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

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In the Matter of	)	
	)	
Advanced Television Systems	)	
and Their Impact Upon the	)	**MM Docket No. 87-268**
Existing Television Broadcast	)	
Service	)	

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To: The Commission

COMMENTS OF UTC

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Summary

UTC generally supports the Commission's DTV channelization plan to recover unused or underutilized broadcast spectrum. UTC urges the Commission to reallocate this recovered spectrum for a variety of non-broadcast uses, including public safety and public service uses by utilities and pipelines. UTC also requests that the Commission initiate a proceeding to immediately allocate spectrum in the TV channel 60-69 band for public safety and public service uses. UTC further recommends that the Commission should provide access to vacant DTV channels by non-broadcast licensees, including utilities and pipelines. Finally, UTC strongly urges the Commission to ensure that land mobile operations sharing TV channels 14-20 in thirteen urban areas are protected from interference from new DTV licensees.

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COMMENTS OF UTC

Pursuant to Section 1.415 of the Federal Communications Commission's (Commission) Rules, UTC, The Telecommunications Association (UTC), hereby submits its comments in response to the Commission's *Sixth Further Notice of Proposed Rule Making* (*Sixth FNPRM*) in the above-referenced docket to establish a channel allotment plan for digital television service (DTV). UTC applauds the FCC's proposal to recover a substantial amount of unused or under-utilized broadcast spectrum for non-broadcast services. UTC recommends that the Commission reallocate a portion of this spectrum for public safety and related public service communications systems. In particular, UTC urges the Commission to initiate a proceeding to immediately allocate the TV channel 60-69 band for use by public safety and public service uses. Finally, UTC urges the Commission to adequately protect existing land mobile licensees which share broadcast spectrum in certain urban areas.

I. Introduction

UTC is the national representative on communications matters for the nation's electric, gas, water and steam utilities, and natural gas pipelines; UTC also represents other organizations which use communications to support essential public service obligations. UTC's members range in size from large combination electric-gas-water utilities which serve millions of customers, to smaller, rural electric cooperatives and water districts which serve only a few thousand customers each. Serving on UTC's Board of Directors are representatives from the following associations:

- American Gas Association
- American Public Power Association
- American Water Works Association
- Association of Edison Illuminating Companies
- Edison Electric Institute
- Interstate Natural Gas Association of America
- National Rural Electric Cooperative Association

UTC has actively participated in this proceeding for many years to protect its members' interests. All utilities and pipelines depend upon reliable and secure communications to assist them in carrying out their obligations to provide service to the public. Some of UTC's members operate land mobile systems on a co-channel or adjacent channel basis with broadcast stations and would be directly impacted by the Commission's proposed DTV channelization plan. In addition, UTC's members are interested in the Commission's proposal to recover a portion of the broadcast spectrum for non-broadcast uses as a way of addressing the congestion present in the existing land mobile frequencies. UTC, therefore, has a significant interest in this proceeding.

II. Efficient Spectrum Management Requires the Recovery of Broadcast Spectrum

The *Sixth FNPRM* is the latest in a long line of FCC proposals to set the framework for the transition of National Television Standards Committee (NTSC) TV channels to new DTV channels. The latest refinement establishes the FCC's intention to relocate all TV channels to the spectrum occupied by current VHF TV channels 7-13 (174-216 MHz) and UHF TV channels 14-51 (470-698 MHz). All existing broadcasters would be provided with access to a 6 MHz channel for digital broadcasting within the core DTV spectrum -- channels 7-51. As a result of this transition, the Commission hopes to recover 138 MHz of spectrum nationwide.[1]

UTC supports the FCC's efforts to encourage spectrum efficiency by reducing the total amount of spectrum available to broadcasters. The enormous amount of spectrum currently allocated to over-the-air broadcasting, over 400 MHz,[2] vastly exceeds the total amount of spectrum available for mobile radio communications by utilities and pipelines. For example, below 3 GHz, only about 119 MHz of spectrum is available for use by private radio licensees, and only a small portion of this spectrum is used by utilities and pipelines.[3] Given the need to recover underutilized radio spectrum in the face of growing demand, and the fact that even after the proposed transition to DTV individual broadcast licensees would retain generous 6 MHz licenses, the FCC must rechannelize the broadcast spectrum to maximize spectrum efficiency.

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[1] *Sixth FNPRM*, para. 25.

[2] *Sixth FNPRM*, para. 16.

[3] According to the 1992 Annual Report of the Federal Communications Commission, the Power and Petroleum Radio Services together accounted for only about 6% of the private radio service stations in the bands below 512 MHz. Given the fact that the bands primarily used by the private radio services represent only about 13% of the total spectrum below 512 MHz, utility and pipeline use can be estimated at less than 1% of the spectrum below 512 MHz, (i.e., 6% of 13% = 0.78%).

A portion of the recovered broadcast spectrum should be made available to address the needs of the private radio community. For instance, the recovered spectrum could be used to:

- *Address the congestion in the private land mobile (PLMR) bands below 512 MHz.* As noted by the Commission in its refarming proceeding, PR Docket No. 92-235, there is pressing need for additional channels in these heavily-congested bands. Currently, there are over twelve million transmitters operating in these bands and, based on current growth projections, there may be over twenty-five million transmitters in the PLMR services by the year 2004.[4] Even with the Commission's efforts to rechannelize the existing PLMR bands, users in the most heavily congested areas may not have access to adequate spectrum. Recovered broadcast spectrum could supplement the Commission's refarming efforts to relieve this congestion.
- *Accommodate relocated users from the 800 MHz band.* The Commission's proposal to auction overlay licenses in the upper 200 SMR channels (815/860.9875 - 820/865.9875 MHz) permits new overlay licensees to relocate incumbent licensees to comparable facilities.[5] However, the Commission has not identified spectrum to accommodate these relocated users. Moreover, the auctioning of overlay licenses in these bands will dramatically reduce the amount of spectrum available for private licensees such as utilities and pipelines. Recovered broadcast spectrum could serve as a home for these licensees.
- *Meet anticipated growth in private land mobile operations and permit the introduction of new and innovative technologies.* The National Telecommunications and Information Administration (NTIA) has reported that the number of PLMR transmitters is growing at a rate of eight percent per year.[6] Moreover, UTC has noted previously in this proceeding that the number of licensed PLMR radio stations has increased over four hundred percent since 1968, and has grown at a rate of ten percent per year for the last five years.[7] A March 1995 report by NTIA foresaw the need for 204 MHz of additional land mobile spectrum to satisfy anticipated needs for the next ten years.[8] UTC believes that these estimates may be conservative and notes that they do not take into account emerging radio applications. UTC and other private users have estimated that 75 MHz would be needed to meet the needs of the PLMR services such as utilities and pipelines for new and innovative applications.[9] These

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[4] National Telecommunications and Information Administration's "National Land Mobile Spectrum Requirements" Report, p. 116 (January 1994).

[5] PR Docket No. 93-144.

[6] "National Land Mobile Spectrum Requirements," p. 116.

[7] Comments of UTC on *Fourth Further Notice of Proposed Rulemaking and Third Notice of Inquiry*, p. 7.

[8] "U.S. National Spectrum Requirements," p. 33.

[9] Coalition of Private Users of Emerging Multimedia Technologies (COPE) *Petition for Rule Making,* filed December 23, 1993. Although Section 7 of the Communications Act requires the Commission to act on any

applications include new mobile data and mobile video applications which could boost the productivity of U.S. businesses and assist companies in carrying out their public safety and public service obligations.

The Commission should address the urgent need for additional private land mobile spectrum, and allocate sufficient spectrum recovered through its rechannelization plan for these vital services.

A. The Commission Should Allocate UHF Channels 60-69 for Public Safety, Public Service and Other Private Services

As specified in the *Sixth FNPRM*, the Commission's proposed transition plan would permit the early recovery of 60 MHz of spectrum almost immediately from the 746-806 MHz band (UHF channels 60-69). This spectrum can be made available because it is home to relatively few existing TV stations and would not be used for new DTV channels. Although the Commission does not propose rules in the *Sixth FNPRM* for the reallocation of this spectrum to any particular service, the Commission notes that this recovered spectrum could be made available for flexible mobile operations, public safety operations and/or temporary or permanent low power TV channels.[10]

UTC supports the Commission's suggestion that the spectrum vacated by TV channels 60-69 be made available immediately for non-broadcast uses. The allocation of this spectrum for non-broadcast uses is consistent with the recommendation found in the "Final Report" of the

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petitions for a new technology or service within one year, it has taken no action on the COPE petition in the nearly two years since it was filed.

[10] *Sixth FNPRM*, para. 26.

Public Safety Wireless Advisory Committee (PSWAC) Spectrum Requirements Subcommittee, which noted that:

> The TV broadcast channels 60-69 (746-806 MHz) have light use throughout the United States. This spectrum is adjacent to the existing land mobile use in the 800 MHz band and would be suitable for all categories of use.[11]

PSWAC also identified a need for an additional 25 MHz for public safety use within the next five years, noting that the recovered channel 60-69 spectrum would be well-suited to satisfying this need.[12]

In addition to an allocation for public safety users, the Commission should also allocate a portion of the recovered spectrum for use by public service organizations. PSWAC defines "public services" as those provided by "entities that furnish, maintain, and protect the nation's basic infrastructures which are required to promote the public's safety and welfare."[13] As PSWAC further notes, these public service entities, such as utilities and pipelines, have a need to interoperate with public safety agencies. To promote interoperability between public safety and public service entities, PSWAC recommends that a new interoperability band be established and "the FCC and NTIA freely license frequencies in this band to all eligible public safety/public service entities..."[14] The channel 60-69 band is an ideal candidate for this recommended interoperability band.

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[11] PSWAC Final Report, Appendix D, §10.2.4.3.
[12] PSWAC Final Report, § 4.4.1; Appendix D, §10.2.4.3.
[13] PSWAC Final Report, § 4.3.2.2.
[14] PSWAC Final Report, § 4.3.27.2.

Utilities and pipelines have an urgent need for access to new spectrum to meet growing needs. As UTC noted in its Comments to the Commission's *Fourth Further Notice of Proposed Rulemaking and Third Notice of Inquiry* in this proceeding, the utility industry already operates over 43,000 private land mobile transmitters representing an investment of over $4.3 billion. New data and distribution automation applications[15] are increasing the already robust need for spectrum by utilities and pipelines.[16]

Licensing both public service and public safety entities in the channel 60-69 band will permit the development of shared radio systems by public safety and public service organizations. Currently, a number of utilities share trunked radio systems with nearby police, fire and other state agencies. These shared systems allow cash-strapped public safety agencies to gain access to advanced communications systems and allow the utility to offset some of the costs associated with the deployment of the new system.

Finally, the licensing of public safety and public service entities in this band may increase the demand for equipment in this band, thereby reducing the cost. As PSWAC notes, "[b]y locating new spectrum bands for Public Safety near or adjacent to existing public safety bands or other comparable private users, the development investment to produce radio equipment is lowered and volume production benefits can be gained."[17]

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[15] "Distribution automation" describes a system that permits a utility to remotely monitor, coordinate and operate its distribution and transmission components from centralized locations.
[16] Comments of UTC on *Fourth Further Notice of Proposed Rulemaking and Third Notice of Inquiry*, pp. 6-7.
[17] PSWAC Final Report, § 60.

B. Vacant DTV Allocations Should Be Made Available for Non-Broadcast Use

The Commission also requests comments in the *Sixth FNPRM* on the appropriate use of vacant DTV channels. Even though the DTV channelization plan will utilize all available broadcast spectrum in most communities, there will be vacant channels in some communities.[18] The Commission's suggestions for the use of this spectrum include accepting new low power TV station applications and permitting DTV licensees to make use of one or more vacant channel.

UTC strongly opposes any proposal to retain spectrum for broadcast use that is not needed for the transition to DTV. Given the urgent need for spectrum for other services and the generous 6 MHz licenses provided to new DTV operations, the retention of these vacant channels by the broadcast services cannot be justified. Instead, the Commission should initiate a proceeding to make these channels available to a wide variety of licensees including utilities and pipelines and to investigate whether additional sharing by land mobile systems is possible within the DTV channels.

III. Land Mobile Radio Operations on UHF Channels 14-20 Must Be Protected

The *Sixth FNPRM* may also impact land mobile operations sharing frequencies in the range of UHF channels 14-20 (470-512 MHz band). Land mobile operations are permitted on these channels in thirteen (13) urbanized areas, the Gulf of Mexico offshore region and Hawaii. These urbanized areas include:

- New York - Northeastern New Jersey
- Los Angeles
- Chicago - Northwestern Indiana

[18] *Sixth FNPRM*, para. 51.

- Philadelphia - New Jersey
- Detroit
- San Francisco - Oakland
- Boston
- Washington D.C.- Maryland - Virginia
- Pittsburgh
- Cleveland
- Miami
- Houston
- Dallas

In the *Sixth FNPRM*, the Commission proposes to permit co-channel and adjacent channel DTV operations as close as 250 km (155 miles) and 176 km (110 miles), respectively, from the city center of land mobile operations.[19] The Commission also proposes to: (1) make channels 15-16 in Detroit and channels 14-15 in Cleveland available for DTV operations; and (2) eliminate the sharing of UHF channel 20 in the Philadelphia area by land mobile licensees to reduce the interference among TV stations in the congested northeast corridor.[20] Finally, the proposed transition plan would include certain instances in which DTV licensees would operate less than 100 miles from adjacent channel land mobile operations.[21]

UTC urges the FCC to ensure that DTV operations do not interfere with co-channel and adjacent channel land mobile licensees. For example, UTC recommends that the Commission review its proposed co-channel and adjacent channel separation criteria to ensure that DTV stations will not cause interference to land mobile licensees operating pursuant to the Commission's "refarming" rules. The separation distances must be re-evaluated in light of the

[19] *Sixth FNPRM*, para. 76.
[20] *Sixth FNPRM*, paras. 76-77.
[21] *Sixth FNPRM*, para. 93.

power level, antenna height and channel spacing restrictions imposed on land mobile operations by the Commission in PR Docket No. 92-235. The Commission must ensure that the proposed separations distances adequately protect land mobile operations operating pursuant to its new PLMR rules.

In order to protect vital land mobile operations, the Commission should also reconsider its proposals to make channels 15-16 in Detroit and channels 14-15 in Cleveland available for DTV operations. Although the Commission correctly notes in the *Sixth FNPRM* that these channels are currently precluded from land mobile use due to existing border agreements with Canada,[22] there is an existing need for spectrum in the Cleveland and Detroit areas for land mobile operations and this need is expected to increase in the near-future. UTC therefore urges the Commission to redouble its efforts to secure a satisfactory sharing agreement with Canada to allow the use of these channels for land mobile operations.

UTC also opposes the elimination of land mobile operations on UHF channel 20 in the Philadelphia area. A number of UTC's members operate systems in this band. Given the extreme congestion in the land mobile frequencies in the northeast corridor, alternative spectrum may be difficult, if not impossible, to locate. The Commission should not force these licensees to relocate without identifying adequate replacement spectrum. Instead, the Commission should

[22] *Sixth FNPRM*, para. 75.

impose an obligation on the DTV licensees which will operate in this band to pay to relocate the land mobile users to comparable facilities.[23]

Finally, UTC opposes the short-spacing of DTV operations to existing land mobile operations. According to the proposed channelization plan, the spacing between DTV operations and land mobile operations could be a close as two miles. UTC joins with the Land Mobile Communications Council in urging the Commission and the broadcast community to offer technical solutions to protect these important land mobile operations.

Conclusion

UTC generally supports the Commission's DTV channelization plan in order to recover unused or underutilized spectrum. Sound spectrum management requires that the Commission reallocate this recovered spectrum for a variety of non-broadcast uses, including public safety and public service uses by utilities and pipelines. The Commission should initiate a proceeding to immediately allocate spectrum in the TV channel 60-69 band for public safety and public service uses. The Commission should also provide access to vacant DTV channels by non-broadcast licensees, including utilities and pipelines. Finally, land mobile operations sharing TV channels 14-20 in thirteen urban areas must be protected from interference from new DTV licensees.

[23] UTC notes that the Commission is considering relocation rules similar to those adopted for the 2 GHz emerging technology band as part of its DTV channelization plan. *Sixth FNPRM*, para. 26.

WHEREFORE, THE PREMISES CONSIDERED, UTC requests the Federal Communications Commission to take action in accordance with the views expressed in these comments.

Respectfully submitted,

UTC

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