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

In the Matter of Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use	)))	ET Docket No. 94-32

JOINT COMMENTS OF THE ASSOCIATION FOR MAXIMUM SERVICE TELEVISION, INC. AND OTHER MAJOR TELEVISION BROADCASTING ENTITIES

DOCKET FILE COPY ORIGINAL

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Dated: March 21, 1995

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SUMMARY

The opening of the 4660-4685 MHz band offers the Commission the chance to promote the continuity of high quality, universally available, and locally-based broadcast television service and could permit the public to experience the full capabilities of advanced digital television. The Commission should exploit this chance by allocating the spectrum to support broadcast auxiliary operations, including advanced digital video services and terrestrial fixed and mobile auxiliary broadcast operations. Few other uses have been proposed for this band and no use other than auxiliary broadcasting would support such an important function as the delivery of breaking news events to the entire public -- for free. In part because these services are provided without charge, they are exempt from the Commission's auction authority, no matter how expansively defined the service class in which they are placed. In any event, the broad service class the Commission has proposed would be inhospitable to auxiliary broadcasting due to incompatible uses. Allocating the 4 GHz band to a random assortment of services would likely result in unacceptable interference among incompatible services and cannot properly be used as a method to secure auction fees. On the other hand, allocating the 4 GHz band to auxiliary broadcasting would substantially resolve the present spectrum overcrowding problem and speed the successful transition to ATV television broadcasting.

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JOINT COMMENTS OF THE ASSOCIATION FOR MAXIMUM SERVICE TELEVISION, INC. AND OTHER MAJOR TELEVISION BROADCASTING ENTITIES

The Association for Maximum Service Television, Inc. ("MSTV"), and the Association of America's Public Television Stations, Capital Cities/ABC, Inc.; CBS Inc.; the Fox Television Group of companies; the National Association of Broadcasters ("NAB"); National Broadcasting Company, Inc.; Public Broadcasting Service; and the Radio-Television News Directors Association ("RTNDA") (the "Joint Commenters") hereby file comments in response to the Second Notice of Proposed Rulemaking, ET Docket No. 94-32, released in the above captioned docket on February 17, 1995 (the "Second Notice").[1/]

[1/] MSTV is a non-profit trade association of local broadcast television stations committed to achieving and maintaining the highest technical quality for the local broadcast system. NAB is a non-profit, incorporated association of radio and television stations and networks which serves and represents the American broadcast industry. RTNDA is a non-profit trade association of local and network news executives and editorial personnel, educators, students, and others devoted to electronic journalism. The other Joint Commenters include major television broadcasting networks and affiliates' organizations. MSTV, NAB, RTNDA and the other Joint

(continued...)

Representing prospective providers of free, universal, and innovative digital broadcast television services, we urge the Commission to seize the opportunity presented by the availability of the 4660-4685 MHz band to grow the most robust, locally responsive advanced digital television ("ATV") service possible. This can be accomplished by allocating this band of spectrum exclusively for broadcast auxiliary services ("BAS") operating as essential support for ATV.

I. The 4660-4685 MHz Band Should be Allocated for Auxiliary Broadcast Services.

Rarely does the Commission have the opportunity to seed a virtually clear band of spectrum with an emerging service with as much promise as ATV. The transfer of the 4660-4685 MHz band from government to non-government use fortuitously comes at a time when the newly emerging ATV technology is close to roll-out and offers an ever richer menu of options -- including high definition television and increased channel capacity for other auxiliary broadcasting-intensive services that data compression technology will make

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[1/] (...continued)
Commenters have a longstanding and vital interest in maintaining the viability of free, universal, over-the-air television broadcasting, and are deeply concerned about the need for continued uninterrupted access to sufficient auxiliary broadcast spectrum.

These comments, filed two business days after the release of the Commission's decision to deny MSTV's Motion for Extension of Time (March 17, 1995) are timely filed under 47 C.F.R. §§ 1.4(a)(2) and 1.46(b) (1994).

possible in connection with broadcasters' use of the ATV channels.[2] Auxiliary broadcasting functions are essential to NTSC broadcasting, and will also be critical to the delivery of the full range of digital television services now envisioned. The 4660-4685 MHz band, if allocated to BAS, could help provide part of a long-term solution to the pressing BAS spectrum needs that are already severe and growing in today's NTSC television world and are certain to intensify with the near-term launch of ATV.

MSTV and the Joint Commenters will not here recite what our prior filings in this proceeding[3] and elsewhere[4] have emphasized about the critical dependence of news, sports, public affairs, and entertainment broadcasts on BAS spectrum and the present shortage of spectrum to support those activities. As the Commission knows well, BAS spectrum is crucial to ensuring high quality over-the-air television broadcasting, particularly in connection with broadcasters'

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[2] See, e.g., The Fight for Digital TV's Future, The New York Times (January 22, 1995).

[3] See Comments of MSTV to the Notice of Inquiry, ET Docket No. 94-32 (June 15, 1994) and Comments of MSTV and Other Major Television Broadcasting Entities to the Notice of Proposed Rulemaking, ET Docket No. 94-32, December 19, 1994 ("Joint Comments").

[4] See, e.g., Comments of MSTV, IC Docket No. 94-31, at 3-7 (July 19, 1994); Reply Comments of MSTV, ET Docket No. 94-31, at 1-3 (August 5, 1994); Comments filed in Amendment of the Commission Rules to Establish New Personal Communications Services, ET Docket No. 90-314; Comments filed in Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, ET Docket No. 92-9.

electronic news gathering ("ENG") efforts. Spectrum used for these essential broadcast functions in the 2 GHz band is unacceptably congested at present,[5] is becoming more congested due to a 15% annual growth rate fueled largely by sophisticated local news programming,[6] and is incapable of supporting the incipient transition to advanced television. In the arena of NTSC broadcasting alone, broadcasters are likely to face significant challenges responding to the Commission's proposed relocation of BAS from the 1990-2110 MHz

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[5] An industry study conducted six years ago found that broadcasters would need significantly more ENG capacity in the immediate future. E. Cohen, Television Auxiliary Frequencies Usage Surveys 4 (June 23, 1989) (the "Cohen Study"). Over 80% of the participants in the study reported congestion problems in their area. Id. at 6.

More recently, an OET spectrum study determined that spectrum crowding, particularly in major markets, precluded spectrum sharing in the 1990-2110 MHz band with PCS services. See "Creating New Technology Bands for Emerging Telecommunications Technology," FCC/OET TS92-1 (January 1992); Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, (NPRM), 7 FCC Rcd 1542, 1544 (1992) (the "NPRM"). Based on the OET Study, the Commission concluded that "it [was] not practicable . . . to relocate the broadcast auxiliary" service. NPRM, 7 FCC Rcd at 1544.

[6] The Institute for Telecommunications Sciences at NTIA conducted a study that confirmed that the 1990-2110 MHz band is "already crowded in many major markets." See R. Matheson & K. Steele, A Preliminary Look at Spectrum Requirements for the Fixed Services 40-41 (May 1993) (the "ITFS Study"). Matheson and Steele documented a 14.6% annual rate of growth in broadcasters' use of the 1990-2110 MHz band from 1989-93 and projected a 15% annual growth rate in use for the next five years. Id.

band.[7] Implementation of such a policy would massively disrupt broadcasters' operations by requiring them to overhaul their BAS systems. Such an eventuality will be particularly onerous for smaller stations, and at a time when all broadcasters are contending with the transition to ATV.

The transition to ATV will magnify the challenges. Broadcasters, required to simulcast ATV and NTSC coverage of the same event,[8] will need additional spectrum to support studio-transmitter links ("STL"), intercity relays, and ENG to keep up with the growing NTSC use and provide for the new ATV use, at least during the 15-year transition to an all-ATV world.[9] To the extent that ATV and NTSC auxiliary broadcasting services will have to operate in the same cramped spectrum (i.e. in the 2 GHz band for ENG or in the 7 GHz and 12 GHz bands for other mobile and fixed relay links), each service will likely have insufficient access to auxiliary spectrum during breaking news or special events, particularly

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[7] The Joint Commenters intend to file comments in In the Matter of Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile Satellite Service, ET Docket No. 95-18, urging that mobile satellite services be required to cover the costs of BAS migration.

[8] See In the Matter of Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service (Second Report and Order/Further Notice of Proposed Rule Making), MM Docket No. 87-268 at ¶ 58 (May 8, 1992).

[9] See Id. at ¶¶ 50, 53.

in the major markets.[10] Without additional spectrum, broadcast auxiliary users will be crippled in delivering "live" programming to the public. This of course would adversely affect both the quality and quantity of local and network news programming.

In addition to airing NTSC and ATV broadcasts simultaneously, broadcasters will be challenged by the introduction of innovative digital services that require additional auxiliary broadcast spectrum. Just one of the many new technologies broadcasters hope to provide through digital television will empower viewers to select among multiple camera angles and direct their own viewing of events. Currently, camera angles are selected at mobile studios located at an event and only a few are relayed back to the studio. Viewer selection from multiple shots will require an associated multiplication of relay spectrum.[11] Multiple program services will demand two BAS frequency streams from

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[10] Even in the present environment without the additional demands of digital television, special newsworthy events that attract mass coverage overtax the auxiliary spectrum currently available. See, e.g., McConnell, "FCC Referees World Cup Broadcast Concerns," Broadcasting Magazine, at 54 (June 6, 1994). Even in those instances where the Commission has provided temporary relief from overcrowding on an ad hoc basis, many broadcasters still have not enjoyed access to adequate spectrum. Id.; see also ITS Study, at 41-42; Cohen Study, at 6-7.

[11] See Engineering Statement of Kenneth J. Brown (attached to the Reply Comments of Capital Cities/ABC, ET Docket No. 94-32 (June 29, 1994)).

the studio to the transmitter and interactive capabilities may require return streams.

At present, transmitting an NTSC signal from the remote site to the studio or transmitter for transmission to the public usually requires access to at least a 17 MHz channel.[12] The Commission has previously stated in this docket that it "is possible that [proponents of BAS] could implement more spectrum efficient operations in the spectrum currently available for Broadcast Auxiliary."[13] Having explored this issue at length in connection with this and other proceedings affecting BAS spectrum in the 2 GHz band, the Joint Commenters have determined that, contrary to the Commission's implicit premise, more spectrally efficient analog equipment is simply not available. However, we are hopeful that in the future, digital compression will allow broadcasters to accomplish some of the information-intensive ATV-associated BAS functions within a narrower bandwidth -- possibly as narrow as 6 MHz of spectrum for an STL.[14]

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[12] In some instances, broadcasters have transmitted two offset signals within the same band using opposite polarization.

[13] First Report and Order, ET Docket No. 94-32, at ¶ 53 (released February 17, 1995) (the "Report and Order").

[14] A number of engineering problems must be overcome before equipment capable of supporting digital video and data mobile operations will be available. Foremost among these are: (1) uncertainties about spectrum requirements for contribution-quality production material and the extent to which these materials can be digitally compressed without distorting picture and audio quality; (2) the size, weight, and power (continued...)

Notwithstanding these savings, the increased demand for BAS will far outstrip the efficiency gains and result in a service-threatening shortage of BAS spectrum unless the Commission allocates sufficient additional spectrum.

A broadcast auxiliary allocation in the 4660-4685 MHz band would probably not solve the spectrum shortage, but would help in easing and speeding the transition to digital television. This is the only additional spectrum currently available for BAS that offers adequate bandwidth to accommodate the data requirements of real-time video and audio ATV transmissions.[15] Moreover, it is the only available spectrum to offer growing room into the contiguous 4635-4660 MHz band tentatively identified by the NTIA for transfer to the private sector by 1997.[16] Another allocation that failed to provide for the possibility of expansion into

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[14] (...continued)
demands of digital compression equipment for mobile uses; and (3) the effect of multipath when operating portable equipment and non-engineered transmission paths.

[15] See FCC Advisory Committee on Advanced Television Services Fourth Interim Report of the Spectrum Utilization and Alternatives Working Party of the Planning Subcommittee (March 1991); see also Comments of Joint Commenters, ET Docket No. 94-32, at 5-10 (December 19, 1994); Comments of MSTV, ET Docket No. 94-32, at 6-7 (June 15, 1994); Reply Comments of Capital Cities/ABC, ET Docket No. 94-32, at 1-3 (June 29, 1994); Reply Comments of the National Association of Broadcasters, ET Docket No. 94-32, at 1, 4-7 (June 30, 1994); Reply Comments of the National Broadcasting Company, ET Docket 94-32, at 2-4 (June 30, 1994).

[16] See Preliminary Spectrum Reallocation Report, U.S. Dept. of Commerce, NTIA Special Publication 94-27 at Table 5-4 (February 1994).

neighboring spectrum would stymie broadcasters' development of innovative ATV services that require BAS support.

II. The General Wireless Service Proposed for the 4 GHz Band Is Not Practicable or Desirable.

The Commission has requested comment on whether it should designate the 4660-4685 MHz band for use by specific services rather than allocate it generally to "Fixed and Mobile" services. Second Notice, at ¶ 62. MSTV and the Joint Commenters strongly believe that allocating this frequency band to a miscellany of users will produce chaos, frustrate the Commission's objectives, and thwart the public interest. Instead, the Commission should designate the spectrum for use by a particular service -- namely BAS, whose users have a clear need and the proven ability to use frequency cooperatively and efficiently.

A. The Commission's Proposed Uses Are Fundamentally Incompatible.

What the Commission has proposed as the General Wireless Communications Service ("GWCS") is an assortment of incompatible uses such as wireless local loop, aeronautical audio/visual, dispatch, point-to-point microwave, and auxiliary broadcast services.[17] As a preliminary matter, we note that it is far from clear whether there is significant demand for many of the non-broadcasting services the

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[17] See Second Notice at ¶ 60. The Joint Commenters respond here in terms of the practical viability of such a service and largely defer for a forthcoming petition for reconsideration of the First Report and Order (60 FR 13071, March 10, 1995) a discussion of the legality of the Commission's allocation.

Commission envisions. In contrast, proponents of ATV auxiliary broadcasting alone have demonstrated a pressing need for spectrum in the 4 GHz band. Most of the commenters in this proceeding have put forward proposals for using the 4 GHz spectrum for services that do not come within even the very broad definition of the proposed GWCS (such as mobile satellite services)[18] or that are already enjoy access to more than sufficient spectrum (such as land mobile and fixed microwave services).[19] There have been no proposals for non-auxiliary broadcast uses that would offer an "'on-ramp' to the information highway that will be accessible to everyone"[20] to the extent that auxiliary broadcasting services would by supporting digital television.

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[18] See Second Notice at ¶¶ 46, 60; see also Comments of Loral/Qualcomm, ET Docket No. 94-32, at 5-6 (December 19, 1994) (MSS feeder links); Reply Comments of COMSAT, ET Docket No. 94-32, at 1-2 (June 30, 1994) (same);

[19] Some commenters have suggested that the spectrum be allocated to microwave users displaced from the spectrum recently allocated for PCS. See, e.g., Comments of Alcatel Network Systems, ET Docket No. 94-32, at 8-10 (December 19, 1994) (microwave fixed links); Comments of the American Petroleum Industry, ET Docket No. 94-32, at 8 (December 19, 1994) (same). The Commission properly noted in its NPRM in this proceeding that it has already allocated adequate spectrum to these users. See Notice, at ¶ 22. Other commenters have suggested that the spectrum be allocated to land mobile operations. See Reply Comments of NABER, ET Docket No. 94-32, at 4 (June 30, 1994). Additional frequency should not be so allocated in light of the vast new allocations to land mobile's near-perfect substitute, PCS, and the Commission's ongoing consideration of a plan to reform land mobile spectrum. See Joint Comments at 9-10.

[20] First Report and Order at ¶ 16 (in connection with the Commission's criteria for allocating the 2390-2400 MHz band).

Even assuming that sufficient demand existed for the various uses the Commission envisions for the 4 GHz band, the combination of those uses with BAS would be fatal to the live and/or remote coverage of breaking news events and other auxiliary broadcast functions. To be sure, BAS users have shared spectrum very effectively with like users for the past three decades. However, two essential characteristics of BAS make sharing virtually impossible with other services: (1) an integral part of BAS operations are temporary fixed and mobile operations that are intermittent and nomadic and therefore require coordinated use; (2) any mobile BAS operator must have access to spectrum across the nation so as to transmit signals directly to an earth station for relay or to its own or affiliate's studio or transmitter from on-site, wherever that site may be.

Because so much of it is itinerant and intermittent, BAS cannot coexist with services that transmit continuously such as an aeronautical audio/visual service.[21/] Given the limits on frequencies and the number of simultaneous transmissions that a single BAS channel can accommodate, television stations routinely rely on time-sharing for ENG transmissions, particularly during the peak news broadcast hours. Time sharing would be possible in the 4 GHz band among BAS users so long as enough spectrum is allocated to support

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[21/] See Ex Parte filing of In-Flight, ET Docket 94-32 (January 24, 1995).

the development of and investment in BAS equipment suitable for operation in that spectrum band. Services that use the spectrum continuously, like an aeronautical service emitting signals from a terrestrial point into the sky (presumably nationwide), would prevent sharing and confine auxiliary broadcasting.

Another problem with the piecemeal distribution of spectrum, particularly by sale as the Commission contemplates, is that it would bar broadcasters from using BAS in certain localities.[22/] Suppose, for example, that a wireless cable system acquired 24 MHz of spectrum to distribute 12 channels in New York City.[23/] The more than two dozen ATV and NTSC television outlets in New York City could not use the 4 GHz band and would be limited to the already congested spectrum available for BAS, currently supporting half that many NTSC stations. By allocating the spectrum to incompatible uses, the Commission would in effect allocate spectrum exclusively to certain subscription services and preclude auxiliary broadcasters from using the spectrum nomadically as they must to perform ENG and other essential services.

[22/] One of the most likely and destructive consequences of auctioning off the 4 GHz band would be a fragmentation of the spectrum. As BAS users attempted to aggregate the nationwide coverage necessary for BAS functions, "hold-outs" would be likely to arise and artificially (perhaps prohibitively) raise the price of the necessary spectrum.

[23/] Several commenters have proposed using the 4 GHz band for wireless cable interactive capabilities. See, e.g., comments of the Wireless Cable Association International, Inc., ET Docket No. 94-32, at 1-3 (December 19, 1994).

B. A Too Broadly Defined Service Will Retard Innovation.

Congress directed that the spectrum at issue here be reassigned "to promote the development and use of emerging telecommunications technologies, to protect the public interest, and for other purposes." H. Rep. 111, 103d Cong., 1st Sess. 246, reprinted in 1993 U.S. Code Cong. & Admin. News 378, 573. Accordingly, the Commission's stated goals in this proceeding have been to provide for the introduction of new services and the enhancement of existing services and, through those services, the creation of new jobs, economic growth, and increased access to communications by industry and the American public.[24/]

Although MSTV and the Joint Commenters are sympathetic with the Commission's general notion that flexibility yields innovation, we believe that a relatively unstructured allocation in the 4 GHz band will have just the opposite effect. Given the high likelihood of interference, the vagaries of the proposed GWCS service -- e.g. what technical standards will apply, what geographic range is possible, how much the subscriber based services (if any) will be worth -- will prevent prospective users from making

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[24/] See Notice of Inquiry, ET Docket No. 94-32, May 4, 1994, at ¶ 1; Notice of Proposed Rule Making, ET Docket No. 94-32, November 8, 1994, at ¶ 1; First Report and Order and Second Notice, ET Docket No. 94-32, February 17, 1995, at ¶1.

rational investment decisions and manufacturers from developing the appropriate equipment.

C. A Too Broadly Defined Service is Inconsistent with the Commission's Public Interest Obligations and Otherwise Contrary to Law.

The creation of a GWCS service controverts the Commission's statutory obligation in allocating spectrum to "[p]rescribe the nature of the service to be rendered by each class of licensed stations and each station within any class [. . . and a]ssign bands of frequencies to the various classes of stations". 47 U.S.C. § 303(b),(c). Inherent in the duty to identify a class of service is the obligation also to specify a mode of operation.[25] The Commission's silence on the mode of operation in the 4 GHz band empties of all meaning its prescription of the "nature of the [GWCS] service." It is entirely unclear who the users will be, what services the public will receive, whether any of the services will be compatible, and whether the allocated spectrum will be used efficiently.

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[25] Never before has the Commission created a service as broad as the GWCS. The two examples it cites as precedent for the allocation of "spectrum in a manner that allows for its use by a broadly defined service" (Second Notice, at ¶ 45) can be easily distinguished from the instant proposal. Whereas the GWCS would embrace a wide range of fixed and mobile services, the Commission dedicated the General Purpose Mobile Service and PCS spectrum to mobile uses only (except for the fixed uses ancillary to PCS mobile operations). See 47 C.F.R. § 24.3 (1994). Moreover, incompatible microwave users were evicted from the PCS spectrum so that the allocation was far more pristine that proposed for the GWCS. It is the mixture of fixed and nomadic uses, without any operational restrictions, that makes the breadth of the proposed GWCS so novel and problematic.

The Second Notice's tentative conclusion to use spectrum auctions as an allocation as well as an assignment device, which is based on its overbroad service classification, is also legally suspect.[26] The Commission requests comment on whether it should use in this proceeding the general framework previously adopted in the competitive bidding rulemaking for evaluating whether services with mixed uses can be considered to be used principally for the provision of subscriber-based services.[27] In the Competitive Bidding Second Report and Order, the Commission determined that "in order to be subject to auctions, at least a majority of the use of a Commission regulated service or class of service must be for service to subscribers for compensation." Id., at ¶ 31. To identify the principal use of a service, the Commission decided to "compare the amount of non-subscription use made by the licensees in a service as a class with the amount of use rendered to eligible subscribers for compensation on the basis of information throughput, time, or spectrum." Id.

Even accepting this framework for the instant proceeding, it is not reasonable to conclude from the present

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[26] These comments will be more fully developed in the Joint Commenters' forthcoming petition for reconsideration.

[27] See Second Notice at ¶ 65, citing Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, Second Report and Order, PP Docket No. 93-253, 9 FCC Rcd 2348, 2353 (1994) ("Competitive Bidding Second Report and Order").

record that most use of the 4 GHz band would be subscriber-based. In fact, proposals for wireless interactive services have been the only proposals for a subscriber-based use for the 4 GHz spectrum.[28]

In fact, however, this framework cannot properly be applied to the proposed GWCS. The Joint Commenters do not here argue with the Commission's majority-use test to determine auctionability in "mixed-use" services. Rather, we point out that the proposed GWCS is not the sort of "mixed-use" service for which the majority-use test was developed. In the Competitive Bidding Second Report and Order, the Commission addressed the situation in which a single licensee may "provide service both to itself and to subscribers."[29] Thus, the "mixed-use" was undertaken by a single licensee and not among various licensees offering discrete services. The utility of the majority-use test was to allow the Commission, by making a class-based determination of principal use, to determine auctionability without examining each licensee's particular amalgam of subscriber and non-subscriber services.

The proposed GWCS presents an entirely different

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[28] See Comments of Wireless Cable Association International, Inc., ET Docket No. 94-32, at 1-3 (December 19, 1994); Comments of American Telecasting, Inc., ET Docket No. 94-32 (December 19, 1994), at 4-6. The Commission notes that the ex parte filing of In-Flight does not make clear whether or not its proposed aeronautical audio/visual service would be subscriber based. See Second Notice at 33, n. 135.

[29] Id. at 2353. The Commission cited the Private Operational Fixed Service as an example which, unlike the proposed GWCS, is dedicated to fixed uses.

situation. The uses proposed for the 4 GHz band do not involve mixed uses by individual licensees but instead present diverse, and largely incompatible services, some of which would be sold to subscribers and most of which would not. The Competitive Bidding Second Report and Order provides no support for aggregating diverse, wholly non-subscription fixed and mobile uses like BAS with wholly subscription fixed uses like wireless cable and determining auctionability based on the majority use as among the eclectic users.

Particularly in this proceeding where BAS is at issue, were the majority-use test to sanction the auctionability of the 4 GHz band, it would violate the auction legislation it seeks to implement. The Commission's auction authority derives from 47 U.S.C. § 309(j). That section restricts spectrum auctions to spectrum used principally for subscription services by mutually exclusive applicants. 47 U.S.C. § 309(j)(1),(2).[30] Because BAS users share spectrum and are not mutually exclusive applicants, they are exempt from spectrum auctions no matter what share of a particular band the Commission allocates for such services. More particularly with regard to BAS users, the legislative history of Section 309(j) makes plain that Congress never intended spectrum used to facilitate broadcast auxiliary operations to

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[30] See also Competitive Bidding Second Report and Order at 2351, in which the Commission decided to "exclude from competitive bidding those classes of services [such as ABS] where mutual exclusivity between applications cannot exist because channels must be shared by multiple licensees."

be subject to auction. See H. Rep. 111, 103d Cong., 1st Sess. 253, reprinted in 1993 U.S. Code Cong. & Admin. News 378, 580.

A practice of creating artificial classes by aggregating auctionable and unauctionable spectrum, and shared and unshared channels, would circumvent Congress' distinction between subscriber and non-subscriber based services and the wise exclusion of shared spectrum from auction. All services could, in theory, be required to bid for spectrum so long as those services were included in a broad service class containing a majority subscriber-based users.[31/]

To the extent that the Commission proposes to use an unduly broad service class to auction off spectrum that, if classified in a narrower service classes could not be auctioned, it violates its statutory duty not to make allocation decisions "solely or predominantly on the expectation of Federal revenues from the use of such a system of competitive bidding." 47 U.S.C. § 309(j)(7)(B). Mindful of this duty, the Second Notice contends that the decision to allocate the 4 GHz spectrum broadly to fixed and mobile uses is entirely independent of its assessment of that spectrum's auctionability. See First Report and Order, at ¶ 49. The Joint Commenters do not question the Commission's commitment to staying within the scope of its delegated authority.

[31/] Thus, for example, spectrum used to operate astronomical research facilities could be aggregated with cellular spectrum and auctioned as a single class. We doubt Congress intended to give the Commission such broad auction authority.

However, the record is as yet silent on how the market alone can sort out various and largely incompatible services with different interference characteristics so that spectrum is used efficiently and otherwise in the public interest. Where, as here, it appears that the only public benefit from an overbroad service classification is the extraction of auction proceeds from otherwise exempt services, the spectrum auction serves as an allocation tool, contrary to law.

III. Technical Issues Associated With the Use of the 4660-4685 MHz Band.

Eligibility for use of the 4 GHz band should be limited to those entities currently permitted to use the existing 1990-2110 MHz broadcast auxiliary band: local television broadcasters, broadcast television networks, and cable operators. See 47 C.F.R. §§ 2.106, 74.602. The Joint Commenters propose that all eligible users be granted nation-wide licenses to use the 4660-4685 MHz band on a shared and coordinated basis for a ten-year license term. In this way, a local New York broadcaster covering a flood in Watsonville, California would be licensed to transmit locally in Watsonville to a fixed point for relay back to the studio in New York live coverage at any time frequency coordinators have identified as available.[32] By assigning spectrum in the 4 GHz band to existing auxiliary broadcast users, the Commission

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[32] The fact that BAS users need to be able to relay ENG signals nationally makes the Commission's proposed Major Trading Area license area entirely inappropriate for BAS. See Second Notice at ¶ 79.

would carry over into the ATV world the frequency sharing that has worked so well in the NTSC world. The Commission would also avoid the administratively inefficient comparative hearing process and the spectrum inefficient random assignment process. As Congress has not authorized auctions for auxiliary broadcast spectrum, such an assignment method should not be considered.

With respect to channelization, MSTV urges the Commission to adopt a 6 MHz channel plan. At present, broadcast engineers are uncertain as to whether digital BAS STL's will require a minimum of 6 MHz, 12 MHz, or 18 MHz channels, but believe that 6 MHz channels are the minimum broadcasters will need to support point-to-point distribution of ATV broadcasting on clear paths, even assuming the efficiencies of digital compression. Moreover, 6 MHz channels will allow aggregations to serve the potential need for 18 MHz or greater for contribution-quality mobile uses. The 5 MHz channel plan the Second Notice proposes would require two 5 MHz channels to amass the minimum spectrum required for BAS operations. This would result in the spectrally inefficient waste of 4 MHz of spectrum per aggregation. On the other hand, 6 MHz channels could be aggregated easily if required for contribution-quality signals, without any such inefficiency.

The Commission has requested comment on what technical rules should be adopted for the 4 GHz band. Until

the technical aspects of an ATV BAS system have been determined and a transmission standard adopted, it would be premature to recommend the appropriate technical rules for an BAS allocation. In general terms, any technical rules adopted would have to ensure minimal interference between NTSC BAS and digital BAS, to the extent that they share the 4 GHz band. To the extent that any allocation is not made exclusively for BAS, the rules will have to be stringent enough to minimize interference between distinct services.

CONCLUSION

Already struggling to cope with insufficient auxiliary broadcast spectrum, broadcasters need an additional allocation of spectrum for auxiliary broadcast operations to maintain NTSC and provide ATV service. An allocation of the 4660-4685 MHz band for such operations would help significantly to ease the transition to ATV and ensure that broadcasters can continue to improve their news gathering capabilities. The Commission often must make close calls in allocating spectrum among competing, incompatible services. We believe that the public benefit in receiving the full range of uninterrupted and ever-improving broadcasting services as well as the paucity of strong proposals for the 4 GHz band makes this call easier than many. We urge the Commission to abandon its proposed General Wireless Communications Service in favor of an allocation to broadcast auxiliary services.