Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	WT Docket No. 10-119
	)	
Review of the Commission's Part 95	)	
Personal Radio Services Rules	)	WT Docket No. 98-182
	)	
1998 Biennial Regulatory Review – 47	)	
C.F.R. Part 90 – Private Land Mobile	)	RM-9222
Radio Services	)	
	)	
Petition for Rulemaking of Garmin	)	RM-10762
International, Inc.	)	

COMMENTS BY P. RANDALL KNOWLES

SUMMARY

For such a comprehensive review much greater dissemination and opportunity for input for consideration and input should have been provided. GMRS changes are both extensive and radical and would totally transform the service. Both licensing and repeaters are paramount for the GMRS.

Punishing GMRS users for illegal FRS use of GMRS channels by de-licensing is illogical, grossly unfair and contrary to public interest and convenience as a solution. Two other alternatives are readily available and would be far more effective solutions – decertify combination FRS radios and/or correct the arbitrary and excessive GMRS license fee.

GMRS users want to continue licensing and understand they must pay *reasonable* fees to fund processing and support FCC rule enforcement. Licensing provides a myriad of extensive and positive benefits which cannot be achieved otherwise. Neither of the asserted bases for de-licensing has any validity.

De-licensing encourages apparent lack of any responsibility, results in chaos, and is tantamount to no regulation at all. For over 50 years GMRS has been a useful, serious, utilitarian service and transforming it into a toy radio service is wholly not in the public interest or convenience.

No meaningful identification can take place absent licenses, call signs and the FCC database. Interference resolution (including adjacent Part 90 users) and user cooperation and coordination are impossible in such a vacuum.

Repeaters are indispensable for any meaningful range (if portables are to communicate a mile or more). De-licensing (and deletion of Section 95.33) removes any control over access to

repeaters, will destroy repeater cooperatives and result in chaos. Such grossly inequitable and destructive actions are just as wrong for Part 95 as they would be for Parts 90 or 97.

Business eligibility should not be restored to the GMRS. The service has always been intended to provide for users not accommodated elsewhere (such as Part 90). Prior to FCC recognition and action in Docket 87-265, business and commercial operations usurped the service from individuals not eligible in other radio services.

GMRS has very high correlation to public service, emergency and disaster communications similar to Amateur Radio. Destroying repeater cooperatives and trivializing the service in the eyes of such agencies as Red Cross and Salvation Army Disaster Services, National Weather Operation Skywarn, Civil Defense, etc. is directly contrary to the public interest. The FCC licensee database is an indispensable resource to recruit operators for public service/ emergency/disaster communications as well as contacting repeater licensees for permission to utilize such vital facilities.

GMRS operations are functionally equivalent in impact on spectrum as other Part 90 operations. All classes of GMR stations have significant impact.

Repeaters developed based on the laws of physics and the UHF line of sight phenomenon. FRS provides for very short distance communications. GMRS serves different needs and there is no justification to take these long-established capabilities away from the American public, north of Line A or not. Proposals are directly contrary to stated goal of providing GMRS users additional flexibility. Portable communications beyond tenths of a mile require repeater assistance.

Many GMRS users employ older used radios. GMRS technical rules must be harmonious with Part 90 as Land Mobile manufacturers are the exclusive source of GMRS equipment.

Scrambling should be banned in GMRS. In a shared service user monitoring is critical; anything which contributes to noise and/or discourages monitoring and receipt of requests for help is seriously deleterious. Phase out of voice encryption can be easy and quick via programming software modification, allowing sale of on-shelf equipment.

The Garmin Petition is founded on fallacies – slightly increased power will not increase range. Text messaging is not conducive to communicating emergencies and voice will reach many more receivers. There is no showing that provision in FRS is inadequate. Such contribution to ever-increasing noise floor is directly contrary to public interest. Limitation to 1 second burst time is insufficient and no provision for reduced audio levels is considered.

GMRS portables (as all equipment) come from Land Mobile manufacturers. Such gear remains categorically excluded from SAR (absorption) considerations. There's far less basis to apply to GMRS, based both on number of users and transmit duty times. Existing technologies all provide adequate limitations. Higher portable power is frequently necessary for penetration when transmitting from inside buildings, vehicles, etc. Applying SAR regulations to GMRS alone will eliminate all portable equipment sources, resulting in move to high power mobiles and reduction in spectrum efficiency.

Land stations are necessary for antenna height for range. Cellular is not an alternative as GMRS meets different needs, such as multiparty communication and facilities were carriers do not exist/lack adequate coverage. The 50 watt limit is half that of Parts 90 and 97, and is adequate.

Gradual phased step transition to narrow band is necessary to accommodate the large percentage of older used GMRS equipment. GMRS as a market of last resort benefits both general public as buyers and the Land Mobile community through recoupment. Current new on-shelf gear is capable of both wide and narrow band, will facilitate later transition for GMRS users, and should continue to be sold. The financial burden on individuals to buy new equipment is vastly greater than commercial businesses, tax supported public entities, etc. Repeater operators have the heaviest burden and must have at least one or two generations of narrow band gear readily available in the used market to purchase replacement systems.

Combination radios should be prohibited for FRS and all equipment with unlicensed channels. However, such application to GMRS would result in 100% elimination of <u>all</u> equipment sources, as all GMRS gear is Land Mobile equipment capable of operating on immediately adjacent frequencies. Existing long established Land Mobile marketing/programming has proven adequate. Numerous legitimate, licensed examples of combination uses are commonplace.

<u>TABLE OF CONTENTS</u>

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	WT Docket No. 10-119
	)	
Review of the Commission's Part 95	)	
Personal Radio Services Rules	)	WT Docket No. 98-182
	)	
1998 Biennial Regulatory Review – 47	)	
C.F.R. Part 90 – Private Land Mobile	)	RM-9222
Radio Services	)	
	)	
Petition for Rulemaking of Garmin	)	RM-10762
International, Inc.	)	

COMMENTS BY P. RANDALL KNOWLES

1. Background. These comments are submitted by P. Randall Knowles. My experience in two-way radio dates back to 1960 when I first became involved in Citizens' Band (Class D CB) Radio (KPJ 1093). I have worked as a public safety dispatcher (both police and fire), a mobile telephone operator (Domestic Public Land Mobile Radio Service, predating cellular) and subscriber (KW 9598), and American Red Cross Disaster Representative (Special Emergency Radio at 47.42 MHz). I have held other FCC licenses in the Class B Citizens' Radio Service (KAN 0682), the Class A Citizens' Radio Service (now GMRS) (KAA 8142), the Experimental Radio Service (KK2XHV) and Marine Radio (WAD 7985 and currently WDB 4290). I have been an active GMRS user since 1970 and a GMRS repeater operator since 1971. I first became a mobile telephone subscriber in 1969 and have utilized cellular since 1986, when transportable equipment first became available in the Chicago area.

My background further includes service as a criminal prosecutor with the Lake County (Illinois) State's Attorney's Office and over 25 years experience as a municipal prosecutor in Cook and Lake Counties, Illinois. I have served for many years and am currently a member of the Emergency Telephone System Board (which funds 911) in my community. I am a past Red Cross Disaster Communications Chairman (North Region, Mid-America Chapter) and founding member of North Shore Emergency Association (a public service and emergency personal radio organization) and Steering Committee Communications Lead for the Illinois Chapter, National Multiple Sclerosis Society. I served as Rule Readability Task Area Chairman of the FCC's Personal Use Radio Advisory Committee (PURAC) some 25 years ago.

My experience in GMRS of over 40 years includes directly assisting some 3 to 4 dozen groups in over 25 states to set up their own repeater systems and obtain proper licensing. I assisted several dozens of personal GMRS users to obtain licenses from the Chicago Regional Spectrum Management Center when that facility was in control of GMRS licensing in this area with its complex application (Form 425) and extensive technical information requirements. My wife and I routinely take GMRS radios with us when traveling, and I have first hand personal GMRS operating experience in 28 states in the last year and a half alone.

2. Scope of the NPRM. This NPRM is extremely broad in its scope, perhaps more so that any ever undertaken by the FCC since the inception of Citizens' (Personal) Radio following World War II. While the Commission is to be lauded for undertaking such a comprehensive review of all of the Part 95 Personal Radio Services, wider publicity and greater opportunity for industry and especially user/public input should have been provided. In general I will attempt to address comments to both the question of the organizational schema of the rules and the myriad number of major issues with respect to the General Mobile Radio Service. The rule changes proposed and discussion points for GMRS are both radical and extensive, and would totally transform the entire nature of the service. The questions of both licensing and repeaters are paramount. Since de-licensing is included in the proposed new Rules and Regulations, I will comment on this matter first.

3. Licensing.

A. Basis. From what I can tell, the Commission's apparent basis for suggesting de-licensing the GMRS stems from two basic sources. First, the Commission believes that large numbers of "Bubble-Pack" FRS purchasers do not obtain GMRS licenses from the FCC but, none-the-less, operate on the GMRS channels (channels 15-22 in FRS "Bubble-Pack" radios). This conclusion seems to be derived from comparing sales figures for such Bubble-Pack radios with the total number of existing GMRS licenses[1].

It is completely illogical to seek to address the problem of illegal FRS usage on GMRS channels, by punishing GMRS users who have done nothing wrong. GMRS users, by contrast, are highly self-regulating and, in general, make sincere efforts to obey the Rules and Regulations. Transmission of call signs, is, for example, very much the rule and unidentified communication very much the exception. I have found this to be true no matter what area of the country to which I have traveled.

What is in the public interest is to take steps to assure that FRS operators using GMR frequencies obtain GMRS licenses with the corresponding mantle of responsibility. It makes no more sense to de-license GMRS because of illegal unlicensed FRS operators than it would to do away with driver's licenses because some juveniles drive before getting a DL. If the Commission is truly concerned about the potential for unlicensed operation of "Bubble-Pack" radios a very simple and effective solution is readily available. Merely amend the certification rules to prohibit FRS radios from including GMRS-only frequencies.

There are numerous sound reasons why licensing should not be abandoned and provides numerous substantial benefits which I will discuss below. By contrast there is no good reason why de-licensing benefits anyone. If the FCC truly is concerned about possible unlicensed operation on GMRS channels with FRS Bubble-Pack radios, then it should address the real cause, which is obvious and widely known – the unreasonable and excessive $85.00 "application fee".

---

[1]A check of the FCC license database reveals that the number of current active GMRS licenses approaches 61,000.

The Commission has made reference to the almost universal resentment to the unreasonable and high cost of this fee in suggesting the other potential basis for de-licensing.

The NPRM suggests, in paragraph 25, that the current channel scheme of GMRS dates from the 1940's and is outdated. In this the NPRM is in error. Originally (in the late 1940's, and 50's) the Class A Citizens' Radio Service covered the entire band from 460 to 470 MHz and no specific channels were denominated. The current channel scheme dates from 1968 following the narrow-banding of the Part 90 and 95 services at that time. It is based on the current technology of modern repeater operations in the Land Mobile services with input and output channels and appropriate separation.

The FCC suggests that users will be benefited by not having to pay fees for a license. The corollary to such a suggestion is that users do not want licenses. **The Federal Communication Commission could not be more mistaken**. GMRS users virtually universally want FCC licensing to continue. What they do **NOT** want is the $85 fee. In undertaking a comprehensive review of the GMRS the Commission has made a major oversight in omitting this major issue.

Prior to this NPRM the question of "fair" fees was the single most important issue for the GMRS user community. The feeling among GMRS users that the fee is unreasonable and arbitrarily high is nearly universal. While I recognize that procedurally the Commission cannot now address the fee issue in this Docket, the questions of licensing and the amount of the fee are inextricably bound together in the minds of virtually all GMRS users. To consider these issues separately in piece-meal fashion is totally inappropriate. At the very least the Commission should issue a FNPRM to include the question of the amount of fees together with users' other comments about licensing.

The Commission suggests that changes (in technology or otherwise) have altered the way in which GMRS is now used, therefore requiring rule change. No specific examples are cited and such an assertion is just flatly wrong. The manner in which GMRS is utilized has not significantly changed since the adoption of all-channel operation in 1998.

I conclude that neither of the apparent bases for de-licensing GMRS has any validity. De-licensing is not an appropriate remedy for perceived improper FRS use of GMRS channels. Rather change of FRS equipment certification rules and/or a reasonable fee is the obvious solution. And GMRS users do **NOT** desire de-licensing and will suffer drastically negative consequences as a result, as I will discuss below.

B. Regulation in General. I have first hand experience with de-licensing, both in the CB (27 MHz) Service, as well as FRS. The plain simple truth is, as anyone with experience will tell you, that without a license, no one is responsible for transmissions. Both CB and FRS clearly bear this out.

The Commission now proposes to eliminate age restrictions. But the Part 95 Rules (and Part 19 before them) have never limited the age of a GMRS operator. What has been limited was the age of the licensee who could be held legally accountable for those transmissions. One has only to listen to commonplace FRS transmissions by very young children (often not yet able to

read) to realize the truth of this matter. GMRS users realize that the FCC is never going to institute enforcement action against a 3 or 4 year old. Some adult must be legally responsible. (The last thing GMRS users want is for GMRS radios to be employed as unattended baby sitters as all too often is the case with low power short range FRS radios.)

While I recognize that FCC enforcement action against non-licensed adults is potentially possible, the experience in CB and FRS shows that in practicality it is extremely unlikely. People operate in CB and FRS with seeming impunity because everyone knows the Commission is not paying any attention. One has only to listen for a few minutes for this to become immediately apparent. The real effect of de-licensing will be that users will conclude that the FCC is completely washing its hands of the entire service, just as they did when CB was de-licensed. And we all know what happens in a power vacuum, chaos soon follows. GMRS users **do not want** this. This is not mere conjecture but rather the bitter lesson of hard experience with both CB and FRS.

FRS is by and large a radio service of toys. GMRS is not, nor should it become such. GMRS users appreciate the value of the utilitarian radio service they now have and will pay ***reasonable*** application fees to retain it and help fund FCC enforcement actions when necessary. The alternatives are stark – on the one hand the highly self-regulating useful organized GMRS of today, on the other, near total chaos (as now found in FRS) and the almost complete destruction of GMRS as we now know it. GMRS users see clearly that the utilitarian service as it now exists is in the public interest, and de-licensing is definitely not.

C. Identification. Of course, without licenses, there can be no meaningful identification. A Land Mobile radio service without identification promotes chaos. Just consider the instance of unintentional interference to others. How is a victim to ID the source much less contact the responsible party without a call sign? GMRS users seek only to continue to be good neighbors with co-channel and adjacent Land Mobile users by continuing to make meaningful station ID, making a license and call sign absolutely indispensable.

Moreover, just the FCC database itself can often provide the solution to a serious problem even when the call sign is difficult to discern. In my own case just this year my repeater became seriously impaired by sudden new significant interference on the input channel. The source of this problem was discovered by utilizing the FCC database and searching what other systems were on site. We then checked frequencies in use with software for likely involvement. The transmissions were digital and we were not able to decode the call sign. None-the-less, with the help of the FCC database we were able to identify the source of the problem, contact the responsible party and rectify the problem. GMRS users should continue to be so accountable to their neighbors, both co-channel and other Part 95 and Part 90 neighbors. To remove such age-old mechanisms is clearly not in the public interest.

D. Repeaters. Mobile relay stations (repeaters) are the heart and soul of GMRS. As the Commission aptly observed, FRS range (without repeaters) in most conditions is measured in tenths of a mile. Even the current CB, plagued with all its problems, provides more range than that. GMRS users well know that range in UHF is almost totally correlated to antenna height. In my own case, my initial experience was that full-fledged 15 watt mobile units could communicate

about 3/4ths of a mile in typical flat suburban terrain. I went to a cooperative repeater system out of necessity.

The utility of GMRS systems is that, within the established known repeater coverage area, communication is reliable virtually 100% of the time. Thus GMRS is a utilitarian service that users can rely upon to accomplish their needs over a reasonable range (a number of miles). I will discuss the necessity of repeaters further below.

The FCC Rules and Regulations for generations prohibited anyone from using another's repeater without explicit permission. Any person operating a repeater either had to be licensed for that Class A or GMRS land station or have permission to use it under a written cooperative shared licensing agreement (Section 95.33, dating from the mid 1960's). As the Commission observed in this NPRM, putting up a repeater system is a significant task and most often is undertaken by a cooperative users' group to defray the significant expense. As stated, current Rules have for over 45 years provided for cooperative agreements to administer such sharing arrangements. Where a specific FCC Call Sign is involved, it's immediately crystal clear if a person is, or is not, authorized on a particular repeater. In this regard GMRS is very similar to Amateur Radio.

But the proposed new de-licensing rules would remove all of this, including, very significantly, Section 95.33 (cooperative sharing). To throw open repeater systems to completely uncontrolled access to anyone and everyone is totally irresponsible and clearly not in the public interest. Chaos is guaranteed to result. In addition, the resulting void means, as a practical matter, the end of repeater cooperatives. Users are not going to participate in repeater cooperatives just to have their systems wildly available to just anyone regardless of participation, financial contribution, responsibility, etc. Such a result is grossly inequitable and not in the public interest. I very much doubt that the Commission would suggest such an impractical, irresponsible arrangement for Parts 90 or 97. It is no more appropriate for Part 95. Licensing is the conduit through which repeater cooperatives and control are able to function.

E. Business Eligibility in the GMRS. Currently licensing is the mechanism to prevent business and "commercial" usurpation of GMRS. These rules did not come about by accident. Prior to the rules adopted in Docket 87-265, "commercial" usurpation of GMRS to the exclusion of individual personal users was a very serious problem.

For some examples, in Chicago a major appliance organization equipped all of its service vehicles with GMRS radios. All dispatching was done on GMRS. All discussion among technicians about difficult problems was done on GMRS. All reports of parts used on jobs and needing to be replenished were done on GMRS. There was no sharing with any other licensees at all, and exclusive use for periods longer than half an hour was routine all day long. In Dallas a commercial radio shop utilized all 8 GMRS pairs for a "phone-patch" common carrier type operation (in blatant violation of the Rules). All requests for cooperation were totally refused, and the problem was only finally corrected with FCC intervention. In Washington DC one of the largest fleets of cabs ran all dispatch operations on GMRS with near continuous transmission most of the day and much of the evening. Cab officials told individual licensees "We bought this frequency from [Radio Manufacturer]." In New York usurpation was by several fleets of tow trucks.

The usual scenario was that a larger commercial radio shop would invest thousands of dollars to erect a GMRS repeater on the tallest, most advantageous site possible in order to attract the greatest number of potential customers over the widest area. User cooperatives of individual GMRS personal users were completely unable to compete with such commercial ventures.

As cited in this NPRM, the FCC recognized in Docket 87-265 that the Commission made it clear when it first created the Citizens' Radio Service that it was intended to serve needs of those not provided for elsewhere. That was at a time (the late 40's) long before creation of the Business Radio Service and many other services now found in Part 90. The FCC recognized that individuals remained the only users not provided for elsewhere when it decided to end commercial usurpation of GMRS in 1987. That situation has not changed. Part 90 users are provided for at length in those rules. Individuals have only the GMRS for similar capabilities.

The Commission, in its discussion, raises the question of spectrum efficiency. If it is truly concerned with this issue, then suggestion of again permitting business use of GMRS is totally illogical. Who will erect a more modest system with the least impact, a cooperative of individuals with a correspondingly limited budget, or a commercial business or radio shop seeking the widest coverage possible? Who will be more likely to share as the rules dictate? Years of previous experience and the FCC findings in Docket 87-265 leave no doubt as to the answer. Opening the business/commercial floodgates once again is unnecessary duplication of Part 90 capabilities and would deprive the American public of a useful and valuable existing radio service most in just those areas where the need would be greatest (greatest population density). Licensing is absolutely necessary and the sole practical mechanism to continue to address this problem.

F. User Cooperation and Coordination. GMR is largely a self-regulating service. Rules have been in place for generations requiring user cooperation to maximize the use of frequencies and minimize interference. Users take such dictates seriously. For example, in the old days users often consulted the carbon copies of the paper Form 400 licenses in FCC Field Offices to determine which frequency on which to place a new repeater. Today FCC data is far easier to consult with instant on line access.

Even the proposed new rules continue to require GMRS users to "cooperate in the selection and use of channels, including limiting communications to the minimum practicable time, to reduce interference, and to make the most effective use of the facilities."[2] Such a rule makes sense and should continue. The Commission has recognized these principles in proposing to further prohibit voice scrambling.

To suggest that users have any meaningful way to comply in the absence of licenses, call signs, any ID, and the FCC database seems flatly disingenuous to me. It is devoid of any logic or sense. Such a sharing rule is clearly in the public interest. Denuding the rules of all practical mechanisms to carry out these provisions is not.

---

[2]Proposed Rule 95.103(a)

G. Public Service. For years there has been a very high correlation between the GMRS user community and valuable public service. GMRS continues to be used by such entities as the Red Cross Disaster Service, the National Weather Service Operation Skywarn (tornado spotting), EMA and CERT (civil defense), neighborhood watch, bike-a-thons (such as Multiple Sclerosis), REACT, marathons, disaster relief operations (such as the Salvation Army, Hurricane Katrina), golf tournaments, motor race events, etc. Use of GMRS for such valuable public service is so prevalent that no one single individual can be aware of all examples. In my own case I have belonged to a GMRS based public service group (North Shore Emergency Association) that has performed literally hundreds of public service communications projects for over 40 years. As one example, for over a decade and a half we provided doctor, ambulance dispatching and medical emergency communications via GMRS repeater for the Chicago Marathon. Once again, in this regard GMR is very similar to the Amateur Radio Service.

GMRS repeater user cooperatives naturally lend themselves to and encourage such volunteer activities. To expect agencies such as cited above to continue to help volunteers in investing in GMRS radios in a future unlicensed and essentially unregulated and chaotic service is to defy reality. Use of FRS by agencies cited in the paragraph above is not prevalent simply because of the extremely limited capabilities of that Radio Service. If the FCC washes its hands of GMRS by de-licensing, the potential for future pubic service will be correspondingly drastically curtailed if not completely eliminated.

GMRS is similar to the Amateur Radio Service with respect to licensing in yet another aspect. The FCC database is a vital resource in facilitating use of radio for public service and in emergency/disaster relief. Licensed operators with equipment can be readily located in a given area through search of the Commission's licensing records. Such utilization is prevalent in the GMRS. For a most recent example, my local GMRS public service group provided vital communication coordination, command, control and logistics for the National Multiple Sclerosis Society in conducting its 2010 "Tour de Farms" 2 day bike-a-thon covering parts of DeKalb, Kane, Kendall and LaSalle counties, Illinois. Our members did not live in this area. Use of the FCC licensing records was the only means to locate local GMRS volunteers and also to contact area repeater operators to arrange for permission to utilize local systems covering the bike routes. Such a public service project would have been completely impossible without the aid of GMRS repeaters, as distances over the 35, 75 and 100 mile routes could never be covered in single frequency direct mode, and Amateur operators and systems have traditionally not been available as an option.

What would be in the public interest would be a greatly reduced license fee that would make GMRS much more widely available to public service volunteers. An FCC license makes it clear that such a volunteer is investing in a valuable, serious and worthwhile radio service and would continue to encourage agency funding or assistance in building such capabilities (such as CERT, for example in my area). Reducing the fee to a reasonable level would immediately galvanize much wider use for such important purposes. De-licensing the service will trivialize it in the eyes of agencies such as ARC, NWS, EMA, etc. thus dramatically reducing its potential for valuable public service use.

H. Basic Technical Data. Good Land Mobile citizenship requires that others have access to basic technical data the same as any Part 90 radio system. As previously discussed, fundamental information such as station location, power, antenna height and gain, and even frequencies are vital pieces in solving any interference puzzle. GMRS users have never sought to avoid such responsibility and should, at the very least, be permitted to voluntarily submit such information to the FCC database. We are paying the same exact fees that applicants in other services who supply technical detail. Note, also, that the Commission permits full-fledged voluntary licensing in VHF marine.

I. Impact on Spectrum. As the Commission noted, FRS radios are limited in their impact on UHF spectrum due to their very low power and integral antenna. By contrast GMRS is distinctly very different. GMRS stations have just as much impact on the spectrum as business, industrial, police, fire and other Part 90 services. It is no more appropriate to de-license GMRS as any other Part 90 or Part 97 UHF operation, as they are technically functionally equivalent in spectrum impact.

J. Station Classes. As surely is apparent from all of the above, its wholly inappropriate to de-license any station in the GMRS. Even an individual with only a hand held portable has a significant impact on the spectrum, most especially for base and repeater station receivers. Identification is vital for any station in order to permit user coordination and interference resolution. Such concepts cannot be applied in a piecemeal fashion if they are to be truly effective.

K. License Term. I am aware that many radio services now have licenses with longer 10 year terms (including the Amateur Radio Service). I agree that such a lengthened term reduces the burden on individuals as well as the Commission to process renewals. However, according to the U.S. Census about 1 in 6 Americans moves each year and the average person moves 11.7 times in his lifetime.[3] This suggests to me that for purposes of keeping licensee address data up to date a term of 5 of 6 years makes the most sense. But the question of retaining licensing for GMRS is so paramount that an extended term of 10 years is vastly preferential to elimination altogether. If address information is seriously compromised as a result and it appears that licensees are not keeping the Commission up to date in significant numbers other solutions may be found to address this issue.

4. Necessity of Repeaters. I have addressed the question of repeaters extensively above with respect to licensing. Mobile relay operations did not develop in the VHF and UHF bands following World War II by accident. As previously stated, I went to GMRS repeater operation when I discovered that UHF mobile to mobile direct ("simplex") operation in GMRS yielded range on the order of 3/4th of a mile in flat suburban terrain. The line-of-sight antenna height phenomenon is a well known established characteristic of UHF two-way radio. Any meaningful range in UHF requires a land station with antenna height. Base stations on a typical 3 story house or small apartment building/condominium do not suffice. Mobile relay stations exist in VHF and UHF because of necessity.

---

[3] http://www.census.gov/population/www/pop-profile/geomob.html

In today's modern, highly mobile society, communication over an entire metropolitan area is the rule. For over 50 years at the very least repeaters have been the heart and soul of GMRS and the Class A Citizens' Radio Service before it. This is not something which has changed recently in the GMRS, any suggestion by the Commission in the NPRM to the contrary. The laws of physics continue to apply to GMRS as well as other radio services in Parts 90, 97, and elsewhere.

Very short distance UHF mobile-to-mobile communication has been addressed by the Commission and provided for in the FRS. By contrast the GMRS addresses entirely different needs and capabilities. Each has its established place in providing communication capability for the American public. To even seek comment on elimination of repeaters is to suggest emasculation of GMRS into just another copy of the FRS. Nothing the Commission has said in the NPRM has suggested any reason whatsoever why the American public is undeserving of the communication capability it has enjoyed since 1948.

This is just as true for people living north of Line A as anywhere else. GMRS operations have been taking place there as in the rest of the country for over 60 years (the very first Class A station, 13W0001, was north of Line A in Cleveland.) Absolutely no basis whatsoever has been posed for why repeater operations north of Line A are any less deserving or needed than anywhere else in the United States.

My routine communications in GMRS with my wife, brother-in-law and friends can NOT be conducted without the use of the repeater. I live in a 3 story house surrounded by taller trees. Base to mobile "direct" (single frequency transmit and receive mode) does not work at typical distances of 7 to 15 miles just in the local suburban area, not to mention reaching the city (Chicago) at longer distances. And this is using full power mobile units with gain antennas. Simply put my communications can NOT be conducted in UHF without the use of a repeater, nor can those of the typical American public.

The necessity for repeaters is far more pronounced using hand held portable units. As the Commission has noted in the NPRM, these long ago become prevalent in utilizing GMRS, similar to Amateur and commercial Part 97 and 90 VHF and UHF operations. This same phenomenon of movement to portable equipment appeared in Cellular years ago as well.

For example, recently a portable-to-portable call to my brother-in-law to coordinate meeting at the Chicago Tall Ships event was communicated over a distance exceeding 20 miles. But reliable low power hand held portable operations at even a single mile are simply impossible in GMRS without the aid of a repeater station. If the Commission is truly concerned about spectrum conservation and efficiency, then it will not take steps to eliminate the use of hand held portables and encourage employing high power mobile units with high gain antennas as the only viable, but substantially lesser, alternative.

Any suggestion of eliminating repeaters (even just north of Line A or east of Line C) does not "provide [GMRS] users additional flexibility" as the Commission stated for its goal in paragraph 4 of the NPRM. It does precisely the opposite in drastically curtailing flexibility. The need for and extensive benefits of repeaters and GMRS land stations is just as great in the portions

of the U.S. north of Line A and east of Line C as anywhere else. No need whatsoever has been cited for such destructive treatment north of Line A or east of Line C.

5. Rule Organizational Schema. The Commission proposed to "simplify and streamline" the Part 95 Rules so as to reduce potential duplication of text common among the widely disparate Personal Radio Services. However, comment was sought on the manner in which readers make use of the Rules, and whether or not organization by specific Personal Radio Service would be more appropriate.

As one who has been reading Part 95 (and Part 19 before it) since 1960, I strongly urge the Commission to follow the latter approach, that is, organize the Rules by Radio Service. Part 95 contains widely differing services. Some are rendered only by public carrier type licensees engaging in competitive bidding. For the typical GMRS, FRS, RC or CB reader, wading through provisions relating to other, drastically different Personal Radio Services, can only serve to obfuscate and confuse.

In addition, any other approach would require a typical member of the public to hunt through numerous rule provisions trying to figure out which might apply to his or her area of concern. To find all applicable Rule provisions would require an extensive search through many different provisions in different locations. Once again the net effect will be to obfuscate and confuse. The existing organization, which has applied since the first Part 19 Rules in 1947, makes the most sense.

This approach makes for the most efficient use of the Rules by manufacturers and technical types as well. A manufacturer, for example, should not have to search throughout Part 95 to identify and seek out the dozen different Rule Sections applying to GMRS sprinkled among 17 pages of the current Subpart E. Rules are intended for users to read. Make them straightforward, not a challenge to find.

I further suggest that technical rules should be found in the same general location together with operational rules. To assume that GMRS operators are never interested in technical provisions, or that manufacturers and technical users of the rules are never interested in operational provisions is just a fallacy. Separating the operational provisions from the technical, while keeping them sequentially located makes the most sense from the perspective of a reader wishing to be informed. This is especially true for a reader already familiar with the Rules but wishing to update himself on any recent changes.

Thus SubPart A (for GMRS) would contain operational rules, followed by technical rules. SubPart B would contain FRS operational rules, followed by technical rules, etc. Persons interested in a particular Personal Radio Service could readily find **all** applicable provisions quickly and efficiently. They would not be required to wade through extensive language having no relation to their area of interest and the opportunity for confusion or misunderstanding would be minimized,

A related issue is the question posed whether the Question and Answer Rule format is best for the GMRS Rules. I first began reading the Part 19 Rules and Regulations when I was still in

junior high school at age 12. I did not have any difficulty understanding the content of the Rules at that young age. My experience since with literally thousands of GMRS users has not revealed any significant difficulty of people being able to understand SubPart A. I do not believe that comprehension of the GMRS Rules is a significant problem today or that adoption of the Question and Answer format is needed.

Providing service rule fact sheets on the Commission web site is generally a good idea, however, the link to the full Part 95 Rules and Regulations should **not** be eliminated. The Commission is mistaken that GMRS users refer to frequencies by channel number. That has never been the case; normally frequencies are referred to by the last 3 or 4 digits, i.e., "675 repeat" or "6875 direct". Change of the rules to implement channel numbers is unnecessary and contrary to established custom.

6. Frequency Tolerance. GMRS radios are but a submarket of "Land Mobile" equipment in the United States. While a very limited number of radios have been exclusively built for GMRS over the years (I can count them on the fingers of one hand), I am not aware of any today. Used equipment continues to be a very significant if not the prime source of equipment for the American public. It is usually the sole source of repeaters put into service in the GMRS. The FCC technical rules need to be cognizant of the used equipment phenomena widely prevalent in this service. In order to make equipment as widely available to the public as possible, the Rules must facilitate utilization of used Land Mobile equipment to the maximum extent possible while maintaining technical integrity.

The Commission must keep in mind that purchase by an individual in Land Mobile gear is not a business investment in a money making asset as it is for Part 90 users. Often times GMRS is the market of last resort for older Land Mobile equipment. This provides reasonable prices for the public while a modest recoupment for a commercial user updating his equipment. And it will become even more significant as Part 90 users move to narrow band and digital gear. Both individual GMRS users as well as Part 90 licensees benefit from this arrangement.

Bearing all of this in mind, the Commission should make technical changes with caution and only in a manner that will not impede employing older gear with older described specifications. Changes to reflect current technology should be implemented **only in addition to, and not in lieu of** older specifications. Any technical change must be only undertaken in the context that the average GMRS equipment purchase is likely a piece of used gear. Change in the manner in which technical specifications are expressed must never result in seeming to disqualify older gear that is technically appropriate. That is why I urge the Commission, when amending technical rules, to specify parameters in the alternative, showing both the old as well as the new style as an initial step. This will assure equal understandability and application to both new and older equipment. (Frequency tolerance being but one example.)

With respect to new technical rules "given the capabilities of modern manufacturing processes" the Commission must be cautious. Any such rules must be prospective only (apply only to newly made equipment). They must not interfere with GMRS users employing older gear. In promulgating any technical specifications the Commission must remember and proceed on the

assumption that the typical individual buying GMRS gear is probably buying older used equipment.

In considering wholesale change to the method by which the Commission measures and regulates unwanted emissions, once again I remind the FCC that GMRS is but a small submarket of Land Mobile equipment. Any changes to the technical rules in Part 95 must be harmonious with what manufacturers are familiar with in Part 90. Specifications which are equal or lesser to Part 90 are practical. Specifications which are different are wholly impractical. It's my impression that the specifications in current Section 95.1115 (c) are not consistent with current Land Mobile custom and practice. If so, GMRS users would be strongly opposed to any such change independent of Part 90. GMRS is not the tail that wags the Land Mobile manufacturer's dog.

7. Voice Scrambling. The Commission is to be lauded for its position regarding voice scrambling. Most GMRS users have long recognized it's clear under existing Rules that such operations are prohibited. Certification of such equipment should never have been approved. I completely concur that voice scrambling thwarts cooperation among users, channel sharing, and most significantly, emergency communications. As I will discuss below, the requirements of the Rules that users monitor before transmitting to avoid interference are paramount. Adopting new rules as proposed to clarify prohibition of voice scrambling, and prevent certification is well thought out and warranted.

GMRS (and Class A Citizens' before it) has always been a shared service since its inception. The only way for this to work in the current environment is for users to monitor before transmitting. Anything which impedes listening is a grave risk to the utility of any voice radio service. The same issues apply in Parts 90 and 97. Land Mobile gear has long been built with features to encourage this vital function. One example is mobile mic hang up switches that unmute tone squelch when a microphone is picked up for transmitting. Another is the unmute tone button found on many hand held portables.

In addition, effective user cooperation and coordination, not to mention reception of emergencies, require more listening than just briefly before transmitting. Any transmissions that discourage users from listening to a channel are not in the public interest. Voice scrambling is among the greatest offenders. The "Donald Duck" effect of common voice inversion techniques is most annoying and difficult to ignore. We have an entire repeater system in my area that utilizes such a technique. It's difficult to express how annoying such sounds are in contrast to normal voice. Other examples of such highly annoying noises which thwart voice monitoring include paging tones, selective calling signals, etc.

Generally speaking, the higher the deviation of non-voice transmissions the more annoying they are and the more they degrade vital voice monitoring. Subaudible tones are normally acceptable not only because of their low frequency but also because deviation level is usually well below 2 kHz. Among the common selective calling/signaling formats 5-tone is normally far less distracting, again due to low deviation level. MDC® is among the most disruptive.

In my judgment even if a possible technique were available that might minimize or reduce annoyance to other listening users, this would not address the issues regarding cooperation, channel sharing and emergency communications. Voice encryption is really only appropriate in radio services where monitoring and channel sharing is accomplished electronically, such as trunked systems or Cellular.

Phase out of existing new equipment should be relatively simple given the computer based nature of modern Land Mobile equipment. Programming of any GMRS frequency could trigger disabling of any voice scrambling feature. Assuming this to be true, a short cut off date should be sufficient to allow for changes in the programming software involved. This would also preserve the relationship between Land Mobile manufacturers and GMRS users that I have discussed previously.

Decertification of equipment should be a last resort only if no other solution is practical. The Commission's goal should be to maintain maximum equipment availability while accomplishing removal of voice scrambling features. Alternative approaches by manufacturers or others which preserve equipment availability while preventing voice scrambling should be entertained. Methods to permit on the shelf gear to continue to be sold, such as updated programming software, should be actively encouraged.

8. Garmin Petition. The preceding discussions regarding noise and channel monitoring and cooperation lead directly to the issue regarding the Garmin Petition discussed in paragraphs 39 through 42 of the NPRM. The proliferation of devices adding to the "noise floor" for GMRS users continues unabated. A recent example is electronic cash registers found now almost universally in stores. At times it seems that GMRS (and other Land Mobile) receivers in urbanized areas are being assaulted from all sides. Anything which contributes to this "noise floor" must be considered only very cautiously.

I first must take issue with the Garmin assertion (paragraph 40, NPRM) that higher power in GMRS will provide greater range. As stated earlier in these comments, anyone familiar with UHF knows that range is dependent upon antenna height, not power. Perhaps Garmin is confusing GMRS with CB at 27 MHz. Increased power would serve only to improve penetration at UHF, not distance. The difference in power given a hand held portable yields a negligible change in range. Given these facts, I further question whether that the existing provision for the last 7 years in the FRS is now suddenly inadequate to accomplish the stated goals and purposes.

Secondly, I strongly question the need for text messaging. In an emergency which is faster and more natural, speaking or entering text? Which is more likely to be received by the greatest number of potential listeners? Obviously the answer is voice, not text, which presumably would require a corresponding Garmin receiver to decode. In my judgment text capability is a marketing sales feature, not a serious public safety concern.

In my discussion regarding voice scrambling I mentioned the harmful effects of non-voice noise on user monitoring and cooperation and emergency reception. I pointed out how annoying and distracting many signaling formats are, including MDC®. These observations are not

theoretical but rather from personal experience and observation of others' reactions to on the air experience as well.

Many selective calling and data features (such as MDC®) employ bursts of less than one second. That alone is not sufficient to minimize interference or degradation of annoyance to listeners and voice monitoring. Not only should the burst be kept to a much shorter length, but the modulation likewise should be designed to achieve the very minimum disruption to voice monitoring. I see no such discussion in the consideration of the Garmin Petition.

I've already mentioned increasing contributions to the GMRS "noise floor", and my example of electronic cash registers proliferating is but one of recent developments since the Garmin Petition of 2003. In this regard the total interference potential to GMRS is much greater today than it was back in 2003, and is likely to only worsen. I believe that as time moves forward that selective calling will gain in popularity due to this increasing noise floor. In such a context yet more additions to GMRS noise can only be counterproductive to the utility of GMRS and the public interest.

Once again, if the Commission is truly interested in spectrum efficiency and frequency reuse, adding to noise thus discouraging single frequency operation is illogical. At present the interstitial frequencies in 95.29(f) are the only alternative to GMRS users seeking to operate on direct (single frequency mode) off of repeater output channels. If the Commission truly wishes to encourage such more spectrum efficient operations, then it should seek to encourage such operations, not discourage use of such frequencies.

The Commission seeks to justify expanding such non-voice operation into GMRS because users of FRS are individuals and families as in GMRS. The two services are drastically different as already pointed out here. While the public interest is indeed served by providing for location information for individual in distress, such provision has already been made and there are numerous other public interest considerations as well as discussed herein. If the Commission, notwithstanding all of these factors, deems it imperative to proceed, only a limited number of the interstitial channels in 95.29(f) should be authorized, leaving some still available for GMRS direct operations.

9. Crystal Control. My comments regarding older used equipment in the GMRS also apply to this question. Many older repeaters still utilized in the GMRS continue to use individual crystals for both transmit and receive. Since modern equipment employs frequency synthesis based on a crystal (often with division for greater accuracy) the existing Rule seems adequate. Removing the Rule could have unanticipated ramifications permitting other technologies not discussed to be employed. Absent a clear understanding of such potential ramifications, the wisest course of action would seem to be to clarify that the current rule is satisfied by current designs.

10. Portable Devices/Power. The Commission states, in paragraph 32 of the NPRM, that GMRS mobile units are limited to 50 watts ERP. That has never been the case. With the exception of interstitial channels and small base/control stations, GMRS transmitters generally have never been regulated as to ERP. The original rule was 60 watts input, while the current rule is 50 watts output. Traditional Land Mobile portables have from 1 to 5 watts output power, not

ERP. Thus GMRS portables are the same. The realities of manufacturing and design limit hand held radios to this range. No FCC Rule is required as has been borne out by decades of experience.

The Commission recognizes that hand held portable units are the most prevalent type of equipment purchased by the majority of GMRS users. Its stated goal is "to provide users additional flexibility" (paragraph 4, NPRM). The vast majority of Land Mobile hand held equipment is at the 4 and 5 watt level, especially as new battery technology has progressed in recent years. Traditional Land Mobile portables are not rated by ERP, but rather by output power.

The net effect of the hand held power proposal is to drastically curtail the Land Mobile units available to GMRS users to a small minority of those now found in the Land Mobile market. I personally do not know a single GMRS user with a 1 or 2 watt portable, they are just not used.

I have already commented at length on the need for GMRS equipment limitations to be harmonious with Part 90 Land Mobile equipment in general. The staff review of the Equipment Authorization Database is likely misleading because almost all Land Mobile portable units now have high/low power capability. By pressing a button the user can reduce power to a lower level to conserve battery life. But each of these radios also has the corresponding higher 4 or 5 watts of power available. The proposed rule would eliminate all of these multi-power radios from the General Mobile Radio Service and drastically curtail flexibility and availability of equipment. Thus it would make the service far less available for just the use the Commission has identified as the most prevalent. This clearly is contrary to the public interest.

In my reading of Section 2.1093(e) of the FCC Rules and Regulations, it appears that all of the various Part 90 Services are categorically excluded from SAR (absorption) analysis, save only Special Emergency Radio. All of Part 97 is likewise categorically excluded. GMRS uses are not similar to the low power business/industrial pool in Part 90, nor does the Commission make such a claim. The Commission continues to believe that the 4 and 5 watt portables routinely found in the Amateur Radio Service and the Part 90 Services (except Special Emergency) do NOT pose any problem with respect to "public exposure". The Commission has not proposed to limit any of these other services in a corresponding manner.

There are currently some 734,000 Amateur licenses according to the FCC's own database, not to mention the tens if not hundreds of thousands of Part 90 users. But only the tiny GMRS is sought out for such a draconian limitation. One has only to reflect on the typical use and transmit duty time of Part 90, and even Part 97 hand held users to realize the illogical nature of such singling out of GMRS for attention.

Consider the average Part 90 user employing his radio throughout each of his or her workdays. Transmit duty time is vastly greater than a personal user in GMRS. One has only to envision a police officer, bike messenger, etc. to immediately grasp the concept. These users have massively greater cumulative transmit times and exposures than personal users in Part 95. To a lesser extent the same is true of Amateur Radio operators, who typically have significantly longer transmit times than the personal user in GMRS. Yet these services remain categorically excluded, as GMRS is currently.

I do not suggest that these other services need review regarding SAR. Rather I suggest that there is vastly less need for such review for GMRS as compared to the Amateur or Part 90 Services. The limitations of current technology, which limit such equipment to 4 or 5 watts, push to talk, limited battery life, etc., continue to be fully adequate to impose reasonable limitations.

In addition, hand held portables are often employed in environments where some additional power provides greater penetration, and thus can often make the difference between successful communication and failure. Extensive experimentation with high/low power switches on portable units has demonstrated this fact time and again over the years.

Thus, for example, transmission from inside buildings, in areas with vegetation, inside the passenger compartment of vehicles, etc. often needs the additional power to provide for the penetration to make the contact. This greater power is especially necessary in hand held portable applications where non gain antennas are integral to the housing and the advantage of higher gain mobile antennas and ground plane are not available.

The reference to Canadian radios being limited to 2 watts ERP is disingenuous as well. Currently, with no power rule whatsoever, these radios can be certified in the U.S. provided they meet other applicable specifications. Promulgating the proposed new power Rule will not affect the availability of such equipment in any way.

Land Mobile and Amateur portables are utilized by members of the general public, just the same as the far less populated GMRS. Specific Absorption Rate regulation is significantly less appropriate for GMRS than these other similar services. Unless these other services are likewise subject to such scrutiny (most especially the Part 90 services which furnish the source of GMRS equipment) the GMRS should not be singled out for potential destruction of equipment sources for the most type of application (hand helds).

Push to talk and battery considerations remain inherent limitations that provide built in safeguards in this area. And many portables today also contain sensors that reduce power as temperature rises, battery voltage drops, etc.

As with other technical considerations, potential exposure regulations should be no more than equal to, or less than, Part 90, as GMRS cannot exist as a separate market. Thus, the blanket exemption that continues to exist for all Part 90 portables (except Special Emergency) should continue for Part 95. The number of people involved in Part 95 is but a tiny fraction of those in Parts 90 and 97.

The proposals in Section 3 of the NPRM are extremely likely to divorce GMRS users from Land Mobile equipment manufacturers and limit them to "Bubble Pack" type radios. This is of no benefit to the GMRS community at all, drastically curtails flexibility, and amounts to a serious attack on the very viability of the service.

11. Other Power Levels and Stations. In paragraph 34 of the NPRM the Commission suggests that GMRS Base and Repeater Stations are unnecessary because of the existence of

Cellular Telephone. Of course eliminating GMRS land stations would limit reliable GMRS communication to the range of about 2 – 4 miles with mobiles depending upon antenna limitations, best case scenario. Portables would likely be less than a mile.

There is no conceivable basis to conclude that such a near evisceration of the present communications capabilities of GMR is in the public interest or convenience. Virtually all GMR usage has traditionally involved some sort of land station, as antenna height is the determining factor in range and coverage, and that continues to this day.

Cellular telephone has been in existence for some 30 years. In that time the Commission has taken major actions on GMRS twice, in 1987 and 1998. At no time until today has it ever suggested that the American public is undeserving of meaningful personal radio due to the existence of Cellular.

Of course the two address different needs. Cellular provides gateway to the Public Switched Telephone Network (PSTN), which GMRS does not (see Section 95.141, which dates from the late 1970's). GMRS provides not only capability for routinely repetitive contact but also communications capability with multiple receivers simultaneously, which Cellular does not. GMRS permits for the installation of facilities in areas where Cellular does not exist, a GMR user is not at the mercy of a carrier to provide coverage.

For example, on a recent trip I was able to communicate through a GMRS repeater in Glacier National Park where no Cellular coverage existed. For another example, Cellular coverage inside my house is extremely poor. I have complained to the carrier for over 12 years to no avail. With GMRS I can configure a system to meet my needs. I have been a mobile telephone subscriber since 1969 and a Cellular subscriber since 1986. Cellular carriers have not obviated the need for the capabilities that GMRS provides.

Moreover, Cellular portable-to-portable communication requires four frequencies, halving the number of potential mobile telephone calls. This 4-frequency phenomenon is twice as inefficient than what the Commission questioned in GMRS, where no interconnection to the PSTN is permitted. From the standpoint of spectral efficiency, mobile-to-mobile and portable-to-portable communication is much better suited in private Land Mobile (including GMR) than public carrier, and allows for substantially increased number of potential connections to land lines. Certainly the density of GMRS users is drastically less than Cellular.

The GMRS 50 watts output power limitation is already substantially lower than parallel Amateur and Part 90 operations. 100 watt stations are commonplace in those services. Thus GMRS has traditionally been limited to half of what similar Amateur and commercial users enjoy.

The fact that GMRS is not coordinated and exclusive use of a frequency is not granted is far from unique. Amateur Radio is identical in these respects and is more than ten times the size of GMRS. Many of the Part 90 Service frequencies are not issued on an exclusive basis and require user sharing.

GMRS user cooperatives are far less capable of erecting major repeater systems than Part 90 businesses or governmental entities with tax support. There is currently no shortage of spectrum for existing GMRS users and this situation is likely to continue as narrow banding multiplies the number of available channels in the future. Existing power limits and station classes have served the GMRS community well and should remain undisturbed. No need for change exists and Land Mobile manufacturers are well accustomed with dual acceptance of their products for both Parts 90 and 95.

Since no frequency is assigned on an exclusive basis in GMRS, frequency sharing with responsible transmission time limitation and continuous tone coded squelch (CTCSS) provides for reasonable frequency reuse. The Service has a long history of established practice, custom and procedure among users implementing these techniques. And well established user cooperation by use of the "break" protocol enhances this efficiency. (A person needing to use a busy frequency may interject a request to do so by use of the word "break".) GMRS differs from Amateur in that most GMRS uses reject the "toggle switch" atmosphere of extended Amateur transmission in favor of much more limited transmission time more akin to Part 90 operations.

12. Small Base Stations. Paragraph 35 of the NPRM proposes to change the power limitation on small base stations to 5 watts output power. Such a change is well advised. Calculation of ERP involves the formula: 10 times the log of output power, minus line and other losses in db, plus antenna gain in db, dividing by 10 and then taking the antilog. The typical GMRS user does not perform such calculations. By contrast a straightforward 5 watt output power limitation is easy to understand and comply with. A similar change should likewise be applied to small control stations as well. Antenna height for small base and control stations has been regulated in Section 95.51(b) since the inception of such stations in GMRS.

13. Transition to Narrow Band. In general I agree with the phased approach to narrow banding suggested by the Commission. As these standards become effective for new Part 90 equipment they are likewise appropriate for Part 95. A shorter date for limitation on manufacture or certification of new models mandating narrow banding would be an appropriate first step.

However, a significantly longer date for sale of existing inventories is also appropriate given the previous description of GMRS as a market of last resort for used and older equipment. Conversion to narrow band is a far greater burden on individuals than businesses and governmental entitles. Much longer phase in should be structured by the Commission for GMRS, especially in view of the fact that there is not now a shortage of spectrum for GMRS users.

A period of some years should be provided for such a transition until marketing of 25 kHz equipment is entirely banned. The end of GMRS purchase of 25 kHz equipment should take place by attrition, rather than arbitrary date, and existing inventories should be permitted to exit from shelves into GMRS. Current generation new equipment is capable of both wide and narrow band, and entry into GMRS will facilitate later transition for individual users.

Following cut off of wide band marketing, another phase of substantial years should take place before mandating end of all 25 kHz operations should be considered. This would allow for

all GMRS users to prepare for purchase of newer equipment. Hopefully such a time period would also result in the gradual reduction in prices of the newer narrow band equipment as well.

The burden would be greatest on repeater operators as much of this equipment is older, used equipment and repeater stations normally have the highest specifications, performance and, correspondingly, price. A typical new repeater station with exiting wide band technology is normally several thousands of dollars. Repeater owners should be able to wait longer, until at least one or two generations of narrow band repeaters become readily available on the used market.

14. Fixed Stations. The provisions of Section 95.29(g) are a hold over from the 10 year period of Class A transition from a 10 MHz unchannelized service to the modern configuration of today. The last such operation I was personally familiar with was in Dodgeville Wisconsin and ceased operation some years ago. I suspect the Commission is probably right in surmising that no such fixed operations are still in effect today, but of course the changes in GMRS licensing in 1998 prohibit any real assessment of that situation. I assume the Commission is not aware of any interference complaints relating to such operations. Absent any comments from users adversely impacted by the proposed changes deletion of 95.29(g) would seem appropriate in keeping with the mobile nature of the service.

15. Combination Radios. The Commission has valid concerns with respect to "Bubble Pack" marketing of combination radios. Such marketing typically takes place in a consumer environment rather than through traditional Land Mobile sales channels and such combination equipment comes fully operational on all frequencies without further dealer action, programming, etc. By contrast Land Mobile marketing typically includes programming of equipment to match the user's authorizations.

Traditional "Land Mobile" marketing, has worked reasonably well over the years in controlling the issues of concern to the Commission in paragraphs 45 through 47 of the NPRM. Likewise, traditional marketing of combination VHF marine radios through traditional maritime marketing channels has posed few problems. The problem centers around the more consumer oriented marketing of FRS "Bubble Pack" radios in non-technical environments and extremely low price points. Therefore the solution should be focused on such unlicensed FRS "Bubble Pack" marketing as well, not traditional Land Mobile or maritime sales channels.

GMRS users generally believe that marketing of cheap "Bubble Pack" radios in a consumer environment that contain GMRS frequencies is deleterious to GMRS. We believe that such combination radios should never have been authorized. No serious GMR user can hope to accomplish meaningful communications with such extremely limited equipment. GMRS equipment should be marketed separately as such, not cloaked under a mantle of unlicensed FRS - anything goes. Purchasers of radios containing GMR frequencies should be explicitly aware of what they are getting and the limitations and responsibilities that come with such a purchase. Combination radios with unlicensed frequencies hide and obscure the facts and mislead purchasers that all channels are unlicensed and in effect unregulated.

Most recently new combination radios have just begun to appear that contain GMRS repeater **input** frequencies. This departure from general past custom has gargantuan potential for greatly increased interference. One such example is the Motorola MR355R. GMRS equipment should be marketed as such, and not concealed in a combination radio. The same is true for VHF marine frequencies. FRS (unlicensed) combination radios should limit other frequencies to receive capability, and transmit should be limited to solely unlicensed channels.

However the Commission has taken the concept way too far in suggesting that GMRS equipment must not be capable of operating in Parts 97 or 90. All of the UHF Part 90 spectrum between 460 MHz and 470 MHz was reallocated and received from the Class A Citizens' Radio Service (now GMRS). Existing GMR frequencies are nestled among these now Part 90 channels.

100% of Land Mobile radios capable of transmitting in the GMRS are likewise capable of transmitting on immediately adjacent Part 90 frequencies. And most modern Land Mobile radios are likewise capable of transmitting on Part 97 UHF frequencies. To date this has not posed any significant problem.

If the Commission were to ban radios in GMRS that were capable of operating on Part 90 and 97 frequencies, **there would be no equipment available**. GMRS radios would have to be separately designed, manufactured, and marketed. That is just not going to happen.

Moreover such prohibition would make impossible legitimate licensed use of radios in multiple services. For example for many years I was a municipal prosecutor for the community in which I live. I was also a designated auxiliary police officer and was issued a number for use on the UHF police frequencies. These channels resided in the same mobile and portable UHF radios as my GMRS channels. For another example, many GMRS licensees hold additional licenses in the Business and other Radio Services. A separate piece of equipment should not be required to utilize such authorizations. That is not in the public interest or convenience and is wasteful duplication and needless expense.

Traditional Land Mobile marketing has adequately addressed such concerns and can continue to do so. The problem is consumer marketing of unlicensed FRS "Bubble Pack" radios. The solution should focus on and be limited to this unlicensed FRS problem, not co-opt all sources of GMR equipment.

16. Part 27 Designation. I agree with the Commission's proposal in Part I of the NPRM in so far as it proposes to move the 218 – 219 MHz service out of Part 95 and into carrier regulation. Operations in the nature of a communications carrier do not belong in the Personal Radio Services. Personal Radio regulations should apply to just that, personal systems controlled by users. Carrier controlled systems should be regulated as carriers.

Respectfully submitted,

P. Randall Knowles, KAA 8142
710 Cummings Avenue, Kenilworth, Illinois 60043-1013
(847) 533 – 9449 Randy_Test@HotMail.com