, despite the complexity of modern digital communications. Amateur broadband systems and other high-data-rate multimedia systems are in full deployment now. Software-defined radio systems are now widely available and used daily in the Amateur high-frequency (HF) bands. The potential for improvement in Amateur Radio emergency communications and interoperability communications for served agencies as a result of the adaptation and regular use of SDR and broadband technology is limitless.

8. Worldwide, nationwide, statewide and local communications networks of Amateur Radio stations are in operation twenty-four hours per day, every day of every year, using Amateur Radio stations located in licensees' homes and via mobile stations. Since the Amateur Service is not dependent on fixed infrastructure and ubiquitous, the ability of radio Amateurs to provide reliable communications instantly over any path cannot be defeated by any disaster, act of terrorism, or by any other means whatsoever. The volunteer services provided by radio amateurs cannot be duplicated by governmental entities at the Federal, state or local level at any cost. However, these services are provided at no cost. The Commission has at times described the Amateur Service as a "priceless public benefit". It has also specifically found that the Amateur Radio Service is "a service that is a model of public responsiveness in times of emergency and distress and a service that is a model of self-enforcement and volunteerism."¹

9. Congress has repeatedly expressed similar sentiments. In Public Law 103-408 in 1994, Congress declared that Amateurs are to be "commended for their contributions to technical progress in electronics, and for their emergency radio communications in times of disaster;" that the Commission is "urged to continue and enhance the development of the Amateur Radio Service as a public benefit by enacting rules and regulations which encourage the use of new

¹ *Report and Order*, Docket 83-28, released December 23, 1983.

technologies” in the Amateur Service; and to make “reasonable accommodation for the effective operation of Amateur Radio from residences, private vehicles and public areas;” and that regulation at all levels of government should “facilitate and encourage amateur radio operation as a public benefit.”

10. Earlier, in 1988, in Public Law 100-594, a sense of Congress resolution, at Section 10 thereof, Congress held that it “strongly encourages and supports the Amateur Radio Service and its emergency communications efforts;” and that “Government agencies shall take into account the valuable contributions made by Amateur Radio operators when considering actions affecting the Amateur Radio Service.” In the Communications Amendments Act of 1982, Public Law 97-259, Congress, in praising the accomplishments of the Amateur Service, held that: “the Amateur Radio Service is as old as radio itself. Every single one of the early radio pioneers, experimenters, and inventors was an amateur; commercial, military and government radio was unknown. The zeal and dedication to the service of mankind of those early pioneers has provided the spiritual foundation for amateur radio over the years. The contributions of amateur radio operators to our present day communication techniques, facilities, and emergency communications have been invaluable.”

11. The service of the more than 700,000 licensed US Amateurs continues into the 21st Century. In the post-Hurricane Katrina report undertaken by the Department of Homeland Security and issued by the White House, Amateur Radio was cited by the investigating commission as one of the things that “went right” during what became one of the greatest natural disasters in United States history.² Lives were saved because of amateurs being able to relay

² See United States. Executive Office of the President. *The Federal Response To Hurricane Katrina – Lessons Learned*” Washington: GPO, 2006 at Appendix B page 135.

information out of the impacted area and routing it to the appropriate emergency response service.³ This dedication to service is exemplified almost daily across the country.

12. In May, 2011 at an FCC forum on earthquake communications preparedness, Federal Emergency Management Agency (FEMA) Administrator Craig Fugate described the Amateur Radio operator as “the ultimate backup, the originators of what we call social media.” Referencing Amateur Radio, Fugate said “During the initial communications out of Haiti (following the January 12, 2010 earthquake there), volunteers using assigned frequencies that they are allocated, their own equipment, their own money-- nobody pays them-- were the first ones oftentimes getting word out in the critical first hours and first days as the rest of the systems came back up. I think that there is a tendency because we have done so much to build infrastructure and resiliency in all our other systems, we have tended to dismiss that role: ‘When Everything Else Fails.’ Amateur Radio oftentimes is our last line of defense.” Mr. Fugate continued: “we get so sophisticated and we have gotten so used to the reliability and resilience in our wireless and wired and our broadcast industry and all of our public safety communications that we can never fathom that they’ll fail. They do. They have. They will. I think a strong Amateur Radio community [needs to be] plugged into these plans... when you need Amateur Radio, you really need them.”

13. There is no single model for effective communications during disasters and emergencies. Emergencies range from a localized situation affecting one community to regional

³ In the aftermath of Hurricane Katrina, Amateurs provided communications of all types: riding with first responders in helicopters, via VHF/UHF bands, communications were provided to first responders on the ground to facilitate rescue operations; High Frequency (HF) communications relayed information out of the affected areas and back to the appropriate emergency response groups. Interoperability communications were provided by Amateurs between and among groups of first responders. In addition to the large number of radio Amateurs in and near New Orleans, Louisiana whose home stations were used extensively, there were at one point more than 1,000 Amateur Radio volunteers in the greater New Orleans area providing communications for the benefit of those who were endangered or harmed by the flooding. This level of organization and preparedness is the direct result of regular drills, exercises and emergency simulations conducted from home stations as well as mobile facilities.

event affecting multiple counties or larger areas. Wide area disasters may affect multiple states or entire regions of the country (such as a hurricane which, in its course, can impact states from Florida up the entire Eastern portion of the United States to Maine, and/or the entire Gulf coast and southern United States into Texas). Disasters and emergencies do not respect county or state lines or the limits of jurisdiction of a State or municipal public safety agency. Differences in communications needs of a multiplicity of emergency management and disaster response officials dictate varied approaches to disaster planning and the configuration of Amateur Radio facilities to be used. Because of the differences in propagation at various times of the day and the distances and paths that emergency communications may need to cover, the ability for Amateurs to utilize any and all of their authorized frequency allocations [from medium-frequency (MF) through ultra-high frequency (UHF) and above] efficiently is necessary in order for the Service to be fully effective in disasters and emergency relief.

14. The frequency agility, resiliency and flexibility of the Amateur Radio Service and the communications skills of its licensees are principal reasons why it is considered a valuable resource by emergency officials. Regardless of atmospheric conditions, radio wave propagation, availability of commercial power, or the need for varied emissions types, the Amateur Service has a frequency allocation that will allow communications to be conducted into, within and out of an affected area and the ability to provide voice and data interoperability for disaster relief agencies and public safety services. Amateur Radio emergency preparedness exercises emphasize the operation of residential fixed, portable and mobile stations without reliance on commercial power mains for extended periods of time. Amateur volunteers can continue operation regardless of the status of commercial telecommunications facilities, wireline facilities, commercial antenna support structures, or maintaining an active connection to the Internet. With

efficient, though often very simple antennas and a power source (such as a small portable generator, batteries, or alternate power sources such as a small solar array), the Amateur Radio Service is capable of providing its own infrastructure. If the basic communications infrastructure in a disaster area is available, Amateur Radio can leverage it. If the infrastructure is not in place, the Amateur Service can still provide support communication without any dependency on it.

15. The use by radio Amateurs of the radio spectrum in small segments of the medium, high, very high, and ultra high frequency bands and on microwave frequencies serves two fundamental purposes. First, it ensures that radio Amateurs have spectrum to use at all times of the day and night to provide long distance and short distance communications, voice, data or video, as needed with relatively flexible bandwidth emissions. A radio amateur in the continental United States can communicate with his or her counterpart in Puerto Rico, the Virgin Islands, Alaska, Hawaii, American Samoa or Guam before, during and after hurricanes or typhoons to coordinate relief efforts and delivery of medical supplies when other facilities are inoperable or overloaded. They may work with international relief organizations providing time-sensitive, life-saving communications into disaster stricken areas such as Haiti after its earthquake or following the Japanese tsunami. He or she might provide video transmissions from helicopters in support of, and to coordinate, fire crews fighting the Colorado forest fires or overlooking flood areas. Short- distance voice transmissions among Amateurs allowed interoperability services by relaying of messages between NASA personnel and FBI agents in efforts to locate Space Shuttle Columbia wreckage in Texas. Amateur Radio continues to be a critical communications medium, contributing to the response to recent tornadoes in Alabama, Missouri or Oklahoma; wildfires in New Mexico or California; hurricanes on the Eastern seaboard and the Gulf Coast; snow emergencies in New England, and flooding along the Mississippi River basin.

16. Any transmission mode, any path distance and azimuth is possible via Amateur Radio. Frequency bands allocated to the Amateur Radio Service throughout the radio spectrum are used by groups of radio amateurs for different emergency communications applications. High speed, relatively wide bandwidth data communications and television transmissions are conducted in the microwave bands (as are very narrow bandwidth voice transmissions to study propagation and to improve receiver and preamplifier technology). A metaphor for the use by radio Amateurs of its small spectrum segments is that of a public park. The park is available to all who choose to use it by becoming licensed in the Service, and it is used for the benefit of the public.

17. Radio Amateurs, following the events of September 11, 2001, have sought ever-greater volunteer roles in disaster relief, homeland security, and emergency communications. The Amateur Service has since then been afforded a place at the table with the National Public Safety Telecommunications Council (NPSTC) which provides opportunities for closer integration of Amateur Radio in emergency communications planning. Amateurs participated at the Pentagon and in New York in recovery efforts immediately following 9-11 by providing communications for disaster relief agencies. Since that time, ARRL has entered into an affiliation with Citizen's Corps, a program for neighborhood alerting and security organized by the Department of Homeland Security. ARRL has long had memoranda of understanding with the Federal Emergency Management Agency (FEMA); with the National Weather Service; with the National Communications System of the Department of Defense; and with other entities such as the American Red Cross and the Salvation Army SATERN⁴ disaster response teams. Through the ARRL's Amateur Radio Emergency Service® program (ARES ®), hundreds of memoranda

⁴ Salvation Army Team Emergency Radio Network (SATERN) is the official emergency communications service of the Salvation Army, and is composed of Amateur Radio operator volunteers who provide support for Salvation Army operations in local, regional and international disaster and emergency situations.

of cooperation are in place with state and local emergency management agencies, local disaster relief agencies, hospitals and other groups involved with disaster relief and emergency response delineating the role of Amateur Radio operators in emergencies in local areas and for specific purposes. ARRL also works with the National Communications System (NCS) of the Department of Defense in its SHARES program, which combines existing high frequency assets from 99 Federal, state, and industry organizations into a single emergency voice and data message handling network, supporting national security and emergency preparedness (NS/EP) when normal communications are destroyed or unavailable. Programs such as this demand the regular availability and efficiency of home-based Amateur stations with functional antennas which are capable of being deployed in the licensee's residence immediately.

18. While the exact nature of an event constituting a communications emergency that would necessitate the use of Amateur Radio cannot be predicted, the two most common categories of events are natural disasters and weather-related emergencies. *Exhibit A* attached hereto reveals that hurricanes, tornados and winter storms are among the most common of these events. Because of this, the Amateur Radio Service interfaces with the National Weather Service (NWS) and the National Hurricane Center (NHC). The SKYWARN program of the NWS provides thousands of volunteers nationwide to serve as the "eyes" of the NWS using Amateur Radio stations at their residences when severe weather is imminent. These spotters also provide critical meteorological data that cannot be observed at the altitudes below NWS radar systems. While there are some trained SKYWARN spotters who participate from their personal vehicles as mobile units positioned at certain strategic locations, the majority of SKYWARN participants provide their detailed observations from their home station locations. Effective and reliable antennas are needed in order for these home stations to provide these detailed observations.

19. The timeliness of SKYWARN reports submitted via Amateur Radio confirms what NWS sees on weather radars; it substantially increases the precision of severe weather forecasting; and it allows NWS to increase the warning and preparation times for those citizens in harm's way. The program works very well: according to statistics from the NWS, approximately 290,000 trained SKYWARN spotters – *the majority being licensed Amateur Radio operators* – assist the NWS in providing accurate, reliable and immediate information on approximately 10,000 thunderstorms, 5,000 floods and 1,000 tornadoes on average each year.⁵

20. The National Hurricane Center, on the campus of Florida International University in Miami, is the second major National Weather Service program supported by Amateur Radio. For the past 32 years volunteer operators at the NHC's dedicated Amateur Radio station (callsign WX4NHC) are active during any hurricane activation. Because reports arrive from the Atlantic and Pacific basins, HF communication serves as a core component of this valuable NWS tool. The utility of HF communications in this life-saving effort reflects the need of Amateur Stations in the field to provide their information to the NHC via effective, reliable HF antennas.

21. ARRL conducts emergency communications certification courses that provide the educational background and initial training necessary for such serious work. Thousands of local and state ARES groups regularly drill with local and state authorities and agencies in order to maintain their skills and improve the quality of their service. Emergency preparedness and training necessitates active, on-air communications experience and coordinated drills and exercises. This cannot be done unless an Amateur Radio licensee is able to conduct reasonably effective communications regularly from his or her residence.

⁵ See "NWS- What Is Skywarn?" www.nws.noaa.gov/skywarn/.

22. Annually, tens of thousands of Amateur Radio operators are involved with hundreds of emergency and disaster-related communications events. A sample of actual events in which Amateur Radio was utilized within the past few years is included in *Exhibit A* attached hereto, which reports the results of a short, recent survey of those radio Amateurs who are active in emergency and public service communications via Amateur Radio. Significantly, these listings show that Amateur Radio volunteers provide emergency support communications in every corner of the United States. While it is the few large-scale, high-profile events which are highlighted by the national media, the sampling of incidents contained in *Exhibit A* documents the participation of Amateur Radio emergency response in a wide variety of events in forty-seven of the fifty US states, as well as in the District of Columbia, US offshore territories, and around the world. The emergency communications events listed in the examples in *Exhibit A* establish that the type of response and the operating frequencies needed for that response vary from incident to incident. The use of multiple frequency bands is also evident from the details of each incident. In some cases, communications were handled by stations with smaller antennas utilized by home VHF and UHF stations. The need for HF communications (which, for reliability, necessitates the use of fixed site, rotatable, directional antennas in many cases) for long-distance Amateur radio communications (and for short-distance communications where repeater systems are not available) is also apparent from the information contained in *Exhibit A*. In many cases, the ability to utilize both the HF and VHF / UHF bands to provide the necessary communications flexibility is required. The type of emergency and the area of communication coverage needed determine what frequency band, and therefore the type of antenna is required to provide adequate communications. While VHF and UHF communications are used in a localized emergency, those bands have propagation limitations. Most VHF / UHF emergency

communications tend to be conducted using traditional FM telephony emissions. FM signals do not generally propagate as far as do other emission modes, so their effective range is limited. In addition, the VHF / UHF bands have shorter range capability, generally limited to line-of-sight communications unless repeater systems are involved in a given event. Because of these limitations, an outdoor antenna is critical and the higher the antenna, the greater its coverage. Terrain factors, such as a mountain or a range of mountains or a disaster or emergency location in a valley will greatly impact VHF / UHF coverage. Many areas have established VHF / UHF repeaters on higher points in the area to increase their coverage (such as the tops of buildings or on mountain peaks). While a repeater will generally increase the area over which effective communications can be provided, it is not a panacea for the line-of sight propagation limitation. In any situation where automatically controlled remote stations are involved, the failure of the infrastructure at that remote location can render it useless until repairs are made at the site. If that site is located on an isolated mountain peak, for example, it may not be possible to restore that remote station in time to assist in the event. In that case, HF and simplex VHF communications are utilized without any necessary loss in efficiency.

23. HF communications have the ability to provide both local and longer distance communications. Because of this flexibility, the majority of Amateur Radio groups and individuals providing emergency communications incorporate HF communications into their emergency response planning. Because of the frequencies involved, effective, reliable HF communication antennas are larger than are their VHF or UHF counterparts. They are also affected by the height of the antenna above ground level. HF communication is also affected by the time of day and the effects of the Earth's atmosphere. The frequency and antenna that would be more conducive for daytime communications from an Amateur Radio licensee to a state EOC

will be different than that required at night. The frequency agility of Amateur Radio accommodates these changes, but it does require the availability of different antennas for different bands and it requires an outdoor antenna. An antenna feed point too close to the ground will substantially change the angle of radiation of the signal and affect the effective distance of reliable communications. Some HF emergency communications response plans take this fact into consideration and utilize the technique (known as “near vertical incident skywave, or NVIS) where appropriate. For example, towns on separate sides of a tall mountain range might incorporate an NVIS antenna system to achieve the ability to communicate between them for mutual aid.⁶

24. The importance of fixed antennas at a licensee’s residence, and the insufficiency of a mobile or portable Amateur Radio station in lieu of a station at the residence of the licensee cannot be underestimated. A response to stated concerns about land use restrictions affecting the ability of an Amateur Radio licensee to erect and maintain an effective outdoor antenna at his or her residence is often that the licensee should or could operate on a portable or mobile basis instead. Many Amateur Radio operators are older or disabled persons. The public service avocation is an important opportunity for many licensees who may not be able to travel often or at all, but who can meaningfully contribute from their home stations despite any physical limitation. For those who could operate away from home via portable or mobile operation using mobile or transportable antennas, it is noteworthy that mobile or portable antennas do not perform nearly as well, or as reliably, as do typical outdoor home station antennas. Licensees who suffer from a physical disability are often dependent on Amateur Radio communications as their means of traveling outside of their residences. These individuals do not necessarily have the

⁶ See “Antenna Height and Communications Effectiveness” by R. Dean Straw, N6BV, and Gerald L. Hall, K1TD, at [/www.arrl.org/files/file/antplnr.pdf](http://www.arrl.org/files/file/antplnr.pdf) for a more thorough explanation of the impact antenna height plays on the ability of an Amateur station to function effectively and reliably.

capability to operate from mobile or portable locations. For emergency communications programs such as SKYWARN, the need for geographically diverse residential Amateur stations is obviously a cornerstone of the program. It is premised on the availability of large numbers of residential Amateur stations available on little or no advance notice in order for the program to work. A station at a licensee's residence without appropriate, functional antennas or facilities which are not in regular operation so that the station can conduct communications on the appropriate frequency bands in a given situation is a wasted resource and an emergency preparedness opportunity lost.

25. In every communications event there is a need for home stations. There is a need for properly equipped and trained relay stations, taking information from the field on one set of frequencies and then moving it on to the proper destination via another frequency or band. In extended emergencies, such as was the case at the Pentagon after the 9/11 attacks, there is always a need for new stations to assume the responsibilities of relieving the network control station or relay stations that have been on task for many hours and need to take a break. Many experienced and trained operators who can and are willing to provide these types of disaster communications services cannot be utilized to provide support communications because they are precluded by private land-use restrictions from erecting or maintaining antennas suitable for the purpose – a resource wasted.

26. Amateur Radio is not intended to supplant existing communications systems and is not a “first response” radio service. Rather Amateur Radio's appropriate role is to supplement existing public safety, public service or disaster relief communications when those services' normal communications are overloaded, off-line, or rendered unavailable. The ability to bridge

the gap until normal communications for those agencies and services has been restored is the real strength and value of the Amateur Service in emergencies and disaster relief.

III. Recommendations for Enhancement in the Voluntary Deployment of Amateur Radio Operators in Disaster and Emergency Communications and Disaster Relief Efforts

27. In the *Public Notice*, the Commission has asked a series of questions that relate to changes in the Commission's rules which might be considered for the Amateur Radio Service in order to enhance its utilization in emergency communications and relief efforts. It also asks about the value Amateur Radio might have for State, tribal and local governmental emergency response plans and benefits that the Amateur Radio Service that can be offered to other agencies in furtherance of support of those agencies' emergency and disaster relief communications.

28. ARRL does not have any specific proposals for technical rules changes in 47 C.F.R. Part 97 at the present time, save for those which have already been filed with the Commission heretofore and which are pending now.⁷ Specific proposals for changes in authorized digital communications modes or specific operating rules should be addressed individually through a separate notice-and-comment rulemaking proceeding. The same is true for the Commission's questions related to improvements in training and certification standards. However, responses to the Commission's rather specific questions about the communications capabilities of Radio Amateurs that are available for use during emergencies and disasters, and some general thoughts on technical rules which now limit somewhat the flexibility of the Amateur Service in disaster response and relief efforts which deserve attention in separate proceedings in the near term are discussed in *Exhibit B* hereto. *Exhibit B* sets forth the responses of ARRL to questions 1.a through 1.j of the *Public Notice*. While ARRL would welcome the opportunity to explore with

⁷ See, e.g. RM-11625, seeking to authorize the use of Time-Division Multiple Access (TDMA) emissions in the Amateur Service at VHF and above, filed March 15, 2011.

the Commission some technical rule changes discussed in *Exhibit B* in a future docket proceeding, a few comments on some of those points are discussed hereinbelow.

29. The communications capabilities of Amateur Radio Service operators are limited only by imagination, except where over-regulated⁸ by the Part 97 rules. Subject to the emissions and symbol rate restrictions found in 47 C.F.R. §§ 97.3(c), 305, and 307, radio Amateurs are capable of utilizing a broad range of voice, image, and data modes. During emergencies and disasters, radio amateurs select an emission type and frequency suitable for the path or paths to be traversed and the information to be transmitted or relayed

30. Advances in technology have resulted in progressively more portable and versatile communications equipment, and equipment used in the Amateur Radio Service has followed this trend. Radio Amateurs incorporate spread spectrum and wireless broadband techniques into local area networks. If afforded improved flexibility to install and maintain functional outdoor antennas, Amateurs will be able to incorporate new technical innovations as they are made, whether developed by Amateurs or adapted by Amateurs to their purposes.

31. National standards in data transmission are neither needed nor desirable for these purposes. Every radio Amateur will have a different set of capabilities within his or her station, varying as a function of the amateur's interests, resources, and operating privileges. A capable and willing communicator will not now be and should not be turned away in an emergency or disaster situation as a result of an arbitrarily established data transmission standard. Amateurs capable of lower speed data transmission, telegraphy, voice or image communications, may still make valuable contributions to an emergency or disaster situation, providing coverage over a suitable path or paths for such capabilities. A fundamental benefit of the Amateur Radio Service

⁸ It is arguable that the Commission's regulation of emission types and digital communications bit rates are overly conservative, intended as they are to limit bandwidth of individual emissions.

in emergencies is its adaptability and flexibility, and this should not be sacrificed or compromised.

32. One of the fundamental metrics in evaluating any proposed rule changes to enhance or improve Amateur Radio's disaster response and emergency communications function is the fact that the Amateur Service is not a public safety or land-mobile radio service. Though it does have a significant role in providing emergency communications support as discussed above, it is fundamentally an experimental radio service. The impact of a specific rule change intended to strengthen Amateur Radio's performance in emergency communications and disaster response must be examined relative to its impact on the daily routine operation conducted by radio Amateurs. Operational rules changes that may be of value in certain limited emergency situations should not be adopted if they unduly constrain licensees in non-emergency environments.

33. A wide range of emergency communications training is available now from multiple sources. ARRL offers several courses designed to allow amateurs involved with emergency response to develop their radio operations and technical skills. Amateurs working closely with state and local emergency management agencies, through the ARRL's ARES program are also being required by those served agencies, in many if not most areas, to complete one or several FEMA courses. This allows them to understand the command structure of those agencies and the role that Amateur Radio volunteer communicators perform within those structures. In addition, many Amateur Radio volunteers will take some basic training or courses if they are working with a non-government served agency such as the American National Red Cross.

34. It is critically important that Amateur Radio operators who are interested in providing volunteer emergency communications maintain their level of training. The Amateur Service has regular, and very active on-air training exercises and drills. Participation in these is absolutely

necessary in order that Amateurs are prepared for emergencies when they occur. There is no utility in having Amateur licensees who have no training or experience show up as a volunteer during or after an emergency or disaster. Given this, the ability to maintain an efficient and functional home station is extremely important. A licensed Amateur, even with training, who is not able to keep his or her communication skills current by regular operation is a volunteer resource wasted.

35. Some basic, or “core” competencies developed in common among all Amateur Radio operators interested in emergency communications will allow Amateurs from one area to be able to provide effective support in a disaster affecting another region of the country. While Amateur Radio license examinations as they are now structured provide an introduction to both basic and more advanced technical aspects of the hobby, they are not intended to be, and are not a platform for training emergency communicators. Strong training support from federal, state and local governments is desirable to the extent that government resources permit. But while specific needs and procedures will vary from one jurisdiction to another, the Amateur Service has continually demonstrated its flexibility to serve across jurisdictions in a unique type of interoperability, and it is not necessary to substantially change what works quite well now.

IV. Identification of Impediments to Enhanced Amateur Radio Service Communications

36. As of 1998, one out of eight Americans lived in private common-interest communities (commonly referred to as “CICs”).⁹ These include Planned Unit Developments (PUDs), Master Planned Communities, condominiums, cooperatives, gated communities, and any community with a community or homeowners’ association. The homeowners’ association (also known as a “community association” or HOA) oversees the maintenance and

⁹ See, Siegel, S. *The Constitution and Private Government: Toward the Recognition of Constitutional Rights in Private Residential Communities Fifty Years after Marsh v. Alabama*, 6 WM. & Mary Bill Rts J. 461, 464 (1998)

administration of the real estate, including common areas shared by all owners. What all CICs have in common is that they are regulated by private land use regulations.¹⁰

37. CICs are defined in the Third Restatement of Property [Servitudes, Section 6.2 (2000)] as “a real estate development or neighborhood in which individually owned lots or units are burdened by a servitude that imposes an obligation that cannot be avoided by nonuse or withdrawal (a) to pay for the use of, or contribute to the maintenance of, property held or enjoyed in common by the individual owners, or (b) to pay dues or assessments to an association that provides services or facilities to the common property or to the individually owned property, or that enforces other servitudes burdening the property in the development or neighborhood.” The same document notes that a CIC is characterized by either commonly held property or a community association, although most CIC’s have both. CICs are typically created by declaration, which imposes the CC&Rs that bind individual homeowners. CICs are relatively new in terms of housing arrangements in the United States. Early in the 20th century, wealthy persons sought the prestige of a gated community which gave rise to the concept, but by the 1960s, CICs were much more prevalent. With golf and retirement communities, the concept

¹⁰ Private land use regulations take a number of different forms, but are typically referred to, especially in western states, as “Covenants, Conditions and Restrictions” or “CC&Rs”. In fact, these private land use regulations can be equitable servitudes, covenants, deed restrictions, or Declarations of Covenants, Conditions and Restrictions. Owners of real property who purchase their property with equitable servitudes agree not to do certain things. Both affirmative promises to do something and promises to not do something became used by developers for residential and commercial projects starting in the early 20th Century. A covenant is a servitude if either the benefit or the burden (right or obligation) “runs with the land” (i.e. is binding on subsequent purchasers). Covenants may be enforced by injunction, and sometimes by other legal means. Covenants are created when the owner of land – such as the creator of a real estate development – creates covenants that affect the land and of which the contracting parties and subsequent owners have notice. This is usually accomplished by recording a set of covenants in the public land records of the county or city where the development is located. With covenants, the original contracting parties as well as subsequent buyers are subject to the obligations imposed on the property by the original owner – hence, the term “running with the land.” Homeowners often refer to covenants as “deed restrictions.” The terms are often used interchangeably. “Deed restriction” implies a restrictive covenant – a promise not to do something, but covenants also include both affirmative obligations and restrictions. The term “Declaration of Covenants, Conditions and Restrictions” (or CC&Rs) is a common (and redundant) term for covenants that are imposed and enforced by a mandatory association.

spread, especially in the southern and southwestern states. According to the Community Associations Institute (CAI), an association of community associations, the estimated numbers of CICs in the United States (i.e. association-governed communities, housing units and residents over time) is as follows:

Year	Communities ¹¹	Housing Units	Residents
1970	10,000	701,000	2.1 million
1980	36,000	3.6 million	9.6 million
1990	130,000	11.6 million	29.6 million
2000	222,500	17.8 million	45.2 million
2002	240,000	19.2 million	48.0 million
2004	260,000	20.8 million	51.8 million
2006	286,000	23.1 million	57.0 million
2008	300,800	24.1 million	59.5 million
2010	309,600	24.8 million	62.0 million
2011	314,200	25.1 million	62.3 million

This literally exponential growth in CICs in the United States is of great concern to radio Amateurs, because it indicates that the ability of a buyer of real property to acquire property that is not burdened by private land use regulations (and thus the ability to erect a reasonable, efficient Amateur Radio antenna at his or her residence) is seriously decreasing. A 1999 Gallup Organization’s survey of community association homeowner satisfaction led CAI in 2005 to conclude that “more than four in five housing starts during the past 5 to 8 years have been built as part of an association-governed community.” A 1993 article about public and private land use regulations prepared for a real estate course at the University of Houston in Texas claimed that

¹¹ Association-governed communities include subdivisions with homeowners associations, condominiums, cooperatives and other planned communities. Homeowners associations and other planned communities account for 50-53 percent of the totals above, condominiums for 45-48 percent and cooperatives for 3-4 percent. According to CAI, these are estimates based on U.S. Census publications, American Housing Survey (AHS) results, IRS Statistics of Income Reports, California and Florida state-specific information, related association industry trade groups and collaboration with industry professionals.

an estimated 50 percent of new home construction in Houston occurred in highly restricted residential communities.¹²

38. Nor are CICs limited to “residential communities”. They now include *entire cities* with all of the attributes of a public city, including business districts. An example is Reston, Virginia, which is spread over 74,000 acres and has a population of over 35,000 persons. It contains 12,500 residential units and more than 500 businesses. It has 21 churches, 4 shopping centers, eight public schools, and a sewage treatment plant. The streets and businesses are open to the general public. But it is a privately managed CIC.¹³ Another example is Columbia, Maryland, located between Washington, D.C. and Baltimore, MD. Columbia, built by the Rouse Corporation in the 1960s with private financing, has 96,000 residents, shopping malls, restaurants, retail stores, industrial firms, an “Interfaith Center”, healthcare facilities and schools.¹⁴ CICs are therefore becoming ubiquitous in the United States at the present time and one who wants (or must due to proximity to work, family etc.) to live in a CIC, be it a residential community or a planned city, has no choice but to abide by the restrictions established by the CIC private management and governance. *Amateur Radio antennas are severely restricted or precluded entirely in most of them.*¹⁵

¹² Wilson, Reid C., *Public and Private Land Use Regulation: Zoning and Deed Restrictions* (University of Houston Real Estate Documents, Workouts and Closings Course, June 1993).

¹³ Siegel, S. *The Constitution and Private Government: Toward the Recognition of Constitutional Rights in Private Residential Communities Fifty Years after Marsh v. Alabama*, Op. Cit. 6 WM. & Mary Bill Rts J. at 479 (1998)

¹⁴ See, Saxton, Margaret F., *Protecting the Marketplace of Ideas: Access for Solicitors in Common Interest Communities*, 51 U.C.L.A. L. Rev. 1437, 1448 (2004) and citations therein.

¹⁵ CICs often impose a number of restrictions on their members. These are typically contained in declarations of restrictions *by reference* in the real estate deed, which becomes a contractual obligation on the part of the property buyer and enforceable by the community association, by individual homeowners in the development or by the developer. Purchasers are bound by these restrictions whether or not they read or understood them, and they are not negotiable between a seller and a buyer of real property in the development. The restrictions typically cover a wide range of architectural and aesthetic limitations which are alleged to protect the value of property in the community. Residents often find these restrictions extreme. The restrictions limit such things as paint colors, pets, sports, sporting equipment, Christmas lights, outdoor furniture, woodpile placement, antennas and the operation of radio

39. Commentators and some courts have analogized the community association to a miniature (or in the case of planned cities, not so miniature) government. The community association, like a government, requires the ability to tax its residents in the form of assessments in order to provide for and maintain common infrastructure.¹⁶ The association provides to its members utility services, road maintenance, street and common area lighting and refuse removal. In many cases, it also provides security services and various forms of communication within the community. Funded with assessments or taxes levied on the members of the community, the powers vested in a board of directors, council of co-owners, board of managers or other body is clearly analogous to the governing body of a municipality, but the decisionmaking with respect to the administration of the CC&Rs and the development of regulations is often arbitrary.

40. As the comprehensive development of residential subdivisions evolved, developers created increasingly elaborate schemes of private land use. These schemes were adopted initially by including all of the restrictions that a developer wanted to include in each deed from the developer to the initial lot owners. Larger developments which were completed in phases utilized separate sets of comprehensive deed restrictions which were consistent in form and general approach but they were each recorded prior to any deeds to individual lot owners in each phase of the development, typically with the subdivision plat by the developer. Therefore, *there were never arms-length contractual negotiations between buyers and sellers of land with respect to the restrictions*. The CC&Rs bound each parcel in a development before the buyer ever came to the table. Today, developers typically adopt master restrictions applicable to an entire

transmitters and receivers within the regulated communities. Association dues can be used to pay for a lawsuit enforcing a restriction, and many CC&Rs or association bylaws require the defendant homeowner to reimburse the association's legal fees or the legal fees of individual residents who bring civil actions in court to enforce the covenants. Financial obligations are enforced by placing liens on property of the resident incurring the obligation.

¹⁶ See, e.g., Hyatt, Wayne and Rhoads, James, *Concepts of Liability in the Development and Administration of Condominium and Home Owners Associations*, 12 Wake Forest L. Rev. 915, 918 (1976).

development and record these with the subdivision plat before the subdivision is built. Some lenders for real estate developments, perhaps most, require the declaration of CC&Rs as a condition of funding the development project. The only decision by a buyer of an individual parcel or unit is whether or not to purchase a residence in a subdivision regulated by CC&Rs in light of their burdening the development. *That decision is often dictated by factors other than whether or not the buyer desires to erect and maintain an Amateur Radio antenna.* Often, therefore, a licensed radio Amateur must purchase property in a CIC and suffer a complete prohibition on Amateur Radio operation¹⁷ or the completely subjective determination of a homeowner's association or architectural control committee as to whether an Amateur Radio station can be operated at all from the licensee's home. With the prevalence of private land use regulations and CICs currently, there is most often no choice in the matter.

41. *Initially*, CC&Rs were treated by the law as purely contractual matters between consenting parties. At that time, deed restrictions of any type were strictly construed since they sought to restrict the right of subsequent real property holders to use their property as they saw fit. Restraints on alienation of real property were disfavored by the law. So long as deed restrictions were lawful, reasonable and not in violation of state law or policy however, they were enforced by the courts. Over time, some types of deed restrictions were deemed unenforceable as a matter of public policy (such as restrictions on sale and purchase of land according to race, and restrictions mandating the use of wood shingles - a fire hazard - on houses). However, there was a shift in the interpretation of CC&Rs, such that they are now *liberally, not strictly, construed so as to enforce their intent.* The use of very detailed and very

¹⁷ A review of *Exhibit C* attached, which sets forth numerous typical examples of CC&R language, shows that the typical provisions of CC&Rs relative to Amateur Radio antennas are draconian indeed.

restrictive CC&Rs is essentially universal in large, comprehensively planned residential communities.

42. CC&R provisions with respect to antennas are also essentially universal.¹⁸ Though the language differs somewhat in geographic areas, the restrictions on residential antenna installations fall into a very few general categories. ARRL in April of this year conducted a very short online survey of those Commission-licensed radio Amateurs who are both active in emergency communications and currently subject to residential private land use restrictions where they live. ARRL asked that the survey respondents provide copies of the language of those CC&Rs which apply to residential antenna installations, together with a narrative of their experiences with private land use regulations. A sampling of the more than 870 responses to that survey reveals a very good understanding of the deed restriction language commonly found in CICs and an anecdotal understanding of the prevalence and severity of these restrictions. *Exhibit C* hereto is a compilation of the language provided by some of the survey respondents. *Exhibit D* is a compilation of but a few examples of the experiences of radio Amateurs whose Amateur Radio emergency communications efforts have been foreclosed by or severely curtailed as the direct result of private land use regulations.¹⁹ In essence, CC&R language with respect to

¹⁸ The Commission has acknowledged that private land use regulations are used as a means of precluding the use of outdoor antennas. See, *Preemption of Local Zoning Regulation of Satellite Earth Stations and In re Implementation of Section 207 of the Telecommunications Act of 1996; Restrictions on Over-the-Air Reception Devices: Television Broadcast Service and Multichannel Multipoint Distribution Service*; 11 FCC Rcd. 19276, 19301, at fn 12 (1996), [“(r)estrictive covenants are sometimes (sic) used by homeowners’ associations to prevent property owners within the association from installing antennas.”] This fact is patently obvious from an examination of the language included in *Exhibit C* hereto.

¹⁹ The *Public Notice* in this proceeding, at Question 2.c. on page 4, asks what steps Amateur Radio operators can take to minimize the risk that an antenna installation will encounter unreasonable or unnecessary private land use restrictions. Examples of “options” listed include using a transmitter at a location not subject to such restrictions or placing an antenna on a structure used by a commercial mobile radio service provider or government entity. There is no alternative for many Amateur Radio licensees (and decreasing opportunities for most licensees) to purchase real property other than in CICs that restrict antennas. As is discussed more fully below, it is possible under Commission rules to operate mobile or portable transmitters away from a licensee’s residence periodically, but one of the basic reasons why Amateur Radio emergency communications are so effective is the widespread distribution of fixed, functioning and immediately available stations that can be deployed immediately for communications into or from a

antennas (as that language would apply to Amateur Radio antennas) fall into five basic categories:

(A) Those which prohibit all outdoor antennas without exception.²⁰

(B) Those which permit some types of antennas, usually very small ones as defined in the Commission's rule governing over-the-air video delivery service antennas (47 C.F.R. § 1.4000) but prohibit all other types of antennas such as Amateur Radio antennas.²¹

(C) Those which permit antennas that are of a certain configuration, size or height, usually based on visibility from the street or from adjacent parcels of land but without regard to antenna performance.²²

(D) Those which permit only those buildings and structures that are approved by either an Architectural Control Board or by the homeowners' association itself. (Note: typically, these types of CC&R antenna restrictions do not contain any standards which might guide the Architectural Control Board or whatever the competent evaluating entity might be, or which would allow the resident to know in advance whether or not his or her antenna installation will or will not likely be approved). These type regulations are the most prevalent.²³

disaster area, or for other purposes. As an example, the SKYWARN severe weather reporting program operated in conjunction with the National Weather Service relies on fixed Amateur stations in licensees' homes almost exclusively for reporting significant weather conditions or damage resulting therefrom. State and local emergency management agencies rely on Amateur Radio for the same purpose. As to mounting antennas on a CMRS structure or government building, these are not options that are available to Amateur Radio operators for several reasons. First, Amateur Radio is a non-commercial avocation, and the cost of leasing a CMRS antenna support and space in a transmitter building, or space in a government facility is prohibitively expensive. Second, Amateur Radio operators use rotatable, directional antennas in many cases that are not easily installed or maintained on CMRS or governmental facilities. Third, the Amateur Service is principally an experimental radio service and the equipment utilized is replaced, modified, and upgraded frequently. Finally, using power sources other than commercial mains is not easily done in those station configurations. While Amateur Radio repeaters might be sited at a CMRS or government facility under certain circumstances, it is not an alternative for most individual Amateur stations.

²⁰ Examples of this type of CC&R language are found in *Exhibit C* on page 85, referring to the Emerald Forest Subdivision in Bexar, TX; on page 86, referring to the Pine Hollow Condominium subdivision in Englewood, Florida; on page 88, referring to the Ellis Plantation Home Owners Inc. subdivision in Manassas, Virginia; on page 89 referring to the Bridlewood Community Association of Prince William County, Virginia; and on pages 96 and 97 pertaining to the Winding River Plantation, Southport, NC.

²¹ Examples of this type of CC&R language are found in *Exhibit C* on page 79, referring to the Yacht Club II Homeowner's Association in Colorado; on page 95 referring to the Freeman Farms subdivision in Maricopa County, Arizona; on page 96 referring to the Forest Lakes Subdivision, northern Albemarle County near Charlottesville, VA; and on page 99 referring to the Wellington Hills Subdivision in Springfield, MO.

²² Examples of this type of CC&R language are found in *Exhibit C* at pages 79 and 80 referring to the Windfield Subdivision in Davidson County, NC; on page 80, referring to the Woodridge Community in Apex, NC; on page 85 referring to the Silver Lake subdivision in Pearland, TX; on page 90 referring to the Plum Tree Court subdivision in Reno, NV; and on page 92 referring to the Country Place 6 Subdivision and other properties of Terra Verde Development in and around Norman, OK and Oklahoma City, OK.

²³ Examples of this type of requirement are prevalent throughout *Exhibit C*.

(E) Those which prohibit all Amateur Radio (or occasionally any radio) *transmission or reception* or which prohibit radio transmitters.²⁴

43. None of these types of restrictions takes into account the effectiveness of the communications provided by the facilities served by the antennas, (except in some cases with respect to over-the-air video reception devices, discussed hereinbelow). Obviously, CC&Rs in categories (A), (B) or (E) would prohibit entirely the installation or maintenance of an Amateur Radio antenna in any functional configuration. Those in category (C) might or might not in a given location permit a functional antenna depending on the configuration of a residential parcel of land in question and the severity of the regulations, but the regulations in that class typically effectively prohibit Amateur Radio antennas due to size limitations set forth in the CC&Rs. Those types of regulations do not take into account the communications effectiveness of any antenna permitted thereby.

44. Interestingly, the CC&Rs (in Categories B and C above) that were imposed on residential real property after the enactment of 47 C.F.R. § 1.4000 by the Commission in 1996 typically are aimed at limiting even small, over-the-air video reception antennas to the greatest extent possible consistent with compliance with that rule section, while prohibiting all other types of outdoor antennas. This illustrates the very clear and consistent prejudice against outdoor antennas that is overwhelmingly present within CICs, and the need for some relief for Amateur Radio licensees. Some CC&R language developed after the enactment by the Commission of 47 C.F.R. § 1.4000 nevertheless prohibits all outdoor antennas, in clear violation of that rule section.

45. Those CC&Rs in category (D), which is perhaps the most prevalent type of language currently, delegate the decision to allow or disallow the FCC-licensed Amateur Radio operator to

²⁴ Examples of this type of CC&R language are found in *Exhibit C* at page 89 referring to the Dawson Ranch in Fremont County, CO; on page 97 referring to the Chatswood HOA of Sherman Oaks, CA; and on page 98 referring to the Harbor Lights community in Kitsap County, WA.

provide Amateur Radio emergency communications or to participate in emergency preparedness drills and exercises (by virtue of the unfettered authority to grant or deny authority to erect an Amateur Radio antenna) to the governing board of the homeowners' association or its architectural control committee. Typically, there are no standards which would provide guidance for approval or disapproval of such antennas, so the decisions of the association members or the architectural control committee are inherently subjective, if not completely arbitrary. *A person seeking to purchase a residence in a CIC with CC&Rs containing this language, even if he or she is aware of the terms of the CC&Rs applicable to the subdivision, cannot know when the property is purchased whether or not an antenna will or will not be approved.*

46. The Commission in 1985 issued a declaratory ruling, subsequently codified, which addressed the conflicts between local land use regulations and the maintenance and use of outdoor Amateur Radio antennas in residential areas.²⁵ That declaratory ruling enunciated an eminently workable, limited preemption policy of “reasonable accommodation” by which the Commission struck a balance between legitimate local land use regulations and the important Federal interest in promoting and protecting Amateur Radio public service and emergency communications. The policy applied to the regulation of amateur radio antennas by states and municipal governments. It addressed prohibitions or unreasonably restrictive structural limitations imposed by non-federal, governmental entities. *Amateur Radio Preemption*, 101 FCC 2d 952 (1985); *codified at* 47 C.F.R. Section 97.15(b). The declaratory ruling is often referred to as "PRB-1", the docket number associated by the Commission's then Private Radio Bureau for the notice and comment proceeding that led to the issuance of the ruling.

²⁵ The Commission acknowledged in 1985 that an outdoor antenna of some type is a necessary component for most types of Amateur Radio communications. *Amateur Radio Preemption*, 14 FCC Rcd. at 19413 (1985).

47. Following receipt of notice and comment, in September of 1985 the Commission issued *Amateur Radio Preemption*. In its declaratory ruling, the Commission stated, in relevant part:

* * * * *

...we recognize here that there are certain general state and local interests which may, in their even-handed applications, legitimately affect amateur radio facilities. Nonetheless, there is also a strong federal interest in promoting amateur communications. Evidence of the interest may be found in the comprehensive set of rules that the Commission has adopted to regulate the amateur service. Those rules set forth procedures for the licensing of stations and operators, frequency allocations, technical standards which amateur radio equipment must meet and operating practices which amateur operators must follow. We recognize the Amateur radio service as a voluntary, noncommercial communication service, particularly with respect to providing emergency communications. Moreover, the amateur radio service provides a reservoir of trained operators, technicians and electronic experts who can be called on in times of national or local emergencies. By its nature, the Amateur Radio Service also provides the opportunity for individual operators to further international goodwill. Upon weighing these interests, we believe a limited preemption policy is warranted. *State and local regulations that operate to preclude amateur communications in their communities are in direct conflict with federal objectives and must be preempted.*

...Because amateur station communications are only as effective as the antennas employed, antenna height restrictions directly affect the effectiveness of amateur communications. Some amateur antenna configurations require more substantial installations than others if they are to provide the amateur operators with the communications he/she desires to engage in. For example, an antenna array for international amateur communications will differ from an antenna used to contact other amateur operators at shorter distances...*[L]ocal regulations which involve placement, screening, or height of antennas based on health, safety, or aesthetic considerations must be crafted to accommodate reasonably amateur communications, and to represent the minimum practicable regulation to accomplish the local authority's legitimate purpose.*

(*Id.*, at 959-60) (citations omitted; emphasis added)

48. The Commission had noted the assumption in earlier court decisions of an apparent absence of intent on the part of the Federal government to preempt amateur antenna regulation, and consequently clarified its position on the matter. The Commission preempted

local regulation of Amateur Radio antennas, to the extent that local regulations preclude, or do not reasonably accommodate Amateur communications; or which do not represent the minimum practicable regulation to accomplish the local authority's legitimate purpose. It is apparent that effective Amateur communications require antennas to be erected in clear space, at heights and configurations reflecting the type of communications to be conducted and the path lengths typically used, relative to the surrounding terrain.

49. Following the release of *Amateur Radio Preemption, supra*, the initial question which faced the courts was whether such an action was within the FCC's authority, and whether that authority was reasonably exercised. A series of cases following *Amateur Radio Preemption* uniformly held that the preemption policy was a proper exercise of the Commission's authority.²⁶ Recent cases on the subject have held without exception that local restrictions on amateur antennas that constitute effective prohibitions on communications and/or which involve fixed, arbitrary limitations are facially void as preempted.²⁷

50. In September of 1989, the Commission revised its Amateur Radio Service rules to codify the essential holding of *Amateur Radio Preemption*, as follows:

(b) Except as otherwise provided herein, a station antenna structure may be erected at heights and dimensions sufficient to accommodate amateur service communications. [State and local regulation of a station antenna structure must not preclude amateur service communications. Rather, it must reasonably accommodate such communications and must constitute the

²⁶ See, e.g., *Thernes v. City of Lakeside Park, Kentucky, et al.*, 779 F. 2d 1187, 59 Pike and Fischer Radio Regulation 2nd Series 1306 (6th Circuit, 1986); *on remand*, 62 Pike and Fischer Radio Regulation 2nd Series 284 (E.D. Kentucky, 1986); *Bodony v. Incorporated Village of Sands Point, et al.*, 681 F. Supp. 1009, 64 Pike and Fischer Radio Regulation 2nd Series 307 (E.D. NY, 1987); *Bulchis v. City of Edmonds*, 671 F. Supp. 1270 (W.D. Wash, 1987); *Izzo v. Borough of River Edge, et al.*, 843 F.2d 765 (3d Cir., 1988) (holding that the FCC's preemption order "infuses into the proceeding a federal concern, a factor which distinguishes the case from a routine land use dispute having no such dimension." The Court recognized that "(b)ecause the effectiveness of radio communication depends on the height of antennas, local regulation of those structures could pose a direct conflict with federal objectives").

²⁷ See, *Evans v. Board of Commissioners*, 752 F. Supp. 973, (D. Colo. 1990); *MacMillan v. City of Rocky River*, 748 F. Supp. 1241 (N.D. Ohio, 1990); *Pentel v. City of Mendota Heights*, 13 F. 3d 1261 (8th Cir., 1994).

minimum practicable regulation to accomplish the state or local authority's legitimate purpose. See, PRB-1, 101 FCC 2d 952 (1985) for details.]

The policy (now a Federal regulation), reduced to its basic elements, is a three-part test for the legitimacy of local regulations which affect Amateur Radio antennas and their support structures. First, State and local regulations that operate to preclude Amateur communications in their communities are in direct conflict with Federal objectives and must be preempted. Second, local regulations which involve placement, screening or height of Amateur Radio antennas based on health, safety or aesthetic considerations must be crafted to accommodate reasonably Amateur Radio communications. Third, local regulations must represent the “minimum practicable” regulation to accomplish the local authority’s legitimate purpose. *Amateur Radio Preemption, supra*, 101 FCC 2d at 960. This policy has worked well since 1985, *in the circumstances to which it applies*. It does not entitle a radio Amateur to install in residential areas any antenna he or she wishes to install. The three-part test for local regulations leaves wide leeway for municipal land use regulators acting in good faith. The flexibility of the “no prohibition”, “reasonable accommodation” and “minimum practicable regulation” tests for local land use regulations provide a means for Amateur Radio licensees and municipal land use regulators to work together to reach compromise and agreement on the structuring of ordinances, special use permits, building regulations, and the like. It has been a great success overall, and it has fostered and promoted Amateur Radio emergency communications preparedness by virtue of the ability of licensed radio Amateurs to operate from their residences. It also permits persons with disabilities to participate in emergency communications and emergency communications preparedness exercises, since many such persons have mobility limitations limiting their activities to their

residences. Their Amateur Radio communications are protected against unreasonable municipal land use regulations.

51. Yet, since 1985, and to the present time, the Commission has drawn a distinction between State and municipal restrictions on Amateur Radio communications on the one hand, and private land use regulations on the other; and it has repeatedly refused to preempt the latter.

In *Amateur Radio Preemption*, at ¶ 7, the Commission stated that:

Since...restrictive covenants are contractual agreements between private parties, they are not generally a matter of concern to the Commission.

In footnote 6 of ¶ 25 of *Amateur Radio Preemption*, the Commission reiterated, but did not explain, its terse holding:

We reiterate that our ruling herein does not reach restrictive covenants in private contractual agreements. Such agreements are voluntarily entered into by the buyer or tenant (sic) when the agreement is executed and do not usually concern this Commission.

The premise of the Commission in creating a dichotomy between governmental land use regulation of Amateur Radio communications and private land use regulation of those same antennas was then and is now a fallacy: the Commission assumed that CC&Rs were private contractual agreements between buyers and sellers of land that were in some way negotiable.²⁸ The contractual characteristic of private land use regulation has not existed in the United States for a great many years, as discussed above. The terms of CC&Rs are not negotiable between sellers and buyers of land. Declarations of CC&Rs are in place on a comprehensive basis long before a buyer of land comes to the table. CC&Rs which preclude or severely limit Amateur Radio antennas and communications are ubiquitous and prevalent, and they are increasing as fast as are CICs. There is

²⁸ Even if private land use regulations *were* a matter of arms-length negotiation between buyers and sellers of land (which they most assuredly are not), the Commission never explained in *Amateur Radio Preemption* why that fact would negate the “strong Federal interest” in promoting amateur communications, “particularly with respect to providing emergency communications” so it was unclear why the Commission was unconcerned about the ability of radio Amateurs to provide those communications simply because the radio Amateur happened to live in a CIC.

no meeting of the minds between an Amateur Radio licensee buyer and his or her seller when purchasing land in a CIC. The private land use restrictions are already in place and are binding on the buyer of residential real property, and the only issue is whether or not the buyer has the flexibility to live elsewhere. In many, if not most cases, and increasingly, the purchase of land by an Amateur Radio licensee in a CC&R-restricted community is a *fait accompli*. He or she must live in a particular area due to career or family exigencies, and the ability to purchase property suitable to the person's needs which is not within a CIC is diminishing. A person's life decisions cannot be altered in most cases based on the ability or inability to erect an antenna, and as discussed above, in many cases at the time a residence is purchased, the buyer cannot know whether or not he or she will be able to erect and maintain an Amateur Radio antenna anyway.

52. The Commission's 1985 finding that CC&Rs were a matter of private agreement and therefore did not "concern" the Commission could only have been realistically premised on a jurisdictional determination; i.e. that the Commission did not have authority over purely private contractual agreements. Otherwise, it is inexplicable that the Commission would not have any "concern" that private land use restrictions would preclude Amateur Radio communications entirely; or that they would fail to reasonably accommodate Amateur Radio communications; or that the CC&Rs might not constitute the "minimum practicable regulation" in order to accomplish whatever the legitimate purpose of the CC&Rs might be. It cannot logically be the case that the Commission has no interest in protecting an Amateur Station's ability to prepare for or provide emergency communications in a private land use regulated community but it does have an interest in protecting that same station from unreasonable State or municipal land use regulations which have the same effect²⁹, *unless* (1) the Commission, in 1985, believed that it did not have the

²⁹ It is true *a priori* that private land use regulations which preclude or fail to reasonably accommodate Amateur Radio communications, or which do not constitute the minimum practicable regulation to accomplish the goal of the

jurisdiction to preempt private land use regulations, or else (2) it believed that the decision to purchase property in a CIC and hence to accept the terms of the CC&Rs was voluntary on the part of the radio Amateur.

53. It is clear today, and it was the case in 1985 that the decision to live in a CIC is not often voluntary, and it cannot be said to be a voluntary decision now, given the prevalence of CICs and of the accompanying CC&Rs which prohibit or severely restrict antennas (or which subject a licensee to a decisionmaking process that is without specified standards, and which is completely beyond his or her control or ability to influence). And it became clear in 1996, if it was not before, that the Commission had, and has, ample jurisdiction to preempt private land use regulations which frustrate Federal telecommunications policy.

54. In 1996, Congress passed the *Telecommunications Act of 1996*³⁰ which was an omnibus telecommunications reform Bill. At Section 207 thereof, entitled *Restrictions on Over-The-Air Reception Devices*, the Commission was ordered, within 180 days of enactment of the legislation to promulgate (pursuant to Section 303 of the Communications Act of 1934) regulations to prohibit restrictions that impair a viewer's ability to receive video programming services through devices designed for over-the-air reception of television broadcast signals, multichannel multipoint distribution service, or direct broadcast satellite services (known now as over-the-air television reception devices, or "OTARDs"). Congress specifically instructed the Commission to extend this prohibition to nongovernmental restrictions such as "restrictive covenants and encumbrances."³¹ Pursuant to this legislation, the Commission commenced a rulemaking proceeding which resulted³²

private regulations are just as inconsistent with the strong Federal interest in Amateur Radio communications as are zoning regulations of those same facilities which do not meet the same test.

³⁰ Public Law 104-104, 110 Stat.56 (1996).

³¹ See, House Report No. 204, 104th Congress, 1st Session, at 124 (1995).

³² *In re Implementation of Section 207 of the Telecommunications Act of 1996; Restrictions on Over-the-Air Reception Devices: Television Broadcast Service and Multichannel Multipoint Distribution Service*; 11 FCC Rcd. 19276 (1996).

in the adoption of Section 1.4000 of the Commission's rules.³³ That rule invalidated restrictions, including private covenants, homeowners' association rules or similar restrictions on property within the exclusive use or control of the antenna user where the user has a direct or indirect ownership interest in the property, that impairs the installation, maintenance or use of an antenna for the reception of direct broadcast satellite service one meter or less in diameter or in Alaska; an antenna designed to receive video programming via multichannel multipoint distribution services, instructional television fixed services, and local multipoint distribution services which are one meter or less in diameter or diagonal measurement; or an antenna that is designed to receive television broadcast signals.³⁴ The legislation was later extended to preclude such restrictions on wireless broadband devices.

55. In adopting Section 1.4000, the Commission found specifically that it has jurisdiction to prohibit unreasonable private land use restrictions over telecommunications facilities. The Commission stated as follows:

The government may abrogate restrictive covenants that interfere with federal objectives enunciated in a regulation. In *Seniors Civil Liberties Ass'n v. Kemp* (citation omitted) the District Court found no taking in an implementation of the Fair Housing Amendments Act (FHAA) that declared unlawful age-based restrictive covenants, thereby abrogating the homeowner's association's rules requiring that at least one resident of each home be at least 55 years of age. The court found that the FHAA provisions nullifying the restrictive covenants constituted a "public program adjusting the benefits of economic life to promote the common good", and not a taking subject to compensation (footnote omitted). Similarly, the Commission's rule implementing Section 207 promotes the common good by advancing a legitimate federal interest in ensuring access to communications (footnote omitted) and therefore justifies prohibition of nongovernmental restrictions that impair such access.

...Some commenters also challenge our authority to prohibit these restrictions under the Commerce Clause. The Supreme Court has made it clear that Congress not only can supersede local regulation, but also can change contractual relationships between private parties through the exercise of its constitutional powers, including the

³³ 47 C.F.R. § 1.4000 (1996).

³⁴ Notably, there are no size limitations specified with respect to over-the-air television broadcast receive antennas. Some are very large; larger than many Amateur Radio HF, VHF and UHF antennas and arrays.

Commerce Clause. U.S. Const. art. I, §8, cl.3. In *Connolly v. Pension Benefit Guaranty Corp.* (citation omitted) the Court stated,

Contracts, however express, cannot fetter the constitutional authority of Congress. Contracts may create rights in property, but when contracts deal with a subject matter which lies within the control of Congress, they have a congenital infirmity. Parties cannot remove their transactions from the reach of dominant constitutional power by making contracts about them.

If a regulatory statute is otherwise within the powers of Congress, therefore, its application may not be defeated by private contractual provisions. For the same reason, the fact that legislation disregards or destroys existing contractual rights, does not always transform the regulation into an illegal taking.

Moreover, in *FCC v. Florida Power Corp.* [480 U.S. 245 (1987)] the Court permitted the Commission to invalidate certain terms of private contracts relating to property rights....Courts have also found that homeowner covenants do not enjoy special immunity from federal power (citations omitted). Thus, we conclude that the authority bestowed upon the Commission to adopt a rule that prohibits restrictive covenants or other similar nongovernmental restrictions is not constitutionally infirm.

...In proposing a strict preemption of such private restrictions without a specific rebuttal or waiver provision (footnote omitted), we noted that nongovernmental restrictions appear to be related primarily to aesthetic concerns. We tentatively concluded that it was therefore appropriate to accord them less deference than local governmental regulations that can be based on health and safety considerations...

Thus, the Commission decided to apply to private land use regulations the same rule and procedures applicable to government regulations of these same OTARD facilities where the property subject to the private regulations is under the exclusive use or control of the antenna user and the user has a direct or indirect ownership interest in the property.

56. Notwithstanding these findings of the Commission in 1996 with respect to Federal jurisdiction over private land use regulations which interfere with Federal telecommunications policy, the Commission refused in 1999 to extend its *Amateur Radio Preemption* policy to private land use regulations. ARRL had asked the Commission in a Petition for Rule Making filed February 7, 1996 (RM-8763) to clarify several aspects of its *Amateur Radio Preemption* policy, including

extending the “no prohibition, reasonable accommodation, and least practicable regulation” three-part test to private land use regulations. ARRL’s premise was that the Commission’s finding in 1985 that private land use regulations did not “concern” the Commission was based on jurisdictional considerations, and the jurisdictional issue had been squarely resolved in favor of FCC jurisdiction in the OTARD proceeding. In fact (as seen from the above quote) the Commission had specifically determined in that proceeding that *private land use regulations were entitled to less, not more, deference than governmental land use regulations which interfere with Federal telecommunications policy*. Nevertheless, the (then) Deputy Chief, Wireless Telecommunications Bureau, in a tersely worded *Order* released November 19, 1999,³⁵ refused to extend the *Amateur Radio Preemption* policy to CC&Rs.³⁶ However, the Commission did “strongly encourage” CICs

³⁵ *Modification and Clarification of Policies and Procedures Governing Siting and Maintenance of Amateur Radio Antenna and Support Structures, and Amendment of Section 97.15 of the Commission’s Rules Governing the Amateur Radio Service*, DA 99-2569 (WTB rel. November 19, 1999); *affirmed with modifications by Order on Reconsideration*, 15 FCC Rcd. 22151 (Deputy Chief, WTB, 2000); *review denied by Memorandum Opinion and Order*, FCC 01-372 (December 26, 2001). In the *Order on Reconsideration*, the Deputy Chief, WTB, attempted to distinguish the OTARD policy from the *Amateur Radio Preemption* policy by arguing that OTARD antennas are relatively small, and Amateur Radio antennas can be very large in some installations. The Deputy Chief cited for that incorrect premise a large “moonbounce” antenna array located in a very rural area of Texas unburdened by CC&Rs as an example of the difference in antenna size. The logic of the Deputy Chief, WTB in that *Order on Reconsideration* was faulty in several major respects. First of all, the OTARD preemption policy was, and Section 1.4000 of the Commission’s rules is, far more restrictive and limiting of a CIC’s jurisdiction than is *Amateur Radio Preemption*. The OTARD rule intrudes significantly on both municipal and private land use jurisdiction, and does so pursuant to a clearly articulated Congressional goal, which is the protection of competition among commercial video delivery systems and services. There has never been a suggestion that the OTARD policy, or any similar restrictive preemption policy should be applicable to Amateur Radio antennas in CICs, so the comparison by the Deputy Chief, WTB at the time was a comparison of “apples and oranges.” Second, and more importantly, the “no prohibition, reasonable accommodation, and least practicable regulation” three-part test does not, and would not if applied equally to CC&Rs and municipal land use regulations, mandate the approval of large antenna arrays in CICs. It would be applied precisely the same way as it is applied to governmental land use regulation. See *infra*.

³⁶ ARRL had argued in RM-8763, among other things, that the judicial enforcement of CC&Rs constituted “state action” and that therefore, “private” land use regulations were of necessity subject to the same limitations as are governmental land use regulations. Neither the Deputy Chief, WTB nor the Commission ever addressed that argument. In the November 19, 1999 *Order* in RM-8763, the Deputy Chief, WTB stated that, since the Commission’s policy on private land use regulations was “clear” it was unnecessary for the Commission to determine whether or not judicial enforcement of covenants constitutes “state action”. Such a finding, which has been made in several judicial decisions, e.g. *Shelley v. Kraemer*, 334 U.S. 1 (1948); *Park Redlands Covenant Control Committee v. Simon*, 181 Cal. App. 3d 87 (1986); *Ross v. Hatfield*, 640 F. Supp. 708 (D.C. Kansas, 1986); would subject otherwise purely private conduct to the constitutional limitations applicable to government action. However, it certainly was not “unnecessary” for the Commission to make that determination. The Commission in fact could not have reasonably dismissed ARRL’s Petition *without* making that determination, since its premise for

to apply the “no prohibition, reasonable accommodation, and least practicable regulation” three-part test to private land use regulation of Amateur radio antennas:

Notwithstanding the clear policy statement that was set forth in PRB-1 excluding restrictive covenants in private contractual agreements as being outside the reach of our limited preemption (citation to *Amateur Radio Preemption* omitted) we nevertheless strongly encourage associations of homeowners and private contracting parties to follow the principle of reasonable accommodation and to apply it to any and all instances of amateur service communications where they may be involved.

Order, DA 99-2569 at ¶ 6

As can be easily seen from a review of *Exhibits C* and *D* attached hereto, this admonition has had no effect whatsoever on CICs’ consistent prohibitions of Amateur Radio antennas.³⁷ In fact, the situation has developed precisely contrary to the Commission’s admonition: since 1999, the number of CICs has radically increased and the ability of a licensed Amateur Radio operator to install and maintain any effective Amateur Radio antenna from a residence has been substantially diminished.

V. Recommendations Regarding the Removal of Impediments to Enhanced Amateur Radio Service Communications

57. The Commission’s public notice in this proceeding asks what the effects are of unreasonable and unnecessary private land use regulations on the Amateur Radio community’s ability to respond to disasters, severe weather, and other threats to lives and property in the United States. It is important in analyzing this question to view the Amateur Service as a decentralized³⁸ network of individual stations working together in emergency situations (and in

the dismissal of the Petition was (the erroneous view) that CC&R regulation of antennas was a matter of purely private agreement.

³⁷ The admonition does, however, establish that the Commission’s *intention* is, and has been, for its *Amateur Radio Preemption* policy to apply to all types of land use regulation of Amateur Radio antennas. The only other question, therefore, is whether the Commission has the jurisdiction to apply its policy to private as well as governmental land use regulations. That question is now beyond any doubt.

³⁸ This term is used in the sense that Amateur Stations are not dependent on some centralized infrastructure that could fail during disasters. Amateur stations, because of their ubiquitous locations, their numbers and their

preparing for the same). The essentially uniform distribution of Amateur Radio stations in residential areas makes those individual stations very important in a given weather disaster in the area where those stations are located when commercial communications systems are disabled or overloaded, or in other areas for purposes of relay of message traffic. Amateur stations are often called on to report severe weather and the geographic distribution of stations in residential areas is critical for this function as well, per the discussion *supra*.

58. Furthermore, while modern Amateur stations are portable, and transportable to remote disaster locations, it is critical to have stations located at one's residence in order to regularly participate in disaster preparedness training exercises and drills.³⁹ It is also necessary to have Amateur Radio stations evenly distributed throughout residential areas in order to preserve and enhance the decentralized network of Amateur Stations which are ready to be placed into service immediately wherever and whenever a disaster may strike. It is impossible to look toward enhancements in the use of Amateur Radio communications when the ability to self-train and self-educate by means of an effective, reliable Amateur Radio station at one's residence is steadily and quickly being diminished by prohibitive CC&Rs. The ability to communicate with

resilience, are a very unique telecommunications resource and are always available when and where needed, as per the discussion above.

³⁹ The *Public Notice* in this proceeding asks how the availability of alternative transmitting locations or power sources affect the reasonableness of a particular private land use restriction. The question is understood to be asking whether CC&Rs are a significant restriction on Amateur Radio operation at a time when Amateur radio stations can be controlled and operated from remote base locations, from portable transceivers, using battery, solar, or commercial power sources, and using equipment that is easily transportable. While many radio amateurs are certainly ready with portable stations and emergency power sources to travel where needed to deploy this equipment, and while some radio Amateurs do have remote base facilities which can be operated via a broadband connection, these emergency communications tools are no substitute for the ready availability of a residential Amateur Radio station in daily operation from a licensee's residence. The licensee cannot be expected to have the ability to communicate into or from a disaster site unless he or she has a station that is "ready to go" at a moment's notice. The major value of Amateur Radio emergency communications is during the first hours, days or weeks of a disaster when commercial and public safety communications facilities are not functional or are overloaded. Stations must be ready to go when needed and many emergency communications are conducted from a licensee's residence. For some disabled persons, home stations represent their only opportunity to participate in emergency communications. Therefore, the portability of some Amateur radio equipment is not relevant to the reasonableness of CC&Rs which exclude Amateur Radio stations from entire communities.

portable equipment is useless without developing regular, on-air communications skills. This necessitates a regular, working Amateur station located at one's residence which has an effective antenna. Amateur Radio is a public service avocation that provides an opportunity for disabled persons to contribute substantially to emergency communications efforts and to preparedness exercises from their residences, provided that they can maintain a functional antenna where they reside.

59. From *Exhibits C and D*, and given the prevalence and increasing numbers of CICs in the United States, it is apparent that residential Amateur Radio antennas cannot be installed or maintained in most of them. An Amateur Radio licensee who must live in a CIC currently will almost inevitably be subject to either (1) a complete prohibition of his or her Amateur Radio operation, or (2) the unlimited jurisdiction of a community association or architectural control committee or board which makes decisions concerning Amateur Radio antennas without any standards whatsoever. So, the answer to the Commission's question about what criteria distinguish "unreasonable or unnecessary" private land use restrictions from reasonable and necessary restrictions is simple. Those private land use regulations (or the application of them) which prohibit outdoor Amateur Radio antennas or transmissions, and thus preclude Amateur Radio entirely; those which fail to reasonably accommodate Amateur Radio antennas (given the nature of the residential community); and those which do not constitute the minimum practicable regulation to accomplish the CIC's (principally aesthetic) legitimate goals are unreasonable and unnecessary. This is not to say that multiple unit dwellings such as condominiums or cooperative apartments must permit Amateur Radio antennas in common areas,⁴⁰ or that CICs must allow each townhouse owner to erect a lattice tower structure of 75 feet in the back yard. What

⁴⁰ Even the OTARD rules do not currently require that owners of residences in multiple-unit dwellings be given access to common areas for antenna installations. See, 47 C.F.R. § 1.4000(a)(1) (areas for OTARD antenna installation must be under the "exclusive use and control" of the property owner).

constitutes a “reasonable accommodation” differs depending on the residential circumstances of the licensee. A CIC might well require single family homeowners within a planned subdivision to locate an Amateur Radio antenna at a location which will be least obtrusive from surrounding parcels or from public rights-of-way.⁴¹ However, the owner of a cooperative or condominium in a multiple unit dwelling may not be able to install a permanent outdoor antenna, but might be able to erect a temporary antenna on a patio or deck, for example, when in use. The point is that no Amateur Radio communications system can function in an emergency without the skilled Amateur Radio operators who hone their communications skills on a daily basis from their home stations. Some form of Amateur Radio operation must be facilitated from the licensee’s residence in order for the cadre of trained operators to continue to be ready, willing and able to provide communications immediately when called upon to do so on a uniform basis.

60. The Commission asks how local circumstances, such as neighborhood density or historic significance, affect whether a private land use regulation is reasonable or necessary. Neighborhood density and historic preservation issues are typically *not* issues addressed by CC&Rs. Rather, they are issues addressed by governmental land use regulations, which the Commission has already addressed in *Amateur Radio Preemption*. In the exceptional circumstance in which a CC&R places limits on the installation or maintenance of an Amateur Radio antenna, or the configuration of an antenna as part of an effort to address high building density in a community or historic property preservation, the *Amateur Radio Preemption* three-part test is sufficiently flexible to take those goals into account. Once again, it is not necessary to impose regulations on CICs as stringent as those found in the OTARD rule in order to make

⁴¹ However, as the Commission has noted in the past, imposition of excessive costs or burdens on an applicant for an Amateur Radio antenna authorization (such as a complete vegetative screening requirement) can constitute a *de facto* prohibition; it cannot be said to be a reasonable accommodation; and it cannot be said to constitute the minimum practicable regulation to accomplish even an aesthetic objective.

reasonable accommodation for Amateur Radio antennas in CC&R-regulated communities and to subject CICs to the *Amateur Radio Preemption* policies to the same extent as they apply to governmental land use regulations.

61. The Commission, 27 years ago, established a limited and workable policy which balanced and accommodated both the important local land use considerations and the strong Federal interest in effective Amateur Radio communications. The justification for it, protecting that strong Federal interest in effective Amateur Radio communications, can only be understood to be applicable to all types of land use regulations which preclude, fail to reasonably accommodate, or do not constitute the minimum practicable regulation consistent with the local authority's legitimate purpose. The fact that private land use regulations are rooted in the concept of private contract (though they have certainly evolved far from that original concept) cannot be argued to preclude the even exercise of the Commission's jurisdiction. It cannot any longer justify the disparate treatment of Commission licensees in the Amateur Radio Service or the inequitable application of fundamentally sound Commission (and Congressional)⁴² policy. Since the Commission clearly has the jurisdiction to apply its limited preemption policy to all types of land use regulation; since unreasonable and unnecessary private land use regulation of Amateur Service communications is entitled to less deference than is governmental land use regulation of the same facilities; and since the Commission has already expressed its precatory encouragement to CICs to apply its policy when addressing Amateur Radio facilities within the CIC, the Commission should include in the Study being prepared in the context of this proceeding that private land use regulations are substantially and increasingly detrimental to Amateur Radio emergency communications. It should also conclude that the rapidly increasing number of CICs

⁴² It is specific Congressional policy that "reasonable accommodation should be made for the effective operation of amateur radio from residences, private vehicles and public areas, and that regulation at all levels of government should facilitate and encourage amateur radio operation as a public benefit." Public Law 103-408, (Joint Resolution)

in the United States is significantly decreasing the ability of licensed Amateur Radio operators to provide traditional or enhanced emergency communications within their communities. With increases in instances of severe weather due to climate changes and concurrent increases in the need for and utility of public alerting; and given the increased importance of Amateur Radio as a no-cost, volunteer resource for municipalities and States whose public safety and public service telecommunications budgets are stretched very thin, the Commission's very flexible *Amateur Radio Preemption* policy should be applied to all types of land use regulation equally.

62. The Commission asks about other impediments to enhanced Amateur Radio Service communications. In fact, the Commission's rules are quite flexible (as is properly the case with a principally experimental radio service). As discussed hereinabove, there are rule changes that could be implemented that might create more flexibility in Amateur Radio emergency communications, but the Commission has been very responsive when asked, on short notice, to make whatever accommodations are needed to permit Amateur Radio operators to better provide volunteer service during or in the aftermath of disasters. Subjects that come up from time to time that some feel might relieve restrictions include limits on Radio Amateur Civil Emergency Service (RACES) preparedness drills; interaction between RACES and other emergency communications groups and entities such as the Amateur Radio Emergency Service (ARES); or the authorization to use certain additional data emissions or higher speed data communications in the high-frequency Amateur allocations so as to allow increased interoperability with served agencies or to expedite the handling of message traffic via Amateur Radio. These subjects, however, can be and arguably should be addressed by the Commission on a case-by-case basis and ARRL is satisfied that the Commission is responsive to such requests when called upon to address them by the Amateur Radio community. ARRL is in regular contact with the staff of the

Commission's Public Safety and Homeland Security Bureau; with the Mobility Division of the Wireless Telecommunications Bureau, and with the Office of Emergency Communications at the Department of Homeland Security. Discussions about necessary reforms in the Commission's rules are ongoing. *No Federal regulatory issue, however, is as urgent as is the severe and increasing preclusion of Amateur radio operation in residential areas as the result of CC&Rs.*

Precluding the installation and maintenance of Amateur stations and antennas defeats the fundamentally important architecture of Amateur Radio emergency communications by taking stations out of the "network." This increasingly precludes the alerting function of the network of Amateur stations; the availability of prepared, trained volunteers; the ability of strategically placed Amateur stations for message relay purposes; and it inhibits the self-training of licensed radio Amateurs who are active in emergency communications on a regular, ongoing basis. It is necessary to have, and to regularly use, an Amateur Radio station at one's residence in order to be ready when disaster strikes.

Accordingly, ARRL, the national association for Amateur Radio, respectfully requests that the Commission incorporate these comments on the uses and capabilities of Amateur Radio Service communications in emergencies and disaster relief; on the importance to the United States of emergency Amateur Radio Service communications; and on impediments to enhanced Amateur Radio Service emergency communications in its study on "the uses and capabilities of Amateur Radio Service communications in emergencies and disaster relief" to be submitted to the Committee on Energy and Commerce of the House of Representatives and the Committee on Commerce, Science and Transportation of the Senate. ARRL also requests that the Commission

utilize these recommendations in its own recommendations for the removal of the impediments to Amateur Radio emergency communications.

Respectfully submitted,

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EXHIBIT A

EXAMPLES OF RECENT EMERGENCY COMMUNICATIONS EFFORTS BY
AMATEUR RADIO OPERATORS

Em Com Example:	001
Date of Event:	February 2009
Type of Emergency:	Ice Storm
Location of Emergency:	Ballard County & Fulton County, Kentucky
Em Com Example:	002
Date of Event:	April 3, 2012
Type of Emergency:	Tornado
Location of Emergency:	Tarrant County, Colony, Denton & Arlington, Texas
Em Com Example:	003
Date of Event:	September 2010
Type of Emergency:	Gas Pipeline Fire
Location of Emergency:	San Bruno, California
Em Com Example:	004
Date of Event:	October 2011
Type of Emergency:	Hurricane
Location of Emergency:	All of Connecticut
Em Com Example:	005
Date of Event:	November 2011
Type of Emergency:	State wide power outage
Location of Emergency:	All of Connecticut
Em Com Example:	006
Date of Event:	May 22, 2011
Type of Emergency:	EF5 Tornado
Location of Emergency:	Joplin, Missouri
Em Com Example:	007
Date of Event:	June 12, 2010
Type of Emergency:	Missing Off-Roaders
Location of Emergency:	Rubicon Trail, between Georgetown & Tahoma, California
Em Com Example:	008
Date of Event:	April 1997
Type of Emergency:	Flood
Location of Emergency:	Grand Forks, North Dakota
Em Com Example:	009
Date of Event:	Spring 2011
Type of Emergency:	Flood
Location of Emergency:	Morgan County, Utah

Em Com Example: 010
Date of Event: April 1995
Type of Emergency: Tornado
Location of Emergency: Boone, Iowa

Em Com Example: 011
Date of Event: Feb/March 1998
Type of Emergency: Ice Dam Breakup; flooding on Brandywine Crossing
Location of Emergency: Pocopson Twp, Pennsylvania

Em Com Example: 012
Date of Event: June 2011
Type of Emergency: Tornado
Location of Emergency: Rice, Texas

Em Com Example: 013
Date of Event: April 2011
Type of Emergency: Tornado
Location of Emergency: Kaukauna, Wisconsin

Em Com Example: 014
Date of Event: October 14, 2008
Type of Emergency: Wildfire
Location of Emergency: Fallbrook, California

Em Com Example: 015
Date of Event: April 2011
Type of Emergency: Tornado
Location of Emergency: Rome, Georgia

Em Com Example: 016
Date of Event: September 2010
Type of Emergency: Fire
Location of Emergency: Southwest Reno, Nevada

Em Com Example: 017
Date of Event: Summer 2010
Type of Emergency: Wildfire
Location of Emergency: Cooke County, Texas

Em Com Example: 018
Date of Event: January 2010
Type of Emergency: Earthquake
Location of Emergency: Haiti

Em Com Example:	019
Date of Event:	February 2012
Type of Emergency:	Tornado
Location of Emergency:	Tellico Plains, Tennessee
Em Com Example:	020
Date of Event:	April 22, 2011
Type of Emergency:	Tornado
Location of Emergency:	St. Louis, Missouri
Em Com Example:	021
Date of Event:	August 1991
Type of Emergency:	Hurricane Andrew
Location of Emergency:	Cutler Ridge, Florida
Em Com Example:	022
Date of Event:	January 1997
Type of Emergency:	Ice Storm
Location of Emergency:	Upstate New York
Em Com Example:	023
Date of Event:	April 2011
Type of Emergency:	Tornado
Location of Emergency:	Tushka, Oklahoma
Em Com Example:	024
Date of Event:	February 2001
Type of Emergency:	Earthquake with loss of phone service
Location of Emergency:	Mobile, Alabama
Em Com Example:	025
Date of Event:	April 27, 2011
Type of Emergency:	Tornado
Location of Emergency:	Autauga County, Elmore County, Lake Martin, Alabama
Em Com Example:	026
Date of Event:	January 2009
Type of Emergency:	Airplane emergency landing
Location of Emergency:	New York City, NY
Em Com Example:	027
Date of Event:	October 2011
Type of Emergency:	Tropical Storm Irene
Location of Emergency:	Connecticut

Em Com Example:	028
Date of Event:	April 2011
Type of Emergency:	Tornado
Location of Emergency:	Huntsville, Alabama
Em Com Example:	029
Date of Event:	August 13, 2004 & October 24, 2005
Type of Emergency:	Hurricane Charlie & Hurricane Wilma
Location of Emergency:	Lee County, Florida
Em Com Example:	030
Date of Event:	September 8, 2011
Type of Emergency:	Widespread Power Outage
Location of Emergency:	Baja, California
Em Com Example:	031
Date of Event:	2011
Type of Emergency:	Tornado
Location of Emergency:	Joplin, Missouri
Em Com Example:	032
Date of Event:	August 1993
Type of Emergency:	Fire
Location of Emergency:	Stanislaus National Forest, California
Em Com Example:	033
Date of Event:	January 2011
Type of Emergency:	Winter Storm
Location of Emergency:	Tolland County, CT
Em Com Example:	034
Date of Event:	1996
Type of Emergency:	Severe Weather
Location of Emergency:	Vancouver, Washington
Em Com Example:	035
Date of Event:	April 27, 2011
Type of Emergency:	Tornados
Location of Emergency:	Madison County, Alabama
Em Com Example:	036
Date of Event:	September 6, 2011
Type of Emergency:	Wildfire
Location of Emergency:	Bastrop County, Texas

Em Com Example:	037
Date of Event:	January 2004
Type of Emergency:	Ice Storm
Location of Emergency:	Sumter County, South Carolina
Em Com Example:	038
Date of Event:	August 2011
Type of Emergency:	Hurricane Irene
Location of Emergency:	US East coast
Em Com Example:	039
Date of Event:	Summer 2008
Type of Emergency:	Hurricane
Location of Emergency:	Texas Coast
Em Com Example:	040
Date of Event:	June 11, 2011
Type of Emergency:	Severe-Weather
Location of Emergency:	Billings, Montana
Em Com Example:	041
Date of Event:	May 27, 2011
Type of Emergency:	Flood
Location of Emergency:	Livingston, Montana
Em Com Example:	042
Date of Event:	September 29, 2005
Type of Emergency:	Hurricane
Location of Emergency:	Florida & Louisiana
Em Com Example:	043
Date of Event:	September 2011
Type of Emergency:	Hurricane
Location of Emergency:	Perquimans County, North Carolina
Em Com Example:	044
Date of Event:	October 29, 2006
Type of Emergency:	Wild Fire
Location of Emergency:	Cabazon, California
Em Com Example:	045
Date of Event:	August 2005
Type of Emergency:	Hurricane Katrina
Location of Emergency:	Louisiana

Em Com Example:	046
Date of Event:	August 14, 2004
Type of Emergency:	Hurricane
Location of Emergency:	Charlotte County, Florida
Em Com Example:	047
Date of Event:	March 2012
Type of Emergency:	Tornado
Location of Emergency:	North East Georgia
Em Com Example:	048
Date of Event:	August 2003
Type of Emergency:	Electrical Blackout
Location of Emergency:	10 States in the Northeastern US
Em Com Example:	049
Date of Event:	November 2009
Type of Emergency:	Hurricane
Location of Emergency:	Pensacola, Florida
Em Com Example:	050
Date of Event:	August 2008
Type of Emergency:	Tropical Storm
Location of Emergency:	Pensacola, Florida
Em Com Example:	051
Date of Event:	September 2004
Type of Emergency:	Hurricane
Location of Emergency:	Pensacola, Florida
Em Com Example:	052
Date of Event:	April 27, 2012
Type of Emergency:	Tornado
Location of Emergency:	Calhoun County, Alabama
Em Com Example:	053
Date of Event:	April 4, 2010
Type of Emergency:	Earthquake
Location of Emergency:	Baja, California
Em Com Example:	054
Date of Event:	March 20-27, 2012
Type of Emergency:	Straight Line Winds, Emergency Weather Activation
Location of Emergency:	Midway, Arkansas

Em Com Example:	055
Date of Event:	May 2011
Type of Emergency:	Flood
Location of Emergency:	South Dakota
Em Com Example:	056
Date of Event:	June 6, 2010
Type of Emergency:	Tornado
Location of Emergency:	Wood, Fulton, Lucas Counties, Ohio
Em Com Example:	057
Date of Event:	August 31-September 2, 2010
Type of Emergency:	Hurricane Earl
Location of Emergency:	North Carolina
Em Com Example:	058
Date of Event:	September 2005
Type of Emergency:	Hurricane
Location of Emergency:	US Virgin Islands
Em Com Example:	059
Date of Event:	March 2011
Type of Emergency:	Earthquake in Japan w/ tsunami
Location of Emergency:	Japan
Em Com Example:	060
Date of Event:	December 2002
Type of Emergency:	Winter Ice Storm
Location of Emergency:	Charlotte, North Carolina
Em Com Example:	061
Date of Event:	September 2011
Type of Emergency:	Flood
Location of Emergency:	Schoharie County, New York
Em Com Example:	062
Date of Event:	August 2004
Type of Emergency:	Hurricane
Location of Emergency:	Charlotte County, Florida
Em Com Example:	063
Date of Event:	June 2005
Type of Emergency:	Tropical Storm Arlene
Location of Emergency:	Pensacola, Florida

Em Com Example:	064
Date of Event:	July 2005
Type of Emergency:	Hurricane
Location of Emergency:	Pensacola, Florida
Em Com Example:	065
Date of Event:	May 2002
Type of Emergency:	Search & Rescue
Location of Emergency:	Grafton, New York
Em Com Example:	066
Date of Event:	November 3, 1993
Type of Emergency:	Fire
Location of Emergency:	California
Em Com Example:	067
Date of Event:	March 2011
Type of Emergency:	Flood
Location of Emergency:	Bergen & Passaic County, New Jersey
Em Com Example:	068
Date of Event:	March 2012
Type of Emergency:	Tornado
Location of Emergency:	Clark County, Indiana
Em Com Example:	069
Date of Event:	June 2006
Type of Emergency:	Flood
Location of Emergency:	Montgomery & Fulton County, New York
Em Com Example:	070
Date of Event:	July, 2011
Type of Emergency:	Tornado
Location of Emergency:	Elbert County, Colorado
Em Com Example:	071
Date of Event:	February 2010; March 2011
Type of Emergency:	Tsunamis
Location of Emergency:	Hawaii
Em Com Example:	072
Date of Event:	July 2006
Type of Emergency:	Flooding of local towns and villages
Location of Emergency:	NY / PA

Em Com Example: 073
Date of Event: November 2011
Type of Emergency: Cyclone
Location of Emergency: Bering Sea coast, Western Alaska

Em Com Example: 074
Date of Event: August 2004
Type of Emergency: Hurricane Charley
Location of Emergency: Charlotte County, Florida

Em Com Example: 075
Date of Event: April 2011
Type of Emergency: Tornado
Location of Emergency: Walker County Alabama

Em Com Example: 076
Date of Event: May 2009
Type of Emergency: Flood
Location of Emergency: Racine, Wisconsin

Em Com Example: 077
Date of Event: January 7, 2009
Type of Emergency: Flood
Location of Emergency: Stanwood, Washington

Em Com Example: 078
Date of Event: November 2002
Type of Emergency: Ice Storm
Location of Emergency: Torrington, Connecticut

Em Com Example: 079
Date of Event: April-May 2011
Type of Emergency: Tornado
Location of Emergency: Northern Alabama

Em Com Example: 080
Date of Event: September 2001
Type of Emergency: Terrorist Attack Pentagon
Location of Emergency: Northern Virginia

Em Com Example: 081
Date of Event: December 2008
Type of Emergency: Ice storm
Location of Emergency: Heath, Massachusetts

Em Com Example: 082
Date of Event: December 22, 2010
Type of Emergency: Flood
Location of Emergency: Washington County Utah

Em Com Example: 083
Date of Event: October 2005
Type of Emergency: Tropical Storm
Location of Emergency: Taunton Massachusetts

Em Com Example: 084
Date of Event: August / September 2008
Type of Emergency: Hurricane Gustav
Location of Emergency: Texas

Em Com Example: 085
Date of Event: August 28, 2011
Type of Emergency: Hurricane
Location of Emergency: Babylon, New York

Em Com Example: 086
Date of Event: May 2010
Type of Emergency: Tornado
Location of Emergency: Keeseville, New York

Em Com Example: 087
Date of Event: September 1999
Type of Emergency: Hurricane Floyd
Location of Emergency: Northern New Jersey

Em Com Example: 088
Date of Event: April 27-May 10, 2011
Type of Emergency: Tornado
Location of Emergency: Birmingham, Alabama

Em Com Example: 089
Date of Event: December 2008
Type of Emergency: Ice Storm
Location of Emergency: Franklin & Worcester Counties, Massachusetts

Em Com Example: 090
Date of Event: September 2005
Type of Emergency: Hurricane Rita
Location of Emergency: East Texas

Em Com Example:	091
Date of Event:	December 19-20, 2009
Type of Emergency:	Snowstorm
Location of Emergency:	Sandwich, Massachusetts
Em Com Example:	092
Date of Event:	November 2008
Type of Emergency:	Fire
Location of Emergency:	Orange County, California
Em Com Example:	093
Date of Event:	December 2007
Type of Emergency:	Flood
Location of Emergency:	Vernonia Oregon
Em Com Example:	094
Date of Event:	July 22, 2010
Type of Emergency:	Massive Flooding
Location of Emergency:	Stephenson County, IL
Em Com Example:	095
Date of Event:	February 1996
Type of Emergency:	Flood
Location of Emergency:	Western Oregon
Em Com Example:	096
Date of Event:	Summer 2004
Type of Emergency:	Hurricane Charlie
Location of Emergency:	Sarasota, Florida
Em Com Example:	097
Date of Event:	September 9, 2011
Type of Emergency:	Tropical Storm Lee
Location of Emergency:	Wilkes-Barre & Bloomsburg, Pennsylvania
Em Com Example:	098
Date of Event:	April 2011
Type of Emergency:	Tornado
Location of Emergency:	Tuscaloosa, Alabama
Em Com Example:	099
Date of Event:	June 2007
Type of Emergency:	Public Safety Communications Blackout
Location of Emergency:	Williamson County, Texas

Em Com Example:	100
Date of Event:	June 28, 2006 - July 5, 2006
Type of Emergency:	River Flooding
Location of Emergency:	Bucks County, Pennsylvania
Em Com Example	101
Date of Event:	August 2007
Type of Emergency:	Flood
Location of Emergency:	St Charles, Minnesota
Em Com Example:	102
Date of Event:	January 2007
Type of Emergency:	Fire
Location of Emergency:	Oakland, California
Em Com Example:	103
Date of Event;	May 22, 2011
Type of Emergency:	Tornado
Location of Emergency:	Joplin Missouri
Em Com Example:	104
Date of Event:	August 2004
Type of Emergency:	Hurricane Charley
Location of Emergency:	Seminole County, Florida
Em Com Example:	105
Date of Event:	April 27, 2012
Type of Emergency:	Tornado
Location of Emergency:	St. Clair County, Alabama
Em Com Example:	106
Date of Event:	April 25-27, 2009
Type of Emergency:	Forest Fire
Location of Emergency:	Mescalero Indian Reservation, New Mexico
Em Com Example:	107
Date of Event:	August 13, 2006
Type of Emergency:	Flood
Location of Emergency:	Near Mayhill, New Mexico
Em Com Example:	108
Date of Event:	Sept 16, 2004
Type of Emergency:	Hurricane Ivan
Location of Emergency:	Pensacola, Florida

Em Com Example:	109
Date of Event:	June 2001
Type of Emergency:	Tornado
Location of Emergency:	St. Clair County, Michigan
Em Com Example:	110
Date of Event:	June 2010
Type of Emergency:	Tornado
Location of Emergency:	Wadena, Minnesota
Em Com Example:	111
Date of Event:	September 2003
Type of Emergency:	Hurricane Isabel
Location of Emergency:	North Carolina
Em Com Example:	112
Date of Event:	August 2011
Type of Emergency:	Hurricane
Location of Emergency:	Mt. Washington New Hampshire
Em Com Example:	113
Date of Event:	August 2004
Type of Emergency:	Hurricane Charlie
Location of Emergency:	Port Charlotte, Florida
Em Com Example:	114
Date of Event:	September 2008
Type of Emergency:	Hurricane Ike
Location of Emergency:	Texas
Em Com Example:	115
Date of Event:	August 2011
Type of Emergency:	Hurricane Irene
Location of Emergency:	Anne Arundel County, Maryland
Em Com Example:	116
Date of Event:	December 14, 2010
Type of Emergency:	Main telephone cables cut
Location of Emergency:	Las Cruces, New Mexico
Em Com Example:	117
Date of Event:	January 17, 1984
Type of Emergency:	Earthquake
Location of Emergency:	Northridge, California

Em Com Example:	118
Date of Event:	November 19, 2011
Type of Emergency:	Wild Fire
Location of Emergency:	Reno, Nevada
Em Com Example:	119
Date of Event:	January 20, 2012
Type of Emergency:	Fire
Location of Emergency:	Reno, Nevada
Em Com Example:	120
Date of Event:	April 2011
Type of Emergency:	Tornado
Location of Emergency:	DeSoto County, Mississippi
Em Com Example:	121
Date of Event:	June 2011
Type of Emergency:	Fire
Location of Emergency;	Arizona
Em Com Example:	122
Date of Event:	June 2002
Type of Emergency:	Forest Fire
Location of Emergency:	Northern Arizona
Em Com Example:	123
Date of Event:	September 2001
Type of Emergency:	Terrorism 9/11
Location of Emergency:	New York, New York
Em Com Example:	124
Date of Event:	January 11, 2005
Type of Emergency:	Flood
Location of Emergency:	Piru, California
Em Com Example:	125
Date of Event:	2009
Type of Emergency:	Ice Storm
Location of Emergency:	Connecticut
Em Com Example:	126
Date of Event:	January 2011
Type of Emergency:	Ice Storm
Location of Emergency:	Texas

Em Com Example:	127
Date of Event:	September 16, 2010
Type of Emergency:	Tornado
Location of Emergency:	Nelsonville, Ohio
Em Com Example:	128
Date of Event:	August 2011
Type of Emergency:	Hurricane & Earthquake
Location of Emergency:	DC Area
Em Com Example:	129
Date of Event:	August 2004
Type of Emergency:	Hurricane
Location of Emergency:	Punta Gorda, Florida
Em Com Example:	130
Date of Event:	April 2007
Type of Emergency:	Flood
Location of Emergency:	Loudonville, Ohio
Em Com Example:	131
Date of Event:	March 2000
Type of Emergency:	Flood
Location of Emergency:	Hamilton County, Ohio
Em Com Example:	132
Date of Event:	March 2011
Type of Emergency:	Flood
Location of Emergency:	New Jersey
Em Com Example:	133
Date of Event:	September 2008
Type of Emergency:	High Wind
Location of Emergency:	Harrison County, Indiana
Em Com Example:	134
Date of Event:	July 2007
Type of Emergency:	Micro Bust Comm & Power Out
Location of Emergency:	Huinsdale, New Hampshire
Em Com Example:	135
Date of Event:	August 2011
Type of Emergency:	Major Hail Storm
Location of Emergency:	North Eastern Utah to North Western Colorado

Em Com Example: 136
Date of Event: April 2011
Type of Emergency: Tornado
Location of Emergency: Alabaster, Alabama

Em Com Example: 137
Date of Event: April 2011
Type of Emergency: Tornado
Location of Emergency: Madison County, Alabama

EXHIBIT B

THE IMPORTANCE OF AMATEUR RADIO EMERGENCY
COMMUNICATIONS; RESPONSES TO SPECIFIC COMMISSION
QUESTIONS

1. The following are some specific responses to the Commission's questions in the Public Notice at pages 2 and 3 with respect to the importance of emergency Amateur Radio Service communications relating to disasters, severe weather, and other threats to lives and property.

- a. What are examples of disasters, severe weather, and other threats to life and property in which the Amateur Radio Service provided communications services that were important to emergency response or disaster relief? Provide examples of the important benefits of these services.

Providing emergency support communications for disasters – whether natural or man-made - is perhaps the role o which Amateur Radio is most suited. The list of these events is as wide and varied as it is lengthy. Amateur radio responds, through the ARRL's ARES® program; the RACES operating guidelines set forth in 47 C.F.R. Part 97; relief agencies such as the Red Cross, the Salvation Army Team Emergency Radio Network program, the Southern Baptist Disaster Relief Service; and other organizations that utilize Amateur Radio as part of their efforts, to hundreds of events annually. The type of weather events that may trigger the need for communications assistance includes such things as hurricanes, tornadoes, severe thunderstorms, flash floods, river flooding, winter storms / icing or heat-related weather events. Natural disasters such as earthquakes, tsunamis, wildfires, volcanic eruptions, and land/mud slides often lead to the need for Amateur Radio's involvement in disaster communications. Since the 9/11 terrorist attacks, there has been significant incorporation of Amateur Radio into planning for communications when a man-made event has created the need for support or restoration communications.

Specific examples of the use of Amateur Radio to secure required assistance when faced with direct threats to life and property abound. During Hurricane Katrina and its aftermath, Amateur Radio was used to coordinate the information flow between relief centers, emergency operations centers, and shelters until normal communications systems were restored. It was also used to pass information to search and rescue units. The rescue of approximately 15 persons off of a roof of a house surrounded by floodwaters was directly attributed to information relayed via Amateur Radio using both HF and VHF/UHF frequencies. The Salvation Army Team Emergency Radio Network handled over 20,000 health and welfare inquiries during Katrina's aftermath. Similar stories are found in almost any tropical weather event.

The National Weather Service's SKYWARN program is activated almost daily during parts of the year because of severe weather conditions. Amateur Radio is a key component in much of the SKYWARN activity,

not to “chase storms” but rather to gather and report local observations from residences that greatly enhance the ability of the NWS to confirm what they observe on their radar. This in turn allows the NWS to issue life-saving warnings slightly earlier, providing more time for citizens to take necessary precautions. Earlier warning, in part enhanced by reports received by the NWS via Amateur Radio has allowed lives to be saved in the paths of tornadoes, most especially during this year.

Another good example of the value of Amateur Radio in a weather-related event is the 2009 statewide ice storm that left more than 90 percent of Kentucky’s counties without communications service of any type. The commercial electric grid was also destroyed as transmission towers crumpled. Brigadier General John Heltzel, Kentucky’s National Guard Deputy Commander and Director of the Kentucky Division of Emergency Management, said, “We wouldn’t have had any communications for the first three or four days if it hadn’t been for Kentucky’s ham radio operators. They saved the day and don’t get nearly enough credit.” Amateur Radio operators communicated from their homes utilizing battery or generator-supplied power and were able to repair or replace their damaged antennas to support their communities and their state in a time of dire emergency.

Examples of Amateur Radio responses to manmade disaster recovery are not as high profile as most natural disaster events but are nonetheless most significant. For example, in 2010 two fiber optic lines were cut that severed phone service to the State Police and the local 9-1-1 centers in Las Cruces, NM. In 2005 a Verizon telephone switching station in Long Beach was disabled, making unavailable telephone and cell service to over 150,000 people in the Los Angeles metropolitan area and Orange County, and rendering inoperative the entire Long Beach 911 system. In both cases, Amateurs responded by using home stations as well as stations at various key points (such as 911 dispatch centers, Emergency Management offices, and local hospitals) to provide communications. When these and similar events happen, home stations are used as part of the ad hoc network established so that each affected community will have a location where someone with an emergency in the area can go to communicate with first responders via Amateur Radio.

The ability of Amateur Radio to be of assistance in emergency communications when a disaster may occur outside of US territory also should be noted. Amateur Radio plays a significant role in global emergency communications, for reports and requests for assistance from the Caribbean during and after a tropical hurricane; for relaying emergency communications and health and welfare traffic from earthquake victims in Haiti to relatives in the United States; or by assisting with coordination of relief efforts after tsunamis in the Andaman Islands

in the Indian Ocean or in northern Japan. It should also be noted that the meteorological information provided by Amateur Radio from an incident in one area assists in the planning by emergency officials as the weather event (such as a hurricane) progresses along its path.

- b. Under what circumstances does the Amateur Radio Service provide advantages over other communications systems in supporting emergency response or disaster relief activities? Under what circumstances does the Amateur Radio Service complement other forms of communications systems for emergency response or disaster relief?

With more than 700,000 Amateur Radio licensees in the US one of the obvious advantages is that there is an amateur station in nearly every neighborhood. The training and willingness of many of these local volunteers means in many cases some type of communications support, and a facility for public warning is readily available when the need arises. The ability to communicate without the need for local telecommunications infrastructure to be operational is the second obvious advantage. Amateur Radio uses in effect no infrastructure at all, so it is always available regardless of the effects of the disaster on other telecommunications facilities. Furthermore, Amateur Radio operators not only provide interoperable restoration communications. They also provide or facilitate in some circumstances the restoration of public safety and telecommunications facilities to operation due to their self-training and spirit of volunteerism.

The role and goal of Amateur Radio is not to supplant existing commercial or public safety communications facilities. Rather, the appropriate role is to supplement those other systems, especially during the early parts of disaster relief and recovery. The flexibility of the Amateur Service, in terms of frequencies and modes of communications available, gives it a high degree of resiliency. When properly trained – and with adequate equipment and facilities at their residences that are at least functional in advance of an emergency – the Amateurs hold the potential to be a strong component of any disaster and emergency response organization's plan of action.

- c. What Federal Government plans, policies, and training programs involving emergency response and disaster relief currently include use of the Amateur Radio Service? What additional plans, policies, and training programs would benefit from the inclusion of Amateur Radio Service operations? How would Amateur Radio Service operations fit into these plans and programs?

The Military Auxiliary Radio System (MARS), depends entirely on licensed radio Amateurs to operate Army, Navy, Air Force, Marine Corps, Transportation Security Administration and other federal backup HF

communication systems. Most of this work and training is done from home stations.

As part of FEMA's Citizen's Corps program, Amateurs are often integrated into local Community Emergency Response Teams (CERT), and other Amateur Radio emergency communication groups such as ARRL's Amateur Radio Emergency Service® (ARES®) program, provide direct and indirect communications support to CERT teams. The original concept behind CERT is the ability to respond to needs within one's own neighborhood. This dovetails well with the fact that hams live in, and communicate directly from, the affected neighborhoods.

FEMA has long encouraged state and local emergency management agencies to utilize the Amateur Radio resources in their communities. Amateur Radio is mentioned prominently in a number of FEMA emergency management courses, but at present there is no specific course to help emergency managers understand and effectively utilize Amateur Radio volunteers and resources.

It would also be very helpful if FEMA would recognize ARRL Emergency Communications courses for national responder credentialing in the same way they have done with certain non-government courses for veterinary responders. This would give emergency managers a greater degree of confidence in the Amateur Radio volunteers in a disaster area.

- d. What State, tribal, and local government plans, policies, and training programs involving emergency response and disaster relief currently include use of the Amateur Radio Service? What additional plans and programs would benefit from the inclusion of Amateur Radio Service operations? How would Amateur Radio Service operations fit into these plans and programs?

Amateur Radio plays some kind of role in most state, local and tribal emergency plans. This may be through the RACES provisions of the 47.C.F.R. Part 97 rules. It may be conducted by one of the thousands of ARRL-affiliated ARES® groups in states, counties, cities and states across the US. Many Citizens Corps CERT groups across the country utilize Amateur Radio in their plans for interfacing with state and local emergency management agencies.

Many non-government agencies that provide disaster and emergency relief communications have incorporated Amateur Radio in their planning and training. For examples, as part of their certification process, many hospitals have included Amateur Radio as one element of their required supplemental communication's plan.

ARRL works cooperatively with the National Public Safety

Telecommunications Council to better integrate Amateur Radio with State and local public safety entities. ARRL also has a longstanding Memorandum of Understanding with the Association of Public Safety Communications Officers which facilitates the same enhanced integration of Amateur Radio in State and local emergency communications plans and protocols.

- e. What changes to the Commission's emergency communications rules for the Amateur Radio Service (Part 97, Subpart E) would enhance the ability of amateur operators to support emergency and disaster response? In addition, are there any specific changes that could be made to the technical and operational rules for the Amateur Radio Service (Part 97, Subparts B, C, and D) that would enhance the ability of amateur operators to support emergency and disaster response? What other steps could be taken to enhance the voluntary deployment and effectiveness of Amateur Radio Service operators during disasters and emergencies?

Generally speaking, the Commission's current Part 97 operating rules governing the Amateur Service are reasonably flexible, as befits a fundamentally experimental radio service. These operating rules facilitate Amateur Radio emergency and disaster response. However, changes in Part 97 technical rules that are necessary or desirable in order to permit the use or adaptation of newer, digital technologies by radio Amateurs tend to be slow in implementation. At the same time, the current technical rules in Part 97 are based on older, analog technologies and equipment that has been deemphasized by radio Amateurs. These outdated or overly restrictive limits, such as those which arbitrarily limit emissions to older analog types serve to limit rather than foster experimentation and development or adaptation of new techniques and technology. In general, FCC rules should be re-crafted in such a way as to protect incumbent uses while encouraging broader experimentation and innovation. Any rules that limit innovation and experimentation should be carefully reviewed (while preventing unintended consequences or effects), and modified or eliminated where necessary.

ARRL has no specific recommendations for changes to 47 C.F.R. Part 97 at this juncture, save for a change in Section 97.15(b) dealing with private land use regulation of antennas. Part 97 rule changes should be considered individually after a thorough and extensive examination of the consequences of specific rule changes. Each such change should be the subject of its own rulemaking proceeding.

- f. What training from government or other sources is available for Amateur Radio Service operators for emergency and disaster relief communications? How could this training be enhanced? Should national training standards be developed for emergency communications response?

Comprehensive and specific Amateur Radio emergency communications training is currently available on a national platform only from ARRL, the national association for Amateur Radio. Other groups offer local and regional training programs.

Standardized training in Amateur Radio emergency communications is of critical importance but it must be implemented pursuant to standardized plans and operating procedures. One cannot exist without the other.

A federal vehicle for standardization, evaluation and accreditation of course material, delivery, and testing would help establish a more universal base-level communications skill set across the country. However, any standards must recognize the value of flexibility in enabling hams to establish communications under difficult circumstances. Standards that are too rigid could serve to limit that critical flexibility.

FEMA's online and classroom training program presently provides training in areas related to emergency communications, such as the Incident Management System, and exercise development and operation, but little specific Amateur Radio communications training.

The Department of Homeland Security's Office of Emergency Communications offers 'SPCL-AUXCOMM,' a two-day classroom workshop. This course is a valuable experience for Amateur Radio operators who already have basic training, such as ARRL's Introduction to Emergency Communications (EC-001). It covers topics such as integration with the Incident Command System (ICS) in greater detail than basic level courses. Because it is NIMS compliant, the course is not modified to suit local variations and therefore provides a consistent message across all jurisdictions. . Currently, only a few SPCL AUXCOMM courses are taught, often only one or two per state per year. As with G250.6, an online independent study version of this course would greatly increase its availability and nationwide impact.

- g. What communications capabilities, e.g., voice, video, or data, are available from Amateur Radio Service operators during emergencies and disasters? Are there any future technical innovations that might further improve the Amateur Radio Service?

The communications capabilities of Amateur Radio Service operators are virtually unlimited except where overregulated. Subject to the emissions and symbol rate restrictions found in 47 C.F.R. §§ 97.3(c), 305, and 307, some of which are significantly restrictive, radio amateurs are capable of utilizing a broad range of voice, image, and data modes. During emergencies and disasters, radio amateurs select a mode and frequency suitable for the path or paths to be traversed and the information to be

passed.

VOICE

For long-distance voice communication at 30 MHz and below, the most common mode utilized is single sideband telephony (emissions designator 2K80J3E). While this technology is not new, it remains in use within and outside Amateur Radio because of its robustness and efficiency under typical HF reception conditions over widely variable paths.

At VHF and above, frequency modulation telephony (emissions designator 12K5F3E) has traditionally been the most predominant mode. As mobile service telephony equipment advances toward narrower bandwidths, it is likely Amateur Radio equipment will as well. Digital modulation techniques, including but not limited to APCO Project 25 (8K10F1E) and the D-STAR specification developed by the Japan Amateur Radio League (6K25F7W) are increasingly used, especially in western and southern states. The Amateur Service is also adapting TDMA voice equipment (7K60FXE), the emissions designator of which does not (for purely historic reasons) fall into the list of those authorized for a phone emission in the Amateur Radio Service. Amateurs are capable and willing to adopt this technology upon timely action by the Commission, and ARRL has petitioned for such an action.⁴³

VIDEO

The allocations at 420 MHz and above are sufficiently wide to permit real-time analog and digital television transmissions. NTSC analog, vestigial sideband modulation (emissions designator 5M75C3F) has traditionally been the most widely used in the Amateur Radio Service. Amateurs have adopted ATSC digital television (6M00B7W) and FM television (17M0F3F) techniques as well.

Below 420 MHz, amateurs can send a still image once every sixteen seconds utilizing slow-scan television (2K80J3F). Most demand for video capability in emergencies and disasters over a relatively short path, suitable for a UHF frequency capable of supporting a real time television circuit.

DATA

Data capabilities are numerous and varied, ranging from slow speed packet (500HF1D) at HF to spread spectrum broadband networks (FXX) at microwaves and above. The broadband revolution has by no means

⁴³ *Petition for Rulemaking and Request for Temporary Waiver*, RM-11625 (filed March 15, 2011).

passed Amateur Radio by, as groups of amateurs operate ad-hoc, multimedia, broadband networks in several areas around the United States, usually utilizing converted Part 15 equipment. Commercially produced access points can be inexpensively purchased on the surplus market, as can surplus power amplifiers, capable of operation of dozens of watts without modification. These power levels, combined with inexpensive antennas that provide gains in excess of 20 dB, are capable of providing links over distances in excess of 60 miles.

Advances in technology have enabled progressively more portable and versatile communications equipment, and equipment used in the Amateur Radio Service has followed this trend, incorporating spread spectrum and wireless broadband techniques into local area networks. Provided freedom to operate with a suitable antenna, amateurs will be able to incorporate new technical innovations as they are made, whether made by amateurs or by others.

- h. Are national standards in data transmission needed to enhance the ability of Amateur Radio Service operators to respond to emergencies and disasters? Are there restrictions with regard to transmission speeds that, if removed, would increase the ability of operators to support emergency/disaster response? If so, what issues could arise from removing these restrictions?

National standards in data transmission are neither needed nor desirable for these purposes. Every radio amateur will have a different set of capabilities within his or her station, varying as a function of the amateur's interests, resources, and operating privileges. A capable and willing communicator should not be turned away in an emergency or disaster situation as a result of an arbitrary data transmission standard. Amateurs capable of lower speed data transmission, telegraphy, voice or image communications, may still make valuable contributions to an emergency or disaster situation, providing coverage over a suitable path or paths for such capabilities.

While national standards are neither needed nor desirable, radio amateurs are restricted in their ability to transmit state of the art data rates by the symbol rate restrictions in 47 C.F.R. § 97.307(f)(3-6). These restrictions, reflective of the state of the art at the time of their adoption, prohibit at least one HF data communication mode (PACTOR-4) that has been adopted by some radio amateurs in other countries and widely adopted by HF users in the mobile service.

Removal of the restrictions would require the amateur community to accommodate a wider variety of modes in the data segments of the allocations. It would *not* necessarily require accommodation of wider

bandwidths; for example, the PACTOR-4 bandwidth of 2.4 kHz⁴⁴ is no greater than the slower PACTOR-3 bandwidth.⁴⁵ Accommodation of new modes by Amateur Radio Service operators has traditionally and successfully been accomplished through voluntary adoption of and compliance with non-regulatory band plans. Existing and future new modes can be adopted in the Amateur Radio Service in this manner, which requires no Commission intervention and has a record of success.

It should be noted that the commonly accepted emissions designator for ATSC digital television transmissions is 6M00C7W.⁴⁶ An ATSC transmission may also legitimately be described by an emissions designator of B7W, which is a permitted emissions type for image communications within the Amateur Radio Service.⁴⁷ To make abundantly clear that radio amateurs may also reap the digital dividend and take advantage of the improvements of digital television, the Commission may, at an appropriate time, wish to consider adding the C7W designator to the definition of an image emission.

Finally, the allowed emissions designators for a phone emission arguably exclude a TDMA voice signal (FXE). TDMA voice equipment is being adopted in the mobile services, and its potential utility in the Amateur Radio Service appears high. Its use should not be precluded by a list of emissions designators that reflected the state of the art decades ago, and action on ARRL's Petition for Rulemaking⁴⁸ to remedy this situation would be welcomed.

- i. Would it enhance emergency response and disaster relief activities if Amateur Radio Service operators were able to interconnect with public safety land mobile radio systems or hospital and health care communications systems? What could be done to enable or enhance such interconnections? What issues could arise from permitting such interconnections?

The ability to interconnect with public safety land mobile systems could offer some interesting possibilities and difficult challenges. This is an area that should be entered with extreme care and only after considerable discussion by stakeholders.

⁴⁴ Special Communications Systems GmbH & Co. KG, PACTOR-4 specification table, *available at* <http://www.p4dragon.com/en/PACTOR-4.html> (last visited May 9, 2012).

⁴⁵ *See, e.g.*, 47 C.F.R. § 97.307(f)(14)(i) (*as modified by* Amendment of Parts 2 and 97 of the Commission's Rules to Facilitate Use by the Amateur Radio Service of the Allocation at 5 MHz, ET Docket No. 10-98, released Nov. 18, 2011, effective March 5, 2012) (specifying emissions designator 2K80J2D as encompassing PACTOR-3).

⁴⁶ ATSC Emissions Designator, <http://apps.fcc.gov/oetcf/kdb/forms/FTSSearchResultPage.cfm?id=52066&switch=P>, October 5, 2011 (last visited May 10, 2012).

⁴⁷ 47 C.F.R. § 97.3(c)(3).

⁴⁸ *Supra*, n.1.

Many pitfalls are obvious when the issue of interoperability is considered. Since the Amateur Radio Service is not regulated by 47 C.F.R. Part 90 or Part 95, there are a different set of parameters from the onset. For example, the Amateur Service is not required to use the narrowband-signal techniques being required for land-mobile services. Many of the frequencies authorized to the Amateur Radio Service are exclusive world-wide to that service. Any changes that would affect the ability of the Amateur Service outside of an affected area to utilize their license privileges due to interoperability capabilities in the hardware would need to be critically evaluated before implementation. Any rules change should limit retransmission to emergency and disaster relief operations.

- j. Should there be national certification programs to standardize amateur radio emergency communications training, mobilization, and operations? How would such programs improve emergency communications?

A national certification program for individual Amateur Radio emergency communications volunteers would make it easier for radio Amateurs to assist outside their local area or region and across political boundaries, and give agencies a benchmark for reasonable expectations for their deployment. As with standards for modes and methods, standards must offer a base line of skills and capabilities but still allow innovation and local variations to accommodate specific needs. Any certification that might be developed should be designed for those Amateurs who wish to participate in providing emergency communications. It should not become a general requirement for anyone desiring to become an Amateur Radio licensee.

EXHIBIT C

EXAMPLES OF CC&R PROVISIONS RELATING TO ANTENNAS

CCR - 001

Lake Of The Woods

Seminole County, Florida

Section 5 Antennas. Article II Property Rights. No television or radio masts, towers, poles, antennas, serials, wires, or appurtenances thereto, shall be erected, constructed, or maintained on any Lot in such a manner as to be visible from the exterior of such Lot. Without limitation of the foregoing, all television antennas shall be erected and maintained completely inside the improvements on each Lot and shall be of a “lattice type” or such other type as may from time to time be permitted under the Association’s rules and regulations.

CCR - 002

Breckenridge Estates

Sangamon County, Illinois

Section 13 TV Antenna. No outdoor television antenna or satellite dish may be erected or installed as long as cable television is available. Developer shall not be obligated to install cable television. If due to technological improvements in the appearance of satellite dishes, antennas, etc. In the section may be amended by a two-thirds vote of the Membership.

CCR - 003

Orchard Crest - Phase 3

Marion County, Oregon

Approval of Plans. Whether or not provision therefore is specifically stated in any conveyance of a lot, the owner or occupant of each lot by acceptance of title, or taking possession thereof, agrees that no building, wall or other structure shall be placed upon such lot until the plan, specifications, design, landscaping and plot plan have been approved in writing by the Architectural Control Board.

Refusal or approval of plans or specifications may be based on any ground including aesthetic ground in which the sole discretion of the Board shall be deemed sufficient. No alteration in the exterior appearance of buildings or structures shall be made without like approval.

CCR - 004

The Lakes of Powell

Delaware County, Ohio

Section L Antennae. No outside television or radio aerial or antenna, or other aerial or antenna, including satellite receiving dishes, for reception or transmission, shall be maintained on the premises, to the extent permissible under applicable statutes and regulations, including those administered by the Federal Communications Commission, except that this restriction shall not apply to satellite dishes with a diameter less than twenty-four (24”), erected or installed to minimize visibility for the street which the dwelling fronts.

CCR - 005

The Harbor Ridge Homeowners' Association

Connelly Springs, North Carolina

Section 18

No outside clotheslines shall be permitted. No satellite dishes shall be permitted unless concealed from view from all lots and open spaces. The design of such enclosures must be approved prior to erection by the Committee." Committee refers to the Harbor Ridge Home Owners Association Board of Director.

CCR - 006

Ashley Heights

Gilbert, Arizona

Section 5.19

Antennas and Satellite Dishes.

a. This section applies to antennas, satellite television dishes and other devices ("Receivers"), including any poles or masts ("Masts") for such Receivers, for the transmission or reception of television or radio signals or any other form of electromagnetic radiation.

b. As of the date of recordation of this instrument, Receivers one meter or less in diameter are subject to the provisions of Title 47, Section 1.4000 of the Code of Federal Regulations ("Federal Regulations"). "Regulated Receivers" shall mean Receivers subject to Federal regulations as such regulations may be amended or modified in the future or subject to any other applicable federal, state or local law, ordinance or regulation ("Other Laws") that would render the restrictions in this section on Unregulated Receivers (hereinafter defined) invalid or unenforceable as to a particular Receiver. "Unregulated Receivers" shall mean all Receivers that are not Regulated Receivers. Notwithstanding the foregoing, a Regulated Receiver having a Mast in excess of the size permitted under Federal Regulations or Other Laws for Regulated Receivers shall be treated as an Unregulated Receiver under this section.

c. No Unregulated Receivers shall be permitted outdoors on any Lot, whether attached to a building or structure or on any Lot, unless approved in writing by the Architectural Committee, with such screening and fencing as such Committee may require. Unregulated Receivers must be ground mounted and not Visible from Neighboring Property.

d. Regulated Receivers shall be subject to the following requirements:

i. A Regulated Receiver and any required Mast shall be placed so as not to be Visible from Neighboring Property if such placement will not (A) unreasonably delay or prevent installation, maintenance or use of the Regulated Receiver, (B) unreasonably increase the cost of installation, maintenance or use of the Regulated Receiver, or (C) preclude the reception of an acceptable quality signal.

ii Regulated Receivers and any required Masts shall be placed on Lots only in accordance with the following descending order of locations, with Owners required to use the first available location that does not violate the requirements of parts (A) through (C) in subsections (i) above:

1. A location in the back yard of the Lot where the Receiver will be screened from view by landscaping or other improvements:
2. An unscreened location in the backyard of the Lot:
3. On the roof, but completely below the highest point on the roof line;
4. A location in the side yard of the Lot where the Receiver and any pole

- or mast will be screened from view by landscaping or other improvements;
- 5. On the roof above the roofline;
- 6. An unscreened location in the side yard;
- 7. A location in the front yard of the Lot where the Receiver will be screened from view by landscaping or other improvements.

Notwithstanding the foregoing order of locations, if a location stated in the above list allows a Receiver to be placed so as not to be Visible from Neighboring Property, such location shall be used for the Receiver rather than any higher-listed location at which a Receiver will be Visible from Neighboring Property, provided that placement in such non-visible location will not violate the requirements of parts (A) through (C) in subsection (i) above.

CCR - 007

Yacht Club II Homeowners Association

Colorado

Section 3 Installation Rules

A. Antenna Size and Type

- 1. Antennas designed to receive direct broadcast satellite service which are one meter or less in diameter may be installed. Antennas larger than one meter are prohibited.
- 2. Antennas one meter or less in diameter designed to receive multipoint distribution service may be installed. MDS antennas larger than one meter are prohibited
- 3. Antennas designed to receive television broadcast signals, regardless of size, may be installed.
- 4. Installation of transmission-only antennas are prohibited unless approved by the Board of Directors.
- 5. All antennas not covered by the FCC rule are prohibited.

Section C Antennas, masts, and any visual wiring must be painted to match the color of the structure to which it is installed unless the resident can provide written evidence for the manufacturer that painting will degrade the signal.

CCR - 008

Memorial Park Community Association

Several locations including Atlanta, Georgia

Section 24 Antennas and Dish type Devices.

- j. No such device is ever allowed to send or receive ham radio signals.
- k. No such device shall be permitted to cause distortion or interference with other electronic devices in the subdivision.
- l. All such devices must be one solid color and blend or match the color of the roof or house on the lot.

CCR - 009

Windfield

Davidson County, North Carolina

Section O Antennas. One satellite antenna dish per lot not to exceed thirty-six (36) inches may be installed on the rear or side walls at least fifteen (15) feet behind the front wall of the dwelling. No other outside antennas are permitted.

CCR - 010

Poulsbo Place Owners Association

Poulsbo, Washington

Section F Exterior

1. Construction, erection, or placement of anything, permanently or temporarily, on the outside portions of a house (to include decks, porches, patios and yards) or in common areas, is prohibited, without prior written approval of the Poulsbo Place Architectural Control Committee and/or the Board (See the *Poulsbo Place Owners Association Architectural Controls* for additional information).

5. Antennas and Dishes – Standard TV antennas and satellite dishes one meter in diameter or less are allowed in Poulsbo Place, per FCC regulations, with preapproval of the Architectural Control Committee. Antennas and dishes shall comply with all Architectural Controls or other applicable rules, pertaining to the means, method, and location of TV antenna and satellite dish installation. In general, dishes and antennas must be located on the rear of the house, out of site from other owners and tenants. The Board may require the dish be painted to blend with the surrounding environment.

CCR - 011

Hunter Oaks

Union County, North Carolina

Section 7.05 Antennas and Dishes. No radio or television transmission or reception towers, antennas, dishes or disks shall be erected on any Lot except in compliance with the Antenna Placement Procedures and Guidelines as adopted by the Board on May____, 2000 together with the submission of an Antenna Placement Notification Form to the Architectural Control Committee.

CCR - 012

Woodbridge Community

Apex, North Carolina

Section 10 Antennas, Satellite, Dishes or Discs. No radio or television transmission or reception towers or antennas shall be erected on a Lot other than a customary television or radio reception antenna, which shall not extend more than ten (10) feet above the top roof ridge of the house. However, a satellite antenna receiver or disc will be permitted on a Lot if: (i) the receiver or disc is not larger than two feet (2') in diameter; (ii) the receiver or disc is located on the side of the house away from the street and within the building set back lines applicable to that Lot; and (iii) the receiver or disc is located or

screened in such a way that it cannot be seen from any street within the subdivision. Any such screening must be approved as provided in Paragraph 18 of these Covenants. In no event shall any free-standing transmission or receiving tower be permitted on any Lot.

CCR - 013

Kelly West Homeowners Association

Apex, North Carolina

Radio/TV Antennas and Satellite Dishes

Items Requiring Architectural Approval:

All exterior-mounted radio/TV antennas and satellite dishes require Architectural approval.

1. Plan showing location of antenna or dish
2. Description of planting used to camouflage the equipment, if applicable.

CCR - 014

Mira Lago West

Palm Harbor, Florida

Section 12

Antennas and Roof Structures. No television, radio, or other electronic towers, aerials, antennas, satellite dishes or devices of any type for the reception or transmission of radio or television broadcasts or other means of communication shall hereafter be erected.

Constructed, placed or permitted to remain on any Lot or upon any improvements thereon, except that this prohibition shall not apply to those antennas specifically covered by 47 C.F.R. part 1, Subpart S, section 1.4000 (or any successor provision) promulgated under the telecommunications act of 1996 as amended from time to time. The association shall be empowered to adopt rules governing the types of antennas that are permissible hereunder and establishing reasonable, non-discriminatory restrictions relating to safety, location and maintenance of antennas. To the extent that reception of an acceptable signal would not be impaired, an antenna permissible pursuant to the rules of the Association may only be installed in a side or rear yard location, not visible from the street or neighboring property, and integrated with the dwelling and surrounding landscape. Antennas shall be installed in compliance with all state and local laws and regulations, including zoning, land use and building regulations.

CCR - 015

Marine Creek

Tarrant County, Texas

Section 8.10

Antennae and Satellite Dishes. Except with the written permission of the ACA or as provided herein, exterior antennae, aerials, satellite dishes, or other apparatus for the transmission or reception of television, radio, satellite, or other signals of any kind may not be placed on the exterior of any Dwelling or on any portion of the Lot outside the Dwelling, except that (i) antennas, satellite dishes or other apparatuses that are one meter or less in diameter and that are designed to receive transmissions other than television broadcast signals shall be permitted; and (ii) antennas or satellite dishes designed to receive television broadcast signals

shall be permitted. Any of the foregoing permitted devices and any other device permitted by the ACA (“Permitted Devices”) must be located in an area where such Permitted Device is not

CCR - 016

Sabino Vista Heights

Pima County, Arizona

]7) No radio or television antenna or aerial shall be constructed or installed which shall extend beyond five (5) feet in height when same has been installed over the highest point of the roof upon which same is installed.

CCR - 017

Exeter Townhome Association

DuPage County, Illinois

Section 8.09

No buildings or structures other than Townhomes or appurtenances thereto 43 (including Garage(s) appurtenant to each Parcel) originally constructed by Lisle1 Properties, Ltd. shall be constructed on any Parcel confined to the interior of the Townhomes (meaning interior living areas).

Section 8.14

No television or radio antennas or satellite dishes of any sort shall be placed, 40 allowed or maintained on the exterior of any Townhome or any portion of the 41 exterior of the improvement located on the Property, nor upon any structure 42 situated upon the Property, provided, without prior approval of the Board of 43 Directors. Any antenna structure shall conform to the Rules and Regulations of the 44 Federal Communications Commission., and which in the judgment of the Board 45 are not otherwise in a location which is objectionable may be permitted, subject to 46 architectural control approval by the Board as further herein provided.

Section 8.15

No lines or wires for communication, entertainment or the transmission of electrical 2 current or power shall be constructed, placed or permitted to be placed anywhere 3 other than within the Townhomes. No above ground communication, 4 entertainment, electric or television lines or cable shall be permitted to be placed 5 anywhere other than within the Townhomes. It is intended that all such necessary 6 approved con...

CCR - 018

Westover Hills, Unit 1

Bexar County, Texas

Section 3.3

Approvals Required. No Improvements shall be constructed, erected, removed, planted or maintained nor shall any addition to or any change or alteration therein be made until the plans and specifications showing the nature, kind, shape, height, materials, floor

plans, color scheme and the location of same shall have been submitted to and approved in writing by the ACC in accordance with Division 3.10 of this Article 3. Any change in the outward appearance of any Improvement, including, but not limited to, repainting the same in a different color, adding decorative sculptures or art work, wrought iron grills, changing in any manner the exterior appearance or the like, shall also require approval in writing by the ACC before any work is commenced. No Owner shall do any act or any work that will impair the structural soundness or integrity of another residence or impair any easement or hereditament, or do any act or allow any condition to exist which will adversely affect other Lots, Improvements or Owners.

CCR - 019

Hidden Spring

St Charles County, Missouri

Section B Towers, antennas, aerials, discs or other similar devices or installations designed or used for the transmission or reception of radio waves or signals shall not be permitted unless authorized by the Architectural Review Committee. Small discs no greater than three (3) foot in diameter, shall be permitted.

CCR - 020

Watters Crossing

Allen, Texas

Section (l) Except with the written permission of the Committee, no antennas, discs or other equipment for receiving or sending sound or video messages shall be permitted on the Property except for antennas for AM or FM radio reception and UHF or VHF television reception. All antennas shall be located inside the attic of the main residential structure, except that, with the written permission of the Committee, one antenna may be permitted to be attached to the roof of the main residential structure (but only if the place of attachment is not visible from the street in front of the house) and to extend above said roof a maximum of five feet, and one satellite disc or other similar instrument or structure may be placed in the back yard so long as it is completely screened from view from any street, alley, park or other public area.

CCR - 021

Liberty Estates

Jackson County, Georgia

Section 5.04 Antennas. No exterior antenna, receiving dish or similar apparatus of any kind for receiving or transmitting of radio or video signals shall be placed, allowed or maintained upon any portion of the Development, including a Lot, without the prior written consent of the ACC or its designee; provided, however, that no such approval shall be necessary to install: (a) antennas designed to receive direct broadcast satellite services, including direct-to-home satellite services, that are one meter or less in diameter; (b) antennas designed to receive video programming services via multi-point distribution services that are one meter or less in diameter

or diagonal measurement; or (c) antennas that are designed and intended to receive television broadcast signals. Owners shall install any permitted antennae on the rear of the dwelling not visible from the street in front of the Residence unless an acceptable quality signal cannot otherwise be obtained.

CCR - 022

Eldorado

Santa Fe County, New Mexico

Section C No more than one satellite dish in excess of 24 inches shall be permitted on a lot without the prior written approval of the E.C.I.A. Board of Directors or its designees. All satellite dishes shall be located so as to minimize their visual impact on the surrounding neighborhood and roads, and shall be obscured by screening in some reasonable manner, for example by the dwelling house and/or with plantings or fencing.

Section D No radio antenna or similar tower-like structure shall be erected, installed or maintained on any lot without the prior written approval of the E.C.I.A. Board of Directors or its designees. In any case, such structures shall not extend more than eight feet above the roof line of any building on the lot.

CCR - 023

Pearl Jones

King County, Washington

Section 7.19 Antenna. No antenna, satellite dish or other similar type of exterior equipment shall be allowed on any Lot unless approved in writing by the ACC. As a condition of approval the ACC may require reasonable shielding of such antenna, satellite dish or equipment from view from the street and the ground level of adjacent Lots or Common Areas. In no event shall any satellite dish or similar antenna greater than one (1) meter in diameter be permitted.

CCR - 024

Celebration Residential Properties

Osceola County, Florida

Section 4 Prohibited Conditions.

- (c) Exterior antennas, aerials, satellite dishes, or other apparatus for the transmission or reception of television, radio, satellite, or other signals of any kind, except that:
- (i) an antenna designed to receive direct broadcast satellite services, including direct-to-home satellite services, that is one meter or less in diameter;
 - (ii) an antenna designed to receive video programming services via multipoint distribution services, including multi-channel, multipoint distribution services, instructional television fixed services, and local multipoint distribution services, that is one meter or less in diameter or diagonal measurement; or
 - (iii) an antenna designed to receive television broadcast signals;

CCR - 025

**Silver Lake
Pearland, Texas**

Because guidelines may change from time to time, it is highly recommended that they are not published and distributed to the homeowners. Instead, they should be used by committee members only for the processing of applications. This reduces the possibility of homeowners following obsolete guidelines in their home improvements.

Section 23 Antennas.

- 23.1 Back side of house, lower than roof line and must not be visible from the street.
- 23.2 If lot backs onto vacant property and can be seen from entrance to subdivision or adjacent road, screening will be required.
- 23.3 Not allowed on corner lot if visible from front or side street, regardless of screening.
- 23.4 People's Choice antenna must be mounted on rear of roof, lower than the peak of the roof. If antenna is visible from rear street, it must be screened from view.

**CCR - 026
Maple Bluff subdivision
Cabarrus County, North Carolina**

Section 12 Antennas. *No radio or television aerial, antenna or T.V. satellite dish (except those which do not exceed 18 inches in diameter and are not visible from the street fronting the particular Lot), or any other external electronic equipment or devices may be installed or maintained on any exterior of any structure erected on a Lot unless the location, size and design has been approved by the Declarant."*

**CCR - 027
Emerald Forest
Bexar County, Texas**

Section 2.12 Exposed Antennas and Athletic Equipment
Section 2.12.1 Exterior Antennas. No exterior antenna shall be permitted on any dwelling or Lot. This prohibition shall include any derricks or antennas of any nature mounted on, in, or around the dwelling or the Lot upon which the dwelling rests.

**CCR - 028
Carolina Preserve
Cary, North Carolina**

No antenna, satellite dish, or other device for the transmission or reception of television or radio (including amateur or ham radios) signals is permitted outside the Dwelling Unit, except those devices whose installation and use is protected under federal law or regulations (generally, certain antennae under one meter in diameter). Notwithstanding such protection, Residents must obtain ARC approval prior to any installation, and approval will be granted only if:

- a. First, the antenna or other device is designed for minimal visual intrusion (*i.e.*, is located in a manner that minimizes visibility from the street or an adjacent Lot and is consistent with the Community-Wide Standard); and
- b. Second, the antenna or other device complies to the maximum extent feasible with the Design Guidelines within the confines of applicable federal regulations (*i.e.*, without precluding reception of a quality signal or unreasonably increasing the cost of the antenna or device).
- c. One satellite dish antenna measuring one meter or less in diameter may be erected on any lot. Residents must place any satellite dish antenna on the back or side of the house, below the roofline.
- d. A radio antenna must be a one element vertical antenna, attached to the back of the house. Towers and poles are not allowed. An antenna may extend up to a maximum of twelve feet (12') above the lowest part of the roofline not exceeding Town of Cary ordinance. A maximum of two vertical radio antennas are allowed. Any interference caused by the transmission is the responsibility of the operator to resolve. Required with request: Plot plan, Material list, and Contractor.

CCR - 029
Pine Hollow
Englewood, Florida

Section 19 Antennae and Aerials. Except in connection with the sale of property throughout the Condominium by Developer, no sign, advertisement or notice of any type shall be displayed on the Condominium Property, and no exterior aerial or antenna shall be placed on the Condominium Property, except by the Developer or by the Board of Directors of the Association. Any sign, advertisement, notice, lettering, aerial or antenna placed or erected on the Condominium Property in violation of this provision Shall be subject to removal, without notice, by the Board of Directors of the Association.

CCR - 030
Crosswinds HOA
Wilmington, North Carolina

Section 2 ANTENNAS: No outside radio or television antennas shall be erected on any lot or dwelling unit within the Properties unless and until permission for the same has been granted by the Board of Directors of the Association or it's Architectural Control Committee.
(Note: Subject to FCC Regulations.)

PENALTY \$25.00 UP AFTER 1ST WARNING

CCR - 031
Springpark
Dallas, Texas

Section 3.25 Antennae. Except during construction, no facilities, including poles, wires and antennae, for the transmission of electricity, telephone messages, television messages,

television signals and the like shall be installed or maintained on the exterior of any structure or any Lot exposed to view from any other Lot.

CCR - 032

Rita Ranch Crossing

Tucson, Arizona

Section vi Shortwave and ham radio antennas require prior approval and may not exceed 12' in height. Before permission will be given to install a shortwave or ham radio antenna that exceeds the 12' height requirement, the Owner must provide information to the AC as to why a higher antenna is necessary.

CCR - 033

Highlands Ranch

Highlands Ranch, Colorado

Section A Antenna size and type.

1. DBS and MMDS antennas/dishes that are one (1) meter (39") or less in diameter and for personal use of a homeowner may be installed. DBS and MMDS antennas/dishes larger than one (1) meter are prohibited.
2. All antennas/dishes not covered by the FCC Rule are prohibited.

CCR - 034

Stevenson Ranch

Los Angeles County, California

Section 7.5 Antennae. No exterior radio antenna, television antenna, "C.B." antenna, "satellite dish", microwave transmitting or receiving antenna or other antenna, transmitting or receiving device of any type shall be erected or maintained on any Lot or Condominium or Common Area in the Residential Area unless it is (a) completely screened from view from any public or private street and from anywhere outside of the Lot, Condominium or Common Area in which it is located and (b) approved in writing by the Architectural Committee. A master antenna or cable television antenna may, but need not, be provided by Declarant, and Declarant may grant easements for the installation and maintenance of any such master or cable television service.

CCR - 035

Riggs Country Estates

Maricopa County, Arizona

Section 3.5 Antennas. Except as permitted by applicable law or under the Design Guidelines, no antenna, aerial, satellite television dish or other device for the transmission or reception of television or radio signals or any other form of electromagnetic radiation proposed to be erected, used or maintained outdoors on any portion of the Project, whether attached to a

Residential Unit or structure or otherwise, shall be erected or installed without the prior written consent of the Architectural review Committee.

CCR - 036

Terracina

Pima County, Arizona

Section H Antennas. No antenna or other devise for the transmission or reception of television or radio signals or any other form of electromagnetic radiation shall be erected, used or maintained outdoors on any Lot, whether attached to a building or structure or otherwise, unless approved by the Architectural Committee.

CCR - 037

Ellis Plantation Home Owners Inc.,

Manassas, Virginia

Article V Use Restriction, section10. “No outside television antenna, radio antenna, satellite dish, direct broadcast satellite dish (DDS) or similar structure shall be maintained on the property...”

CCR - 038

Cinco Ranch

Katy, Texas

Section 7 Antennas. No exterior antennas, aerials, satellite dishes, or other apparatus for the transmission of television, radio, satellite or other signals of any kind shall be place, allowed, or maintained upon any portion of the Properties, including any Unit, without the prior written consent of the Board or its designee, unless completely contained within the dwelling on the Unit so as not to be visible from outside the dwelling. Any such apparatus permitted by the Board or its designee must be screened from view of adjacent Units by an approved fence or other approved structure no more than six(6) feet in height. The Declarant and/or the Association shall have the right, without obligation, to erect or install an aerial, satellite dish, master antenna, cable system, or other apparatus for the transmission of television, radio, satellite or other signals for the benefit of all or a portion of the Properties.”

CCR - 039

Stonegate Village

Englewood, CO

Section 6 Antennae. Under Exhibit C, section 6 of the Covenants, Conditions and Restrictions, no exterior radio antennae, television antennae or other antennae may be erected in residential portions of Stonegate Village unless entirely enclosed within a portion of an individual building constituting part of a Residential Unit. Notwithstanding, any local or federal law, all exterior installations must first be approved by the MC.

CCR - 040

Dawson Ranch

Fremont County, Colorado

Section 208 Roof Projections. No aerial or antenna for reception or transmission of radio, television or other electronic signals, or other roof projections, including but not limited to lighting rods and weather vanes, shall be maintained on the roof or any other exterior location of a building or Lot, unless fully screened in a manner approved by the Approving Authority so as not to be visible at ground level from neighboring property or adjoining streets. However, satellite dishes 18 inches or less in diameter shall be allowed.

Section 312 Transmitters. No electronic or radio transmitter of any kind other than garage door openers shall be operated in or on any structure or Lot except two-way radios and telephones used in the course of business.

CCR - 041

Bridlewood Community Association

Prince William County, Virginia

Section 3.07 Antennae and Solar Collectors. No exterior antennae or satellite dishes shall be permitted on the Property. Solar collectors or panels which are not visible from a street may be installed and maintained on a Lot.

CCR - 042

Cypress Creek

Williamson County, Texas

Section 2.01 Antennae and Satellite Dishes. No exterior radio television antenna or aerial or satellite dish shall be erected or maintained within the Property without the prior written approval of the Architectural Committee.

CCR - 043

Park Place

LaPorte County, Indiana

Section 10 No building or structure shall be erected, placed, altered, added to, or remodeled on any lot until the design and location thereof have been approved by Nancy S. & Mark D. Parkman, or their nominees or successors, who are hereby appointed the Architectural Committee of PARK PLACE, Phase 4.

Section 25 No circular television antenna (a television “dish” antenna) with a diameter larger than twenty-four inches (24”) shall be used or installed on any lot or attached to any building on any lot in the Subdivision.

CCR - 044

Chestnut Village

Larimer County, Colorado

Section 38 Antennae. No radio station or shortwave operators of any kind shall operate from any unit or any other portion of the property unless approved by the Association. No exterior radio antenna, CB antenna, television antenna or other antenna of any type shall be erected or maintained anywhere on the condominium area except inside of buildings or as expressly approved in writing by the Association.

CCR - 045

The Bridges of Summerville

Dorchester County, South Carolina

Section O Outside Antennas and Satellite Dishes. No owner may erect or maintain a television or radio receiving or transmitting antenna, satellite dish or similar apparatus or equipment unless: (i) such apparatus is eighteen inches (18”) or less in diameter, (ii) the apparatus is screened from public view and located behind the home either in the rear yard or affixed to the rear roof, (iii) the apparatus is not visible while standing at any point along the Lot boundary line in front of the house that abuts or is adjacent to a street, right-of-way or sidewalk, and (iv) the Committee has approved the location of the apparatus and the type of screening.

CCR - 046

Cinco Ranch

Dallas, Texas

Section 7 Antennas. No exterior antennas, aerials, satellite dishes, or other apparatus for the transmission of television, radio, satellite or other signals of any kind shall be placed, allowed, or maintained upon any portion of the Properties, including any Unit, without the prior written consent of the Board or its designee, unless completely contained within the dwelling on the Unit so as not to be visible from outside the dwelling. Any such apparatus permitted by the Board or its designee must be screened from view of adjacent Units by an approved fence or other approved structure no more than six (6) feet in height. The Declarant and/or the Association shall have the right, without obligation, to erect or install an aerial, satellite dish, master antenna, cable system, or other apparatus for the transmission of television, radio, satellite or other signals for the benefit of all or a portion of the Properties.

CCR - 047

Plum Tree Ct

Reno, Nevada 89523

Section 4.10 Antennas. No outside mast, tower, pole, antenna, or satellite dish shall be erected, constructed, or maintained on the Common Area or upon any Lot, except as provided in this Section 4.10. Antennas or satellite dishes with a diameter or diagonal measurement not greater than one meter which are designed to receive direct broadcast satellite services, video

programming services via multi-point distribution services, or television broadcast signals (collectively “Permitted Dishes”) may be erected, placed or installed on a Lot, subject to the following restrictions, provided that the application of these restrictions do not unreasonable delay installation or expense, or preclude reception of any acceptable quality signal:

- (a) All Permitted Dishes shall be placed in locations which are not visible from the streets within the Development.

Section 5 Antennas. No external radio or television antennas or satellite dishes shall be placed on any Lot or affixed to any structure or Residence except with the prior written approval of the Association and shall adhere to architectural control as described in section 4.10 of the CC&R’s.

CCR - 048

Bear Ranch Village

Harris County, Texas

Section 17 Television antennas may be attached to the house; however, the antenna’s location shall be restricted to the rear of the house or to the rear of the roof ridge line, gable or center line of the principal dwelling so as to be hidden from sight when viewed from the fronting street. Property owners may apply for a variance of location, or for approval of other aerial devices by submitting a plan showing the location and type of materials to the Architectural Control Committee for approval in accordance with Paragraph (3), Part I of these Protective Covenants.

CCR - 049

Shadow Creek Ranch

Houston and Pearland, Texas

Section 20 Devices for Reception of Audio/Video Signals. No exterior antennas, aerials, satellite dishes, or other apparatus for the reception or transmission of audio/video signals of any kind shall be placed on the exterior portions of any Tract unless such device is not visible from the street or from any adjacent Property and has received ARC approval.

CCR - 050

Wheatstone Estates

Harris County, Texas

Section 1 Antennas. No exterior antennas, aerials, satellite dishes, or other apparatus for the reception of television, radio, satellite or other signals of any kind shall be placed, allowed, or maintained upon any portion of the Neighborhood Property, including any Neighborhood Home site, which is visible from any street, common area or other Lot unless it is impossible to receive signals from said location. In that event the receiving device may be placed in a visible location as approved by the ACC. The ACC may require as much screening as possible while not substantially interfering with reception. The Declarant and/or the Association shall have the right, without obligation, to erect or install an aerial, satellite dish, master antenna, cable system, or other apparatus for the transmission of television, radio, satellite or other signals for the benefit of all or a portion of the Neighborhood Property. No satellite dishes shall be

permitted which are larger than one (1) meter in diameter. No broadcast antenna mast may exceed the height of the center ridge of the roofline. No Multichannel Multipoint Distribution Service ("MMDS") antenna mast may exceed the height of twelve feet (12') above the center ridge of the roofline. No exterior antennas, aerials, satellite dishes, or other apparatus shall be permitted which transmit television, radio, satellite or other signals of any kind shall be placed, allowed, or maintained upon any portion of the Neighborhood Property. The Declarant by promulgating this section is not attempting to violate the Telecommunications Act of 1996 ("the Act"), as may be amended from time to time. This section shall be interpreted to be as restrictive as possible while not violating the Act.

CCR - 051

Cedar Mill

Hendricks County, Indiana

Section (1) Antennas and Receivers. No antenna, satellite dish, or other device for the transmission or reception of radio, television, or satellite signals or any other form of electromagnetic radiation shall be erected, used or maintained outdoors and above ground, whether attached to a building or otherwise, except for satellite dishes of no more than two feet (2') in diameter on any residential Lot without the written approval of the Architectural Review Board, which approval shall not be unreasonably withheld; provided, however, that any such device may be installed and maintained on any Lot without the necessity of such written approval if: such device is not in the front yard of any Lot and (a) it is not visible from neighboring Lots, streets or common area; or (b) the Owner, prior to installation, has received the written consent of the Owners of all Lots who would have views of the device from their Lots; or (c) the device is virtually indistinguishable from structures, devices or improvements, such as heat pumps, air conditioning units, barbecue grills, patio furniture, and garden equipment, which are not prohibited by these covenants or by-laws, or (d) it is a satellite dish two (2) feet or less in diameter and not affixed to the roof of a residence.

CCR - 052

Country Place 6

Norman, Oklahoma

And other properties of Terra Verde Development

Oklahoma City, Oklahoma

Section 1 No structure, whether residence, accessory building, tennis court, swimming pool, antenna (on a structure or on a lot), flag poles, fences, walls, tree houses, platforms, exterior lighting, or other improvements, shall be constructed or maintained upon any lot, and no alteration or repainting to the exterior of a structure shall be made and no landscaping performed unless complete plans, specifications, and lot plans therefore, showing the exterior design, height, building material and color scheme thereof; the location of the structure plotted horizontally and vertically; the location and size of driveways; the general plan of landscaping, fencing, walls and windbreaks; and the grading plan shall have been submitted to and approved in writing by the Architectural Control Committee, and a copy of such plans, specifications, and lot plans as finally approved deposited with the Architectural Control Committee. The

Architectural Control Committee shall be composed of three or more representatives appointed by the Board of Directors of the Association. The initial members of which shall be Richard McKown, Vernon McKown and Todd Booze.

Section 18 No television, radio or other antenna shall be placed on any lot or improvement to a height exceeding five (5) feet above the highest point of any residence. In addition, no antenna of any kind, including satellite antennas or dishes shall be installed on any lot in the front yard, or side lot forward of the front fence line.

CCR - 053

Dauberton

York County, Pennsylvania

Section 11 Outside antennas of any kind are prohibited.

CCR - 054

Schottenstein Homes

Delaware County, Ohio

Section 1.14 All telephone service, cable television service or other utilities shall be constructed by underground lines; however, appurtenances to such services, such as transformers, amplifiers, and other similar devices, may be placed above ground if such devices are normally placed above ground by such utility in installing underground service. In the event of any questions or dispute, said issue shall be submitted to Grantor and the decision of the Grantor as to what may be placed above ground shall be final.

CCR - 055

Summerlin / Siena

Las Vegas, Nevada

Section P Antennas and Satellite Dishes. No exterior radio antenna or aerial, television antenna or aerial, microwave antenna, aerial or satellite dish, "C.B." antenna or other antenna or aerial of any type, which is visible from any street or from anywhere in the Properties, shall be erected or maintained on any Unit. Notwithstanding the foregoing, "Permitted Devices" (defined as antennas or satellite dishes: (i) which are one meter or less in diameter and designed to receive direct broadcast satellite service; or (ii) which are one meter or less in diameter or diagonal measurement and designed to receive video programming services via multi-point distribution services) shall be permitted, provided that such Permitted Device is:

- (1) located in the attic, crawl space, garage, or other interior space of the Dwelling, or within another approved structure on the Unit, so as not to be visible from outside the Dwelling or other structure, or, if such location is not reasonably practicable, then,
- (2) located in the rear yard of the Unit (i.e., the area between the plane formed by the front facade of the Dwelling and the rear lot line) and set back from all lot lines at least eight (8) feet; or, if such location is not reasonably practicable, then,
- (3) attached to or mounted on a deck or patio and extending no higher than the eaves of that portion of the roof of the Dwelling directly in front of such antenna; or, if such location is not reasonably practicable, then,

(4) attached to or mounted on the rear wall of the Dwelling so as to extend no higher than the eaves of the Dwelling at a point directly above the position where attached or mounted to the wall; provided that,

(5) if an Owner reasonably determines that a Permitted Device cannot be located in compliance with the foregoing portions of this Section without precluding reception of an acceptable quality signal, then the Owner may install such Permitted Device in the least conspicuous alternative location within the Unit where an acceptable quality signal can be obtained; provided further that,

(6) permitted Devices shall be reasonably screened from view from the street or any other portion of the Properties, and shall be subject to any Rules and Regulations adopted by the DRC or Board, establishing a preferred hierarchy of alternative locations, so long as the same do not unreasonably increase the cost of installation, or use of the Permitted Device. Declarant or the Association may, but are in no way obligated to, provide a master antenna or cable television antenna for use of all or some Owners. Declarant may grant easements for installation, maintenance, repair and/or replacement of any such master or cable television service.

CCR - 056
Woodcreek
Carrollton, Texas

Section 14 DEED RESTRICTIONS - WOODCREEK ADDITION. Antennas and Aerials. All television antennas and other antennas and aerials shall be located inside the attic or under roof, unless otherwise expressly permitted by the Architectural Committee.

CCR - 057
Palm Coast
Flagler County, Florida

Section G Unless prior written approval has been obtained from the Architectural Review Committee, no electronic or other antenna may be erected or maintained anywhere upon any of the Lots; provided, however, one (1) television antenna (excluding towers) may be erected on any improved Lot, if it does not project more than ten (10) feet above the highest point of the roof of the building.

CCR - 058
Hallbrook Townhomes Phase I
Polk County, Iowa

Section I No television or radio antenna, satellite dish or tower shall be placed or erected upon the roof of any building or upon any Lot or building in such a manner as to be visible from the exterior of the building. Notwithstanding any restriction herein to the contrary, satellite dishes or parabolic devices not exceeding eighteen (18) inches in diameter may be installed by an owner on or under the deck or in a window well associated with their Living Unit, or in such other location as may be approved in writing by the Declarant of the Association. Provided, however, in no event shall satellite dishes or parabolic devices be placed or maintained

in a manner that the Association deems to be aesthetically harmful to the appearance of the Properties (e.g., pole mounted devices visible to adjoining owners).

CCR - 059

Spring Ridge

Douglas County, Nebraska

Section 5. No exterior television or radio antenna, satellite receiving dish or exterior solar heating or cooling device of any sort shall be permitted on any Residential Lot or on the structures thereon. Nonetheless, provided technology becomes available and the resulting, small antenna device is approved by the DRB, and (1) such device may be approved per residence.

CCR - 060

The Crossings at Pine Lake

King County, Washington

Section J No exterior aerials, antennas, microwave receivers or satellite dishes for television or other purposes shall be permitted on any lot except for satellite dishes up to 24” in diameter that may be installed on the sides or the rear of the home. Installation of such satellite dishes shall be subject to the approval of the Committee. When mounted on the side of the home, they should be placed on the rear third of the house and the upper third of the wall. Rear mounted satellite dishes should be mounted near the corner of the home as close to the roof overhang as possible. No satellite dishes may be mounted on the front of the home. If reception requires a mounting location other than those specified above, a site review by the Committee is required prior to the approval.

CCR - 061

Le Club Condominium Association, New Jersey

Section G No external or visible radio, television or other type of aerial wiring, including wiring for electrical or telephone installations, television antenna, machines or air-conditioning units, shall be installed or fixed on or about the exterior of the Condominium building or protrude through the walls or the roof of the Condominium building, except as authorized by the Association.

CCR - 062

Freeman Farms

Maricopa County, Arizona

Section 3.1 No Construction or Modification shall be made or done without the prior written approval of the Design Review Committee.

Section 4.4 Antennas. Except for antennas, satellite dishes and other over-the-air receiving devices covered by the FCC rules governing Over-the-Air Reception Devices: Television Broadcast Service and Multi-channel Multipoint Distribution Service (the “FCC Rule”), no antenna for the transmission or reception of television or radio signals or for access to the internet shall be installed on any Lot or Parcel unless approved by the Board of Directors.

Any antenna, satellite dish or other receiving device covered by the FCC Rule may be installed on a Lot or Parcel without the prior approval of the Board of Directors provided the antenna, satellite dish or receiving device is placed inside a Residence or other Building or is placed on the portion of the Lot or Parcel which is the least visible from neighboring property and does not interfere with the viewer's ability to install, maintain or use the antenna, satellite dish or receiving device. The Board of Directors shall have the right to adopt rules and regulations with respect to the installation and placement of antennas, satellite dishes and other receiving devices; provided, however, that the Board of Directors shall not impose or enforce any rule or regulation which is inconsistent with or prohibited by the FCC Rule.

CCR - 063

**Flensted Homeowners Association
King County, Washington**

Section 8 Antennas and Service Facilities. Exterior antennas shall not be permitted to be placed on the roof of any structure and/or on any Lot so as to be visible from the street in front of said Lot. Satellite dishes may be visible from the street if no other location will provide satisfactory reception to the extent that this Section is now, or in the future, inconsistent with Federal Law regarding antennas and satellite dishes, it shall be deemed amended to comply with inconsistent Federal Laws in this field. Clotheslines and other service facilities shall be screened so as not to be seen from the street. Solar panels may be installed on roofs, however, they must blend with the roofing material. Installation must be approved, in writing, by the ACC with Board and/or ACC approval of size, color and location.

CCR - 064

**Forest Lakes Subdivision,
Northern Albemarle County
near Charlottesville, Virginia**

Section 10 No television antenna, satellite dish, radio receiver, radio sender, or other similar device shall be attached to or installed on any Residential Property or on the exterior portion of any building or structure on any Residential Property except as follows:

- a. The provisions of this paragraph shall not prohibit the Company from installing or approving the installation of equipment necessary for a master antenna system, Community Antenna Television (C.A.T.V.), mobile radio systems, or other similar systems within the Properties; and
- b. Should C.A.T.V. services or cable service be unavailable and good television reception not be otherwise available, the Owner or tenant of a dwelling unit, or the Owner of a Multiple Family Tract, may make written application to the Company for permission to install a television antenna, which may be approved or denied in the sole and uncontrolled discretion of the Company.

CCR - 065

**Winding River Plantation
Southport, North Carolina**

Section 10.10 Exterior Structures. No exterior structure of any kind nor any artificial vegetation or sculpture shall be constructed, erected or placed on the outside portion of the Unit, whether such portion is improved or unimproved, except in strict compliance with Article 9. This shall include without limitation, basketball hoops; swing sets and similar sports and play equipment; clotheslines; garbage cans; wood piles; swimming pools; seawalls, bulkheads, or piers; wells; window air-conditioning units; hot tubs; antennas; satellite dishes, or any other apparatus for the transmission or reception of television, radio, satellite, or other signals of any kind; and hedges, walls, dog runs, animal pens, or fences of any kind.

CCR - 066

Chatswood HOA

Sherman Oaks, California

No individual units can have an exterior radio, stereo or TV antenna.

No transmitting devices, including amateur radios and citizen band radios are to be operated within the property.

CCR - 067

Bay Harbor (Unit 1)

Nueces County, Texas

Section 2.02 Approval of Plans and Specifications. No building, fence, wall, bulkhead, slip or other structure shall be commenced, erected, or maintained upon the properties, nor shall any exterior addition to, or change or alteration therein, be made until the plans and specifications showing the nature, kind, structure, shape, height, color, materials, and location of the same shall have been submitted to, and approved in writing by, the Architectural Control Committee as to harmony of external design, appearance and location in relation to surrounding structures and topography. The Architectural Control Committee may approve, in whole or in part, or may reject, in whole or in part, in its sole judgment.

Section 4.18 No outside antennas larger than a normal television antenna to receive local channels for household reception shall be used. No radio towers are permitted larger than the size of a normal television antenna as described above.

CCR - 068

Sheffield Estates at Pope Farms

By NV Homes

Many locations: Virginia, Maryland, Pennsylvania, New Jersey, DC

Section m Except as set out below, no outside television aerial or radio antenna, or other aerial or antenna for either reception or transmission, including, but not limited to, satellite dish antenna, shall be maintained upon the Property except that such aeriels or antennae may be erected and maintained within the dwellings located upon the Property. Notwithstanding the foregoing, the small 18” to 24” satellite dishes shall be permitted so long as they are not mounted on the house, but are set on the ground and screened with landscaping to the satisfaction of the Covenant Committee.

CCR - 069

**The Villages of Park Glen
Tarrant County, Texas**

Section l Except with the written permission of Declarant, no antennas, discs or other equipment for receiving or sending sound or video messages shall be permitted on the Property except for antennas for AM or FM radio reception and UHF or VHF television reception. All antennas shall be located inside the attic of the main residential structure, except that, with the written permission of Declarant, one antenna may be permitted to be attached to the roof of the main residential structure (but only if the place of attachment is not visible from the street in front of the house) and to extend above said roof a maximum of five feet. Notwithstanding anything of the contrary in this Declaration, no satellite dish or other similar instrument or structure is permitted on the Property unless approved in writing by Declarant.

CCR - 070

**Parkside at Mayfaire HOA
Wilmington, North Carolina**

STATUARY, TV SATELLITE DISHES AND OUTSIDE ANTENNAS. No yard statuary, yard art, or TV satellite signal receiving dishes are permitted on any Lot and no outside radio or television antennas shall be erected on any Lot, or dwelling unit unless and until permission for the same has been granted by the Board of Directors of the Association or its Architectural Control Committee; provide, however, satellite dishes not over eighteen inches (18”) in diameter which cannot be seen from the street are permitted.

CCR - 071

**Harbor Lights
Kitsap County, Washington**

Section3.13 ANTENNA. No Lot owner shall be permitted to install, erect and/or maintain any antenna, including satellite dishes.

CCR - 072

**Tahoe Donner
Truckee, California**

Section h Antenna, External Fixtures, etc. No television or radio poles, antenna, television satellite reception dishes, flag poles, clothesline, or other external fixtures except those approved by the Environmental Control Committee, shall be constructed, erected or maintained on any Lot. No wiring, insulation, air-conditioning or other machinery or equipment, other than those approved by the Committee, and their duplicate replacements shall be constructed, erected or maintained on or within the exterior of any structure within the Properties.

CCR - 073

Royal Highlands Planned Unit Development Community

Leesburg, Florida

Section 15

Building Restrictions, at 15.14: *No individual Tall Ham Radio antennas will be permitted. Ham radio antennas of the “ground mounted vertical” type which are not more than 25 feet high measured from ground level and which are attached to the home located on the lot are permitted and are judged as giving ham operators reasonable access to the airwaves while at the same time maintaining high appearance standards in the community.*

CCR - 074

Wellington Hills

Springfield, Missouri

No radio towers or antennas either for receiving or transmitting shall be erected on any lot or on the exterior of the house in said sub-division. Television antennas, not to exceed six (6) feet above the ridge of the house are permitted. Disks would be permitted in back yards only.

CCR - 075

Harbor Point Yacht Club

Gainesville, Georgia

Section 11

Antennas and Satellite Dishes. No transmission antennas or satellite dishes of any kind, and no direct broadcast satellite (“DBS”) antennas or multi-channel multi-point distribution service (“MMDS”) antennas larger than one (1) meter in diameter, shall be placed, allowed or maintained upon any portion of the Community, including any Lot, without the prior written consent of the ARC. DBS and MMDS antennas and satellite dishes one (1) meter or less in diameter and television broadcast service antennas may be installed only if reasonably screened and located as approved by the ARC and installed in accordance with the rules and regulations of the Federal Communications Commission and of the Association, both as may be amended from time to time. However, the Board and Declarant reserve the right to (but shall not be obligated to) erect any type and size of master antenna, satellite dish or other similar master system for the benefit of the Community. Each Owner and Occupant acknowledges that this provision benefits all Owners and Occupants and each Owner and Occupant agrees to comply with this provision despite the fact that the erection of an individual outdoor antenna or similar device would be the most cost-effective way to receive the signals sought to be received.

CCR - 076

Bear Creek Village (Section 10)

Harris County, Texas

Section 19

Maximum Height of Antennae. No electronic antenna or device of any type other than an antenna for receiving normal television signals shall be erected, constructed, placed or permitted to remain on any Lot, houses, or building. Television antennae may be attached to the house provided however, such antenna must be located to the rear of the roof ridge line, gable or center line of the principal dwelling. Freestanding antennae must be attached to and located behind the rear wall of the main residential structure. No antennae, either

freestanding or attached, shall be permitted to extend more than ten (10) feet above the roof of the main residential structure on the Lot, or shall be erected on a wooden pole.

CCR - 077

Eagle Creek Homeowners Association, Inc.

Allen County, Indiana

Section 7 Tower Antennae. Unless otherwise approved in writing by the Board, no radio or television or other type of antennae or supporting structure may rise more than six (6) feet above the highest point of the roof of any building. Such antennae must be attached to the main dwelling.

Section 11 Communication Equipment. No Communication receiving or transmitting device or equipment shall be used on any lot which interferes with the television reception on any other Lot without the prior written consent of the Architectural Control Committee, which consent may be withheld or, once given, revoked for any reason.

CCR - 078

Valley Manufactured Housing

Yakima County, Washington

Section 3 Antennas. No exterior radio or telecommunication towers, antenna or other exterior transmission or receiving device shall be maintained on any lot.

CCR - 079

Highland Acres / Lakeside Heights

Clay County, Missouri

No short wave, ham radio, or commercial radio antennas shall be erected or maintained in the subdivision of Highland Acres. The only type antennas which shall be permitted shall be exterior television type antennas.

CCR - 080

Silver Ridge HOA

Portland, Oregon

1. No improvement shall be commenced, erected, placed, altered or maintained on any Building Lot by an Owner until the design plans and specifications showing the nature, shape, heights, materials, colors, proposed location, and anticipated date of completion of the improvement, have been submitted to and approved in writing by the Architectural Review Committee. Photographs or sketches of similar completed Improvements will aid in the Architectural Review Committees consideration. If the improvement affects the existing drainage pattern, the proposed drainage pattern must be included. If formal plans and review by a licensed architect or engineer are required by the Architectural Review Committee, the Owner making the request will be responsible for paying the costs of services and all other costs associated with the improvement, including Managing Agent's fees for coordinating and/or assisting with the request.

CCR - 081

Camden Forest

Wake County, North Carolina

Section 18 Antennae. No exterior antenna, earth satellite station, microwave dish or other similar improvements may be constructed, placed, maintained or allowed to remain on any Lot or any Improvement located on any Lot unless the same is no greater than twenty-four (24) inches in diameter and is screened by materials approved by the Architectural Control Committee so that it cannot be seen from the street on which the single-family residence situated on the Lot fronts or from any adjacent Lot.

CCR - 082

Garden Lakes Community Association

Bradenton, Florida

Article IX – Use Restrictions

Paragraph 9.9 Antennas and Masts. “No television, radio or other electronic antenna, mast or other similar device shall be erected, constructed, placed or permitted to remain upon any Residential Unit or upon any building constructed on such Residential Unit, or within any Component Community, or within Garden Lakes, except in conformance with uniform rules and standards established by the Community Association. Nothing contained herein shall limit the right of the Community Association to establish master or community antennae or masts as part of the Common Property.” Note that no “uniform rules and standards” have ever been established to permit any antennas or masts.

CCR - 083

Vista Montana

Santa Fe County, New Mexico

Section 22 Television and Radio Antennas. No radio, television or transmission towers or aerials shall be erected, placed or permitted upon any lot within Vista Montana. This restriction shall not prohibit home type television antennas not to exceed five (5) feet above the roof of a residence or dish type antennas located on the ground.

CCR - 084

Plantation Pines

Beaver Creek Land Company, Alabama

Section 19 Antennas and Satellite Discs. Satellite antenna discs and any and all other transmitting or receiving antenna type devices within the subdivision or on the exterior of any house within any subdivision or on the exterior of any house within the subdivisions are discouraged, but may be approved as the need, size, location, required screening and nay other respects by the ARB, whose absolute discretion in these matters shall be unrestricted. Likewise, there shall be no ham radio transmission equipment or other electronic transmission equipment operated or permitted to be operated on subject property without the prior written approval of the

ARB. Any such approval granted by the ARB may be withdrawn and determined if it is determined by the ARB that said approval is resulting in an unnecessary or unreasonable interference with the rights of the subdivision in general or any individual lot owner within the subdivision.

CCR - 085

Skywest HOA

Contra Costa County, California

Section 3.6 Cable Television Service. To avoid the necessity of a separate television antenna for each Lot, cable television service will be provided to each Lot. No individual antennas or connections shall be allowed at any Lot. A nominal monthly fee will be charged each Owner using this cable television service by the cable providing company. All cable and wiring shall be run underground and side the residence, none showing externally.

Section 10.19 Antennas. No antenna for transmission or reception of television signals or other form of electromagnetic radiation shall be erected, used or maintained outdoors, whether attached to a building or structure or otherwise.

CCR - 086

Sunset Ranch Estates

Pima County, Arizona

Section 3.8 Antennae. In no event shall roof-mounted satellite dishes be permitted. Except for a master satellite dish for the benefit of the entire Project that may be approved by the Association, no antenna or other device for the transmission or reception of television or radio signals or any other form of electromagnetic radiation including, without limitation, satellite or microwave dishes, shall be erected, used or maintained on any Lot without the prior written approval of the Architectural Committee.

CCR - 087

Surprise Farms II

Surprise, Arizona

Section H Antennas. No antenna or other device for the transmission or reception of television or radio signals or any other form of electromagnetic radiation, including, but not limited to, satellite television or radio discs, antennas or equipment, shall be erected, used or maintained outdoors on any Lot or Parcel, whether attached to a building or structure or otherwise, unless approved in writing by the Design Review Committee, unless applicable law prohibits the Design Review Committee from requiring such prior approval. Even if applicable law prohibits the Design Review Committee from requiring prior approval of certain types of antennas or other devices for the transmission or reception of television or radio signals or any other form of electromagnetic radiation, any such antennas or other devices must be installed or

constructed in accordance with such regulations as the Design Review Committee may adopt. Subject to compliance with applicable law, the Design Review Committee may regulate location, placement and appearance of such devices. The provisions of this Subsection (h) shall not apply to any telecommunications center which may be constructed and/or operated by the Declarant or any machinery, equipment, satellite disc wires and other facilities used in connection with the operation of any such telecommunications center.

CCR - 088

**Kellonia Reality Associates
California Condominium Association
Fairfield County, Connecticut**

Section D Unit owners shall not cause or permit anything to be hung or displayed on the outside of windows or placed on the outside walls of any of the buildings and no sign, awnings, canopies, shutters or radio or television antennas shall be affixed to or placed upon the exterior walls or roofs or any part thereof without the prior consent of the Board of Directors.

CCR - 089

**Lee's Crossing
Fredericksburg, Virginia**

Antennae In accordance with Article VI, Section 7.14, antennas, dishes or receivers that do not exceed one meter in dimension are permitted by the ARC in accordance with applicable federal law. Owners are requested to install them in the least obtrusive location that allows acceptable reception.

CCR - 090

**Valley Lakes Community
Lake County, Illinois**

Section 8.10 Antennae and Satellite Dishes. Exterior radio antennae and exterior television antennae are prohibited on all Residence Buildings and grounds containing Residence Buildings. Satellite dishes shall be allowed on grounds containing Residence Buildings, provided the style and proposed location of such satellite dish has been approved by the Architectural Review Committee, subject to the following restrictions:

- (a) the satellite dish shall not exceed eighteen inches (18") in diameter; and
- (b) the satellite dish must not interfere at any time with the reception of television and radio signals by other Unit Owners within the Developed Property.

CCR - 091

**Glenleaf
Gwinnett County, Georgia**

Section 7.4 Signs and Exterior Appearance. Subject to the terms of Sections 2.12 and 7.14 hereof, no Unit owner shall, without the prior written consent of the Board of Directors of

the Association, place or suffer to be placed or maintained (i) on any exterior door, wall, or window of the Unit, or upon any door, wall or window of the common elements, any sign, awning, canopy, window box, or advertising matter or other thing of any kind, (ii) any decoration, lettering, or advertising matter on the glass of any window or door of the Unit, or (iii) any advertising matter within the Unit which shall be visible for the exterior thereof. The approval of any signs or posters, including, without limitation, name and address signs, shall be upon such conditions as may be from time to time determined by the Board of Directors of the Association and may be arbitrarily withheld. The Association shall have the right to erect reasonable signage on any portion of the common elements. The foregoing provisions of this Section 7.4 shall not apply, however, to the Declarant, its agents and employees. Further, no foil or other reflective materials shall be used on any windows for sun screens, blinds, drapery linings, interior shutters, and other window treatments visible from the exterior of a Unit on any window or door shall be white or off-white. Outside clotheslines and other outside facilities for drying or airing clothes are specifically prohibited and shall not be erected, placed or maintained on any portion of the Condominium, nor shall any clothing, rugs, or any other item be hung on or from any window, balcony, or patio railing.

EXHIBIT D

CASE STUDIES; CC&R EXPERIENCES OF LICENSED RADIO AMATEURS

The following are the responses of individual Amateur Radio licensees to an ARRL survey. The following stories are just a few examples taken from the approximately 870 responses received from radio Amateurs within a three-week period in April and May, 2012. These narratives explain the limitations suffered by licensed radio Amateurs in their efforts to participate in Amateur Radio emergency communications programs, preparedness exercises, and actual emergency and disaster relief communications when called upon to do so as the result of private land use restrictions in their residential communities.

Case Study # 001

Mervyn Schweigert, K9FD
POB 351
Mauna Loa HI 96770

Mervyn is a participant in the Amateur Radio Emergency Service (ARES) program. He currently lives in a CC&R-controlled community. He does have a small VHF and UHF antenna where he lives but it must be used indoors which diminishes its utility. In the past, he has not purchased real property for his residence because deed restrictions prohibited the installation of antenna support structures. However, he says that he could not have found other property in the area where he currently lives where antennas would have been permitted. He says that his participation in Amateur Radio emergency communications activities have been affected by his inability to install and maintain adequate antennas and support structures due to CC&Rs.

He states that at his residence, there are no outdoor antennas permitted, including none on his balcony at all. He has been denied permission to erect antennas because of deed restrictions, and the rules of his development have been changed since he took up residence there such that there is now a prohibition of antennas and support structures. He met with the community association and asked for permission to install an antenna but was denied permission. He says that he asked to put mobile antenna on the balcony of his condominium unit but that the request was rejected. He also asked to use a "stealth wire" to a tree in front of condominium but that too was rejected. He was told that nothing is allowed at all that makes one unit look any different than another. He now has no functional antenna at his residence.

Case Study # 002

Michael G. Weisel AB8GZ
16 Longbranch Drive
Martinsburg, West Virginia 25405-8980

Michael reports that the covenants in his subdivision prohibit basically ALL antennas regardless of use. The Development owns a cell tower that it uses as an income source. The cell tower obviously uses antennas but no one else is allowed to have any antennas, except that satellite dish antennas for TV satellite reception are allowed.

Michael purchased the property subject to private antenna restrictions when he moved to Martinsburg with his first wife, who passed away in June of 2005. In July of 2006 Michael

became re-involved in amateur radio and works with the Opequan Radio Society which has an Amateur Station at the Veterans Hospital in Martinsburg, West Virginia. Since Michael had considerable experience as a Net Control Operator with the Northern Virginia Traffic Net (NVTN) before moving to West Virginia, he agreed to do a Wednesday night emergency communications training net for the club. The club agreed with the VA Hospital to provide emergency communications in the event of a telephone failure at the hospital. When he worked with the NVTN he handled messages to and from the Virginia Traffic Net from 1997 until the end of 1999 at which time he moved to West Virginia.

Michael has been able to use only his 2-meter equipment to participate in the Opequan Radio Society Net which is a training net that meets every Wednesday night on the club repeater on 145.150 MHz at 2030. He cannot participate in relaying traffic to the West Virginia HF nets as I did with the Virginia nets due to the antenna restrictions which preclude his use of the High Frequency Amateur Radio allocations.

Case Study # 003

Christopher Meadows, KC4RWF
1933 Bell Lane,
Braselton, GA 30517

Christopher is a participant in the Citizen's Emergency Response Team, an emergency communications function of FEMA's Citizen's Corps program. He is also a participant in the SKYWARN program operated by the National Weather Service. He currently lives in a CC&R-controlled community. In the past, he has not purchased real property for his residence because deed restrictions prohibited the installation of antenna support structures. However, he says that he could not have found other property in the area where he currently lives where antennas would have been permitted. He says that his participation in Amateur Radio emergency communications activities have been affected by his inability to install and maintain adequate antennas and support structures due to CC&Rs.

He does have a "stealth" antenna for the High Frequency bands but it cannot be used due to the private land use restrictions. He says that antenna restrictions imposed by his homeowner's association preclude the use of his "stealth" HF wire antenna. The prohibition on external VHF antennas limits his ability to reach a primary Amateur repeaters used in emergency operations.

Christopher says that he did meet with the HOA seeking permission to install an antenna but that he was denied permission to do so. He wrote a detailed letter explaining the benefits of allowing him to install a standard, 43-foot HF vertical antenna. In his letter to his HOA, he explained his obligation pursuant to Part 97 Rules to perform a RF Safety study and provided the results of that study showing that his proposed installation would be safe and not cause radio frequency (RF) interference to his neighbors. He further noted that, should any interference be experienced, it would be his responsibility to correct the problem or cease operation. His application was very quickly denied.

Case Study # 004

Robert Muniz, K7VG

(address withheld)
N. Las Vegas NV

Robert participates in ARES, RACES and in the SKYWARN programs. He currently lives in a CC&R-controlled community. He says that his participation in Amateur Radio emergency communications activities have been affected by his inability to install and maintain adequate antennas and support structures due to CC&Rs. He currently has an antenna at his residence, but they are not permitted by the CC&Rs and that he has received “warnings to take the antenna down” from his homeowner’s association.

Robert’s antenna is about 6 feet above the ground. It is so low as to be essentially nonfunctional, but he keeps it low so that his neighbors don’t see it. Nevertheless, he still receives warnings to remove it.

Case Study # 005

Frank Marott, N6FMT
1108 Stone Gate Drive
Irving, TX 75063

With the exception of small TV dish antennas, there are no other antennas visible or allowed in his very large community. Frank has lived in this same Valley Ranch community for 26 years. He must operate his Amateur station using whip antennas temporarily placed outside of a window. Obviously, he says, this severely restricts the operating range of the equipment. He has operational capability for both HF and VHF, such as it is..

Given the importance of emergency communications in the area that Frank lives, it is difficult for him to understand why there is not more of an accommodation for Amateur Radio. The metropolitan Dallas area just experienced more than a dozen tornados within the past three weeks.

Case Study # 006

Gerard Schnock, W6JFS
22579 Pin Tail Dr.
Canyon Lake, CA 92587

Gerard participates in Amateur Radio emergency communications activities with the Crest Radio Communications (REACT) team. He currently lives in a CC&R-controlled community. He says that he could not have found other property in the area where he currently lives where antennas would have been permitted. He says that his participation in Amateur Radio emergency communications activities have been affected by his inability to install and maintain adequate antennas and support structures due to CC&Rs. He currently has a VHF and UHF antenna at his residence but it is not permitted by the CC&Rs. In the past, he has decided not to purchase real property or a residence in the past because deed restrictions prohibited the installation of antennas or antenna support structures.

He says that at VHF & UHF he can hide the antenna from view. The same is not true for an HF antenna. The CC&Rs don't allow him to operate a radio transmitter at all from his residence. Gerard has been denied permission to erect antennas because of deed restrictions. He met with the HOA or Architectural Control Committee asking permission to install an antenna or antenna support structure but was denied permission to erect an antenna. He met with the Board years ago, but they would not even talk about the issue with him.

Case Study # 007

Ed Moss, N0LJD
3510 Hancock St #26
Bellevue, NE 68005

Ed sent to ARRL a copy of the "Rules and Regulations" for the home he currently rents. Those rules read in part as follows: "No outside T.V., C.B. or ham radio antennas. Satellite Dishes under 36" in diameter are allowed if placed out of sight from the street."

Ed notes that the statement excluding "outside T.V." is in conflict with the FCC rules as it makes no allowance for over-the-air television broadcast antennas. He is unable to conduct any Amateur Radio operation from his residence. He notes that inside of his home, it is "nearly impossible" to obtain a reliable signal for his NOAA weather radio. For that purpose, Ed utilizes a dipole antenna that is taped to the inside of a window.

Ed would like to erect a single vertical antenna for VHF and UHF for participation in local emergency management nets. This would be on a mast no higher than 12 ft from the peak of the roof as the FCC allows for television reception. He also would seek only to utilize a Yagi antenna for 50, 144 and/or 440 MHz that would be similar in size and appearance to a traditional television antenna. Additional operation on the HF bands could be from the use of a vertical "flag pole" style antenna or by hoisting the feed point of a dipole up a temporary mast for use only during times of operation. However, none of these options exist for Ed at the present time.

Case Study # 008

Michael Peters, WB2V
58B Essex Road
Monroe Twp, NJ 08831

Michael is associated with the Military Affiliate Radio Service (MARS). He currently lives in a CC&R-controlled community. He says that his participation in Amateur Radio emergency communications activities has been affected by his inability to install and maintain adequate antennas and support structures due to CC&Rs. He currently has an HF antenna in the attic at his residence. His attic antenna is not effective for use on the 3.7-4.0 MHz band, which is a primary MARS band. He has been denied permission to erect antennas because of deed restrictions.

Michael met with his HOA asking permission to install an antenna for his MARS activities but he was denied permission. He provided a letter from his MARS director identifying him as an active MARS member and what the MARS mission is. His application was denied and the Association also denied his application for a 21-foot vertical antenna.

Case Study # 009

James Griffiths, K2EI
25 Whitesands Way
Little Silver, NJ.

James participates in ARES and with “Little Silver Emergency Management”. He currently lives in a CC&R-controlled community. He says that he could not have found other property in the area where he currently lives where antennas would have been permitted. He says that his participation in Amateur Radio emergency communications activities has been affected by his inability to install and maintain adequate antennas and support structures due to CC&Rs. He has no antenna at his residence now. In the past, he has not purchased a property or residence in the past because deed restrictions prohibited the installation of antennas.

There is a total prohibition of external antennas in James’ subdivision. He has been denied permission to erect antennas because of deed restrictions. He met with his HOA seeking permission to install an antenna but was denied permission to erect any antenna. James made detailed explanation of amateur radio emergency communications in general and the specific problems of not being able to operate during Hurricane Irene in 2011 when his townhouse condo community of 123 homes was without phone service and electrical power and suffered other damage. James is the deputy emergency manager for the Town of Little Silver, NJ. His requests for an antenna were rejected by the condo board based on current CC&R rules.

Case Study # 010

Samuel Miceli
1380 Suffield Street
The Villages, FL 32162

Samuel’s Deed Restrictions at The Villages, Florida read as follows:

2.16 Aerials, satellite reception dishes, and antennas of any kind are prohibited within the Subdivision to the extent allowed by law. The location of any approved device will be as previously approved by the Developer in writing.

It restricts all antennas for any purpose. The only exemption that has been granted to homeowners is for ground mounted TV dishes. When Samuel’s family were looking at options for moving to Florida, The Villages was one of the few places that offered the lifestyle they were looking for. Most senior communities in Florida are deed restricted. Initially it was not an issue, until Samuel became involved in disaster response through the Villages Public Safety Department. As the Deputy Commander of Community Emergency Response Team (CERT) of the Villages, (and from 30 years in the fire service), Samuel knows how important

communications is in an emergency. For that reason, he got his General Class Amateur license, joined the Sumter County ARES and became a NOAA Weather Spotter. He knew the necessity of a good antenna for reliable communications.

Due to the above restrictions, he limited to whatever I can 'hide in plain sight' or stuff into an attic. 144 MHz VHF is accomplished on a limited basis by making a co-axial dipole disappear in a 'vent pipe'. But for HF, a span of 34 feet inside an attic is prohibitive. Further, there are no tall trees on his property in which to conceal an antenna (which is not permitted in any case). A reasonable exemption from this restriction would be most useful. Samuel did not apply to the HOA for an exemption, because there is a long history of such requests being summarily denied on the basis of the language of the CC&Rs.

Case Study # 011 Ernest Silverthorn, NM5M
6404 Castlemere Drive
Plano Texas 75093

Ernest participates in the ARES group in Colin County, Texas. He currently lives in a CC&R-controlled community. He says that he could not have found other property in the area where he currently lives where antennas would have been permitted. He says that his participation in Amateur Radio emergency communications activities has been affected by his inability to install and maintain adequate antennas and support structures due to CC&Rs. Specifically, his ability to participate in ARES activities requires VHF/UHF repeater access. His ability to access the ARES repeaters is compromised because indoor antennas must be used.

Ernest has been denied permission to erect antennas because of deed restrictions. He petitioned the architectural committee in his neighborhood to obtain a waiver to install low profile outdoor antennas without success. He received cease and desist letters after deploying temporary antennas for emergency use.

Case Study # 012 Jeff Garvas, N8YNR
9821 Firestone Lane
Macedonia, Ohio

Jeff participates in the NE Ohio Medical Response Corps, ARES and SKYWARN. He currently lives in a CC&R-controlled community. He has in the past refused to purchase property due to the presence of deed restrictions applicable to the property. He says that he could not have found other property in the area where he currently lives where antennas would have been permitted. He says that his participation in Amateur Radio emergency communications activities has been affected by his inability to install and maintain adequate antennas and support structures due to CC&Rs. He currently has VHF/UHF antennas.

Jeff has been denied permission to erect antennas because of deed restrictions. His city refuses to accept a land use application due to the city's knowledge of CC&Rs in the area. He lives on a

hill in a wooded lot. There is no reason he can't integrate an antenna into his lot unobtrusively. Just 15 houses away there are antennas and antenna support structures.

Jeff did meet with the HOA seeking permission to install an antenna/antenna support structure but was denied permission to erect an antenna. His subdivision never formally formed an HOA so the City and the original developer act as if they're an elected board. The City won't let Jeff apply for a permit because they know that the CC&R's exist, and the developer denies virtually anything brought to its attention. Jeff's property sits atop a hill at approximately 1400' ASL, on the same level with some repeater building elevations, and within 100' of the highest point in the county. His property abuts a wooded lot and an antenna could easily be blended into the landscape. The CC&R's don't just prohibit tower structures. Jeff is effectively prohibited from having any antenna anywhere on his property. As the CC&Rs read, they would prohibit antennas on his motor vehicles.

Even the UHF antenna in Jeff's attic away from anyone's view is in violation of the CC&Rs because it prohibits "antennas" on the property. Jeff states that the Commission's failure to apply to CC&Rs its limited preemption policy effectively nullifies the Commission's intent since virtually all new residential developmental CC&R restricted.

Case Study # 013

Dennis Rucker, WR9U
2130 Lillian Lane
Lisle, IL 60532-1100

Dennis participates in ARES; The Community Emergency Response Team (CERT); and SKYWARN. He is an Official Emergency Station in the ARES program. He currently lives in a CC&R-controlled community. He says that he could not have found other property in the area where he currently lives where antennas would have been permitted. He says that his participation in Amateur Radio emergency communications activities has been affected by his inability to install and maintain adequate antennas and support structures due to CC&Rs. He currently has antennas inside his residence, the performance of which is seriously compromised and he has no ability to erect any outdoor HF antenna.

Dennis has been denied permission to erect antennas because of deed restrictions. He has met with his HOA seeking permission to erect outdoor antennas. The original developer had given Dennis permission to install exterior antennas. Later, after the HOA took control, Dennis was denied the ability to erect any exterior antenna. He has met with the HOA Board of Directors on a number of occasions. The answer is always "no exterior antennas".

Case Study # 014

Dennis Davis, KS0DX
3812 SW Windjammer Ct.
Lees Summit, MO 64082

Dennis participates in the Community Emergency Response Team (CERT); and SKYWARN. He currently lives in a CC&R-controlled community. He says that he could not have found other property in the area where he currently lives where antennas would have been permitted. He says that his participation in Amateur Radio emergency communications activities has been affected by his inability to install and maintain adequate antennas and support structures due to CC&Rs. He has no antennas at his residence. He has no ability to erect any outdoor antenna.

Dennis has been denied permission to erect antennas because of deed restrictions. He has met with his HOA seeking permission to erect outdoor antennas. With no exterior antenna allowed he is unable to operate from his home.

In the covenants applicable to his subdivision it says to apply to the Architectural Committee. They denied his request for an exterior antenna indicating an internal antenna is sufficient for HF, though research has proven that wrong. He cannot use indoor antennas because they create too much RF radiation in his house. The Architectural Committee initially approved a flag pole which he also used as an antenna but the Committee came back two years later and said since it is also an antenna Dennis had to remove it because no exterior antennas are allowed.

Case Study # 015

Dennis Casey WA5RCL
1129 Hampton Drive
Allen, Texas 75013-3633

Dennis has lived in the Watters Crossing subdivision since 1994. After being very active in Amateur Radio since 1965, since 1994 I have effectively been shut down from most Amateur Radio activity.

The CC&Rs applicable to this subdivision prohibit all accessory structures "except with the written permission of the Committee ..." The Committee, however denies all written permission for outdoor HF antennas. The CC&Rs also prohibit such devices as cell phones, wireless baby monitors, and wireless internet routers on the property, but of course those restrictions are not enforced. The subdivision is in the Dallas / Fort Worth metroplex in North Texas. For at least the past 20 years it has been virtually impossible to purchase a new home in the metroplex that isn't under similar restrictions. The argument that "It is your fault for buying there; you should have purchased a home in a location that doesn't have CC&Rs" may be well intentioned, but it reflects ignorance about the housing market this area.

Case Study # 016

Don Brazie KD7GYA
27355 N. 91st. Lane,
Peoria, AZ 85383

Don participates in the ARES, RACES and SKYWARN programs and also volunteers with the Maricopa County Emergency Communications Group (MCECG). He currently lives in a CC&R-controlled community. He says that he could not have found other property in the area where he currently lives where antennas would have been permitted. He says that his participation in

Amateur Radio emergency communications activities has been affected by his inability to install and maintain adequate antennas and support structures due to CC&Rs. He has indoor VHF and UHF antennas at his residence now. He has no ability to erect any outdoor antenna. Don lives in north Peoria, and sees many storms & high winds in monsoon season and some winter storms. One outdoor vertical antenna would allow him to access many repeaters, and to communicate with his hospital command center.

Don has been denied permission to erect antennas because of deed restrictions. He has met with his HOA seeking permission to erect outdoor antennas but has been denied. He has put a vertical antenna on a tripod on the side of the house and even in the back of the yard, behind a tree. he has said he will paint the antenna. He cannot obtain approval for this antenna or any other. The antenna is barely visible from the front of his property if one is looking for it. People behind Don have big trees in their yard and can't see his tripod.

Case Study # 017

Bill South, N4SV
7268 Tinsley Way
Manassas, Virginia

Bill participates in SKYWARN and in other emergency communications programs sponsored by the OVH Amateur Radio Club of Manassas, VA. He currently lives in a CC&R-controlled community. He says that he could not have found other property in the area where he currently lives where antennas would have been permitted. He says that his participation in Amateur Radio emergency communications activities has been affected by his inability to install and maintain adequate antennas and support structures due to CC&Rs. He has no antennas at his residence now. He has no ability to erect any outdoor antenna. Bill has in the past refused to purchase property subject to deed restrictions.

Bill says that he has no amateur antennas at his home specifically because of the antenna restrictions of his HOA. If there were no restrictions he would have had amateur radio antennas installed. Although the area in Northern Virginia where Bill and his family choose to live is still somewhat rural, there are no acceptable subdivisions that do not have restrictive HOAs and associated CC&Rs in place.

Bill was 3 days away from settling on an earlier home purchase in the area, but when they received the HOA documents and read the various restrictions (not the least of which were the antenna restrictions), they canceled the purchase. There was a lot of time, effort and money spent trying to purchase that home, but it was all undone by overly restrictive HOA CC&Rs. Several months later they settled on a home that, while still under quite restrictive HOA CC&Rs, was otherwise perfect for the family's wants and needs.

The HOA document describing the many CC&R/deed restrictions is 109 pages long. Many of those pages have signature lines and letter heads from various legal firms. It is quite apparent the HOA availed itself of many lawyers in the writing of the document, obviously so there were no "loopholes" that residents might use to circumvent those restrictions. It is obvious by the

wording related to the restrictions of antennas of any type being placed on the homes in this neighborhood that the HOA takes a very dim view of them. Any attempt to get a waiver to install amateur radio antennas of any type would have obviously been denied, so I didn't try. I did not want to create potential hostility between myself and the HOA when there was no hope of gaining their approval. It was made quite apparent verbally by the HOA president and Architectural Committee chairman that they had a personal animosity on the subject of antennas and they would disapprove any application. The last thing Bill needed is a vengeful HOA president living across the street from his house, in a dispute over a request to install antennas. Bill feared that such a request might trigger an overly vigorous enforcement of other aspects of the HOA CC&Rs. A group of other residents attempted to oust those in charge of the HOA on the basis that the HOA was not exercising its authority in the best interests of the residents, but that attempt failed. So, while Bill and others who feel that many aspects of the HOA document restrictions are overly strict (including the antenna restrictions), and so too are those who are enforcing those rules, they have had little success changing either the people in charge of the HOA, or the HOA rules themselves.

Case Study # 018

Lawrence Cable, KA5VOD
23818 Firegate Dr
Spring, TX 77373-8513

Lawrence is a member of ARES but he is not currently active because he has no ability to communicate via Amateur Radio. He currently lives in a CC&R-controlled community. He says that he could not have found other property in the area where he currently lives where antennas would have been permitted. He says that his participation in Amateur Radio emergency communications activities has been affected by his inability to install and maintain antennas and support structures due to CC&Rs. He has no antennas at his residence now. Lawrence has in the past refused to purchase property subject to deed restrictions.

Lawrence is not allowed to install antennas and therefore cannot contribute to ARES. He did meet with his HOA to ask for permission to install an outdoor antenna. He provided detailed drawings of proposed locations and the antenna configurations. The HOA rejected it, and any other attempt to install any form of antenna at his residence.

Case Study # 019

Robert Klug NA6AF
2421 E Cerrada de Promesa
Tucson, AZ

Robert participates in emergency communications activities of the Oro Valley Amateur Radio Club. He currently lives in a CC&R-controlled community and in fact serves on the Board of his neighborhood association. He says that he could not have found other property in the area where he currently lives where antennas would have been permitted. He says that his participation in Amateur Radio emergency communications activities has been affected by his inability to install and maintain adequate antennas and support structures due to CC&Rs. He has an outdoor HF antenna at his residence now.

Robert owns a lot with no recorded CC&Rs (there are several like me around me also) in a larger community with CC&Rs. There is not a HOA but a neighborhood association. The association can place a notice of violation on any property and the cost is a sheet of paper, an envelope and a first class stamp. Removing the lien is very expensive and no guarantee that the neighbors will not start a hate campaign against you or other legal action. So even with no CC&Rs, there is an uphill battle. Robert's antenna is a 24 ft flagpole which is a significant compromise. Putting up a real antenna is in his view a catalyst for a lawsuit. That reflects his experience as a resident for over 20 years and a member of the Board of the association.

Case Study # 020

Steven Carmean, K9DY
6402 Deerwood Ct
Greenwood, IN

Steven is active with ARES; RACES; the Community Emergency Response Team (CERT); and SKYWARN. He currently lives in a CC&R-controlled community. He says that he could not have found other property in the area where he currently lives where antennas would have been permitted. He says that his participation in Amateur Radio emergency communications activities has been affected by his inability to install and maintain adequate antennas and support structures due to CC&Rs. He has ineffective HF and VHF antennas in the attic at his residence now. In the past, he has refused to purchase real property due to the presence of CC&Rs that prohibit antennas.

Steven has been denied permission to erect outdoor antennas because of deed restrictions. He has met with his HOA seeking permission to erect outdoor antennas. He reports an inadequate capability to participate in statewide EMA activities via HF Amateur Radio. During a recent VHF net, Steven's local repeater failed, and the net moved to simplex. He was unable to continue due to inadequate antennas.

Steven has indoor attic antennas for HF/VHF/UHF, but they are low and not very efficient. He hung a nearly invisible dipole from my house to two trees, using #18 black wire suspended with clear fishing line. The only neighbor who could see it complained and the Architectural Control Committee made him take it down. The CC&Rs include the following: "Antennas, masts, or towers of any kind will not be permitted on any lot or outside any dwelling, unless first approved by the Architectural Control Committee." The ACC did not see the antenna as unsightly, but they have zero tolerance on antennas. They were not persuaded by "Public Service" arguments, even though Steven had a letter from his county EMA director stressing the importance of Amateurs in emergencies.

Case Study # 021

Robert Kocourek, W9RKK
109 Hastings Ct
Roselle, IL

Robert participates with the emergency communications efforts of the Schaumburg Amateur Radio Club. He currently lives in a CC&R-controlled community. He says that his participation in Amateur Radio emergency communications activities has been affected by his inability to install and maintain adequate antennas and support structures due to CC&Rs. He has no antennas at his residence now. He says that he could not have found other property in the area where he currently lives where antennas would have been permitted.

Robert has been denied permission to erect outdoor antennas because of deed restrictions. He has met with his HOA seeking permission to erect outdoor antennas. He asked for approval of a modest antenna installation (i.e. Hexbeam on a 4.5' tower on the roof of his house). This modest antenna, smaller than many television broadcast receive antennas, was denied for the following reason "This installation is too much of an alteration to the exterior of the building". He is not entitled to have any antennas now and is precluded from participating in emergency communications preparedness activities.

Case Study # 022

Kyle Overdorf, KDOQFA
9601 S. Castle Ridge Circle
Highlands Ranch, CO 80129

Kyle is a member of his neighborhood's Community Watch Group. He currently lives in a CC&R-controlled community. He says that his participation in Amateur Radio emergency communications activities has been affected by his inability to install and maintain adequate antennas and support structures due to CC&Rs. He has no antennas at his residence now. He says that he could not have found other property in the area where he currently lives where antennas would have been permitted. He says he has no ability to participate in ARES communications so he has never joined.

Kyle has no ability to erect outdoor antennas because of deed restrictions. He has not met with his HOA seeking permission to erect outdoor antennas. The prohibition of antennas was already in the Covenants when Kyle bought his house, and he obtained his Amateur license after his family moved to that residence. He would like to mount a small antenna just high enough to allow simplex communications with other local Amateurs and the local Douglas County ARES group without being forced to use repeaters. He has not joined Douglas County ARES because he believes that he would be useless to them if he did.

Case Study # 023

Bascombe Wilson, W0AIR
410 Cheyenne Drive

Berthoud, CO 80513

Bascombe is as active as he can be in his country emergency response group and USAF MARS but lives in a CC&R community and was unable to find property without the restrictions. He has tried using indoor antennas but they resulted in his signals being too weak to be effective during a tornado in 2008 and wildfire in 2011. He has met with the HOA or Architectural Control Committee asking permission to install an antenna/antenna support structure but was denied permission to erect an antenna.

The area where he lives has CC&Rs that prohibit outdoor antennas except for small satellite TV dishes and, in particular, Chestnut Village, where he owns a home, specifically **prohibits both transmission and reception** of shortwave broadcasts anywhere on the property.

Case Study # 024

Gene Barbon, WE6CW
1470 Oakpoint Ave
Chula Vista, CA 91913

Gene bought his home in 2003 but did not try to build an antenna structure until 2010. He did not see any restrictions listed in his deed at the time of purchase and was approved for a permit for the antenna by the City of San Diego. But a neighbor found an old CC&R file and record from 1976 -before the land was ever developed as housing unit. It had been only used as part of an application for a loan long ago and had been forgotten and never implemented or enforced. But due to the one neighbor, Gene was unable to have his antenna. There is no HOA to appeal to and the case is currently before the courts.

Case Study #025

Paul Weyer, WZ0E
118 Blue Grouse Drive
Canon City, CO 81212-9459

Paul would like to participate in ARES, RACES and SKYWARN activities but the CC&R for his home prohibits all radio usage for “non-business purposes”, so he has not joined yet. He too has approached his HOA about this but was informed that Section 208 of his CC&Rs makes it nearly impossible to erect an antenna for HF operations. Section 312 further prohibits the use of a radio except for business purposes. According to the rule, Paul cannot even use VHF/UHF with an indoor antenna to participate in any kind of emergency communications support from his house. Section 312 of his CC&R states a blanket prohibition of any electronic or radio transmitters except a garage door opener, but then makes an exception for two-way radio and telephones used in the course of business.

Section 312. Transmitters. No electronic or radio transmitter of any kind other than garage door openers shall be operated in or on any structure or lot except two-way radios and telephones used in the course of business.

Case Study #026

David Beckler, NØSAP
1137 W. Crane Drive
Nixa, MO 65714

David had been working “under the HOA radar” in a CC&R neighborhood without issues. On August 29, 2005, Hurricane Katrina slammed the coastline of Louisiana, Mississippi, and Alabama. On August 30, David was contacted by one of the local television stations wanting a story regarding how Ham Radio Operators were assisting after the storm.

While the cameraman was setting up, David explained to the reporter the activity on the Hurricane Frequency. As they talked, a breaking station was heard at his location with an important message. None of the other radio stations could hear the station with the Priority Message. So he checked into the Net Control Station at that time to inform them of the Priority Message and was asked to relay that message to them. When he called the breaking station, it was the Director of FEMA in the State of Texas with a message from President George Bush to the Mayor of New Orleans, Ray Nagin. The message from President Bush was to inform the Mayor that the U.S. military was at the border of Louisiana and awaiting further orders to enter for assistance.

The next day, after the story was aired on television, he was asked by the HOA to remove his antenna from his property. He has since moved away from the subdivision.

Case Study #027

Timothy Sweeney, N0AGC
8003 Moss Grove Pl
Fort Wayne, IN 46825

Timothy is active in SKYWARN, but lives under a CC&R restriction:

Article VI GENERAL PROVISIONS:

"Section 9. No radio or television antenna with more than thirty (30) square feet of grid area or which attains a height in excess of six (6) feet above the highest point of the roof shall be attached to any dwelling house. No free standing radio or television antenna, television receiving disk or dish shall be permitted on any lot. No solar panels attached or detached shall be permitted."

When he requested information in an effort to interpret this clause, and permission to erect an antenna, he was informed that 2/3 of owners are required to change CC&R provisions and that he could not have an Amateur Radio antenna. To his memory, no past efforts to make other changes have ever acquired the required 2/3 majority.

Case Study #028

Cameron Bailey, KT3A

PO Box 173
Mount Wolf, PA

Cameron is active in ARES, RACES, CERT, and SKYWARN. His CC&R prohibits any outside antennas, so he hides them in the attic. But they are not effective there. He has been informed that in order to get HOA concurrence to change the restrictions, there would have to be a 100% property owners vote to change any of the restrictions -and any violations are subject to civil litigation.

Case Study #029

Drax Felton
160 Copper Leaf Lane
Salisbury, NC 28146

Drax is active with SKYWARN severe weather watch and Amateur Radio Emergency Services (ARES). His antenna is located in the rear of a 2.5 acre lot which is surrounded by forest on three sides, at the end of dead end cul-de-sac, and is 240 feet from the public street. However, he is currently a defendant in a lawsuit battling to protect his Amateur Radio antennas from his neighbor. The plaintiffs are using a statement in the subdivision deed restrictions and covenants as a basis for their claim. The restriction says no towers or antennas (*other than those used for customary household radios and appliances*).

There is no further clarification available and no HOA to appeal to for a reasonable interpretation.

Case Study #030

Donald Wood, W5FHA
9100 Wimbledon Dr. NE
Albuquerque, NM 87111

In December of 2008 Donald requested permission of the HOA to install a simple vertical antenna on his home. He had 11 of his nearest neighbors sign a petition to allow the installation. No one voiced any opposition. He also made a professional presentation to the Planning Committee and *was given permission to erect the antenna*. But one neighbor, who would not sign the petition but had stated he had no objections, then later went to the Board and Donald was required to take the antenna back down.

Donald was the ARRL Section Manager for New Mexico at the time and needed to be able to communicate with all areas of the state during an emergency. He was told that if his "radio thing" was all that important, he did not have to live in this community, even though he had lived there for 20 years.

Case Study #031

Stan Ross, WE7DOG
9420 E. Golf Links Rd, # 226

Tucson, AZ, 85730

Stan is active in his local radio club and assists in their community / public service operating events, but is unable to have an antenna where he resides. He was not an Amateur Radio licensee when moving into the development in 1998, but passed his examinations and received his license in 2008. It was not until the development of an interest in Amateur Radio well after he moved into his residence that his deed restrictions became a problem. His application to the Architectural Committee for an antenna and permission to install a weather instrument station was denied.

Case Study #032

Joseph Trombino Jr, W2KJ
363 Forest Sound Rd
Hampstead, NC 28443

Joseph wishes to more fully participate in local weather-related communications support through the National Weather Service SKYWARN program. When searching for an appropriate home, he did avoid many potential residences because of the existing deed restrictions. His petition to the HOA's Architectural Committee for permission to erect a small antenna and support structure that would allow adequate VHF/UHF communications was denied. The HOA in his development does not even allow variation of the color of home front doors in the subdivision, much less outdoor antennas.

Case Study #033

Jeffrey Coval, AC0SC
442 Marble Fields Dr
Wentzville, MO 63385

Jeffrey is active in ARES and is a trained volunteer with the SKYWARN program. He is also involved with the Rapid Response Team supporting emergency communications in his area. He made application to the homeowner's association to install an antenna that would allow him to operate from home and to serve as a relay station as part of his volunteer emergency communications effort.

His request was for the placement of a ground mounted vertical HF antenna and a dual band J-Pole VHF/UHF antenna on the roof, mounted to a PVC vent pipe. This is a very modest antenna arrangement. Though pending for some time, the HOA board has not responded to the formal request with even an acknowledgement of receipt. The board charged with making this decision consists of two representatives of the builders of the development and one resident of the community. Informally, Jeffrey has been told that the Board is not going to consider any requests for waivers to the CC&Rs.

Case Study #034

Henry DeKastrozza, NM6V
2548 South Essex
Mesa, AZ 85209

Henry has lived at this location for 18 years. His deed restrictions simply require advance approval by the homeowners association for the erection of an antenna. All seven applications over the course of 18 years have been unsuccessful.

Henry serves as a member of ARRL's Amateur Radio Emergency Services and as a spotter for SKYWARN. He indicates that CC&Rs prohibiting antennas are ubiquitous in development of new housing in Arizona, and states, "If you want an energy efficient home (for 120 days a year the temperature is over 100 degrees), you have NO choice but to buy into a development, unless you have a very large sum of money to purchase land and build yourself, out in the desert."

Case Study #035

Les Rayburn, N1LF
121 Mayfair Park
Maylene, AL 35114

Les is a member of Amateur Radio Emergency Services, a SKYWARN spotter, and a member of SHARES (NCS). His antennas are located in his attic due to a restrictive covenant prohibiting outdoor antennas. His HF antenna is insufficient to permit on-the-air participation in SHARES.

Mr. Rayburn lives about 40 miles from Tuscaloosa. During the tornado outbreak of 2011, he was coordinating communications between the Birmingham office of the National Weather Service and Tuscaloosa's SKYWARN net. Even using a substantially directional antenna, a 3-element Yagi pointed toward Tuscaloosa, he could only communicate through one of the five repeaters in Tuscaloosa, despite a transmitter output power of 75 watts. During the first strike of the F4 tornado, that repeater was damaged, and Mr. Rayburn lost the ability to reach the net and the ARRL Section Manager in Tuscaloosa. It took several hours to get additional information on the significant extent of damage and injuries.

Mr. Rayburn applied to his HOA for permission to erect outdoor antennas after the 2011 outbreak. His application was denied.

Case Study #036

Paul Hausleben, WA2ASQ
129 Fox Run Court
Newington, CT 06111

Mr. Hausleben is a radio amateur and participant in Navy/Marine Corps MARS. The terms of his restrictive covenants purport not to allow *any* radio transmission whatsoever, precluding operation of either his amateur or MARS station.

Case Study #037

Thomas Bingenheimer, KI4UEJ
4324 Stonefield Drive

Charlotte, NC 28269

Mr. Bingenheimer resided at this address prior to becoming an Amateur Radio Service licensee. The terms of his restrictive covenants purport to prohibit “any television or radio pole, antenna, aerial, dish, tower, or support thereof.” This restriction has precluded participation in emergency communications activities.

Mr. Bingenheimer explicitly asked the developer of his community why the restrictive covenants were drafted the way they were. Mr. Bingenheimer was told “It is not possible to get a development permit from the City of Charlotte without them.”

Case Study #038

Daryl Sampson, W4OH
7672 Maple Bluff Lane
Concord, NC 28025

Daryl has in the past participated as a member of ARRL’s Amateur Radio Emergency Service. He has been a radio amateur since 1983, when he was 12 years old. He has lived in antenna-restricted properties for the past 18 years. His current address, in a rural location, is subject to a restrictive covenant purporting to prohibit any “television aerial, antenna or T.V. satellite dish (except those which do not exceed 18 inches in diameter and are not visible from the street fronting the particular lot), or any other external electronic equipment or devices.”

In his search for his current home, Mr. Sampson considered around 100 different properties in the Charlotte area. Only about three of these properties were unencumbered by a restrictive covenant prohibiting an antenna installation. Those three properties were unsuitable because of other factors, including, in at least one case, the property’s location in a flood plain.

Daryl sought relief from the developer, and was told that no exception would be made “unless [Mr. Sampson] can make it look like an 18 inch dish.”

Case Study #039

Michael LeBoeuf, K5ML
8343 N Sendero Tres M
Paradise Valley, AZ 85253

Michael, age 70, has held an amateur radio license since age 15. He purchased his current home in 1996. After a 23-year period of inactivity, he became active in Amateur Radio again in 2007.

Michael’s property is subject to a restrictive covenant that states: “No antenna or other device for the transmission or reception of television or radio signals or any other form of electromagnetic radiation shall be created, used or maintained outdoors on any portion of the property, whether attached to a building, structure or otherwise, unless screened from view *or* approved by the Architectural Committee.” (emphasis added).

He installed a retractable antenna, 2.5 inches in diameter at the base and 3/8 inch diameter at the top. He painted the antenna the color of his house and kept it lowered during daylight hours,

operating only at night. His antenna was therefore screened from view at all times—during the day by being lowered behind his house, and at night by darkness.

Nevertheless, Mr. LeBoeuf has received four formal complaints from his homeowner's association, including two asserting that the HOA has authority to remove his antenna due to radio frequency interference issues. The most recent complaint is pending.

Case Study #040

John D. Doolos, WB5EVF
PO Box 372
Rutherford College, NC 28671

John cites a July 17, 2011, story in the Hickory (North Carolina) Daily Record: "More than 80 percent of newly constructed homes in the US are in association communities." Mr. Doolos's experience confirms this observation: "Every HOA that I am aware of has restrictions that strictly prohibit exterior antennas including amateur radio antennas (except satellite dishes). . . . I tried my utmost to buy similar property (to his current residence) outside of a homeowners association without success."

John resides on a property subject to a restrictive covenant that prohibits antennas, and states that "No satellite dishes shall be permitted unless concealed from view from all lots and open spaces." John has sought to change this covenant through applicable procedures with no success.

Case Study #041

Randall Melton, KA4AQM
436 Cedar Pointe Lane
Chesapeake, VA 23323

Mr. Melton participates in two Southeastern Virginia emergency communications networks. He does so with concealed antennas in his attic and finds that his participation is severely limited.

The restrictive covenants on Mr. Melton's property are not subject to enforcement by a homeowner's association but can be enforced by neighbors. There is no mechanism to seek amendment to the covenants except to wait for the expiration of a 30-year term, at which point the covenants renew in the absence of an applicable action.

Case Study #042

Douglas Freeman, KV8TD
13267 E Buckshot Rd
Prescott Valley, AZ 86315

Douglas purchased his residence on a half acre lot in 2002. Before purchase, he expressed that the antenna restrictions were "a show stopper," and a sales agent verbally assured him that the developer would waive them. The developer did not agree, and Mr. Freeman found himself contractually obligated to purchase the property anyway.

Mr. Freeman has made several informal requests for relief, with no success. He has tried antenna configurations utilizing other structures on the property, starting with a flagpole, and currently using a vertical antenna hidden in the middle of a tree. Says Mr. Freeman: “Does it work? Yes. Does it work well? No. Do I have a reliable signal of net operations? No. At any time, a neighbor could complain, and I would have to remove it.”

Case Study #043

Alfred Brown, KI6FJE
22241 Nisqually Rd. Spc. 29
Apple Valley, CA 92308

Alfred is a participant in RACES and is a SKYWARN spotter. Mr. Brown is limited to operation at VHF and above, and has been denied permission to erect an antenna suitable for HF. As a result, Mr. Brown states he cannot perform as a volunteer for his town’s RACES operation at his potential.

Alfred has sought to obtain relief from the rules and regulations prohibiting antennas from the owner of the mobile home park where he resides. The regulations purport to disallow any antenna whatsoever, with the exception of a television satellite dish no more than 24 inches in diameter. Mr. Brown’s requests have never been acknowledged as received.