

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

In the Matter of)
)
Promotion of Spectrum Efficient) RM-9332
Technologies On Certain Part 90 Frequencies)

To: The Commission

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

COMMENTS

The Personal Communications Industry Association ("PCIA")¹, pursuant to Section 1.405 of the Commission's Rules, 47 C.F.R. §1.405, hereby respectfully submits its Comments in response to the Petition for Rulemaking filed by the American Mobile Telecommunications Association, Inc. ("AMTA") in the above-captioned proceeding.²

I. BACKGROUND

In essence, AMTA's Petition requests that the Commission revisit its decision in PR Docket No. 92-235. In the proceeding, the FCC initially proposed that all systems, including rural areas, would have to convert to narrowband technology over a 10-20 year period depending upon market size. Existing systems in the top 15 markets would be required to convert to narrowband

¹PCIA is the only international trade association representing the interests of both commercial mobile radio service ("CMRS") and private mobile radio service ("PMRS") users and businesses involved in all facets of the personal communications industry. PCIA's Federation of Councils include: the Paging and Narrowband PCS Alliance, the Broadband PCS Alliance, the Mobile Wireless Communications Alliance, the Site Owners and Managers Association, the Association of Communications Technicians, and the Private System Users Alliance. In addition, PCIA is the FCC-appointed frequency coordinator for the Business Radio Service, the 800 and 900 MHz Business Pools, 800 MHz General Category frequencies, and for the 929 MHz paging frequencies.

²Public Notice, Report No. 2288, released July 31, 1998.

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technologies by 2004 (approximately ten years). In addition, the FCC proposed a graduated schedule from 2005 to 2012 for markets 16-100 to convert to narrowband. Markets 101 and above would be required to convert to narrowband technologies by the year 2014.³

However, the FCC ultimately elected not to mandate a conversion by users to narrowband technologies. Instead, the FCC decided to manage the transition to narrowband equipment by type accepting only increasingly efficient equipment over a ten-year period.

Pursuant to this transition plan, after August 1, 1996 only equipment that operates with a 12.5 kHz or less channel bandwidth will be type accepted. However, multi-mode equipment that operates on 25 kHz channels will be allowed if it is also capable of operating on 12.5 kHz and/or narrower channels. Single mode equipment that operates on wider channels (up to 25 kHz), but which meets narrowband efficiency standards will also be allowed. After January 1, 2005, only equipment that operates on narrowband channel bandwidths will be type accepted. Multi-mode equipment that operates on 25 kHz and/or 12.5 kHz channels will be allowed if it is also capable of operating on 6.25 kHz or narrower channels. Similarly, single mode equipment that operates on wider channels (up to 25 kHz), but which meets narrowband efficiency standards will be allowed. This transition plan will provide users with maximum flexibility to continue using their existing equipment or employ the transitional 12.5 kHz equipment until a full line of affordable narrowband equipment is available. It also provides manufacturers with incentives to develop and market narrowband equivalent technology over a relatively short period.⁴

Since the issuance of the Commission's First Report and Order, and the subsequently issued Second Report and Order,⁵ the conversion to more efficient technologies in the 150, 450 and 470

³Notice of Inquiry, PR Docket No. 91-170, 6 FCC Rcd 4126 (1991).

⁴Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them and Examination of Exclusivity and Frequency Assignment Policies of the Private Land Mobile Radio Services, PR Docket No. 92-235, 10 FCC Rcd 10076 (1995) at para. 7 ("First Report and Order").

⁵Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them and Examination of Exclusivity and Frequency Assignments Policies of the Private Land Mobile Services, PR Docket No. 92-235, 12 FCC Rcd 14307 (1997) ("Second Report and Order").

MHz bands has proceeding slowly. First, the newly available 12.5 kHz frequencies in the 470 MHz band were requested by applicants in the form of over one thousand applications on the first day of availabilities. However, the need to develop and implement interference-checking computer software for a mixed-operating mode radio environment proved to be time-consuming. Further, the limited geographic availability of 470 MHz channels, and the virtual saturation of the previously available 25 kHz bandwidth 470 MHz channels directly adjacent to the new channels resulted in the inability to coordinate on an interference-free basis more than ninety percent of the newly-filed applications. The applications that were able to be coordinated resulted in the issuance of some licenses which only now are approaching their construction deadlines.

In the 450 MHz band, many applicants are unsure as to how to proceed to implement more efficient equipment. The primary impediment in the conversion is the Commission's failure to issue a Public Notice for over fourteen months in response to the filing by the Land Mobile Communications Council of the "Low Power Pool Plan".⁶ In addition, uncertainty as to a number of Commission Rules (i.e. exclusivity, trunking concurrence, definitions of centralized vs. decentralized trunking, the creation of non-standard paired channels in the 150 MHz band, the use of wideband advanced technology on former offset frequencies, etc.) has also impeded the implementation of more spectrum-efficient technology in the band. As a result, applicants are unable to take advantage of the Commission's new rules because they are unable to file applications which would: (1) combine contiguous channels and utilize advanced technology systems; (2) implement trunked technology without assurance of the long-term viability of the license; or (3) become a low power user on frequencies which in the future will only be utilized by like users. This uncertainty for

⁶Second Report and Order, *supra* at para. 63.

one licensee or user has a cascade impact upon other licensees, users or potential applicants as each co-channel and adjacent channel licensee is dependent upon the other to upgrade virtually simultaneously in order to be able to implement either one of their systems.

Frustrated by its members' inability to more rapidly introduce spectrally efficient equipment (a frustration shared by many others), AMTA has requested that the Commission mandate that all non-Public Safety Part 90 licensees implement technology that has at least two times the capacity of current channelization for presently allocated 25 kHz channels by 12/31/2003 for the Top 50 urban areas (with later transition dates for smaller markets) or accept secondary markets. Importantly, however, AMTA seeks similar mandates for the 800 MHz Business and Industrial/Land Transportation bands, where mandatory migration had not been previously considered.

II. COMMENTS

A. Mandatory Conversion Below 800 MHz

On May 28, 1993, one of PCIA's predecessor organizations, the National Association of Business and Educational Radio, Inc. ("NABER"), filed Comments in PR Docket No. 92-235.⁷ Among other items, NABER at that time introduced several concepts into the so-called "Refarming" proceeding: (1) Bandwidth on Demand; (2) Equivalent Efficiency; (3) Exclusivity for Efficiency; (4) Like Services Consolidation;⁸ (5) Pools for Power; and (6) a Migration Funnel. The Commission

⁷A copy of the filing is attached hereto.

⁸It is indeed ironic that UTC, the American Petroleum Institute ("API") and the Association of American Railroads ("AAR") filed on August 14, 1998 a Petition for Rulemaking (and an ex parte filing by the American Automobile Association before that) which requested separate Pools for their services which is similar in concept to NABER's filing of more than five years ago. NABER vetted its proposal with other frequency advisory committees. Had the proposal received support from these other committees, rules might now be in place to satisfy the Petitioners.

eventually adopted rules which are consistent with the Bandwidth on Demand, Equivalent Efficiency and Pools for Power concepts, and are still considering the exclusivity issues. Unfortunately, the Commission chose not to adopt the migration funnel, which would have mandated the same relief as requested by AMTA on the same date (although not for 800 MHz spectrum). Instead, the Commission elected to utilize the type acceptance rules to manage the transition.

This transition plan provides users the option of continuing to use existing equipment, transitioning immediately to more efficient narrowband equipment, or waiting until a full line of affordable narrowband equipment is available and costs become competitive, before changing out their systems. Thus, this plan allows each licensee the freedom to choose equipment and a transition schedule that best fulfills their needs while balancing technical capabilities and financial considerations. Since the rules we are adopting provide a great deal of flexibility to each individual licensee by being permissive rather than restrictive, requiring both rural and urban users to comply with them will not create an unreasonable burden.⁹

PCIA continues to believe that a “drop-dead” deadline for wide-band equipment for the bands below 800 MHz is a valid means of accomplishing the Commission’s goals in this proceeding. However, PCIA’s original deadline of January 1, 2004, which in 1993 would have given users adequate time to amortize equipment and plan a transition, is most likely too close to an adoption date when the potential rule change would not occur until 1999 at the earliest. Thus, if the Commission wishes to pursue this course, it must reevaluate the appropriate deadlines for users.¹⁰

⁹First Report and Order, *supra* at para. 37.

¹⁰In addition, throughout the Refarming proceeding PCIA has been troubled by the proposal to have different transition dates for different “markets”. The definition of “market”, is difficult, as many systems traverse markets. It will be difficult to manage a transition which requires a user within a radius to utilize narrowband equipment, where a user two miles away would not be so required. The end result might be less efficient use of the spectrum, as the two users, who could previously hear each other, share the channel and avoid interference, may no longer be able to hear one another because of different bandwidth equipment, and as a consequence produce interference to one another.

However, the Commission must consider that it may be too early to decide that refarming, as it now stands, will not work. As discussed above, the delays in transition are in large part due to Commission delay and the time necessary for coordination committees, in cooperation with the Commission, to work out procedures to make the process operate efficiently. PCIA believes that, at this time, it may be more appropriate to wait until the entire panoply of refarming rules are in place, and have had time to take effect, before deciding to make this dramatic departure from its previous decision. It is possible that the transition at that point may occur more rapidly than would appear to be the case at this time. If not, PCIA would actively support a mandatory conversion plan such as that suggested by AMTA, or as originally proposed by PCIA (NABER). However, the Commission should wait until at least the end of the year 2000 to make the determination that the migration isn't working. While PCIA did not agree with the Commission's original decision, PCIA believes that the Commission should now give its decision an opportunity to work.

B. Mandatory Conversion Of 800 MHz Business and Industrial Channels

PCIA vehemently opposes the application of AMTA's proposal to the 800 MHz Business and Industrial/Land Transportation frequencies. There are numerous flaws with this proposal. First and foremost, AMTA's assumption that 25 kHz bandwidth 800 MHz Business and Industrial/Land Transportation systems are somehow inefficient is without merit. It appears that AMTA confuses the concepts of bandwidth and efficiency. Spectrum efficiency, however, comes in many different forms which cannot be classified as "number of voice paths per MHz". For example, a large percentage of these systems are trunked. Such systems would be far more "efficient" than the same number of channels operating in conventional mode, however AMTA's Petition does not differentiate between an 800 MHz conventional system and an 800 MHz trunked system.

The trunked 800 MHz radio system operated by Aeronautical Radio, Inc. ("ARINC") at the Dallas/Ft. Worth airport handles over 2600 calls an hour during the twelve channel system's "busy hours". This system is by no means unique in its call processing. At the Los Angeles Airport, ARINC's seven channel system handles over 2280 calls an hour during the busy hours. These numbers pale in comparison to ARINC's Chicago O'Hare Airport system, which handles over 5600 calls per hour during busy hours. These are very efficient systems.

Similarly, other technologies are in use which cannot be measured on a "number of voice paths per MHz" basis in determining efficiencies. For example, Boeing Corp. utilizes remote control cranes as part of its manufacturing process. Typically, there are five cranes in each building which are controlled by radio. Previously, Boeing required five different radio frequencies to control the five cranes in each building. Now, through the implementation of advanced technology equipment, Boeing is able to control all five cranes utilizing a single, 25 kHz channel. This represents another sterling example of spectrum efficiency.

Many 800 MHz Business and Industrial/Land Transportation systems have been only recently constructed (or reconstructed) with "state of the art" equipment. PCIA is aware of many of its user members that have recently installed, or are in the process of installing, multi-million dollar communications infrastructure using current, state-of-the-art equipment that would be scrapped in a mere four years under AMTA's plan without any discernable benefit. For example, East River Electric Power Cooperative was recently granted an inter-category sharing waiver by the Commission to implement a wide-area, state-of-the-art, 800 MHz "EDACS" system manufactured by Ericsson, Inc.¹¹ AMTA has not explained why East River would need to scrap its highly efficient system, which

¹¹East River Electric Cooperative, DA 97-1910, released Sept. 3, 1997.

is compatible with adjacent EDACS SMR Systems and allows East River's employees to roam, but would not require SMR Systems to transition. In fact, neither system should be required to change their infrastructure, as they both already operate highly efficient systems.

Further, application of AMTA's plan in the 800 MHz plan will not lead to more efficient use of channels in the band. Because of the Commission's original band plan for the 856/860 MHz frequencies, the Business and Industrial/Land Transportation frequencies are not contiguous. Instead, these frequencies are interspersed with SMR and Public Safety Pool frequencies. Since AMTA has not proposed that SMR or Public Safety Pool frequency users modify their systems, "narrowbanding" a channel which is in between or adjacent to an SMR and/or Public Safety Pool channel does not yield additional spectrum for the original licensee, nor does it generate additional spectrum for other users. Therefore, unless such a requirement is imposed on all users in the band, the transition is useless.

It is AMTA's contention that it wants to provide a "carrot" incentive for users to transition, but absent such ability a "stick" must be utilized. First, PCIA rejects AMTA's argument that private users have no incentive to implement new, more efficient equipment. A brief review of the current sales of 800 MHz dispatch repeater equipment clearly demonstrates that a large percentage of new sales is for users, not carriers. Large private users are implementing new, efficient technologies

whenever possible.¹² In this case, AMTA's "stick" provides no benefit to anyone in the 800 MHz band. Without any benefit, the proposal must be rejected for this band.

¹²Of course, there are certain users who are not even aware of the Refarming proceeding. Recently, a PCIA member visited with a co-channel licensee, the mobile radio division of a very large oil company in an attempt to work with the user to implement more spectrum efficient equipment. The utility was not even aware that the frequency it uses was available on a shared basis and had no interest in discussing working together to achieve more efficient use of the channel. Similarly, the recent example of "interference" reported by UTC in its August 14, 1998 Petition is nothing more than a utility utilizing simplex radio equipment on a channel designated for repeater use, and being unwilling to share the channel with other users. Fortunately, these examples do not represent the majority of the land mobile community.

III. CONCLUSION

PCIA wholeheartedly supports the Commission's provision of "incentives" for existing licensees to transition their equipment, in whatever band, to more efficient technology. However, before the Commission employs the "stick" proposed by AMTA in the bands below 800 MHz, the Commission must first complete its work in PR Docket No. 92-235 and determine whether its initial decisions are sufficient to achieve the intended result. If not, PCIA would encourage the Commission to mandate a transition period to more efficient equipment. However, PCIA does not support AMTA's proposal for the 800 MHz band, as the band already supports highly efficient systems and the proposal would not result in any spectrum relief for existing or future licensees.

WHEREFORE, the premises considered, it is respectfully requested that the Commission act in accordance with the views expressed herein.

Respectfully submitted,

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Date: August 31, 1998

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Replacement of Part 90 by)
Part 88 to Revise the Private) PR Docket No. 92-235
Land Mobile Radio Services and)
Modify the Policies Governing Them)

To: The Commission

COMMENTS
OF THE
NATIONAL ASSOCIATION OF BUSINESS
AND EDUCATIONAL RADIO, INC.

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EXECUTIVE SUMMARY

The National Association of Business and Educational Radio, Inc. ("NABER") commends the Commission on its efforts to re-structure Part 90 of its Rules by streamlining the rules and making the rules, which govern the operation of Private Land Mobile Radio Service systems, more "user friendly." Further, NABER agrees with the Commission that the spectrum below 800 MHz currently allocated to the Private Land Mobile Radio Services can be more efficiently utilized by the implementation of advanced technologies.

However, NABER is concerned that the Commission's proposed channelling plans for the bands below 800 MHz do not afford existing private land mobile radio users sufficient flexibility to implement more spectrum efficient technologies that may be developed in the future. Nor does the Commission's proposed transition plan appear to permit, among other things, sufficient time to amortize the cost of existing equipment prior to a possible mandated conversion to new equipment. NABER also does not concur with the Commission's proposal to significantly reduce the power levels at which existing systems operate based on Height Above Average Terrain of the transmitter sites.

NABER, therefore, through the efforts of a Task Force comprised of NABER members, developed an alternate channelling plan and a more gradual migration period for conversion to narrowband operations. NABER recommends that the Commission not mandate conversion to the very narrowband channel bandwidths until further information is available, i.e., the results of operations in the

220-222 MHz band, results of further research and development of very narrowband equipment and other advanced technologies, and the availability of additional spectrum by the potential re-allocation of federal government spectrum. NABER also opposes the Commission's proposal for Innovative Shared Use of a portion of the 150 MHz band.

NABER recommends a more flexible "bandwidth on demand" scheme that will not limit or restrict implementation of spectrum efficient technology developed in the future. As "bandwidth on demand" is based on contiguous spectrum, NABER recommends consolidation of the existing radio services below 800 MHz to five service pools.

Further, NABER recommends that the Commission "clean up" the RF spectrum by requiring conversion to "true" 12.5 kHz channel bandwidth operation by January 1, 2004, with the opportunity for existing users to continue 15 kHz or 25 kHz channel bandwidth operation on a secondary, non-interference basis. A 6.25 kHz channel plan is suggested to provide a "roadmap" to users to design and implement conversion to more spectrum efficient technologies, but NABER does not suggest a mandated conversion to a 6.25 kHz channel bandwidth.

NABER also submits that "pools for power" should be implemented to provide an incentive to the licensee to obtain authorizations for the least amount of spectrum in a defined operational area. NABER also comments on miscellaneous issues, such as the grandfathering of paging-only frequencies.

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COMMENTS
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NATIONAL ASSOCIATION OF BUSINESS
AND EDUCATIONAL RADIO, INC.

The National Association of Business and Educational Radio, Inc. ("NABER"), by its attorneys, pursuant to Section 90.415 of the Commission's Rules, 47 C.F.R. § 90.415, respectfully submits its Comments in response to the Notice of Proposed Rule Making ("Notice") adopted by the Commission on October 8, 1992 in the above-styled proceeding.¹

I. BACKGROUND

NABER is a national, non-profit, trade association headquartered in Alexandria, Virginia, that represents the interests of manufacturers, vendors and service providers as well as large and small businesses that use land mobile radio communications as an important adjunct to the operation of their businesses. NABER has five membership sections representing Users, Private Carrier Paging licensees, Radio Dealers, Technicians and

¹ Notice of Proposed Rule Making (FCC 92-469), PR Docket No. 92-235, 57 FR 54034 (November 16, 1992). The original Comment date of February 26, 1993 and Reply Comment date of April 14, 1993 were extended by Order Extending Comment and Reply Comment Periods (DA 93-145), PR Docket No. 92-235, 58 FR 8731 (February 17, 1993) to May 28, 1993 and July 14, 1993, respectively.

Specialized Mobile Radio operators. NABER comprises over 6,000 of these businesses and service providers holding thousands of licenses in the private land mobile services.

For the past 19 years, NABER has been the recognized frequency coordinator in the 450-470 MHz and 470-512 MHz bands for the Business Radio Service. NABER is also the Commission's recognized frequency coordinator for the 800 MHz and 900 MHz Business Pools, 800 MHz General Category channels for Business eligibles and conventional SMR Systems, and for the 929 MHz paging frequencies. In its Report and Order in PR Docket No. 83-737, the Commission designated NABER as the frequency coordinator for all Business Radio Service frequencies below 450 MHz and, in a joint effort with the International Municipal Signal Association ("IMSA") and the International Association of Fire Chiefs ("IAFC"), the Special Emergency Radio Service frequencies.

In this Notice, the Commission proposes a comprehensive re-write of Part 90 of the rules which governs the operations and licensing of private land mobile radio services. This re-write is occasioned by the Commission's desire to "refarm" the bands below 512 MHz currently allocated to the Private Land Mobile Radio Services. These PLMRS bands are currently licensed, for the most part, on a shared basis. In the past several years, the bands in the major urban areas have become so congested that the quality of service that a licensee may obtain is extremely poor. The Commission, by its proposal, seeks to promote spectrum efficiency in these bands, and achieve a four-fold increase in capacity in the

421-512 MHz bands and a three-fold increase in the 72-76 MHz and 150-170 MHz bands.

In order to realize these goals, the Commission has proposed to re-channelize the bands and require narrowband operations in these bands. The Commission proposes to split the 25 kHz channels in the 421-512 MHz bands to an ultimate channel bandwidth of 6.25 kHz, and the 15 kHz channels in the 72-76 MHz and 150-170 MHz band to an ultimate channel bandwidth of 5 kHz. Additionally, to provide incentive to users to transition to these very narrowband channels, the Commission proposes to provide an opportunity to licensees to achieve exclusivity on a channel.

Recognizing that PLMRS licensees have large capital resources invested in these systems, and that such licensees will require a period of time to make the transition to the narrower bandwidth channels, the Commission proposes a two-step transition period. The first step proposed is to have the licensees reduce their channel bandwidth to 12.5 kHz in the 421-512 MHz band and 10 kHz in the 72-76 MHz and 150-170 MHz bands by January 1, 1996. The requirement to initiate operation on the very narrowband channels (or having operation meeting a minimum spectrum efficiency standard) would be implemented beginning January 1, 2004 in the top fifteen markets (as listed in the proposed Section 80.1601), and yearly thereafter for designated markets until the complete conversion of all stations by 2012.

The Commission's proposal will have a sweeping effect on the manner and method by which existing licensees operate and license

their systems. The Commission envisioned that the initial channel bandwidth reduction would be achieved by reducing the deviation of the current 25 kHz equipment, and referred to this as a "screwdriver adjustment." However, NABER has been advised by the a number of manufacturers of two-way mobile radio equipment that the existing equipment in operation today will require significant modification in order to reduce the deviation for operation on a 12.5 kHz channel bandwidth. Further, no standard modification may be made as it will vary with each type of equipment even within a product line. Additionally, the reduction in deviation reduces the audio recovery, and there may not be a means to boost the audio to permit the receivers to continue operation with satisfactory quality on a 12.5 kHz bandwidth channel. Therefore, NABER is concerned that the Commission's proposal for the first transition in 1996 may require existing users to purchase new equipment or make major costly modifications to existing equipment.

Further, the proposed rules appear to require any new authorizations for systems below 800 MHz to be coordinated and licensed for the very narrowband channels (either 5 kHz or 6.25 kHz) upon the effective date of the rules -- even though the first channel split does not occur until January 1, 1996. Since the effective date of these rules could be as early as January 1, 1994, there is concern that there will not be widespread availability of very narrowband equipment in such a short time frame.

Although the Commission's desire to preclude further wideband grants with the impending channel splits is understandable, it

seems inadvisable to effectively preclude further licensing in the PLMR services until 1996. This may have not been the Commission's intent, but the rules, as currently proposed, would require that result. In any event, NABER believes that a transition period should be devised that permits a more gradual migration to the narrow channel bandwidth operations.

Additionally, NABER is concerned that the Commission's proposal blurs the distinction between spectrum efficiency and spectrum capacity. An increase in the number of channels available for licensing through channel splitting does not necessarily achieve spectrum efficiency, and may disadvantage certain technologies. Although it may appear more spectrum efficient, to carry more voice conversations using two 6.25 kHz or four 6.25 kHz channels than using a 12.5 kHz or 25 kHz channel, the efficiency of a system may better be determined by calculating throughput of the operation based on the communication unit/hertz/area/time. NABER, therefore, cautions the Commission against only looking at the number of channels obtained in a channelization plan utilizing either a 6.25 kHz or a 5 kHz "slotting" in determining whether its "spectrum efficiency" goals have been met.

Further, NABER cautions the Commission against implementing a channeling plan that is based on technologies either currently available or on the horizon, or one which seeks to force equipment manufacturers to focus research and development on only one specific technology. The Commission cannot foresee all the discoveries that may be made in the next twenty years, nor should

it stifle the creativity of future inventors/engineers. Therefore, NABER envisions a flexible channelling plan that does not favor a particular technology or that does not discourage research to "build a better mousetrap."

For the reasons set forth above, NABER, through the formation of a Task Force, endeavored to develop a channelization and migration plan that was based on the needs of the users. NABER assembled a Task Force comprised of a cross-section of users, manufacturers, dealers, private carrier paging operators, and two-way private carrier operators,² to study and discuss the implications of the Commission's proposals and to create a regulatory structure that better meets the needs of the users of the spectrum. The focus of this Task Force was to consider an appropriate regulatory mechanism that reflected the operational realities of the spectrum user, but still achieved the Commission's paramount goal of increasing the capacity of the spectrum to allow future applicants access to the spectrum. The Task Force, after careful deliberation, created a structure that it believes is a

² The Task Force was comprised of representatives from Motorola, Ericsson-GE, Glenayre, E.F. Johnson, Aeronautical Radio, Inc., Union Pacific Railroad, IBM, Arch Communications Group, Network USA, Advanced MobileComm, Inc. and Communications Electronics. The diversity of the group resulted in spirited discussions in regards to the Commission's proposals. On certain issues, the positions of various members of the Task Force were diametrically opposed to one another. Accordingly, the Task Force based its recommendation on a majority opinion among the members rather than seeking unanimity of the members.

careful balance between current licensees' interests in their systems and the future use of the spectrum.³

NABER, therefore, takes this opportunity to respond to the Commission's proposal and provide the Commission an alternative proposal which NABER believes addresses the concerns set forth above, has a less dramatic impact on existing licensees/users, provides incentives for existing licensees to implement more spectrum efficient operations, and will achieve the Commission's ultimate goal of increased capacity in the identified bands.

II. COMMENTS

NABER compliments the Commission for having the vision and the courage to undertake the arduous task of implementing a channeling, licensing and operating scheme that will take the PLMRS into the next century and the next generation of advanced technology. The Commission's proposed structure for Part 88 as compared to Part 90 is "user-friendly" and overcomes many of the difficulties associated with finding rule sections that address a particular issue or method of operation. Accordingly, NABER believes that the Commission's efforts are laudable and proposals set forth in the Notice have been an important starting point for the private land mobile radio industry to focus on where we are and

³ As previously discussed, not all participants involved in the Task Force agree with each position taken in these Comments. The end result is based on a majority opinion rather than on an unanimous decision. On May 4, 1993, NABER filed its White Paper, Refarming Below 800 MHz "Bandwidth on Demand" with the Commission, which was placed on Public Notice on May 6, 1993.

where we must be to provide continued service to existing licensees and future users.

However, the proposals set forth by the Commission in terms of channeling plans and transition periods have raised an immense amount of concern by current licensees. These licensees are troubled by the aspect of losing the investments made in their systems, of having to invest additional capital to make major system changeovers (perhaps twice as suggested by the Commission's proposal), and of losing the viable, operating systems on which their business depend, either directly or indirectly.

NABER and its members recognize that the continued regulatory scheme for the PLMRS below 512 MHz will ultimately result in gridlock in many of the major metropolitan areas, and modifications must be made to prevent the loss of telecommunications in these areas. In order to accomplish these results, NABER understands that existing licensees must endure some inconvenience and expense to achieve the better service for the common good of all users, existing and future. Similarly, the Commission must recognize that, in recent years, a number of the traditional users below 512 MHz have consciously chosen to license in this band because the quality of service is not as important as the economics associated with the service in these bands. Thus, the benefits achieved by the Commission's proposal, such as more channels to be licensed, exclusivity, trunking efficiency, must balance the benefits lost by the individual licensees, such as economical radio services.

A. GOALS OF THE NABER PROPOSAL

Like the Commission, NABER first identified the goals that its members were seeking to achieve in revising the regulations that currently govern the various PLMRS. The goals that NABER and its members wish to see obtained by the "refarming" of the PLMRS spectrum are as follows:

1. Contiguous Spectrum Bands for the Mobile Radio Services
2. Spectrum Efficiency and Increased Capacity
3. Workable Migration Plan
4. Revised Service Pools
5. Streamlined rules
6. Level Playing Field
7. Minimal Disruption of Existing Operations
8. Achievement of Primary Protection for Current Offset Users
9. Establishment of a Home for Low-Power, Site Specific or Non-Site Specific Systems with Low Entry Cost
10. Amortization of Existing Radio Equipment over a Reasonable Life Span of the Equipment
11. Consistency with the Long-Term Budgeting Process of Large Users and Government Users
12. Availability of Spectrum for all Types of Spectrum Efficient Equipment

B. NABER'S ALTERNATE PROPOSALS FOR CHANNELIZATION/EFFICIENCY STANDARDS/SERVICE POOLS/TRANSITION PERIODS

With the aforesaid goals in mind, NABER requests the Commission to modify the Commission's proposal to conform with the following recommendations:

1. NABER's "Bandwidth On Demand"

NABER promotes the adoption by the Commission of contiguous blocks of spectrum for each user pool (regardless of the number of pools ultimately adopted). This will provide more flexibility in future years to implement new advanced technologies. The channelization of the spectrum has been a controversial issue in the discussions among the Task Force members. Most members agree that the first step that is required to be taken, and that may be accomplished, is the reduction of the current systems to operation on 12.5 kHz channel bandwidths. The further reduction in channel bandwidth, however, causes dissension among members because there is uncertainty by some members as to whether equipment will be successfully developed to provide complete full-featured systems, including mobile and portable units, with the narrower channel bandwidths.

Further, in the past, the Commission's rules have failed to keep pace with the new technologies. A number of advanced technologies have been implemented in the private land mobile radio services by waiver rather than by rule. NABER believes that the Commission must allow itself certain flexibility in the adoption of these rules, to permit some discretion in the channel plan to be implemented in twenty years. On the other hand, licensees must have some direction by which to gear their future operation. To balance these factors, NABER suggests the Commission adopt a 6.25 kHz channel plan to provide the "roadmap for change," but that the Commission also revisit the channel plan in the next five to ten