

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

In the Matter of	)	
	)	
Revisions to Broadcast Auxiliary Service Rules in Part 74 and Conforming Technical Rules for Broadcast Auxiliary Service, Cable Television Relay Service and Fixed Services in Parts 74, 78 and 101 of the Commission's Rules	)	ET Docket No. 01-75
	)	
Telecommunications Industry Association, Petition for Rule Making Regarding Digital Modulation for the Television Broadcast Auxiliary Service	)	RM-9418
	)	
Alliance of Motion Picture and Television Producers, Petition for Rule Making Regarding Low-Power Video Assist Devices in Portions of the UHF and VHF Television Bands	)	RM-9856
	)	

**NOTICE OF PROPOSED RULE MAKING**

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By the Commission:

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**I. INTRODUCTION**

1. The Broadcast Auxiliary Services (BAS) under Part 74 of the Commission's rules are an integral part of today's mass media industry. These BAS stations make it possible for television (TV) and radio stations and networks to transmit program material from the site of a breaking news story or a major event to the studio for inclusion in a broadcast program. Because studios often are not located in the same place as the broadcast transmitter, BAS stations also transmit programming material from the studio to the broadcasting transmitter for delivery to televisions and radios. At the forefront of changes occurring within the broadcast industry is the transition from analog to digital TV. As these changes take place, BAS stations must also change to take advantage of new technologies and be compatible with the rest of the broadcast industry. In this *Notice of Proposed Rulemaking (NPRM)*, we conduct an extensive review of the BAS rules and propose changes to create a more efficient BAS that can readily adapt to regulatory and technological changes.

2. In this *NPRM*, we also examine the relationships between the BAS and the radio services that share frequency bands with the BAS. In many cases the BAS, the Cable Television Relay Service (CARS) (Part 78),<sup>1</sup> and Fixed Microwave Services (FS) (Part 101) authorize technically and operationally similar stations (*i.e.*, they use the same equipment, channelization, bandwidth, etc.) in shared frequency bands.<sup>2</sup> The technical rules for these services are not always consistent, which, at times, has led to confusion regarding compliance and difficulties when licensees in different services have tried to operate in common geographic areas.<sup>3</sup> Because we believe that this issue must be addressed to ensure that shared bands are used as efficiently as possible, we initiate this proceeding and again seek comment on the best way to conform the technical rules for these services.

3. One of our main goals is to ensure that licensees can operate in an environment in which the potential for interference is minimized. Interference protections are essential to spectrum usage rights to prevent licensees from unduly affecting other licensees in terms of system operation or cost. Nonetheless, we attempt to establish rules that are no more restrictive than necessary to achieve our goals in order to provide maximum flexibility to our licensees. Therefore, we seek comment on the extent that commenters believe our proposals or other portions of the rules relevant to this proceeding are more restrictive than necessary to achieve our goals.

4. The significant proposals made by this *NPRM* concerning BAS, as well as CARS and FS operations that share frequency bands with BAS, are as follows:

- We propose to permit TV and aural BAS stations to use any available digital modulation techniques in all BAS frequency bands. This proposal would allow BAS stations to take advantage of the latest developments in technology and to smooth the transition to digital TV and radio.
- We propose to update the BAS emission masks to facilitate the introduction of digital equipment and to provide consistency with those used in Part 101.
- We propose to modify the equation used by BAS and CARS for determining the maximum effective isotropic radiated power (EIRP) for short path lengths. This proposal would eliminate the steep reduction in EIRP for path lengths shorter than the minimum for which we permit the use of full power.

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<sup>1</sup> CARS stations are point-to-point or point-to-multipoint microwave systems used by cable and MMDS (wireless cable) operators to receive signals from remote locations. Alternatively, CARS can also be used for distribution of programming to microwave hubs where it may be physically impossible or too expensive to run cable to these hubs. CARS stations cannot be used to directly distribute programming to subscribers and can operate on the following shared frequency bands: 1990-2110 MHz (mobile only), 6425-6525 MHz (mobile only), 6875-7125 MHz (mobile only), 12.70-13.20 GHz, and 17.70-19.70 GHz.

<sup>2</sup> For example, the 12,700-13,250 MHz band is shared by common carrier point-to-point, local television transmission service (LTTS), and private point-to-point operations in Part 101, TV BAS operations in Part 74, and CARS operations in Part 78. *See* 47 C.F.R. §§ 74.602, 78.18, and 101.147. In all cases, the maximum authorized bandwidth is 25 MHz. *See* 47 C.F.R. §§ 74.637, 78.103, and 101.109.

<sup>3</sup> The Commission recognized this situation when it previously asked for comment on how best to conform the technical rules among these services. *See* Amendment of Part 101 of the Commission's Rules to Streamline Processing of Microwave Applications in the Wireless Telecommunications Services, *Memorandum Opinion and Order and Notice of Proposed Rule Making*, WT Docket No. 00-19, 15 FCC Rcd 3129, 3151 (2000) (*Part 101 MO&O* or *Part 101 NPRM*). At that time, however, the Commission did not receive any comments regarding this particular issue.

- We propose to allow BAS and CARS stations to use automatic transmit power control (ATPC) in order to facilitate more efficient spectrum use.
- We propose to update the transmitter power rules for BAS and CARS to provide EIRP limits for all frequency bands.
- We propose to require TV BAS and CARS services to prior coordinate their frequency use when using shared frequency bands. This proposal would serve to minimize instances of harmful interference that occur when a new station begins transmitting.

5. In addition, we make a variety of proposals designed to update the BAS rules. Our initiatives include instituting temporary conditional authority for all BAS stations, updating the Remote Pickup BAS channel plan to provide compatibility with the channel plan adopted for private land mobile radio (PLMR) in the Commission's Refarming proceeding (PR Docket No. 92-235), updating the short-term operation rules, and updating the BAS application rules to make them consistent with the Universal Licensing System (ULS). We also propose, without discussion, many minor rule changes intended to clarify or fix typographical errors in existing rules.

6. Finally, we propose to allow wireless assist video devices to operate on certain VHF-TV and UHF-TV channels on a non-interference basis to services allocated on that spectrum. These devices, which are already used by broadcasters, are needed to aid film and television producers in filming at various locations in a cost effective manner and should result in a greater use of a finite spectrum resource. All proposed rule changes are in Appendix C.

## II. BACKGROUND

7. On March 5, 1998, the Telecommunications Industry Association (TIA) filed a Petition for Rulemaking asking for rule changes for the 23 GHz band in the Fixed Microwave Services authorized under Part 101 of the Commission's rules and for rule changes to permit digital modulation schemes in all of the bands used by the TV BAS (TIA Petition). The proposals for the fixed microwave service under Part 101 are being addressed in a separate proceeding.<sup>4</sup> Only two commenters to the TIA Petition, the Society of Broadcast Engineers (SBE) and Alcatel, addressed the Part 74 issues; both were supportive of TIA's proposals.<sup>5</sup> The *Part 101 NPRM* addressed TIA's petition relative to the 23 GHz band in the Fixed Microwave Services. The *Part 101 NPRM* also asked questions regarding the broadcast auxiliary services and their similarity to operations in the Fixed Microwave Services and the Cable Television Relay Service (CARS).<sup>6</sup> Commenters on the *Part 101 NPRM* reiterated the need for the Commission to address the TV BAS rules regarding digital operations.

8. On November 15, 1999, the Alliance of Motion Picture and Television Producers (AMPTP) filed a Petition for Rulemaking (AMPTP Petition) that seeks to allow the use of low power wireless video assist devices on unused TV channels in the upper portion of the VHF-TV band and in the UHF-TV band.<sup>7</sup> All four commenters who responded opposed the Petition, either in its entirety or in part. In general, the opposing parties were concerned about potential interference to TV reception, land mobile

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<sup>4</sup> See *Part 101 NPRM, supra*.

<sup>5</sup> A list of commenters is provided in Appendix A.

<sup>6</sup> See *Part 101 NPRM* at 3161.

<sup>7</sup> The original petition misstated the upper portion of the VHF-TV band (channels 7-13) as 174-300 MHz and was amended to 174-216 MHz. See Letter from Laura L. Smith, Esq. to Magalie R. Salas, March 14, 2000.

operations, and devices that are used by persons with disabilities. Only AMPTP filed reply comments, in which it makes changes to its proposals to address the commenters' concerns.

### III. DISCUSSION

#### A. BAS Technical Rules (Part 74) and Conforming Technical Rules for Parts 74, 78 and 101

##### 1. Digital Modulation in the 2 GHz, 7 GHz, and 13 GHz Bands

9. Section 74.637 of the Commission's rules provides emission limitation requirements (emission masks) for TV BAS. Digital modulation is specifically addressed only in paragraph (c), which provides an emission mask for analog or digital modulation in the 6425-6525 MHz, 17,700-19,700 MHz, and 31.0-31.3 GHz bands.<sup>8</sup> Although the rules do not specifically prohibit digital modulation in other TV BAS bands (*i.e.*, 2025-2110 MHz, 2450-2483.5 MHz, 6875-7125 MHz, and 12,700-13,250 MHz), the Commission policy relative to BAS has been to allow digital modulation only in bands where it is specifically authorized. Further, under current policy, licensees must obtain a waiver of the rules to transmit using digital modulation in the 2 GHz, 7 GHz, and 13 GHz bands.<sup>9</sup>

10. TIA notes that digital modulation is not addressed in the most heavily used TV BAS frequency bands, which support electronic news gathering (ENG) operations and studio-to-transmitter links (STLs).<sup>10</sup> Currently, most TV BAS stations transmit frequency modulated analog NTSC video signals.<sup>11</sup> With the current transition of television from analog to digital, broadcasters will need to transmit digital television (DTV) digital signals along with their existing NTSC analog signal.<sup>12</sup> TIA states that the limitation on digital modulation will hamper the ability of broadcasters to transition smoothly from analog TV stations to digital TV stations. Accordingly, they request that the rules be amended to permit digital modulation in all TV BAS bands.<sup>13</sup> This would provide broadcasters with flexibility to use any available technology and make the transition to digital TV easier as well as promote more efficient use of the spectrum. SBE and Alcatel both support this proposal.<sup>14</sup> Alcatel adds that broadcasters will not be able to provide digital television service if they cannot get digital television signals from the studio to the transmitter.<sup>15</sup>

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<sup>8</sup> See para. 43 for proposals regarding removal of the entries for the 31.0-31.3 GHz band from the BAS rules.

<sup>9</sup> Currently, there are over 300 pending waiver requests for use of digital modulation in the 2 GHz, 7 GHz, and 13 GHz bands on file at the Commission. For example, see Application of Eastern New Mexico University Application File Number 0000219234, (filed September 14, 2000).

<sup>10</sup> ENG operations consist of the transmission of video signals from mobile news vans and helicopter to local studios either directly or through a Television Relay Station. STLs are used to send signals from the studio to the transmitter for broadcast to the public.

<sup>11</sup> "NTSC" stands for National Television System Committee, which devised the standard protocol for television broadcast transmission and reception in the United States (*i.e.*, the NTSC standard).

<sup>12</sup> See *TIA Petition* at A.27.

<sup>13</sup> See *TIA Petition* at 26.

<sup>14</sup> See SBE comments at 2; Alcatel comments at 8-9.

<sup>15</sup> See Alcatel comments at 9.

11. We note that the conversion of TV stations is not the only reason for allowing digital modulation schemes in all TV BAS frequency bands. The rules adopted in the *Second Report and Order and Second Memorandum Opinion and Order* in ET Docket No. 95-18, require the TV BAS to narrow their channel bandwidth in the 2025-2110 MHz band to accommodate new Mobile Satellite Services (MSS).<sup>16</sup> As these channels are narrowed, broadcasters will likely switch from analog to digital transmission in order to attain the necessary signal fidelity in the narrower channel.<sup>17</sup> To facilitate the transition to digital TV and to accommodate narrower channels in the 2 GHz band, we propose to modify the rules in Section 74.637 to permit digital modulation in all TV BAS bands.<sup>18</sup>

12. The rules for aural BAS in Section 74.535 create a situation similar to that described above for TV BAS.<sup>19</sup> Specifically, Section 74.535 allows the use of digital modulation by aural BAS licensees in the 18 GHz band but does not address such use in the 944-952 MHz band. We believe that aural BAS licensees could benefit from the ability to use digital modulation techniques in all bands.<sup>20</sup> Such flexibility would allow aural BAS licensees to take advantage of the spectral efficiency that digital modulation offers. Therefore, we propose to modify Section 74.535 to permit the use of any digital modulation in all aural BAS bands.

## 2. Maximum Effective Isotropic Radiated Power (EIRP) for Short Paths

13. There are several rule sections used for TV BAS that work in tandem to regulate the amount of power that can be used at a specific station. Specifically, Section 74.636 of the Commission's

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<sup>16</sup> See 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, *Second Report And Order and Second Memorandum Opinion and Order*, FCC 00-233 (rel. Jul. 3, 2000) at ¶ 30 (*MSS Second R&O*).

<sup>17</sup> The 2 GHz band will first be narrowed to one 15 megahertz channel and six 14.5 megahertz channels (Phase I). This will be initiated by the first Mobile Satellite Service (MSS) licensee beginning to clear needed spectrum between 1990 and 2008 MHz. Phase II further narrows the seven TV BAS channels to one 12.25 megahertz channel and six 12.1 megahertz channels. This phase will be initiated when 18 megahertz is no longer sufficient to accommodate the MSS service. At the onset of phase II, MSS licensees will begin clearing the spectrum between 2008 and 2025 MHz. See *Id.* at ¶ 29.

<sup>18</sup> In the *First Report and Order* in ET Docket No. 95-18, the Commission reallocated TV BAS from the 1990-2110 MHz band to the 2025 – 2130 MHz band. See 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, *First Report And Order and Further Notice of Proposed Rule Making*, 12 FCC Rcd. 7388 (1997). Based on this decision, TIA, in their petition points out that the Commission neglected to adopt technical standards for the portion of the band from 2110-2130 MHz. To remedy this situation, TIA asks the Commission to adopt technical standards for this band. See *TIA Petition* at A.27. In the *MSS Second R&O*, the Commission amended its earlier decision and again reallocated TV BAS to only the 2025 – 2110 MHz band. See *MSS Second R&O* at ¶ 13. Because the TV BAS is no longer authorized to use the 2110 – 2130 MHz band, this issue is moot and we decline to propose technical standards for this band.

<sup>19</sup> 47 C.F.R. § 74.535.

<sup>20</sup> We note that the Commission has begun a proceeding to investigate the feasibility of authorizing Digital Audio Broadcast (DAB) technology. See *Digital Audio Broadcasting Systems and Their Impact on the Terrestrial Radio Broadcast Service*, MM Docket No. 99-325, *Notice of Proposed Rule Making*, 15 FCC Rcd 1722 (2000). Regardless of the outcome of that proceeding, we believe that aural BAS licensees would benefit from allowing digital modulation in all bands available for aural BAS.

rules limits, for some frequency bands, the maximum EIRP<sup>21</sup> for which a TV BAS station can be licensed,<sup>22</sup> and Section 74.644 specifies the minimum path length for which the maximum EIRP will be authorized for fixed links.<sup>23</sup> Applicants proposing path lengths shorter than those specified in Section 74.644 are required to reduce power in accordance with the equation provided in rule section 74.644.<sup>24</sup>

14. In its petition, TIA points out that the current equation requires a steep reduction in EIRP for paths slightly shorter than the specified minimum.<sup>25</sup> For example, the maximum EIRP for fixed links operating in the 6875-7125 MHz band is 55 dBW and the minimum path length is 17 kilometers. Based on the current equation, an applicant proposing a path length of 16 kilometers would have to reduce its EIRP to 29.5 dBW, which is a drop of over 25 dB. TIA states that such a reduction in EIRP makes it difficult to achieve high reliability for the path.

15. The equation in Part 74 for determining maximum EIRP for short paths was previously used for FS operations in Part 101 as well. In the *Report and Order* in WT Docket No. 94-148, the Commission adopted a new equation for Part 101 that eliminated the steep drop in EIRP at path lengths slightly shorter than the minimum.<sup>26</sup> Using the equation now codified at Section 101.143,<sup>27</sup> the reduction in EIRP for the example above would be approximately 1 dB -- a sharp contrast to the 25 dB computed using the current equation in Section 74.644. TIA recommends that we modify the rules in Part 74 to use the same equation now codified at Section 101.143. SBE and Alcatel support TIA's proposal.<sup>28</sup>

16. We are inclined to agree with TIA's recommendation to enhance reliability of fixed links for the BAS. Further, we note that the Part 78 rules for the CARS also use the same equation as used for BAS for determining the minimum path length.<sup>29</sup> We believe that the CARS also would benefit from modifying the equation for determining maximum power for short path lengths. In addition, adopting the same equation for fixed operations in each of these rule parts would treat similar stations in a comparable manner, simplify station coordination in shared frequency bands, and reduce instances of harmful interference among stations authorized under different rule parts. Accordingly, we propose to modify our rules to implement in Sections 74.644 and 78.108 the same equation codified at Section 101.143 for

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<sup>21</sup> EIRP is the product of the power supplied to the antenna and the antenna gain. The power supplied to the antenna is the transmitter output power minus some line loss due to the transmission of the signal from the transmitter to the antenna.

<sup>22</sup> 47 C.F.R. § 74.636.

<sup>23</sup> 47 C.F.R. § 74.644.

<sup>24</sup> 47 C.F.R. § 74.644(b). The equation specified in the rules is  $EIRP = 30 - 20 \log(A/B)$  dBW; where A is the minimum path length specified in paragraph (a) of this section and B is the actual path length in kilometers.

<sup>25</sup> See *TIA Petition* at A.28.

<sup>26</sup> See In The Matter Of Reorganization And Revision Of Parts 1, 2, 21, And 94 Of The Rules To Establish A New Part 101 Governing Terrestrial Microwave Fixed Radio Services, WT Docket No. 94-148, *Report and Order*, 11 FCC Rcd 13449, (1996) (*Part 101 Order*). The equation adopted is  $EIRP = MAXEIRP - 40 \log(A/B)$ ; where MAXEIRP is the maximum allowable EIRP, A is the minimum path length specified in the rules, and B is the actual path length in kilometers.

<sup>27</sup> 47 C.F.R. § 101.143.

<sup>28</sup> See SBE comments at 2; Alcatel comments at 8-9.

<sup>29</sup> 47 C.F.R. § 78.108(b).

determining the maximum EIRP for path lengths shorter than the specified minimum. We seek comment on this proposal.

17. We note that Section 74.644 of the Commission's rules does not specify a minimum path length for fixed BAS links in the 2450–2483.5 MHz band. However, Part 101 does specify a minimum path length of 17 kilometers for the FS in all bands between 1850 and 7150 MHz.<sup>30</sup> To promote spectrum efficiency by preventing the use of overpowered systems over short paths, we believe it would be beneficial to specify a minimum path length for BAS in the 2450-2483.5 MHz band. As noted above, many operations in Parts 74 and 101 are similar in nature and coordination of these operations would benefit from consistent policy. Thus, we propose to adopt a minimum path length of 17 kilometers for the BAS in the 2450–2483.5 MHz band. We request comment on whether this proposal would unnecessarily constrain Part 74 operations. Additionally, we propose to grandfather any existing fixed links that may be less than 17 kilometers at their current power.

### 3. Transmitter Power

18. Currently, rule Sections 74.636 and 74.534 specify the power limitations for TV and aural BAS, respectively.<sup>31</sup> For some frequency bands only transmitter output power is specified, and for some frequency bands both transmitter output power and EIRP, which describes the amount of energy that is actually being radiated by the transmitting antenna, are specified.<sup>32</sup> For the reasons discussed below, we propose to modify the BAS rules to specify maximum EIRP values for all aural and TV BAS frequency bands.

19. Because EIRP describes the amount of energy that is actually being radiated,<sup>33</sup> it is the parameter that is pertinent to understanding the RF environment for coordinating stations and mitigating interference. Further, the use of the equation for maximum EIRP for short path lengths proposed above is contingent on the rules specifying a maximum EIRP value in each frequency band in which the equation applies.<sup>34</sup> In addition, specification of EIRP values for BAS is consistent with the Commission's implementation of the Universal Licensing System (ULS), which is used to process BAS applications.<sup>35</sup> In

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<sup>30</sup> 47 C.F.R. § 101.143.

<sup>31</sup> 47 C.F.R. §§ 74.462, 74.535, 74.637, 78.103, and 101.111.

<sup>31</sup> We note that it is common for a single transmitter to be certificated for use in Parts 74, 78, and 101.74.534 and 74.636.

<sup>32</sup> 47 C.F.R. §§ 74.636 and 74.534. For example, Section 74.636 specifies a maximum allowable transmitter power of 20.0 watts for fixed TV BAS operations in the 1990-2110 MHz band, but does not specify a maximum allowable EIRP. In contrast, this rule Section specifies a maximum allowable output power of 20 watts and a maximum allowable EIRP of 55 dBW for fixed TV BAS operations in the 6875-7125 MHz band.

<sup>33</sup> See note 26, *supra*.

<sup>34</sup> See para. 13, *supra*.

<sup>35</sup> In 1998, the Commission adopted the *Report and Order* in WT Docket No. 98-20 which implemented the Universal Licensing System (ULS) for all wireless telecommunications services, which includes BAS. See Biennial Regulatory Review – Amendment of Parts 0, 1, 13, 22, 24, 26, 27, 80, 87, 90, 95, 97, and 101 of the Commission's Rules to Facilitate the Development and Use of the Universal Licensing System in the Wireless Telecommunications Services, WT Docket No. 98-20, *Report and Order*, 13 FCC Rcd. 21027 (1998) (*ULS Report and Order*). In 1993, the Commission transferred broadcast auxiliary service license processing functions from the Mass Media Bureau to the Private Radio Bureau (subsequently the Wireless Telecommunications Bureau). See Amendments To Parts 0, 1, 21, and 74 Of The Commission's Rules, FCC 93-110, *Order*, 8 FCC (continued....)

the ULS proceeding, the Commission adopted the FCC Form 601 and its associated schedules as the single form to be used for most application purposes.<sup>36</sup> Thus, aural and TV BAS applicants provide technical information regarding their systems using FCC Form 601, Schedule I, which requires that the applicant specify the maximum EIRP of the transmitting station. Because the rules should be complete with respect to maximum EIRP values for BAS frequency bands, we propose to align the Part 74 rules with those in Part 101. We thus propose to specify maximum EIRP values, as described below.

20. We note that the rules in Part 101 for FS microwave licensees specify EIRP values. Where EIRP values exist in the Part 101 rules for fixed operations in frequency bands shared with fixed BAS, we propose to adopt the Part 101 value for fixed BAS in the same band.<sup>37</sup> Because many BAS and Part 101 services are similar in nature, it appears reasonable for the same values to be used in both rule parts. We believe that such action promotes an environment for simplifying station coordination, which in turn reduces instances of harmful interference among stations. Specifically, we propose that fixed operations for TV BAS in the 1990-2110 MHz and 2450-2500 MHz bands have EIRP limits of 45 dBW.<sup>38</sup> For aural BAS in the 944-952 MHz band, we propose to limit EIRP to 40 dBW, which is identical to the limit specified in Part 101 for FS in the 941.5-944 MHz and 952-960 MHz bands.

21. For the same reasons, EIRP values also are necessary for mobile TV BAS operations in the 1990-2110 MHz and 2450-2500 MHz.<sup>39</sup> The EIRP limits for mobile BAS can be generated using the maximum allowable transmitter power currently specified in the Part 74 rules in conjunction with the gain of commonly available antennas.<sup>40</sup> Our research suggests that typical maximum antenna gain is approximately 25 dBi in the 1990-2110 MHz and 2450-2500 MHz bands, and the maximum transmitter power is 12 watts (10.8 dBW) in these bands; this equates to an EIRP of 35.8 dBW. Accounting for some line loss, we propose to allow mobile operations to transmit at a maximum EIRP of 35 dBW in the 1990-2110 MHz and 2450-2500 MHz bands.

22. We also propose to adopt similar EIRP limits for CARS in frequency bands shared with Part 74 and 101 operations to ensure that the anticipated benefits of these proposals can be enjoyed by all licensees in these bands. Specifically, we propose to adopt an EIRP limit of 35 dBW for mobile CARS operations in the 1990-2110 MHz band, identical to the proposal for TV BAS above, and maintain the 55 dBW EIRP (fixed) and 45 dBW EIRP (mobile) limits for TV BAS and CARS operations in the 12,700-13,250 MHz band. We note that the Part 101 rules for FS stations operating in the

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Rcd. 2076 (1993). Since that time, all BAS licenses have been processed in Gettysburg, Pennsylvania. Currently this task is the responsibility of the Wireless Telecommunications Bureau, Public Safety and Private Wireless Division, Licensing and Technical Analysis Branch. See Section C, *infra*. for additional discussion of the ULS and its use by BAS.

<sup>36</sup> *ULS Report and Order* at 21036. The FCC Form 601 is used to apply for new licenses, modify existing licenses, apply for license renewals, cancel licenses, etc. In addition to the FCC Form 601, the Commission adopted the FCC Form 603 for applications for license assignments and transfers.

<sup>37</sup> 47 C.F.R. § 101.113.

<sup>38</sup> EIRP limits are not being specified for the 31.0-31.3 GHz band in accordance with our proposal in paragraph 43, *infra*.

<sup>39</sup> See 74 C.F.R. § 74.636.

<sup>40</sup> Values of typical antenna gains were gathered from publicly available literature from the web sites of several antenna manufacturers. See, e.g., Andrew Corporation at [www.andrew.com](http://www.andrew.com); RSI Wireless Communications at [www.csawrls.com](http://www.csawrls.com).

12,700-13,250 MHz band only allow a maximum EIRP of 50 dBW.<sup>41</sup> However, because BAS and CARS stations transmit multichannel video signals and FS stations do not, we believe the additional power is warranted to ensure reliable service. Finally, we propose to grandfather at their current power levels, existing stations that may be transmitting at EIRP levels above those proposed.

23. We seek comment on all aspects of these proposals. In particular, we ask commenters to address whether the proposed EIRP values are appropriate for BAS and CARS operations, and whether they provide adequate power for BAS and CARS stations to transmit over typical distances for various types of applications. Are the power levels too high as to cause difficulty in coordinating operations in certain areas? Would these proposals negatively impact the flexibility of BAS and CARS operations? Because digital signals generally require less power than analog signals, should we consider adopting different power standards for digital and analog equipment? If so, what should those values be? Also, commenters should address whether the EIRP for Part 101 users operating in the 12,700-13,250 MHz band should be raised to 55 dBW.

24. Finally, we note that the transmitter power rules in Part 101 specify only EIRP values and do not specify values for transmitter output power. Should we similarly amend the BAS rules to remove the specifications for transmitter output power from the rules? When considering this, commenters should keep in mind that FCC Form 601 does not collect output power for TV and aural BAS applications. Furthermore, for the purpose of frequency coordination only the EIRP is needed because it is a measure of station presence and transmitter output power is not. Commenters should also address what effect such action may have on the equipment authorization process and what changes to those processes may need to be made.

#### 4. Emission Masks

25. Emission masks serve to maximize spectrum efficiency by permitting reasonable and practical information transfer within a channel and at the same time limiting out of band emissions to minimize adjacent channel interference. Our rules contain a number of emission masks tailored to specific operations and channel sizes. For example, different emission masks are authorized under Parts 74, 78, and 101.<sup>42</sup> Although the same equipment is often certified and used by licensees in different services,<sup>43</sup> our rules, in some cases, allow each service to use a different emission masks for the same type of emission (*e.g.*, FM, AM, etc.) in the same frequency band.

26. An example of the current inconsistencies in the rules can be seen in the context of our proposal to permit digital modulation in all TV and aural BAS frequency bands.<sup>44</sup> The TV BAS rule Section 74.637 contains a general emission mask for frequency modulation (FM) in paragraph (a) and a slightly different emission mask applicable only to operations in the 6425-6525 MHz and 17,700-19,700 MHz bands in paragraph (c). Furthermore, we note that a single emission mask for TV BAS digital modulation is specified for emissions in the 6425-6525 MHz and 17,700-19,700 MHz bands; whereas the emission mask rules in Part 101, which shares use of these bands, provides two different emission masks for digital modulation -- one for operations above 15 GHz and one for operations below

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<sup>41</sup> 47 C.F.R. § 101.113.

<sup>42</sup> 47 C.F.R. §§ 74.462, 74.535, 74.637, 78.103, and 101.111.

<sup>43</sup> We note that it is common for a single transmitter to be certificated for use in Parts 74, 78, and 101.

<sup>44</sup> See para. 9, *supra*.

15 GHz.<sup>45</sup> Similarly, the aural BAS rules in Section 74.535 specify one emission mask for FM BAS operations in the 17,700-19,700 MHz band and a slightly different emission mask for all other aural BAS bands; and the rules specify an emission mask for digital operations only for the 17,700-19,700 MHz band.

27. We propose to make the emission mask requirements for BAS consistent with the emission mask requirements for FS microwave services in Part 101, as described below. We believe that the Part 101 emission masks have proven effective for this type of service and that imposing a single set of standards across shared frequency bands will simplify the manufacturing and equipment authorization processes. Additionally, consistent rules will provide a level of certainty to licensees regarding the expected RF environment, minimize the potential of harmful interference and simplify the frequency coordination process. Additionally, we propose to grandfather existing equipment authorized pursuant to current emission masks. We seek comment on these proposals.

TV BAS:

- For FM modulation in all TV BAS frequency bands, to eliminate the FM emission mask of Section 74.637(a) and to apply the FM emission mask of Section 74.637(c)(1).<sup>46</sup> The emission mask in paragraph (c)(1) would provide equipment manufacturers more flexibility in the design of equipment because it permits the out-of-band emissions to be attenuated at a slightly slower rate. Such flexibility can be gained without compromising the interference potential of these transmitters because we believe that the specified attenuation is sufficient to protect adjacent channel operations;
- For digital modulation in TV BAS frequency bands above 15 GHz, to apply the emission mask for digital modulation in Section 74.637(c)(2);
- For digital modulation in all TV BAS frequency bands below 15 GHz, to apply the emission mask for digital modulation in Section 101.111(a)(2)(i);
- For vestigial sideband amplitude modulation in all TV BAS frequency bands, to apply the emission mask for vestigial sideband amplitude modulation in Section 74.637(c)(3); and
- For all other types of modulation in all TV BAS frequency bands, to apply the emission mask of Section 74.637(b).

Aural BAS:

- For FM modulation in all aural BAS frequency bands, to eliminate the FM emission mask of Section 74.535(a) and to apply the FM emission mask of Section 74.535(e)(1). As with the choice of emission mask for TV BAS, the emission mask of paragraph (e)(1) would provide equipment manufacturers more flexibility in equipment design than the emission mask of paragraph (a);
- For digital modulation in aural BAS frequency bands above 15 GHz, to apply the emission mask for digital modulation in Section 74.535(e)(2);
- For digital modulation in aural BAS frequency bands below 15 GHz, to apply the emission mask for digital modulation in Section 101.111(a)(2)(i); and

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<sup>45</sup> 47 C.F.R. § 101.111(a)(2).

<sup>46</sup> The FM emission mask specified in Sections 74.637(a) and 74.637(c)(1) differ slightly in the attenuation schedules they specify. The emission mask of paragraph (a) specifies attenuations of 25 dB, 35 dB, and 43+10 Log(Power) dB on frequencies removed from the assigned frequency by more than 50% and up to 100%, by more than 100% and up to 150%, and by more than 150%, respectively. The emission mask of paragraph (c)(1) specifies the same attenuations, but the corresponding frequencies on which they apply are those removed from the assigned frequency by more than 50% and up to 100%, by more than 100% and up to 250%, and by more than 250%, respectively. Also, the emission mask of paragraph (c)(1) specifies that attenuations of greater than 80 dB is not required.

- For all other types of modulation in all aural BAS frequency bands, to apply the emission mask of Section 74.535(b).

28. In trying to provide consistency among the various rule parts, we are also mindful of certain differences between them, such as the type of multiplexing employed, the type and amount of data or program material transmitted, and the method of transmission. For example, BAS and CARS are beginning to deploy digital multichannel video systems which are not used by FS users. Additionally, these stations may use various modulation schemes, such as OFDM or COFDM and others. In light of these developments, we seek comment on the validity of our proposals to adopt the Part 101 digital emission masks for BAS. We note that Part 101 has separate digital emission masks for operation above and below 15 GHz. This rule has been in place since 1974. At that time, most FS service equipment was analog and operated below 15 GHz. The below 15 GHz digital emission mask was designed to protect adjacent channel analog equipment as well as digital equipment. In contrast, the industry view at that time was that all of the new equipment for the bands above 15 GHz would be digital. Therefore, the above 15 GHz digital emission mask was designed only to protect adjacent channel digital equipment and is less restrictive.<sup>47</sup>

29. One of the main objectives of this *NPRM* is to provide the necessary regulatory framework to ensure that digital equipment can be used in all BAS frequency bands. It is likely that for the foreseeable future many BAS operations both above and below 15 GHz will continue to be analog. However, as users upgrade equipment and the transition to DTV continues, more digital equipment will be deployed. Given this situation, we ask commenters to address whether the BAS and FS should continue to have different digital emission masks above and below 15 GHz. We note that analog BAS operations in shared bands above 15 GHz, *e.g.*, the 17.7-19.7 GHz band, are currently operating adjacent channel to digital Part 101 equipment. Additionally, we ask commenters to address whether the current Part 101 emission masks are applicable to BAS operation. Commenters that believe a different emission mask should be adopted should provide details on an appropriate emission masks for digital operation. What parameters need to be considered? What type of roll-off is appropriate to ensure sufficient information transfer while providing adequate protection to adjacent channels? Also, we seek comment of whether the same or different emission masks should be applied to CARS and FS stations.

30. We also propose to adopt a standard measurement procedure for the above proposed emission masks to measure the emission's interference potential and ensure that the instrumentation does not detrimentally affect the measurement. Therefore, we propose that the measuring instrumentation for complying with the emission masks use a minimum resolution bandwidth of 100 kilohertz for bands below 1 GHz and a resolution bandwidth of 1 megahertz for bands above 1 GHz. This proposal is consistent with available measurement instrumentation. Additionally, we note that the current industry trend for measuring digital emissions just outside the channel is to use measuring instrumentation having a minimum resolution capability of 1% of the bandwidth of the carrier emission. This is evidenced by measurement procedures and interpretations in our rules for the licensed Personal Communications Services (PCS) and unlicensed PCS devices.<sup>48</sup> Should a similar measurement procedure for emissions adjacent to the channel be used for BAS? We seek comment on our proposal, including what procedures should be used. To ensure consistency across frequency bands shared with the FS microwave service, should a similar measurement

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<sup>47</sup> See Establishment of Policies Procedures for the use of digital modulation techniques in microwave radio and proposed amendments to Parts 2 and 24, Gen. Docket No. 19311, *Report and Order*, FCC 74-985, 39 FR 35658 (October 10, 1974).

<sup>48</sup> 47 C.F.R. §§ 15.321(d), 15.323(d) and 24.238(b). See also, Amendment of the Commission's Rules to Establish New Personal Communicating Services, GEN Docket No. 90-314, *Third Memorandum and Order*, 9 FCC Rcd. 6908 (1994).

requirement be adopted for Part 101 emission masks? If we adopt similar emission masks for the CARS, should a similar measurement requirement be adopted for Part 78 emission masks?

31. With respect to compliance with the emission mask requirements, an additional issue that must be addressed is equipment that multiplexes both analog and digital signals for transmission over a single channel. For example, as TV stations transition to DTV, they generally will maintain their existing analog station until such time that the DTV transition is complete. During the transition, these stations may transmit both analog and digital signals from remote locations back to the studio and over STLs, and these two signals may be multiplexed and transmitted over a common channel simultaneously. Such operation complicates the equipment certification process because the emission masks are referenced to either analog or digital modulation techniques, but not both. In the FS, a transmitter is considered to be using digital modulation techniques, and must meet those emission requirements, when digital modulation occupies 50% or more of the total peak frequency deviation of a transmitted radio frequency carrier.<sup>49</sup> We believe this rule has worked well for equipment in use under Part 101, and we propose to adopt a similar requirement for the emission masks for TV and aural BAS. We seek comment on whether this is the best method for ensuring compliance with our emission mask rules when analog and digital signals are multiplexed.

32. Finally, an issue related to the characterization of analog/digital multiplexed transmitters involves the assignment of emission designators. In many cases, this hybrid equipment uses frequency division multiplexing and transmits the analog and digital signals side-by-side. When this technique is used, the analog and digital signals are transmitted on frequencies offset from the assigned frequency. For example, a hybrid transmitter with a 25 megahertz bandwidth may have a 15 megahertz analog signal centered on a frequency 5 megahertz above the assigned frequency and a digital signal centered on a frequency 7.5 megahertz below the assigned frequency. In their comments, SBE asks that these transmitters be licensed using a dual emission designator such as 15M0F9W/10M0D7W,<sup>50</sup> rather than the single designator, 25M0F9W, used for conventional FM video analog STLs.<sup>51</sup> We note that the ULS is not designed to recognize a dual emission designator; it assumes that the designated emission emanates from the center of the channel. Thus, the ULS is unable to capture the information SBE requests. ULS does, however, enable licensees to obtain authorizations for both analog and digital emissions by allowing multiple emission designators to be associated with an authorized frequency.<sup>52</sup> In this instance, though, the emission designator would need to depict the entire 25 megahertz bandwidth for each type of emission. We further note that the information sought by SBE can be determined using the transmitter manufacturer and model number which ULS does collect.<sup>53</sup> For these reasons, we propose that hybrid radios that multiplex analog and digital signals continue to use a single emission designator. We seek comment on this proposal.

## 5. Automatic Transmit Power Control

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<sup>49</sup> 47 C.F.R. § 101.141(b).

<sup>50</sup> 47 C.F.R. §§ 2.201 and 2.202 describe the symbols used to describe emission designators. For example, the emission designator 15M0F9W describes an emission with a 15 megahertz necessary bandwidth (15M0) using a frequency modulated composite system with one or more channels containing digital information and one or more channels containing analog information transmitting multiple types of information, such as telephony and television (F9W).

<sup>51</sup> See SBE Comments at 3.

<sup>52</sup> See FCC Form 601, Schedule I, Supplement 4.

<sup>53</sup> See *Id.*

33. Automatic Transmit Power Control (ATPC) is a function that provides for more efficient spectrum use. Radios that use ATPC operate with reduced power levels during normal propagation conditions. When the receiver detects a drop in received signal level, due to multipath<sup>54</sup> or a rain fade for example, it sends a signal to the transmitter to gradually increase power. When the received signal level begins to rise, the receiver sends a signal to the transmitter to reduce power. By operating in this manner, interference levels into nearby microwave paths are reduced and more frequencies can be coordinated and used in any given geographic area. Additionally, ATPC, by keeping signal levels low, reduces power consumption of the radio, which lowers operating costs and increases equipment reliability. Finally, ATPC protects digital receivers from experiencing outages due to an excessively strong signal.<sup>55</sup>

34. Since 1996 when the Commission amended its Part 101 rules,<sup>56</sup> ATPC has been used successfully in the FS microwave bands. In its petition, TIA states that it is not clear whether ATPC is permitted under the rules in Part 74 for TV BAS.<sup>57</sup> Because ATPC has been beneficial to efficient spectrum use in FS operations under Part 101, we propose to amend the Part 74 rules to state that TV BAS licensees may also use ATPC.<sup>58</sup> We see no reason why the benefits of using ATPC should be limited to the TV BAS, and thus we also propose to modify sections 74.534 and 78.101 of our rules to allow licensees of aural BAS and CARS stations to use ATPC as well.

## 6. Interference to Geostationary Satellites

35. In 1987, the Commission adopted rules to implement Article 27 of the International Telecommunication Union (ITU) Radio Regulations,<sup>59</sup> which specifies EIRP limits and antenna pointing parameters for fixed terrestrial stations that share frequency bands with fixed satellite uplink (earth to space) stations.<sup>60</sup> These limits are designed to protect geostationary satellites from interference by limiting the amount of RF radiation that a terrestrial system can transmit directly towards a satellite. Since the adoption of these rules, additional frequency bands have been allocated for satellite use and the Radio Regulations have been updated accordingly.

36. Because these rules are subject to international agreement, maintaining them in multiple rule Parts is cumbersome and has led to varying requirements among the rules in Parts 74, 78, and 101 because they are not always updated at the same time. To remedy this situation, we propose to simplify the organization of the geostationary satellite protection rules by eliminating duplicative rule sections and having them appear only once. Therefore, we propose that the technical rules for protecting geostationary satellites from interference from terrestrial systems be maintained in Part 101, and that Parts 74 and 78 merely state that licensees must comply with the geostationary satellites protection rules contained in Part

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<sup>54</sup> Multipath is a propagation phenomenon that results in radio signals reaching the receiving antenna by two or more paths. Causes of multipath include reflection from terrestrial objects, such as mountains and buildings.

<sup>55</sup> See *TIA Petition* at A.29.

<sup>56</sup> See *Part 101 Order* at 13479. See 47 C.F.R. § 101.113.

<sup>57</sup> See *TIA Petition* at A.29.

<sup>58</sup> Alcatel supports this change. See Alcatel comments at 9.

<sup>59</sup> Under the revised numbering scheme for the Radio Regulations, these regulations are now contained in Article S21.

<sup>60</sup> See *Establishment of a Spectrum Utilization Policy for the Fixed and Mobile Services Use of Certain Bands Between 947 MHz and 40 GHz*, Gen. Docket No. 82-334, *Third Report And Order*, 2 FCC Rcd 1050, 77 (1987).

101. This proposal will have the effect of simplifying and streamlining our rules by keeping the rules regarding a common subject in one place, which ensures consistent treatment of all our licensees. Additionally, should these rules need future updating due to changes in the Radio Regulations or changes in service allocations, only one rule section will need to be amended. We seek comment on this proposal.

## 7. Frequency Coordination

37. Currently, Parts 74 and 78 of the Commission's rules for TV BAS and CARS require that the frequency coordination procedures of Part 101 be used for assignments in the 6425-6525 MHz and 17.7-19.7 GHz bands.<sup>61</sup> The Part 101 procedures generally require parties to coordinate their planned spectrum use with affected parties prior to filing a license application. Additionally, the TV BAS and CARS rules specify identical interference protection criteria for the 12,700-13,250 MHz band. Such rules are necessary to promote spectrum efficiency and to minimize the potential for any system to cause harmful interference to other systems in the same frequency band. In the *Part 101 Order*, the Commission amended its rules to conform the frequency coordination procedures for microwave systems to the TIA industry standards and to apply these standards to all bands.<sup>62</sup>

38. As stated in the *Part 101 Order*, common procedures and standards will simplify the rules and lead to economies of scale in microwave equipment.<sup>63</sup> Those same benefits can also be enjoyed by BAS and CARS. SBE supports such a frequency coordination requirement for the TV BAS.<sup>64</sup> Thus, we propose to require that all prospective applicants in frequency bands above 1990 MHz for TV BAS and CARS coordinate their planned spectrum use prior to filing applications, using the procedures of Section 101.103(d). Further, in order that applicants and licensees can easily locate the coordination rules, we propose to amend Section 78.36 to mirror the Part 101 coordination rules. We seek comment on this proposal and ask if we should reference the Part 101 rule within Part 78 rather than reproducing it.

39. In addition to the efficiency benefits stated above, uniform frequency coordination requirements will simplify the coordination of stations operating in shared frequency bands and minimize the potential of stations causing harmful interference. We seek comment on our proposal to require TV BAS and CARS operations to prior coordinate their stations using the Part 101 procedures. In considering this proposal, commenters should address whether a frequency coordination requirement should be imposed uniformly across the United States or should it only apply to the most heavily congested markets. If frequency coordination should only apply in certain markets, commenters should state which markets are appropriate and the factors used in making that determination.

40. Additionally, we note that coordination rules are not specified for aural BAS stations. Recognizing that thousands of aural BAS stations are in use serving AM and FM radio stations across the United States, we seek comment on whether the lack of coordination requirements for this service has led to interference situations. Should the Commission require aural BAS stations operating above 944 MHz to also adhere to the procedures of Section 101.103(d)?

## 8. Frequency Tolerance

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<sup>61</sup> 47 C.F.R. §§ 74.638 and 78.36.

<sup>62</sup> See *Part 101 Order, supra.*, at 13,486.

<sup>63</sup> See *Id.*

<sup>64</sup> See Letter from Dane E. Ericksen, P.E., CSRTE, Chairman, SBE FCC Liaison Committee to Steve Linn, Deputy Chief, Licensing and Technical Analysis Branch, Public Safety & Private Wireless Division, Wireless Telecommunications Bureau (May 2, 2000) at 5 (*SBE Letter*).

41. Frequency tolerance is the maximum permissible deviation of the center frequency of an emission from its assigned frequency. To streamline our rules further and to offer manufacturers common technical standards for equipment, we propose to amend the frequency tolerance rules for TV BAS.<sup>65</sup> Specifically, consistent with the proposal made in the *Part 101 NPRM*,<sup>66</sup> we propose to eliminate separate frequency tolerance requirements for base and mobile operations. Additionally, we note that the current TV BAS frequency tolerance rules do not specify a limit for the 2450-2483.5 MHz band. To remedy this situation, we propose to adopt a frequency tolerance of 0.001% for fixed and mobile TV BAS equipment operating in the 2450-2483.5 MHz band. This proposal is consistent with the frequency tolerance allowed in Part 101 for FS this band. and as explained elsewhere, the operations are sufficiently technically similar that we believe the same frequency tolerance is appropriate for TV BAS.<sup>67</sup> Finally, we propose to grandfather existing authorized equipment at their current frequency tolerance. We seek comment on this proposal.

### 9. Use of the 13.150-13.2125 GHz Band by BAS and CARS Pickup Stations

42. Recently, in ET Docket No. 98-206, the Commission allocated Non-Geostationary Fixed Satellite Service (NGSO FSS) uplinks on a co-primary basis in the 12.75-13.25 GHz band.<sup>68</sup> However, the NGSO FSS systems were excluded from operating in the 13.15-13.2125 GHz band (channels A19, A20, B19 and B20).<sup>69</sup> The 13.15-13.20 GHz portion of that band is currently used by TV BAS and CARS Pickup Stations within 50 kilometers of the top 100 television markets and by fixed TV auxiliary stations in all other areas.<sup>70</sup> In the *NGSO Order*, the Commission expanded these exclusions in favor of TV BAS and CARS to include frequencies up to 13.2125 GHz and to extend to the entire United States. The Commission took this action with the expectation that BAS and CARS mobile operations will concentrate their mobile use on those four channels.<sup>71</sup> Based on the action taken in the *NGSO Order*, we propose to update Section 74.602(a) Note 2 to reflect these changes. Further, we propose to grandfather all fixed stations that were licensed in the 13.15-13.2125 MHz band prior to the effective date of the rules in the *NGSO Order*. We seek comment on this proposal.

### 10. Use of the 31.0-31.3 GHz and 38.6-40.0 GHz Bands by the BAS and CARS

43. In 1997, the Commission reallocated the 31.0-31.3 GHz band to the Local Multipoint Distribution Service.<sup>72</sup> Consequently, BAS and CARS are no longer authorized to obtain new assignments

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<sup>65</sup> 47 C.F.R. § 74.661.

<sup>66</sup> See *Part 101 NPRM, supra.*, at Appendix D, (proposed) Section 101.107.

<sup>67</sup> 47 C.F.R. § 101.107.

<sup>68</sup> See Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range, ET Docket No. 98-206, *First Report and Order and Further Notice of Proposed Rule Making*, FCC 00-418 (rel. Dec. 8, 2000) at para. 122. (*NGSO Order*)

<sup>69</sup> See *Id.*

<sup>70</sup> 47 C.F.R. § 74.602(a) Note 2.

<sup>71</sup> See *NGSO Order* at para. 126.

<sup>72</sup> See Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, To Reallocate the 29.5-30.0 GHz Frequency Band, To Establish Rules and Policies for Local (continued....)

in that band, and a search of our database reveals that there are not any currently active authorizations for BAS or CARS in that band. In this connection, we note that the frequency assignment rules in Sections 74.502 for aural BAS, 74.602 for TV BAS, and 78.18 for CARS no longer reference the 31.0-31.3 GHz band. However, many of the technical rules continue to mention this band. Therefore, we propose to eliminate references to technical parameters for the 31.0-31.3 GHz band that currently exist in the aural BAS, TV BAS and CARS rules.

44. Similar to the 31.0-31.3 GHz band, the Commission, in 1997, adopted rules and procedures to assign the 38.6-40.0 GHz band by competitive bidding.<sup>73</sup> This band had been available for assignment to mobile BAS and CARS licenses without bandwidth limitation and on a secondary basis to fixed stations.<sup>74</sup> In addition to the new assignment procedures, the Wireless Telecommunications Bureau (WTB), pursuant to delegated authority, adopted an *Order* announcing that the Commission would no longer accept for filing any new applications for 39 GHz licenses in the Common Carrier or Operational Fixed Point-to-Point Radio Services.<sup>75</sup> In May, 2000, the Commission assigned 2,173 licenses in 175 Economic Areas by competitive bidding in this band.<sup>76</sup> Because the band has been auctioned and consistent with the *Freeze Order*, no new assignments can be made for BAS or CARS licenses in the 38.6-40.0 GHz band. Accordingly, we propose to remove all references to the 38.6-40.0 GHz bands from the BAS and CARS rules. As a final matter we note that there are 16 incumbent Television Pickup BAS and no CARS licensees operating in this band. The BAS licensees may continue to operate under the parameters of their current licenses and to renew them in the future. We seek comment on this proposal.

## 11. Additional Rule Consolidation

45. In the sections above, we make various proposals which conform rules among Parts 74, 78, and 101. In general, for service specific rules, such as maximum EIRP for short path lengths and transmitter power, we keep those rules with each rule part. However, for rules that affect each of the services sharing spectrum, our preference is to list that rule only in one location and cross reference the other rule parts to that single listing. For example, we propose that the rules regarding interference to geostationary satellites be listed only in Part 101 and cross referenced from Parts 74 and 78.<sup>77</sup> When several services are subject to the same requirements, having that requirement in only one location ensures consistent treatment of all our licensees and simplifies the update process if any of these procedures should change. We seek comment on whether there are additional instances in which the rules can be consolidated and cross referenced.

### B. BAS Service Rules (Part 74)

(Continued from previous page) \_\_\_\_\_  
Multipoint Distribution Service and For Fixed Satellite Services, CC Docket No. 92-297, *Second Report and Order, Order on Reconsideration, and fifth Notice of Proposed Rulemaking*, 12 FCC Rcd. 12545 (1997).

<sup>73</sup> See Amendment of the Commission's Rules Regarding The 37.0-38.6 GHz and 38.6-40.0 GHz Bands, ET Docket No. 95-183, *Report and Order and Further Notice of Proposed Rule Making*, 12 FCC Rcd. 18,600 (1997).

<sup>74</sup> 47 C.F.R. § 74.602.

<sup>75</sup> See Petition For Amendment Of The Commission's Rules Regarding The 37.0-38.6 GHz And 38.6-40 GHz Bands, DA 95-2341, *Order*, 11 FCC Rcd. 1156 (1996) (*Freeze Order*).

<sup>76</sup> See 39 GHz Band Auction Closes, Report Auc-30-E (Auction No. 30), DA 00-1035, rel. May 10, 2000.

<sup>77</sup> See para. 36, *supra*.

## 1. Temporary Conditional Authority

46. To complement the above proposal that aural and TV BAS stations coordinate their applications prior to filing,<sup>78</sup> we propose to allow applicants who apply for new or modified stations to operate under temporary conditional authority after an application has been properly filed with the Commission. This type of operating authority is permitted in other coordinated services, such as those authorized under Parts 90 and 101 of the Commission's rules and remote pickup BAS under Section 74.431(g).<sup>79</sup> Our experience regarding temporary conditional operation in Parts 90 and 101 has shown it to be a useful tool which enables applicants to begin providing service in a timely manner without having to wait for the Commission to finish processing their applications. This proposal, however, is contingent on our proposal to require prior frequency coordination of the requested operations. By relying on the coordination process, the Commission can be assured that BAS operations will not cause harmful interference to existing stations.

47. In addition to requiring prior coordination, we propose to make temporary conditional authority subject to the following conditions:

- The applicant must be eligible to operate the particular class of broadcast auxiliary station.
- The station must be operating in conformance with the rules for that particular class of station and in accordance with the terms of the frequency coordination.
- The application does not propose operation in an area that requires international coordination.
- The application does not request a waiver of the Commission's rules.
- The proposed station will not significantly affect the environment as defined in Part 1, Subpart I of the Commission's rules.<sup>80</sup>
- The antenna structure either has a FCC Registration Number or is determined to not need one.
- The proposed station affords protection to radio "quiet" zones and monitoring stations.

48. We also propose to allow temporary conditional authority for low power auxiliary stations authorized under Part 74, Subpart H.<sup>81</sup> Although these stations do not require prior coordination and we are not proposing to add such a requirement, we believe that they can operate under this authority without harming existing operations due to the restriction that they limit their power to 1 watt output power.<sup>82</sup>

49. In accordance with the above, we propose to delete rule section 74.431(g) and adopt new rule section 74.25 to allow temporary conditional authorizations for all broadcast auxiliary services. We seek comment on these proposals.

## 2. Short-Term Operation

50. Section 74.24 provides broadcast licensees regulated under Part 73 of our rules (*i.e.*, AM, FM, and TV broadcast stations, including Class A stations) with the authority to operate a broadcast

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<sup>78</sup> See para. 37, *supra*.

<sup>79</sup> 47 C.F.R. §§ 90.159(b), 101.31, and 74.431(g).

<sup>80</sup> 47 C.F.R. § Part 1, Subpart I.

<sup>81</sup> Low power auxiliary stations are intended to transmit over distances of approximately 100 meters for uses such as wireless microphones, cue and control communications, and synchronization of TV camera signals. These stations are typically used in conjunction with a BAS station.

<sup>82</sup> 47 C.F.R. § 74.861(d)(1).

auxiliary station on a short-term basis, for up to 720 hours per year, without prior authorization from the Commission.<sup>83</sup> This rule provides broadcasters with flexibility to respond to short term situations such as a newsworthy event outside of a station's normal operating area, without coming to the Commission with requests for special temporary authority (STA). This rule has served both the broadcasters and the Commission well.

51. We note that this rule does not afford the same flexibility to broadcast network entities, cable network entities, or Low Power Television Stations (LPTV), even though these entities are eligible to hold BAS licenses. Thus, the current rules allow one class of BAS licensees, broadcasters, to operate under the short-term operation rule, but exclude all other BAS licensees even though each of these entities operate their own news services and originate programming. Because we believe that broadcast and cable network entities and LPTV stations would benefit from the short-term operation rule and such use would provide equity under our rules for all entities eligible for a BAS license, we propose to expand the eligibility of this rule. We believe that expanding the eligibility of this rule can be accomplished without any detrimental effect on licensed stations because short-term operation is on a secondary, non-interference basis and co-channel licensees in the intended operating area must be notified of such operation.<sup>84</sup>

52. As noted, there is a notification requirement with which licensees must comply prior to operating under the short-term operation rule. This notification requirement, however, does not apply when "... an unanticipated need for immediate short-term mobile station operation would render compliance with the provisions of this paragraph impractical."<sup>85</sup> For example, a station may wish to send a news crew to report on a natural disaster that occurs outside of its service area, which by its nature is not a planned event. On the other hand, stations may wish to report from a convention or sporting event or other planned events. In these instances, it is not acceptable to bypass the notification requirement. Because these are scheduled events, stations should have ample time to provide the necessary notification prior to the event. Accordingly, we propose to clarify that entities may not invoke the notification exception for scheduled events.

53. The Commission often designates a coordinator as the single point of contact for advance coordination of auxiliary broadcast frequency usage for major national and international level scheduled news events.<sup>86</sup> In the past, groups would petition the Commission prior to a major event and volunteer to act as the special event coordinator.<sup>87</sup> The Commission has taken this action based on concern that uncoordinated use of auxiliary broadcast stations on a temporary basis might result in spectrum congestion and excessive interference causing less complete broadcast coverage. Currently, the rules do not contain a procedure for designating a coordinator for short-term operations. To remedy this deficiency, we propose that procedures to designate a coordinator for short-term operations be placed in the rules. Specifically, the Commission will not, on its own, designate a special events coordinator. Such designation will continue to be bestowed on an entity only after the Commission receives a request to designate a coordinator. The

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<sup>83</sup> 47 C.F.R. § 74.24.

<sup>84</sup> 47 C.F.R. §§ 74.24(c) and (g).

<sup>85</sup> 47 C.F.R. § 74.24(g).

<sup>86</sup> In the past the Commission has designated auxiliary broadcast frequency coordinators for National Political Conventions, the 1996 Summer Olympic Games, and the visit of Pope John Paul II to the United States. *See, e.g.,* Auxiliary Broadcast Frequency Coordinator Designated for the 2000 Democratic Convention in Los Angeles, CA, DA 00-1878(Corrected), *Public Notice*, July 21, 2000.

<sup>87</sup> Usually, a consolidated group representing many broadcasters, rather than a single entity acting on its own, will seek this designation.

Commission will issue a Public Notice to inform the broadcast industry that such a designation has been made. Typically, these Public Notices have been issued at least three months prior to an event, with many occurring up to a year prior. Once an organization receives such designation, coordination must be done on a non-discriminatory basis. Entities must abide by the decision of the coordinator. However, if a disagreement arises, the Commission will be the final arbiter of any dispute. We seek comment on this proposal.

54. We also seek comment on the current limitation of 720 hours per year per frequency for short-term operations. Based on the way event coverage has changed over time, is this limit still appropriate? Should it be increased or decreased? Additionally, we note that there is no requirement for stations to log or report their short-term use under this section, and thus there is no way to track operation under this rule and verify compliance. Should we require stations to keep a log of their short term use in their station records, or alternatively, should we eliminate the 720 hour limit? We seek comment on this and all aspects of our proposals regarding the short-term operation rule.<sup>88</sup>

### 3. Use of UHF-TV Channels for TV STLs and TV Relay Stations

55. Under Section 74.602(h) of the Commission's rules, TV STLs and TV relay stations may be authorized, on a secondary basis, to operate on spectrum allocated for UHF-TV stations.<sup>89</sup> In addition to being secondary to full power UHF-TV and Class A TV stations, these stations are also secondary to LPTV stations and translator stations, and to land mobile stations authorized under Parts 22 and 90 of the rules in areas where land mobile sharing is currently permitted.<sup>90</sup> Also, because transmissions by TV STL and relay stations are not necessarily used by licensees to transmit information for broadcast over the air, their signals are not intended for reception by the general public. To meet these obligations, licensees generally employ a narrow-beam point-to-point signal. The rules, however, do not contain any guidelines regarding acceptable power limits or antenna specifications for these stations.<sup>91</sup> Instead, the Commission has developed policies to determine compliance of these stations with the rules in Section 74.602(h). Specifically, applicants that request output power greater than 20 watts or a transmitting antenna with a 3 dB beamwidth greater than 25 degrees are asked to submit an engineering analysis to demonstrate why the higher output power or wider beamwidth is necessary.<sup>92</sup> Because the Commission is increasingly relying on automated processing, as evidenced by the ULS, we believe that it would be beneficial to codify operational

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<sup>88</sup> SBE supports the proposals advanced above. *See SBE Letter* at 6.

<sup>89</sup> 47 C.F.R. § 74.602(h). The UHF-TV spectrum is used only if the licensee cannot find spectrum available in any other frequency band allocated for these stations.

<sup>90</sup> 47 C.F.R. Parts 22 and 90 provide for the use of land mobile stations in the 470-512 MHz band (TV channels 14-21). *See, e.g.*, 47 C.F.R. §§ 22.621 and 90.303. Additionally, we note that the Commission adopted an *Order* in 1995 granting a conditional waiver for public safety land mobile use of Channel 16 in New York City. *See In the Matter of Waiver of Parts 2 and 90 of the Commission's Rules to Permit New York Metropolitan Area Public Safety Agencies to Use Frequencies at 482-488 MHz on a Conditional Basis, Order*, 10 FCC Rcd 4466 (1995). Under terms adopted in the *Report and Order* in MM Docket No. 00-10, the New York Police, operating under authority of the cited waiver, and LPTV station WEBR-LP will continue their current practice of cooperating to ensure that neither party interferes with the other's transmission on Channel 16. *See In The Matter Of Establishment Of A Class A Television Service, MM Docket No. 00-10, Report and Order*, 15 FCC Rcd. 6355 (2000) at ¶ 84.

<sup>91</sup> *See* 47 C.F.R. § 74.636 (power limits), 47 C.F.R. § 74.641 (antenna requirements).

<sup>92</sup> This policy was articulated for applicants in RM-7586. *See TV Auxiliary Use of Vacant UHF-TV Channels, RM-7586, Memorandum Opinion and Order*, 10 FCC Rcd 4896 (1995).

parameters for these stations so that prospective applicants have as much information as possible to assist them. We believe that this will shorten the application process by minimizing the number of applications that need to be returned due to failure to submit an engineering analysis if the stated specifications are exceeded.

56. To implement this policy in the rules, we must stipulate the maximum EIRP that an applicant may use before an engineering analysis is necessary. We believe that an appropriate trigger for requiring an engineering analysis is an EIRP for the proposed system of 35 dBW. This figure was determined by first noting that the currently used 20 watts output power is 13 dBW (*i.e.*,  $10 \log_{10} 20 = 13$ ) and then looking at typical gain values for antennas used for these stations. Our licensing database reveals that most antennas used by systems already authorized in the UHF-TV band have a gain in the 15-20 dBi range (with some as high as 26 or 27 dBi) and that the EIRP of these systems typically range up to 31 dBW.<sup>93</sup> We expect that allowing licensees to use EIRPs up to 35 dBW without submitting an engineering analysis will provide licensees with flexibility to choose optimal power and antennas for their systems while meeting the requirements of transmitting on a non-interference basis and propose to adopt this limit in our rules.

57. We believe that our current policy, which limits the antenna to a 3 dB beamwidth of 25 degrees or less has served both users and those they are required to protect. The Commission also has generally requested operators of these stations to transmit using vertical polarization, rather than the standard horizontal polarization that is employed for TV transmissions.<sup>94</sup> The Commission implemented this policy to safeguard STL and relay station transmission from reception by the public. We believe that these criteria also should be codified in the rules. Accordingly, we propose to modify Section 74.602(h) of the rules to require applicants for TV STLs or TV relay stations to comply with the three technical parameters described above or to submit an engineering analysis explaining why higher power, a wider antenna, or a different polarization is needed.

58. In addition, we note that the Commission regularly licenses TV translator relay stations on UHF-TV channels. Therefore, to make the rules consistent with current licensing policy, we propose to explicitly state in Section 74.602(h) that these stations may be authorized to operate on UHF-TV channels on a secondary basis, subject to the same guidelines described above. We seek comment on this proposal.

59. Finally, the current rules in Section 74.602(h) authorize the secondary point-to-point use of TV STL and TV relay stations on UHF-TV channels 14-69. We note that the Balanced Budget Act of 1997 directed the Commission to auction recaptured television broadcast spectrum and to allocate spectrum in the 746-806 MHz band (UHF TV channels 60-69) for public safety services and for commercial use.<sup>95</sup> The Commission has already implemented the reallocation of the 746-806 MHz band<sup>96</sup> and intends to reallocate the 698-746 MHz band (UHF-TV channels 52-59) in the future.<sup>97</sup> In light of the reallocation of the UHF-TV channels above channel 51, we propose to limit future secondary point-to-point use of TV

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<sup>93</sup> We note that the licensing database specifies EIRP in terms of dBm, not dBW. The conversion factor between dBm and dBW is 30 dB (*i.e.*,  $0 \text{ dBW} = 30 \text{ dBm}$ ).

<sup>94</sup> 47 C.F.R. § 73.682(a)(14).

<sup>95</sup> See Pub. L. No. 105-33, Title III, 111 Stat. 251 (1997) §§ 3003, 3004.

<sup>96</sup> See *In the Matter of Reallocation of Television Channels 60-69, the 746-806 MHz Band*, ET Docket No. 97-157, *Report and Order*, 12 FCC Rcd.22,953 (1997).

<sup>97</sup> See *In The Matter of Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium, Policy Statement*, 14 FCC Rcd. 19,868 (1999).

STL and TV relay stations to UHF-TV channels 14-51. We further propose to grandfather existing stations that operate on the UHF-TV channels above channel 51. We seek comment on this proposal.

#### 4. TV BAS Sound Channels

60. Section 74.603 of the Commission's rules provides authority for TV BAS stations to use an aural broadcast STL or intercity relay station licensed under the aural BAS rules to transmit the aural portion of a television broadcast program. This use is on a secondary non-interference basis to programming of aural broadcast stations.<sup>98</sup> It is our understanding that the current practice within the industry is to use multiplexing techniques, rather than separate sound channels, to transmit the aural portion of their programming along with the video portion over a single TV BAS channel. Therefore, we believe that rule section 74.603 is no longer necessary, and we propose to eliminate it. Additionally, we propose to eliminate the corresponding provision of Section 74.502(b) that provides TV BAS licensees' authorization to use the aural BAS channels.<sup>99</sup> If we eliminate these provisions as proposed, we seek comment on whether the aural BAS rules need to be modified to specify that aural BAS stations are for the transmission of aural program material of an aural broadcast station in all places where the rules simply refer to a broadcast station.

61. We seek comment on whether we should delete rule section 74.603(c), which provides grandfathering rights so that TV BAS stations could continue operating aural STL or intercity relay stations that were in service prior to July 10, 1970. That rule states that such grandfathering could continue until the Commission makes a decision on their disposition through a rule making proceeding.<sup>100</sup> In particular, we seek comment on whether any stations continue to maintain and operate separate stations for aural and video content and where such use occurs. This proposal might particularly affect stations in smaller markets where there are fewer AM or FM radio stations.

#### 5. Remote Pickup Broadcast Auxiliary Frequency Assignment

62. In 1984, the Commission wrote a comprehensive revision of the rules for remote pickup frequency assignments.<sup>101</sup> That *Report and Order* split the remote pickup channels in the 150 MHz, 160 MHz and 450 MHz bands into 5 kilohertz channels that could be "stacked" to create channels of various sizes. Thus, licensees could continue operating their equipment under existing licenses and new licensees, and existing licensees seeking to update their systems could make use of newer narrowband technology. The *Report and Order*, however, stated that an effective date for these rules would be specified in a future Order. To date, the Commission has not taken such action.

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<sup>98</sup> 47 C.F.R. § 74.603(b).

<sup>99</sup> 47 C.F.R. § 74.502(b).

<sup>100</sup> The Commission sought comment on this issue in a *Further Notice of Proposed Rule Making* in Docket No. 19130, however final rules were never issued. See Amendment of Parts 2 and 74 of the Commission's Rules To Permit Aural Broadcast STL Operations in the Band 2150-2160 MHz and To Accommodate STL, Intercity Relay Stations and Certain Low-Power Broadcast Auxiliary Stations Within the Frequency Band 947-952 MHz and Amendment of Parts 2 and 74 of the Commission's Rules To Permit Aural Broadcast STL Operations in the Band 2110-2113 MHz, Docket No. 19130, Further Notice of Proposed Rule Making, FCC 72-361 (rel. Apr. 26, 1972).

<sup>101</sup> See Amendment of Frequency Assignment Procedures in the Broadcast Remote Pickup Service to Facilitate More Efficient Use of the Available Spectrum, MM Docket No. 84-280, *Report and Order*, 49 FR 45155 (Nov. 15, 1984).

63. The rules written in 1984 for the Remote Pickup Broadcast Service were intended to provide licensees more freedom to choose and implement new technologies in their effort to make the most efficient use of the spectrum. Because many technical and regulatory changes have occurred since 1984, we propose to amend the rules adopted in 1984, as discussed below, to ensure that this objective will be achieved.

64. The channel plan in place prior to the 1984 revision provided 60 kHz channel spacing in the 150 MHz (Group K<sub>1</sub> channels) and 160 MHz (Group K<sub>2</sub> channels) VHF bands and various channel spacings (from 10 kHz to 100 kHz) in the 450 MHz UHF band. For example, the 450-451 MHz and 455-456 MHz bands have channels with 10 kilohertz, (Group P channels), 25 kilohertz (Group N<sub>2</sub> channels), 50 kilohertz (Group R and Group N<sub>1</sub> channels) and 100 kilohertz (Group S channels) bandwidths.<sup>102</sup> In addition to modifying the channel spacing, the rules adopted in 1984 reduced the bandwidth that transmitters in these bands could use: from 60 kHz to 30 kHz in the VHF band and generally to 25 kHz in the UHF band. We note that although the rules adopted in 1984 provide many additional operating frequencies, they envisioned users stacking 5 kilohertz channels to use up to 30 kilohertz bandwidth in the 150 MHz and 160 MHz bands. Similarly, the rules generally permitted users to stack 5 kilohertz channels in the 450 MHz band to create 25 kilohertz channels.

65. Since 1984, significant advances have been achieved in the development of narrowband radios, such as the maturation of digital modulation techniques, improved coding processes, and development of more stable oscillators. In 1995, based on advances such as these, the Commission adopted a narrowband channel plan for the 150–174 MHz and 450-512 MHz bands used by Part 90 Private Land Mobile Radio Service (PLMRS) licensees.<sup>103</sup> In that decision, the Commission adopted a channel plan in which channels were spaced every 7.5 kilohertz in the 150 MHz band and every 6.25 kilohertz in the 450 MHz band. Under certain circumstances, these channels could be stacked to allow the use of 6.25, 12.5 or 25 kilohertz equipment.

66. We believe the same band plan is suitable for Remote Pickup BAS operations. Moreover, because many of the 150 MHz and 160 MHz Remote Pickup channels are shared with the Part 90 Industrial/Business Pool, we believe that it would be beneficial for both services to share a common channel plan. These benefits include more predictable adjacent channel performance, easier coordination procedures, and economies of scale for equipment. Under the 1984 rules, however, these benefits would not be realized if Remote Pickup licensees modify their operating frequencies to correspond to channel centers based on 5 kilohertz spacing. A shift to 5 kHz spacing for BAS would create an operating environment in which Part 74 and Part 90 licensees are operating co-channel offset by 2.5 kilohertz or by 5 kilohertz.<sup>104</sup> In many cases there would be significant overlap of RF energy between adjacent channels which could degrade the performance of user's systems as other nearby users attempt to transmit on closely spaced adjacent channels. In addition to the increase in potential interference, these conflicting channel

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<sup>102</sup> See 47 C.F.R. § 74.402.

<sup>103</sup> See Replacement 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, *Report and Order and Further Notice of Proposed Rule Making*, 10 FCC Rcd. 10076 (1995) (*Refarming R&O*).

<sup>104</sup> For example, under the rules adopted in 1984 for the Remote Pickup Broadcast Service, valid frequencies for use include 152.8625 and 152.8675 MHz. See 47 C.F.R. § 74.402. Valid Industrial/Business Pool frequencies under Part 90 include 152.8625 and 152.870 MHz. See 47 C.F.R. § 90.35. From these frequencies, it is clear that valid frequency separations include 0, 2.5, and 5 kilohertz (*e.g.*, 152.8675 MHz – 152.8625 MHz = 5 kilohertz and 152.870 MHz – 152.8675 MHz = 2.5 kilohertz.)

plans would complicate the frequency coordination process because coordinators would need to account for many closely spaced adjacent channels. Consequently, we propose to amend the frequency assignment rules for the 150 MHz and 160 MHz bands in Section 74.402 to be consistent with the channel plan in effect in Part 90 (*i.e.*, 7.5 kilohertz channel spacing). Additionally, we propose to allow licensees to stack up to 4 channels to operate on channels as wide as 30 kilohertz. We believe that implementing this channel plan suits Remote Pickup BAS operators as it does PLMRS providers, and it will benefit users by allowing for common equipment to be used for both Part 74 and Part 90 licensees. Remote Pickup Service licensees would be able to take advantage of further advancements in land mobile radio technology as it is developed and brought to market.

67. We believe that the vast majority of licensees in the 150 MHz and 160 MHz bands can be accommodated by the proposed channel plan without having to change their equipment. The proposed channel plan includes all of the channels used by the majority of licensees under the pre-1984 plan. Compliance with the 1984 channel plan, on the other hand, because it is based on 5 kHz channel spacing would require licensees to modify their operating frequency, either by retuning or replacing their equipment. A search of our licensing database reveals that most licensees continue to operate on the remote pickup channels under the pre-1984 channel plan. There are only 7 remote pickup licensees in the 150 MHz band and 25 in the 160 MHz band that have begun operating using the 1984 channel plan. Only these licensees would need to transition to the proposed plan.

68. We also propose to modify the 1984 channel plan for the Group N<sub>1</sub> and N<sub>2</sub> 450 MHz Remote Pickup channels. In this case, we propose to standardize the remote pickup channel plan with the Part 90 channel plan by listing channels 6.25 kilohertz apart and allowing licensees to stack up to 8 channels (50 kilohertz). Although Part 74 licensees do not share this band with Part 90 licensees, by aligning to the Part 90 channel plan, BAS licensees in this band will reap the same benefits as those expected for the VHF band. Similar to the VHF band, our database shows that most licensees continue to operate on the pre-1984 channel plan, although some licensees have begun migrating to the 1984 channel plan. Also, as with the VHF band, the proposed channel plan incorporates all of the pre-1984 channels. Under our proposal, a transition to the proposed plan would be needed only for those licensees who implemented the 1984 plan.

69. To accommodate all licensees who are operating in compliance with the 1984 channel plan, we propose to give them three years from the date a new channel plan is adopted by the Commission to modify their equipment and comply with the new plan. We believe that this provides licensees adequate time to either retune or replace equipment. However, because the number of licensees affected by our proposals is small, we propose to provide them the option to continue operating using the 1984 channel plan after the three year transition period ends, but only on a secondary, non-interference basis. We believe that this course of action will minimize disruption to existing remote pickup BAS systems. Finally, we note that this proposal is consistent with the treatment of Part 90 licensees that were operating on 5 kHz channels in the VHF band prior to the *Refarming* proceeding.<sup>105</sup>

70. The Group P channels are limited to operational communications, including tones for signaling and for remote control and automatic transmission system control and telemetry.<sup>106</sup> Because there are only eight Group P channels (four at each end of the band) and they are limited to this specialized use, we are not inclined, at this point, to alter them. However, in light of the technological advances in radio

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<sup>105</sup> See Replacement 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, *Memorandum Opinion and Order*, 11 FCC Rcd. 17676 (1996).

<sup>106</sup> 47 C.F.R. § 74.402, Note 6.

cited above, we are not convinced that the Group R and Group S wide bandwidth channels are still needed. Although we are not making specific proposals for these three groups of channels, we seek comment on the extent to which these channels are being used. Should their current bandwidth designations be maintained or should they also be aligned with the 6.25 kilohertz channel plan?

71. Because Remote Pickup Service licensees will benefit most by having the capability to choose from a wide variety of radios, and in accordance with our proposal to standardize the Remote Pickup channels with those listed in Part 90, we believe that this service should adhere to the technical standards of Part 90. In this way, Part 74 licensees could choose from among the wide variety of radios available for PLMRS licensees. Accordingly, for equipment designed to operate on channels with bandwidths of 30 kilohertz or less in the VHF and UHF Remote Pickup Service bands, we propose that the equipment comply with the Part 90 technical rules for the emission mask<sup>107</sup> and frequency stability.<sup>108</sup> Additionally, we ask commenters to address whether the transient frequency behavior<sup>109</sup> rules in Section 90.214 would be appropriate to impose on remote pickup service transmitters.<sup>110</sup>

## 6. Federal Narrowbanding of 162-174 MHz Band Land Mobile Frequencies

72. The Interdepartment Radio Advisory Committee<sup>111</sup> (IRAC) has been working for the last several years on narrowbanding Federal Government operations in a number of frequency bands. Based on the work of the IRAC, the National Telecommunications and Information Administration (NTIA) has published the final policy in the Manual of Regulations and Procedures for Federal Frequency Management. We note that one of the frequency bands subject to narrowbanding is the 162-174 MHz band,<sup>112</sup> and that the Remote Pickup BAS may share, on a secondary basis, two frequencies - 166.25 MHz and 170.15 MHz – in this band with Federal Government users.<sup>113</sup> Under our rules, remote pickup stations may use these frequencies except within 150 miles of New York City where they are reserved for use by public safety users, in Alaska, or in the Tennessee Valley Authority area.<sup>114</sup> We also note that these frequencies are used in some areas by fixed stations in the Emergency Alert System (EAS)<sup>115</sup> to relay

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<sup>107</sup> 47 C.F.R. § 90.210.

<sup>108</sup> 47 C.F.R. § 90.213.

<sup>109</sup> Transient frequencies are short-term variations of a transmitter's operating frequency that occurs when a transmitter is keyed on or off. During this period of off-frequency operation noise chirps are transmitted that could interfere with adjacent channel operations.

<sup>110</sup> 47 C.F.R. § 90.214.

<sup>111</sup> The IRAC consists of representatives from a number of Federal Agencies and assists the Assistant Secretary of Commerce, Communications and Information in assigning frequencies to U.S. Government radio stations and in developing and executing policies, programs, procedures, and technical criteria pertaining to the allocation, management, and use of the spectrum. See NTIA Manual of Regulations and Procedures for Federal Frequency Management (NTIA Manual), Section 1.3.

<sup>112</sup> See NTIA Manual, Section 4.3.7A. The exact bands subject to Federal Government narrowbanding are 162.0125-173.2 MHz and 173.4-174 MHz.

<sup>113</sup> 47 C.F.R. § 74.402.

<sup>114</sup> 47 C.F.R. § 2.106, Note US11. The Tennessee Valley Authority Area is described in detail in Footnote US11. This area encompasses Tennessee, the southern portion of Kentucky, southwest Virginia, most of Mississippi and Alabama, Northern Georgia, the northwest corner of South Carolina, and western North Carolina.

<sup>115</sup> 47 C.F.R. Part 11.

information to local stations for dissemination to the public. It has been the policy of NTIA and the FCC to protect these EAS stations from potential harmful interference.

73. Under the narrowbanding policies adopted by NTIA, all new Federal Government systems after January 1, 1995, and all Federal Government systems after January 1, 2005, in the 162-174 MHz band must be capable of operating within a 12.5 kHz channel.<sup>116</sup> The current Commission rules provide for operations on channels up to 25 kilohertz wide.<sup>117</sup> In order to ensure continued successful sharing of the spectrum with Federal Government users, we propose to require that Remote Pickup BAS use of the 166.25 MHz and 170.15 MHz frequencies be in accordance with the same 12.5 kHz channel size and meet the January 1, 2005 implementation schedule applicable for all Federal Government users. Notwithstanding the need for new equipment, what are the advantages and/or disadvantages to implementing this proposal? For example, migrating to the narrow channels may improve adjacent channel performance, but will it harm the quality of the information being transmitted? Additionally, we propose to formally acknowledge the protected status of non-Federal Government stations operating on these frequencies that are used as an integral part of the EAS. These proposals encompass a revision of Section 2.106, footnote US11 and a change in section 74.462 of our rules. We seek comment on these proposals.

### C. Universal Licensing System and BAS

74. As noted above, the WTB, which is responsible for licensing BAS, has shifted its licensing functions to ULS.<sup>118</sup> ULS is an automated licensing system and integrated database designed to infuse greater efficiency into the licensing process by using a consolidated set of application forms, automating many license review processes, and facilitating electronic application filing and data retrieval. The Wireless Telecommunications Bureau began using ULS for Aural and TV BAS licensing on August 30, 1999<sup>119</sup> and for Remote Pickup BAS on September 19, 2000.<sup>120</sup> Due to this transition, many BAS service rules require updating to reflect ULS application processing procedures. Many of these changes are ministerial in nature, such as updating application form numbers; we include these proposed changes in Appendix C. In some cases, more substantive rule changes are necessary and merit additional discussion. These proposals are discussed below.

#### 1. General Application Procedures

75. One of the main changes promulgated by the *ULS Report and Order* was to consolidate the application and processing rules for all wireless services into a single subpart in Part 1 of the Commission's rules.<sup>121</sup> Subpart F of Part 1 is now the sole section of rules that wireless applicants and licensees, including BAS applicants and licensees, consult regarding the handling of various application procedures, such as major or minor amendment and modifications (§ 1.929) and STAs (§ 1.931). To make

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<sup>116</sup> See NTIA Manual, Section 4.3.7A.

<sup>117</sup> 47 C.F.R. § 74.462.

<sup>118</sup> See note 35, *supra*.

<sup>119</sup> See Wireless Telecommunications Bureau To Begin Use Of Universal Licensing System (ULS) For Microwave Services On August 30, 1999, DA 99-1543, *Public Notice*, rel. Aug. 6, 1999.

<sup>120</sup> See Wireless Telecommunications Bureau Implements Phase I Of a Three-Phased Deployment of the Universal Licensing System for Land Mobile Radio Services on September 19, 2000, DA 00-1992, *Public Notice*, rel. Sep. 1, 2000.

<sup>121</sup> See *ULS Report and Order* at 21055.

clear that the BAS adheres to the rules laid out in Part 1, Subpart F, we propose amending Sections 1.901 and 1.902 to add the appropriate references to Part 74. Similarly, we propose to add a new section, Section 74.6, to reference BAS applicants and licensees to the application and processing rules in Part 1, Subpart F. Under this licensing scheme, aural and TV BAS stations would be licensed using identical forms and procedures as used for Part 101 microwave applicants. Remote pickup BAS stations would be licensed using the same forms and procedures as used for Part 90 private land mobile radio applicants.

## 2. Construction Period for BAS Stations

76. Under the Part 1, Subpart F rules, the Commission issues a license which specifies the construction period set forth in the rule part governing the specific service. Licensees are to notify the Commission when operations commence, and licensees that fail to commence operations within the required construction period automatically forfeit their license.<sup>122</sup> Stations operating under the broadcast auxiliary rules are subject to the construction requirements specified in Section 73.3598,<sup>123</sup> which provide three years to construct stations from the date a construction permit is issued.<sup>124</sup> However, a two step license mechanism of issuing a construction permit and a license subsequent to construction is not used for wireless services. Instead, the current practice is to issue a TV or aural BAS license with a requirement to construct a station within 18 months and a remote pickup BAS license with a requirement to construct a station within 12 months. We propose to amend Section 73.3598<sup>125</sup> and related rules in Part 73 to remove references to broadcast auxiliary stations and to create a new Section 74.34 to specify rules for the construction of BAS stations.

77. Accordingly, we propose to modify the rules to codify current Commission practice. We propose to modify the construction period for remote pickup BAS to 12 months; the same period allowed for PLMR stations authorized under Part 90.<sup>126</sup> Because remote pickup stations are functionally similar to PLMR stations, we believe that this time period is appropriate for remote pickup BAS licensees. Also, we propose to modify the construction period for TV and aural BAS stations to 18 months. We believe that fixed aural and TV BAS stations are similar to fixed microwave stations, which are authorized under Part 101 and have an 18 month construction period. We seek comment on this proposal, including alternative time periods for constructing BAS stations.

## 3. Special Temporary Authority

78. Under the rules in Part 74, BAS licensees may apply for an STA by informal application,<sup>127</sup> which has generally been interpreted to mean by letter request. In the *ULS Report and Order*, the Commission adopted rules that eliminate letter requests for all purposes where a form can be used.<sup>128</sup> In implementing this policy, the Commission stated that this will, “reduce applicant and licensee

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<sup>122</sup> 47 C.F.R. §1.946.

<sup>123</sup> 47 C.F.R. § 73.3598.

<sup>124</sup> In most broadcasting services, applicants file separately for a construction permit and a license to operate a facility when construction is completed. *See, e.g.*, 47 C.F.R. §§ 73.3533, 73.3536.

<sup>125</sup> 47 C.F.R. § 73.3598.

<sup>126</sup> 47 C.F.R. § 90.167.

<sup>127</sup> 47 C.F.R. §§ 74.433(b), 74.537(b), and 74.633(b).

<sup>128</sup> *See ULS Report and Order* at 21052.

burdens, increase efficiency and better serve the public interest.”<sup>129</sup> In keeping with this policy and the stated benefits, we propose to amend the Part 74 rules for BAS to require that STA requests follow the procedures outlined in Section 1.931 of the Commission’s rules. We note that when an immediate STA is needed during times of emergency or natural disaster, requests can be made via telephone or facsimile and such requests can be granted orally. In these situations, STA recipients are required under the rules to follow up with a formal application as soon as feasibly possible.<sup>130</sup> We seek comment on this proposal.

#### 4. Classification of Filings as Major or Minor

79. In the *ULS Report and Order*, the Commission adopted rules to define certain actions as major changes for all wireless services. Additionally, the Commission adopted rules which define major changes for each service category. Minor changes are defined as all changes that are not major.<sup>131</sup> These designations when used in conjunction with other adopted rule amendments assist the Commission in streamlining the licensing process. As an example, Section 1.947(b) allows applicants to make minor modifications to their stations without prior Commission approval so long as they file an application form within thirty days of making such a modification.<sup>132</sup> ULS, programmed with logic that can automatically determine if an application for modification is major or minor, can then process these applications without the need for prior intervention by Commission staff. Applicants get their applications processed faster, and Commission staff is freed up to concentrate on other tasks.

80. Accordingly, we propose to amend the Part 74 rules in accordance with the procedures already adopted in the ULS proceeding for major and minor amendments and modifications. Specifically, amendments to aural and TV BAS applications and modifications to aural and TV BAS licenses would be evaluated based on the rules defining a major change in Sections 1.929(a) and (d) and remote pickup BAS applications would adhere to the rules set forth in Sections 1.929(a) and (c)(4). In many cases, the rules adopted in the *ULS Report and Order* provide more flexibility than the current Part 74 rules afford BAS licensees. For example, Sections 74.551 and 74.651 require aural and TV BAS licensees to file an application and obtain Commission approval for any change in which the location of the transmitting antenna changes, but Section 1.931(d)(1)(i) classifies changes in transmitting antenna location that are less than 5 seconds in latitude or longitude as minor.<sup>133</sup> The proposal described herein would implement rule changes that treat BAS applicants in a consistent manner with the treatment given other wireless services. We seek comment on all aspects of this proposal.

#### 5. Emission Designators

81. Section 74.462 of the Commission’s rules specifies authorized emissions for remote pickup BAS frequencies and frequency bands.<sup>134</sup> We note that this section contains emission designators that no longer conform to current International Telecommunication Union (ITU) specifications or to those

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<sup>129</sup> *See Id.*

<sup>130</sup> 47 C.F.R. § 1.931(b)(5).

<sup>131</sup> *See ULS Report and Order* at 21058.

<sup>132</sup> 47 C.F.R. § 1.947(b).

<sup>133</sup> 47 C.F.R. § 1.931(d)(1)(i).

<sup>134</sup> 47 C.F.R. § 74.462. Footnote 4 of this rule section states that the emission designators will be modified after necessary modifications are made to BAS application processing programs are completed.

contained in Subpart C of Part 2 of the Commission's rules.<sup>135</sup> For example, F3Y, which was the original emission designator for digitized voice modulation, is specified for most of the remote pickup BAS frequency bands. This emission designator should now be updated to F1E (frequency modulated single-channel digital telephony) or G1E (phase modulated single-channel digital telephony) emission. Applications being processed by ULS use emission designators in accordance with ITU specifications and Section 2.201 of the Commission's rules. Accordingly, we propose to update Section 74.462 to replace all outdated emission designators with emission designators that conform to ITU specifications and Part 2 rules. We seek comment on this proposal.

#### **D. AMPTP Petition**

82. AMPTP has petitioned the Commission to allow the use of wireless assist video devices (WAVDs) on a secondary, non-interference basis on unused TV channels in the upper VHF and the UHF bands. Video assist devices produce low resolution images that can be used by members of a production crew to make decisions with respect to content, lighting, and image framing.<sup>136</sup> Often, these video assist devices are connected via cable. However, cable is not always practical due to the distance from the camera to the video monitor or because the cameras need to be mobile to follow the action.<sup>137</sup> Also, when cables are used, a staff person must tend to them to ensure the safety of the actors and the crew.<sup>138</sup> Thus, AMPTP claims that using WAVDs would create efficiency on production sets and lower film and television production costs.<sup>139</sup>

#### **1. Requested Technical and Operational Parameters**

83. In its petition, AMPTP proposes that WAVDs be frequency selectable, operate at power levels not to exceed 2 watts, with antenna height limited to 10 meters above ground, and with a bandwidth of 6 megahertz. Additionally, they propose that the operating area be limited to 300 meters and that the actual range dictate the allowable power level. Finally, AMPTP proposes that a vacant TV channel be defined as one on which there is no primary user within 120 kilometers of the proposed site and that the Commission adopt minimum co-channel separation requirements similar to those specified for low power auxiliary stations.<sup>140</sup> With respect to the latter point, AMPTP notes that the Commission has allowed certain entities to operate other devices, such as wireless microphones, on unused TV channels.<sup>141</sup>

84. *Opposition to Petition.* Each of the commenters responding to AMPTP's petition opposed it either entirely or in part. Parties were most concerned about interference to devices already allocated to

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<sup>135</sup> See International Radio Regulations, Appendix S1 and 47 C.F.R. § 2.201.

<sup>136</sup> See *AMPTP Petition* at 2-3.

<sup>137</sup> *Id.* at 3.

<sup>138</sup> *Id.*

<sup>139</sup> *Id.* at 2.

<sup>140</sup> *Id.* at 4-6.

<sup>141</sup> Wireless microphones may operate with a maximum bandwidth of 200 kilohertz in the 174-216 MHz and 470-806 MHz bands provided that they adhere to certain separation distances from co-channel TV stations. These separation distances range from 97 kilometers to 129 kilometers depending on the frequency and location of operation. See 47 C.F.R. § 74.802.

use the TV spectrum or spectrum adjacent to TV spectrum. The lack of spectrum availability and the belief that these devices would proliferate to unauthorized uses also were cited by opponents.

85. The National Association of Broadcasters (NAB) claims that WAVDs would cause interference to existing public safety and wireless microphone use in the TV bands and would have the potential to interfere with TV broadcast signals.<sup>142</sup> SBE agrees and states that the proposed effective radiated power (ERP) for WAVDs is 6 to 13 dB higher than that used for FM wireless microphones and would be an interference threat to both NTSC and DTV reception.<sup>143</sup> Both NAB and SBE assert that because of the impending transition to DTV, new low power devices should not be allowed to operate in the TV spectrum.<sup>144</sup> SBE observes that the current occupancy of the TV bands, coupled with the migration of TV stations from channels 52-69 to other channels in the UHF-TV spectrum, renders the TV spectrum essentially full.<sup>145</sup> Commenters also point out that the AMPTP petition only proposes to protect TV signals and does not address protection of radio astronomy in the 608-614 MHz band, land mobile operations in the 470-512 MHz band,<sup>146</sup> or Part 74 users using this spectrum.<sup>147</sup> Phonic Ear, a manufacturer of auditory assistance devices, argues that the power and bandwidth requested by AMPTP is excessive and would cause harmful interference to adjacent channel auditory assistance devices in the 216-217 MHz and 167-170 MHz bands.<sup>148</sup> Several commenters note that because WAVD operation would be itinerant, it would be extremely difficult to track the source of interference if it occurs.<sup>149</sup> Further, commenters argue that experience with wireless microphones in the TV spectrum has shown that devices of this type end up being used by all sorts of people in places where they are not authorized by the rules.<sup>150</sup>

86. Phonic Ear suggests that, if the Commission go forward with the requested allocation, transmitter output power be limited to one watt which should be sufficient to cover a television or motion picture production set; the unit include a mandatory permanently attached antenna to prevent the use of high gain antennas or antennas at high elevation; and the use of VHF-TV channels 7 and 13 be excluded,

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<sup>142</sup> NAB comments at 1.

<sup>143</sup> SBE comments at 3.

<sup>144</sup> NAB comments at 2; SBE comments at 3.

<sup>145</sup> SBE comments at 2.

<sup>146</sup> TV channels 14-20 are used in certain cities by land mobile operations under Parts 22 and 90 of our rules. *See, e.g.*, 47 C.F.R. Part 22, Subpart E and Part 90, Subpart L.

<sup>147</sup> NAB comments at 2; SBE comments at 2-3. We note that 608-614 MHz corresponding to TV channel 37 is allocated for use by radio astronomy, *see* 47 C.F.R. § 2.106, and that the TV BAS rules authorize TV STL and TV relay stations to operate on UHF-TV channels, *see* 47 C.F.R. § 74.602(h).

<sup>148</sup> Phonic Ear comments at 1. Under the Commission's rules for the Low Power Radio Service (LPRS), auditory assistance devices may operate in the 216-217 MHz band, which is adjacent to TV channel 13. *See* 47 C.F.R. Part 95, Subpart G. Also, auditory assistance devices operate at 169-170 MHz under 47 C.F.R. § 90.265(b).

<sup>149</sup> SBE comments at 2; Phonic Ear comments at 2.

<sup>150</sup> As evidence of this problem, SBE cites an example of parking attendants talking to limousine drivers at the Academy Awards using wireless microphones operating on TV channels. This equipment had to be confiscated so that it would not interfere with the show. SBE comments at 2. *See also* NAB comments at 3; Phonic Ear comments at 2.

limiting operation in the high VHF-TV band to channels 8-12 to protect adjacent channel low power operations.<sup>151</sup>

87. *AMPTP's Modified Proposal.* In response to the opposition noted above, AMPTP in reply comments modified its proposals. Acknowledging the commenters' concerns with respect to the potential threat of interference to NTSC and DTV reception, AMPTP restates its request that signal propagation be limited to 300 meters to minimize the potential of harmful interference. In addition, they suggest that ERP be reduced to one watt maximum from the initially proposed two watt limit,<sup>152</sup> in accordance with the comments of Phonic Ear.

88. Additionally, AMPTP agrees with the suggestion of NAB and SBE that notification to local broadcast coordinating groups should occur prior to WAVDs being used on a specific channel in any given area. AMPTP suggests that the Commission adopt notification procedures similar to those adopted in WT Docket No. 99-168 to protect public safety licensees in the 764-776 MHz and 794-806 MHz bands from interference in adjacent bands.<sup>153</sup> AMPTP suggests that a notification include the location and anticipated shooting schedule so that the local coordinator can identify specific technical issues with respect to interference.<sup>154</sup> A notification procedure, AMPTP argues, also should alleviate commenters concerns regarding the lack of available spectrum.<sup>155</sup> Finally, with respect to unauthorized use, AMPTP asserts that most unauthorized use of wireless microphones occurs at live events. To alleviate these concerns as they relate to WAVDs, they request that the Commission limit WAVDs to a production location or facility and exclude them from use at live events and for news gathering.<sup>156</sup>

89. To address concerns regarding the possibility of interference to public safety systems, AMPTP requests that any channel that has been allocated for land mobile use in the 470-512 MHz band be excluded from WAVD usage.<sup>157</sup> AMPTP also suggests that the Commission require a 6 megahertz separation between any public safety channel and any channel selected for WAVD use.<sup>158</sup>

## 2. Proposals

90. We believe that the comments provide a sufficient basis for proposing rules to allow motion picture and TV producers to use WAVDs under certain conditions designed to minimize the interference risk to users of the band. This would be an appropriate expansion of the capabilities they are

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<sup>151</sup> Phonic Ear comments at 3.

<sup>152</sup> AMPTP reply comments at 2.

<sup>153</sup> *Id.* In that proceeding, the Commission adopted rules that require Guard Band Managers to notify Commission-recognized public safety frequency coordinators in the 700 MHz public safety band and adjacent-area Guard Band Managers of the technical parameters, including frequency, type of emission, ERP, and location, of any site constructed in the Guard Band Managers service area. *See* In the Matter of Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules, WT Docket No. 99-168, *Second Report and Order*, 15 FCC Rcd. 5299, 5315-16 (2000).

<sup>154</sup> AMPTP reply comments at 3.

<sup>155</sup> *Id.* at 4.

<sup>156</sup> *Id.* at 5.

<sup>157</sup> *Id.* at 3.

<sup>158</sup> *Id.* at 4.

currently provided in Part 74 of our rules, and provides them with the same capabilities as other Part 74 licensees who can so operate under other existing rule sections.<sup>159</sup> However, we are concerned that expanding the use of WAVDs not increase the interference risk to current or future authorized spectrum users. As noted above, several commenters stated that the use of WAVDs would proliferate and be used by unauthorized users in a similar fashion to our experience with wireless microphones.<sup>160</sup> We believe that there are significant differences between the cost of wireless microphones and WAVDs that will limit the use of these devices. Further, we do not believe that WAVDs are widely available. We request specific comments regarding the costs of WAVDs and whether these costs will limit their use. We also seek comment on the availability of these devices. Are they widely available to the general public? Additionally, we request comments on how the FCC can restrict the use of WAVDs by authorized users. To enable such use, our proposal includes appropriate regulations such as limiting WAVDs to low power, establishing parameters for defining available channels, imposing a licensing and coordination requirement on users, and restricting eligibility. Moreover, we note that WAVD equipment currently exists and is used under the current rules by broadcasters. Our proposal, therefore, will expand the pool of eligible operators of these devices for the same uses they are used for today.

91. Further, it appears that WAVDs cannot be easily accommodated in or are not suitable to other bands. In addition, we believe that these devices would be beneficial in keeping film and TV production costs down and allowing needed mobility and increased safety during filming. Also, since WAVDs would be used on unoccupied spectrum where it is available, such use promotes spectrum efficiency. We also note that the Commission has allowed other types of users to use TV spectrum where available for their specific needs without compromising TV reception.<sup>161</sup> The rules we propose should adequately protect TV reception while providing a viable service.

92. Therefore, we propose to amend the Commission's rules in Part 74 to authorize motion picture and TV producers as well as TV BAS license holders to use VHF-TV and UHF-TV spectrum for WAVDs under conditions as set forth below. We propose to add the rules for these devices in a new Section 74.870 in Part 74, Subpart H, Low Power Auxiliary Stations. WAVDs would be subject to complying with all rules in Subpart H, except where such requirements differ from those described below.

#### **i. Eligibility, Status, and Licensing**

93. We propose that motion picture and television producers, as defined in Section 74.801, be eligible to operate WAVDs.<sup>162</sup> These entities are currently eligible to hold Low Power Auxiliary Station licenses.<sup>163</sup> Our proposal, therefore, would extend to all entities eligible to hold a Part 74 license, the opportunity to use WAVDs. The production industry and the broadcast industry rely on each other – one to produce content and the other to distribute content – and have a vested interest to operate in a manner that is mutually agreeable. We also propose to limit the use of WAVDs to production facilities or locations for use in producing material being filmed or taped for later showing on television broadcast stations. Thus, WAVDs could not be used for ENG operations or to assist with the production of live events. We

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<sup>159</sup> See, e.g., 47 C.F.R. § 74.602(h).

<sup>160</sup> See para. 85, *supra*.

<sup>161</sup> See, e.g., para. 83, *supra*.

<sup>162</sup> 47 C.F.R. § 74.801. These definitions refer to persons or organizations engaged in the production of motion pictures or television programs.

<sup>163</sup> 47 C.F.R. §§ 74.832(a)(4) and (5).

note that broadcast entities have access to BAS spectrum at 2, 7, and 13 GHz to accomplish these types of communications. Additionally, we propose that WAVDs be excluded from operating under the rules for short-term operation used by other Part 74 licensees.<sup>164</sup> These restrictions are intended to minimize the possibility for interference similar to what Part 73 and Part 74 licensees have experienced from other co-channel operations in the vicinity of their operations, such as TV BAS and wireless microphones.

94. To further reduce the interference potential of these devices, we propose that WAVDs be authorized on a non-interference basis. Thus, WAVDs could not cause harmful interference to any existing or future allocated services operating in accordance with the Table of Allocations in Part 2 of the Commission's rules,<sup>165</sup> and WAVD users would be responsible for correcting any instance of harmful interference using any means necessary, up to and including shutting down the transmitter. We do not, however, propose to change the existing allocation of this spectrum for the broadcasting service (and land mobile in the 470-512 MHz band).<sup>166</sup> This proposal is consistent with the treatment of wireless microphones operating on the same spectrum.

95. Consistent with Section 301 of the Communications Act of 1934, as amended, we propose to require that WAVD users obtain a license from the Commission prior to operation.<sup>167</sup> Specifically, we propose that applicants use FCC Form 601 to apply for a WAVD license. As with wireless microphones, applicants would file FCC Form 601 Main Form and Schedule H - Technical Data Schedule for the Private Land Mobile and Land Mobile Broadcast Auxiliary Radio Services (Parts 90 and 74). We propose that, similar to other BAS licensees, the license term for a WAVD license be concurrent with the normal licensing period for TV broadcast stations located in the same area of operation.<sup>168</sup> A WAVD licensee would not be geographically limited, subject only to the channel separation rules we would adopt. These licenses are normally issued for a period of eight years with the expiration date determined by the area of the country in which the station operates.<sup>169</sup> For applicants that propose to operate at various sites either regionally or nationally, the license period would be determined by the location of the applicant as indicated on FCC Form 601.<sup>170</sup> Further, we propose that a WAVD licensee be authorized to use any authorized frequency<sup>171</sup> and to operate on as many frequencies simultaneously as necessary, subject to the limitations and the notification requirements described below.<sup>172</sup> Finally, because of the limited eligibility we propose for WAVDs and the nature of their use, we propose that WAVD licenses be non-assignable and

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<sup>164</sup> See para. 50, *supra*. The short-term operation rule allows eligible entities to operate using BAS frequencies for up to 720 hours per year without an authorization from the Commission. See 47 C.F.R. § 74.24.

<sup>165</sup> 47 C.F.R. § 2.106.

<sup>166</sup> See proposed rule changes to Section 2.106, including revised language for Footnote NG115 in Appendix C.

<sup>167</sup> 47 U.S.C. § 301.

<sup>168</sup> 47 C.F.R. § 74.15.

<sup>169</sup> 47 C.F.R. § 73.1020.

<sup>170</sup> For BAS licensees, the location used for determining license period is the State of primary operation if there is no associated parent station or, if an associated parent station exists, the State of the principal community served by that station.

<sup>171</sup> See paras. 96-99, *infra*.

<sup>172</sup> See para. 107, *infra*.

non-transferable. We request comment on all aspects of these proposals concerning eligibility, status and licensing.

## ii. Authorized Frequencies

96. We propose to allow WAVDs to operate on unused television broadcast frequencies, subject to certain conditions. Specifically, we propose that WAVDs be authorized to use the 180-210 MHz band (corresponding to VHF-TV channels 8-12) and the 470-608 MHz and 614-698 MHz bands (corresponding to UHF-TV channels 14-36 and 38-51). We believe that WAVDs can effectively operate on this spectrum on a non-interference basis.

97. We are not proposing to allow WAVDs in the 174-180 MHz and 210-216 MHz bands (TV channels 7 and 13) because these bands are adjacent to bands which accommodate the Low Power Radio Service (LPRS), which supports auditory assistance devices and health care aids that operate pursuant to Section 90.265 of our rules.<sup>173</sup> Because there are a large number of channels available, these restrictions should not impair the utility of this new service. We note that the nomadic nature of LPRS and WAVD operations could make it difficult to prevent interference between these services. In addition, by not allowing WAVDs to operate on these channels, we also would protect from interference the Navy's SPASUR radar system, which operates in the 216.88-217.08 MHz band.<sup>174</sup>

98. We also find merit in the comments that assert that existing and future land mobile operations, including public safety communication systems, must be protected from potential interference from WAVDs. In accordance with AMPTP's reply comments, we propose to specifically exclude WAVDs from using land mobile radio channels, in the 470-512 MHz band (TV channels 14-20) in cities where such use is authorized by the rules.<sup>175</sup> Additionally, we propose to restrict the use of WAVDs on channels adjacent to public safety channels in those cities.<sup>176</sup> In the 470-512 MHz private land mobile bands, all channels are authorized from a common general access pool of frequencies, so a public safety entity can potentially use any of the allocated TV channels. Therefore, all TV channels listed in Section 90.303 of our rules will be excluded from WAVD use at the locations listed in that rule.<sup>177</sup> In addition, we propose that 482-488 MHz

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<sup>173</sup> 47 C.F.R. § 90.265.

<sup>174</sup> The SPASUR radar system is located in the southern United States and consists of three high power transmitters and six receiver locations. These operations are protected indefinitely for non-Government FS and mobile services by footnote US229. *See* 47 C.F.R. § 2.106 Note US229. Additionally, we note that pursuant to the Balanced Budget Act of 1997, the entire 216-220 MHz band was designated by NTIA for transfer to non-Government use and subject to licensing by competitive bidding. *See* Pub. L. 105-33, 111 Stat. 251 (1997). The use of the 216-220 MHz band is being examined in ET Docket No. 00-221. *See* In the Matter of Reallocation of the 216-220 MHz, 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, 1432-1435 MHz, 1670-1675 MHz, and 2385-2390 MHz Government Transfer Bands, ET Docket No. 00-221, *Notice of Proposed Rule Making*, rel. Nov. 20, 2000.

<sup>175</sup> 47 C.F.R. Part 90, Subpart L. *See also*, 47 C.F.R. §§ 22.591, 22.621, 22.651, and 22.1007.

<sup>176</sup> *See* para. 104, *infra*. for proposals regarding the distance that WAVDs must maintain from cities in which land mobile radio operations are present.

<sup>177</sup> 47 C.F.R. § 90.303. Although Detroit, MI and Cleveland, OH are listed in Section 90.303, that rule specifies that the allocated frequencies are not available until further Order from the Commission. As in those rules, we propose to exclude WAVD operation in those cities. We will, however, list these cities in the rules and use a footnote to show the exclusion. Additionally, such footnote will indicate that WAVDs may not operate in those cities until the Commission, through an Order, states otherwise.

(TV channel 16), which New York City public safety users are using under a waiver, also be excluded from WAVD usage in that area.<sup>178</sup> Another exclusion we propose is 476-494 MHz (TV channels 15-17) in the Gulf of Mexico, which is used by the Private Land Mobile Radio Service<sup>179</sup> and for communication links in the Offshore Radiotelephone Service (ORS) under Part 22 of our rules.<sup>180</sup> Finally, we propose to exclude 488-494 MHz (TV channel 17) in Hawaii, which is used for common carrier control and repeater stations for point-to-point inter-island communications.<sup>181</sup> The frequencies on which we propose to excluded WAVD use are summarized in the table below. We note that our proposals would allow WAVDs to operate on channels listed in the table when they are sufficiently removed from the listed cities.<sup>182</sup>

Area	Excluded Frequencies (MHz)	Excluded Channels
Boston, MA .....	470-494	14-17
Chicago, IL .....	470-488	14-16
Cleveland, OH (WAVDs may operate until further order from the Commission)	470-494	14-17
Dallas/Fort Worth, TX .....	476-494	15-17
Detroit, MI (WAVDs may operate until further order from the Commission)	470-494	14-17
Hawaii	488-494	17
Houston, TX .....	482-500	16-18
Los Angeles, CA .....	470-494	14-17
	500-518	19-21
Miami, FL .....	470-482	14-15
New York/ N.E. New Jersey .....	470-494	14-17
Philadelphia, PA .....	494-518	18-21
Pittsburgh, PA .....	470-482	14-15
	488-506	17-19
San Francisco/Oakland, CA .....	476-500	15-18
Washington D.C./MD/VA .....	482-506	16-19

99. We also propose that WAVDs be excluded on a nationwide basis from operating in the 608-614 MHz band (TV channel 37) to protect radio astronomy operations. This proposal is in accordance with the Table of Allocations in Part 2 of the Commission's rules which specifies that no stations will be authorized to transmit in that band.<sup>183</sup> We also note that the Commission has recently

<sup>178</sup> See Note 90, *supra*. See para. 104, *infra*. for proposals regarding the distance that WAVDs must maintain from cities in which land mobile radio operations are present.

<sup>179</sup> 47 C.F.R. § 90.315.

<sup>180</sup> 47 C.F.R. Part 22, Subpart I.

<sup>181</sup> 47 C.F.R. §§ 2.106, Note NG127 and 22.603.

<sup>182</sup> See para. 104, *infra*. for proposals regarding the distance that WAVDs must maintain from cities in which land mobile radio operations are present.

<sup>183</sup> 47 C.F.R. § 2.106, Note US246.

authorized the use of medical telemetry in the 608-614 MHz band<sup>184</sup> and this exclusion will protect those operations. Finally, we propose that WAVDs not be allowed to use channels above 698 MHz (channel 51) in the UHF-TV band. This proposal recognizes that part of the TV band above channel 51 has been and more will be reallocated to uses other than broadcasting.<sup>185</sup> We seek comment on all aspects of these proposals on authorized frequencies.

### iii. Technical and Operational Requirements

100. In addressing technical and operational requirements for WAVDs, our proposals are designed to protect other users of the TV bands. As a starting point, we note AMPTP's statement that the transmission distance for a WAVD only needs to be 300 meters and that signal propagation should be limited to this distance. Thus, AMPTP asks that we allow WAVDs to transmit with a maximum ERP of one watt and with antennas up to ten meters above ground.<sup>186</sup> They further propose that the amount of power be inversely related to antenna height (*i.e.*, the higher the antenna, the lower the power). We believe that one watt ERP is excessive considering the limited range of these devices and instead propose to limit the ERP of WAVDs to 250 milliwatts. This should provide adequate power for reliable transmissions up to 300 meters. Additionally, the lower ERP limit will provide more protection to other users of the TV band. To further minimize the potential for harmful interference by preventing the ability of users to use high gain antennas, we also propose to require that the transmitting devices contain a permanently attached antenna. We also seek comment on whether an alternative limit on power levels may be more appropriate. We seek answers to the following:

- What signal strength is necessary at the WAVD receiver to ensure reliable use?
- Is 250 milliwatts ERP adequate to ensure this signal strength at 300 meters or is a different ERP more appropriate?
- What assumptions are being used in making this calculation?
- How is the signal strength affected by antenna height?
- Should the rules specify a relationship between antenna height and power?

101. AMPTP asks that we allow WAVDs to operate with a bandwidth up to 6 megahertz to provide sufficient operating flexibility.<sup>187</sup> Because they state that these devices will transmit audio, video, and time information either in analog or digital format, this appears to be a reasonable request. Further, we believe that producers can benefit from low equipment costs by taking advantage of economies of scale by using existing NTSC or newer DTV equipment. Accordingly, we propose to allow WAVDs to operate with a bandwidth up to 6 MHz, limited to transmitting on a single TV channel (*i.e.*, WAVD transmissions may not overlap the TV channel edge). To ensure compliance with this requirement, we propose that WAVDs be subject to the same emission limitations that we are proposing for other TV BAS transmitters, discussed above.<sup>188</sup>

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<sup>184</sup> See Amendment of Parts 2 and 95 of the Commission's Rules to Create a Wireless Medical Telemetry Service, ET Docket No. 99-255, *Report and Order*, 15 FCC Rcd. 11,206 (2000).

<sup>185</sup> See para. 59, *supra*.

<sup>186</sup> AMPTP reply comments at 2; AMPTP Petition at 5.

<sup>187</sup> AMPTP Petition at 5.

<sup>188</sup> See paras. 25-30, *supra* for our proposals regarding the TV BAS emission mask.

102. We also propose that all WAVD transmitters be authorized for use under the certification procedures of Part 2 of our rules.<sup>189</sup> This third-party review process will insure that these transmitters are designed to the parameters ultimately adopted.<sup>190</sup> We seek comment on whether we should authorize these low power devices under declaration of conformity (DOC) procedures.<sup>191</sup> The DOC process would allow manufacturers to declare compliance with our requirements, provided the equipment is tested for compliance using an accredited laboratory and is properly labeled.<sup>192</sup> Because these are new devices, we do not believe that use of verification procedures, in which no independent third-party testing is required, is appropriate.

103. AMPTP proposed that WAVDs be authorized to operate with a separation distance of at least 120 kilometers from an authorized user of the TV band to avoid interference.<sup>193</sup> This distance corresponds to Grade B contour of a TV station operating in the upper VHF-TV band with maximum power.<sup>194</sup> We note that wireless microphones, which may use up to 50 milliwatts and 250 milliwatts output power in the VHF-TV and UHF-TV bands, respectively,<sup>195</sup> maintain distances of up to 129 kilometers from TV broadcasting stations,<sup>196</sup> a distance slightly larger than the Grade B contour. Although the ERP we are proposing for WAVDs is higher than that authorized for wireless microphones operating in the upper VHF TV band,<sup>197</sup> we also have proposed to allow WAVDs to operate with a bandwidth of 6 megahertz compared to the maximum 200 kilohertz authorized for wireless microphones.<sup>198</sup> Therefore, the energy radiated from a WAVD will be spread over a much larger bandwidth than that used for wireless microphones resulting in less signal energy in any given portion of the bandwidth. In fact, there is a difference of 14.8 dB between the two bandwidths. This difference coupled with the ability of wireless microphones to avoid sensitive portions of the TV signal due to their smaller bandwidth<sup>199</sup> should offset the difference in power levels between the two devices.<sup>200</sup> Thus, similar to the rules for wireless microphones, we propose that WAVDs maintain 129 kilometers separation from TV broadcasting stations, including low

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<sup>189</sup> 47 C.F.R. Part 2, Subpart J.

<sup>190</sup> 47 C.F.R. § 2.952.

<sup>191</sup> *Id.*

<sup>192</sup> 47 C.F.R. §§ 2.1073, 2.1074, and 2.1077

<sup>193</sup> AMPTP Petition at 4.

<sup>194</sup> 47 C.F.R. § 73.683.

<sup>195</sup> 47 C.F.R. § 74.861(e)(1).

<sup>196</sup> 47 C.F.R. § 74.802(b). *See also*, Note 141 *supra*.

<sup>197</sup> The 250 milliwatts proposed for WAVDs is 7 dB more than the 50 milliwatts allowed for wireless microphones in the VHF-TV band.

<sup>198</sup> 47 C.F.R. § 74.861(e)(5).

<sup>199</sup> An NTSC television signal contains a picture carrier at 1.25 MHz from the lower band edge, a chrominance subcarrier at 3.579545 MHz above the picture carrier, and a sound center frequency 0.25 MHz from the upper band edge. Because wireless microphones have only a 200 kHz bandwidth, they can tune to operating frequencies that avoid overlapping their bandwidth with these sensitive portions of the TV signal. A WAVD, which operates with 6 MHz bandwidth, will not be able to avoid transmitting over these portions of the TV signal.

<sup>200</sup> *See* Note 197, *supra*.

power TV stations and translator stations operating on the same frequency. To protect TV stations, we believe that this distance is more appropriate than the 120 kilometer distance proposed by AMPTP because it requires that these devices operate completely outside the Grade B contour, whereas the 120 kilometer distance would allow WAVDs to be located at the edge of the Grade B contour with the potential for generating signals into it. We seek comment on whether this distance is appropriate to protect both NTSC and DTV signals from harmful interference.<sup>201</sup> We will not require a minimum separation distance from WAVDs to other TV BAS operations on the TV channels. We believe that the directional nature of the TV BAS operations, coupled with our proposals for notification prior to operation, described below, are adequate to protect TV BAS operations.<sup>202</sup>

104. To protect land mobile stations operating in the 470-512 MHz band, we have proposed above to require WAVDs to maintain at least 6 MHz frequency separation when operating in the same area.<sup>203</sup> To further define this protection criteria, we will define the size of the area in which WAVD co-channel operation will not be allowed.<sup>204</sup> For operation in designated cities, land mobile base stations can be located within 80 kilometers of the coordinates listed in Sections 22.657 and 90.303, respectively,<sup>205</sup> and mobile stations must limit operations to within 48 kilometers of the base station.<sup>206</sup> Thus, any protection criteria must account for mobile stations operating up to 128 kilometers away from the listed coordinates. Therefore, we propose to require WAVDs to maintain a separation of at least 200 kilometers from the coordinates listed in Section 90.303 when operating co-channel (*i.e.*, at least 52 kilometers away from the nearest mobile station). We note that this proposed separation distance between WAVDs and land mobile stations is less than that proposed for TV stations. However, we believe that land mobile receivers do not require the same level of protection as television receivers because land mobile receivers are more robust than television receivers (*i.e.*, they operate with up to 25 kilohertz bandwidths as opposed to 6 megahertz for TV and therefore allow less energy to pass through the receiver).

105. For operations by the ORS and PLMRS in the Gulf of Mexico in the 476-494 MHz band, the Commission's rules stipulate various zones in which each allocated TV channel can be used.<sup>207</sup> ORS and PLMRS stations are mostly used for point-to-point or point-to-multipoint operations, which do not require the same level of protection as mobile services due to the directional nature of fixed transmissions. Communications with mobile stations in the Gulf of Mexico are generally limited to stations within the gulf (*e.g.*, stations on boats or aircraft) or to stations on the shore. Therefore, we propose to exclude WAVDs from operating within 52 km of the Gulf of Mexico in the 476-494 MHz band. This would provide the same level of protection as we proposed to provide to mobile stations operating within U.S. cities. We note that our proposal requires this separation distance on all channels authorized for use in the Gulf, even though each channel is only used in a specific zone. We believe that the simplicity of not designating the

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<sup>201</sup> We recognize that the separation distance requirement for wireless microphones on which we are basing the WAVD proposal was developed to avoid causing interference to NTSC signals.

<sup>202</sup> See para. 107, *infra*.

<sup>203</sup> See para. 97, *supra*.

<sup>204</sup> In this context, we define co-channel to encompass any overlap between the bandwidth of a WAVD and a land mobile station. For example, a WAVD operating in the 470-476 MHz band (TV channel 14) is considered co-channel with any land mobile station operating on any frequency within that same band.

<sup>205</sup> 47 C.F.R. §§ 22.657, 90.303.

<sup>206</sup> 47 C.F.R. §§ 22.657, 90.305.

<sup>207</sup> 47 C.F.R. §§ 22.1001, 90.315.

specific channels that cannot be used in each zone outweighs allowing the use of a few more channels in this limited area, given that there are still plenty of other channels available for WAVD operations in this area. We also propose to exclude WAVDs from operating within 52 km of Hawaii in the 488-494 MHz band. We seek comment on whether these proposals are sufficient to protect land mobile stations or conversely whether they are overly restrictive such that they inhibit the use of WAVDs. Commenters who believe that our proposals are overly restrictive should address the level of protection necessary to protect land mobile operations.

106. The proposals set forth above are designed to maximize the number of channels and areas in which WAVDs can operate while at the same time protecting broadcasters and land mobile users from harmful interference. Subject to the proposed limitations, WAVDs would have use of VHF-TV channels 8-12 and UHF-TV channels 22-36 and 38-51 nationwide. For UHF-TV channels 14-21 our proposals would prohibit WAVD use on certain channels in and around a limited number of cities, but allow their use across the rest of the United States. As an alternative, to protect land mobile users, we could prohibit WAVDs from operating on UHF-TV channels 14-21 altogether. Such an option would limit the number of available operating channels for WAVDs at most locations nationwide. However, it would also create a simpler regulatory framework. We seek comment on this option. Specifically, what is the effect of prohibiting the use of WAVDs on UHF-TV channels 14-21 on their ability to find vacant channels on which to operate in various areas?

107. As suggested by AMPTP, we propose that prior to operating at a specific location, a WAVD licensee must notify the local broadcast coordinator in the area where they wish to operate.<sup>208</sup> In this regard, we note that SBE maintains a list of local coordinators on their web site at <http://www.sbe.org>. Alternatively, in areas where there may not be a local coordinator, we propose that a WAVD licensee must notify any TV station within 161 kilometers (100 miles) operating on channels adjacent to the WAVD. We believe that notification rather than full coordination is sufficient for these devices due to their low ERP and limited operating range. We are inclined to agree with AMPTP that the requirements adopted in WT Docket No. 99-168 can be used as the basis for our proposal.<sup>209</sup> We propose slight modifications to the procedures adopted in that proceeding to reflect differences in the services (*i.e.*, WAVDs need notification for temporary use at specific locations with the notification being accomplished by a local independent coordinator, as opposed to land mobile coordination which is usually done for long-term or permanent use by a national level coordinator). Specifically, we propose that each notification include the proposed frequency or frequencies, location, antenna height, type of emission, effective radiated power, intended dates of operation, and licensee contact information. Because we have proposed to limit use of WAVDs to scheduled productions, we believe that it is reasonable to require that these notifications be made at least ten business days prior to the date that WAVD use is required. We believe that this provides adequate time for the coordinator<sup>210</sup> to respond to the applicant. We further propose that failure of a coordinator to respond to such a notification will be interpreted as an approval. Applicants should be aware that we are proposing that coordinators have the full ten days to respond to a coordination request and should plan to initiate notification as far in advance as possible to avoid production delays. We believe that our proposal strikes a reasonable balance between the requirements of producers and the needs of the coordinator to study the notification and provide comments as necessary. We propose that the coordinator's recommendation regarding the specific operation of a particular WAVD – whether it can operate as proposed or with suggested modifications to operating parameters – is to be followed by the WAVD

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<sup>208</sup> AMPTP reply comments at 2.

<sup>209</sup> See Note 153, *supra*.

<sup>210</sup> In this context and throughout this section, the term coordinator includes broadcasters directly notified by an applicant in areas where there is not a local coordinator.

licensee. Of course, licensees may appeal to the Commission if they disagree with a coordinator. We propose that in these instances, the licensee bear the burden of proof in overturning the coordinator's recommendation. The requirements proposed herein would ensure that WAVDs operate in a manner that will minimize the potential for harmful interference. We decline to propose specific technical guidelines in order to provide coordinators a large degree of latitude to tailor requirements to specific local operating environments. Our experience has been that coordinators have performed their duties with a high degree of professionalism and integrity and we believe that the coordinators will continue to act in this manner. We seek comment on our notification proposals. Specifically, do we need to require that additional information be provided? Is the ten-day period for a coordinator to respond to a request enough time or too much time? Should specific technical criteria, such as C/I ratios, be adopted?

108. Additionally, we propose that WAVD licensees be subject to the station identification requirements of Section 74.882,<sup>211</sup> which require that stations transmit station identification at the beginning and end of each period of operation at a single location.<sup>212</sup> As with wireless microphones, we believe that even with the low power levels that WAVDs will use, such a requirement is necessary so that if any interference is experienced, it can readily be traced back to its source and can be mitigated. We seek comment on these additional aspects of proposed technical operational requirements for WAVDs.

109. Finally, to ensure that users understand the proper operation and requirements of WAVDs, we propose that manufacturers include certain information in the product literature that is included with the device. Section 302 of the Communications Act provides the Commission with authority to make reasonable regulations governing the interference potential of devices which emit radio frequency energy.<sup>213</sup> Under this authority, for example, devices authorized under Part 15 of our rules are required to display information regarding interference, or have that information included in the product manual.<sup>214</sup> For WAVDs, we propose that the product literature supplied to the user include the statements explaining that an FCC license is needed prior to operating,<sup>215</sup> explaining that operation may not cause interference to TV reception,<sup>216</sup> and identifying the intended uses of the device.<sup>217</sup> In order to provide flexibility to manufacturers, we do not propose specific language or placement of this information, so long as it is included with the device. We believe that providing this information with the product literature will minimize the potential for these devices to proliferate to unauthorized users and cause interference to TV. We seek comment on this proposal. Commenters should address whether the required information is sufficient or if more or less information should be required.

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<sup>211</sup> 47 C.F.R. § 74.882. This rule currently includes only those transmitters used for voice transmissions.

<sup>212</sup> *Id.* A period of operation is defined may consist of a continuous transmission or intermittent transmissions pertaining to a single event.

<sup>213</sup> *See* 47 U.S.C. § 302.

<sup>214</sup> 47 C.F.R. § 15.19.

<sup>215</sup> For example, "Not authorized to operate without an FCC license."

<sup>216</sup> For example, "Operation is subject to the condition that a local frequency coordinator be notified prior to use and that the device does not cause interference to the reception of TV signals."

<sup>217</sup> For example, "Operation is intended only for the production of TV program material and motion pictures."

#### IV. CONCLUSION

110. By the proposals advanced above, we seek to update the Broadcast Auxiliary Service rules in Part 74 of the Commission's rules. Additionally, we have advanced proposals designed to provide compatibility between Broadcast Auxiliary Services, the Cable Television Relay Service, and Fixed Service Microwave systems operating on shared spectrum. Licensees and equipment manufacturers will gain greater technical flexibility and more efficiency in the licensing process by the proposals we advance here. In addition, our proposals will assist the broadcast industry with the transition to digital TV. Additionally, we propose to allow Wireless Assist Video Devices to operate on certain VHF and UHF TV spectrum, thereby increasing spectrum efficiency and promoting equipment, which will serve increase safety at production sites as well as lower film and television production costs.

#### V. PROCEDURAL MATTERS

##### A. Regulatory Flexibility Act

111. As required the Regulatory Flexibility Act,<sup>218</sup> the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the possible impact on small entities of the proposals suggested in this document. The IRFA is set forth in Appendix B. Written public comments are requested on the IRFA. These comments must be filed in accordance with the same filing deadlines as comments filed in this *Notice of Proposed Rule Making* ("Notice"), and must have a separate and distinct heading designating them as responses to the IRFA. The Commission's Consumer Information Bureau, Reference Information Center, shall send a copy of this *Notice*, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration in accordance with the Regulatory Flexibility Act.<sup>219</sup>

##### B. *Ex Parte* Rules – Permit-But-Disclose Proceeding

112. This is a permit-but-disclose notice and comment rulemaking proceeding. *Ex parte* presentations are permitted, except during the Sunshine Agenda period, provided they are disclosed as provided in the Commission's rules.<sup>220</sup>

##### C. Paperwork Reduction Analysis

113. This *Notice of Proposed Rule Making* contains either a proposed or modified information collection. As part of our continuing effort to reduce paperwork burdens, we invite the general public and the Office of Management and Budget (OMB) to take this opportunity to comment on the information collections contained in this *Notice of Proposed Rule Making*, as required by the Paperwork Reduction Act of 1995.<sup>221</sup> Public and agency comments are due at the same time as other comments on this *Notice of Proposed Rule Making*; OMB comments are due 60 days from date of publication of this *Notice of Proposed Rule Making* in the Federal Register. Comments should address:

- Whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility;

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<sup>218</sup> See 5 U.S.C. § 603.

<sup>219</sup> See 5 U.S.C. § 603(a).

<sup>220</sup> See, generally, 47 C.F.R. §§ 1.1202, 1.1203, and 1.1206.

<sup>221</sup> See Pub. L. No. 104-13.

- The accuracy of the Commission's burden estimates;
- Ways to enhance the quality, utility, and clarity of the information collected; and
- Ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology.

114. Written comments by the public on the proposed and/or modified information collections are due **[30 days after publication in the Federal Register]**. Written comments must be submitted by the Office of Management and Budget (OMB) on the proposed and/or modified information collections on or before **[60 days after publication in the Federal Register]**. In addition to filing comments with the Secretary, a copy of any comments on the information collections contained herein should be submitted to Judy Boley, Federal Communications Commission, 445 12th Street, SW, Washington, D.C. 20554, or via the Internet to <jboley@fcc.gov>. Furthermore, a copy of any such comments should be submitted to Virginia Huth, OMB Desk Officer, 10236 New Executive Office Building, 725 Seventeenth Street, N.W., Washington, D.C. 20503, or via the Internet to <vhuth@omb.eop.gov>.

#### D. Comment Dates

115. Pursuant to Sections 1.415 and 1.419 of the Commission's rules, interested parties may file comments on or before **[30 days after publication in the Federal Register]** and reply comments on or before **[60 days after publication in the Federal Register]**.<sup>222</sup> Comments may be filed using the Commission's Electronic Comment Filing System (ECFS), or by filing paper copies.<sup>223</sup>

116. Comments filed through the ECFS can be sent as an electronic file via the Internet to <<http://www.fcc.gov/e-file/ecfs.html>>. Generally, only one copy of an electronic submission must be filed. If multiple docket or rule making numbers appear in the caption of this proceeding, however, commenters must transmit one electronic copy of the comments to each docket or rulemaking number referenced in the caption. In completing the transmittal screen, commenters should include their full name, Postal Service mailing address, and the applicable docket or rule making number. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions for e-mail comments, commenters should send an e-mail to <ecfs@fcc.gov>, and should include the following words in the body of the message, "get form <your e-mail address>." A sample form and directions will be sent in reply. Or you may obtain a copy of the ASCII Electronic transmittal Form (FORM-ET) at <http://www.fcc.gov/efile/email.html>.

117. Parties who choose to file by paper must file an original and four copies of each filing. If more than one docket or rule making number appear in the caption of this proceeding, commenters must submit two additional copies for each additional docket or rulemaking number. All filings must be sent to the Commission's Secretary, Magalie Roman Salas, Office of the Secretary, Federal Communications Commission, 445 Twelfth Street, S.W., TW-A325, Washington, D.C. 20554. One copy of all filings should also be sent to the Commission's duplicating contractor, International Transcription Services, Inc., 1231 Twentieth Street, N.W., Washington, D.C. 20036, (202) 857-3800, FAX (202) 857-3805.

118. Parties who choose to file by paper should also submit their comments on diskette. Such a submission should be on a 3.5-inch diskette formatted in an IBM compatible format using Microsoft Word or compatible software. The diskette should be accompanied by a cover letter and should be submitted in

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<sup>222</sup> 47 C.F.R. §§ 1.415, 1.419.

<sup>223</sup> See Electronic Filing of Documents in Rulemaking Proceedings, GC Docket No. 97-113, *Report and Order*, 13 FCC Rcd 11322 (1998).

“read only” mode . The diskette should be clearly labeled with the commenter’s name, proceeding (including the lead docket number, type of pleading (comment or reply comment), date of submission, and the name of the electronic file on the diskette. The label should also include the following phrase “Disk Copy – Not an Original.” Each diskette should contain only one party’s pleading, preferably in a single electronic file. In addition, commenters must send diskette copies to the Commission’s copy contractor, International Transcription Service, Inc., 1231 20<sup>th</sup> Street, NW., Washington, D.C. 20037.

119. Documents filed in this proceeding will be available for public inspection and copying during regular business hours in the FCC Reference Information Center, Portals II, 445 Twelfth Street, S.W., Room CY-A257, Washington, D.C. 20554 and will be placed on the Commission’s internet site. Copies of comments and reply comments are also available through the Commission’s duplicating contractor, International Transcription Services, Inc.

#### **E. Alternative Formats**

120. Alternative formats (computer diskette, large print, audio cassette, and Braille) are available to persons with disabilities by contacting Martha Contee at (202) 418-0260, TTY (202) 418-2555, or via e-mail to [mcontee@fcc.gov](mailto:mcontee@fcc.gov). This *Notice of Proposed Rule Making* can also be downloaded at <http://www.fcc.gov/oet>.

#### **F. Contacts for Information**

121. For further information on this proceeding, contact Ira Keltz, Spectrum Policy Branch, Policy and Rules Division, Office of Engineering and Technology, at (202) 418-0616, TTY (202) 418-7233 or via e-mail to <[ikeltz@fcc.gov](mailto:ikeltz@fcc.gov)>.

#### **G. Ordering Clauses**

122. Accordingly, **IT IS ORDERED** that, pursuant to Sections 1, 4(i), 302, 303(f) and (r), 332, and 337 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 1, 4(i), 154(i), 302, 303(f) and (r), 332, 337, this *Notice of Proposed Rule Making* in ET Docket No. 01-75 **IS ADOPTED**.

123. **IT IS FURTHER ORDERED** that the Commission's Consumer Information Bureau, Reference Information Division, **SHALL SEND** a copy of this *Notice of Proposed Rule Making*, ET Docket No. 01-75, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Magalie Roman Salas  
Secretary

**APPENDICES****APPENDIX A - List of Commenters****Commenters to the TIA Petition (RM-9418)****Comments:**

1. Alcatel, USA, Inc.
2. Society of Broadcast Engineers, Inc.
3. Digital Microwave Corporation
4. Harris Corporation
5. AirTouch Communications, Inc.
6. Andrew Corporation
7. Teledesic LLC

**Reply Comments:**

1. Alcatel, USA, Inc.
2. Fixed Point-to-Point Communications Section, Wireless Communications Division, Telecommunications Industry Association

**Commenters to the AMPTP Petition (RM-9856)****Comments:**

1. County of Los Angeles
2. National Association of Broadcasters
3. Phonic Ear
4. Society of Broadcast Engineers

**Reply Comments:**

1. Association of Motion Picture and Television Producers

## APPENDIX B – Initial Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act (RFA),<sup>1</sup> the Commission has prepared this present Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities by the policies and rules proposed in this *Notice of Proposed Rule Making (NPRM)*. Written public comments are requested on this IRFA and must be filed by the deadlines for comments on the *Notice of Proposed Rule Making* provided above in paragraph 115. The Commission will send a copy of the *Notice of Proposed Rule Making*, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.<sup>2</sup> In addition, the Notice of Proposed Rule Making and IRFA (or summaries thereof) will be published in the Federal Register.<sup>3</sup>

### A. Need for, and Objectives of, the Proposed Rules

2. This *Notice or Proposed Rule Making* presents a significant update to the Broadcast Auxiliary Service (BAS). Many of the proposals are intended to ease the transition from current analog equipment to the digital equipment that will be necessary to support digital TV. Additionally, this *NPRM* proposes to implement changes to streamline the licensing process and make the BAS licensing rules consistent with those used in the rest of the wireless services. These proposals pave the way for BAS to take full advantage of the Commission's Universal Licensing. This *NPRM* also seeks to implement changes that would make the rules consistent among similar services, such as BAS, fixed service microwave, and Cable Television Relay Service (CARS). Finally, the *NPRM* proposes to allow motion picture and television producers access to certain VHF and UHF TV channels for wireless video assist devices (WAVDs). WAVDs increase the safety of production sets and at the same time enable these groups to save money on production costs.

### B. Legal Basis

3. This action is authorized under Sections 1, 4(i), 302, 303(f) and (r), 332, and 337 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 1, 4(i), 154(i), 302, 303(f) and (r), 332, 337.

### C. Description and Estimate of the number of Small Entities to Which the Proposed Rule Will Apply

4. The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.<sup>4</sup> The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction." In addition, the term "small business" has the same meaning as the term "small business concern" under Section 3 of the Small Business Act, unless the Commission has developed one or more definitions that are appropriate for its activities.<sup>5</sup> Under the Small Business Act, a "small business concern" is one that: (1) is independently owned and operated; (2) is not

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<sup>1</sup> See 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. § 601 *et. seq.*, has been amended by the Contract With America Advancement Act of 1996, Pub. L. No. 104-121, 110 Stat. 847 (1996) (CWAAA). Title II of the CWAAA is the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA).

<sup>2</sup> 5 U.S.C. § 603(a).

<sup>3</sup> *Id.*

<sup>4</sup> *Id.* at § 603(b)(3).

<sup>5</sup> *Id.* at § 601(3).

dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).<sup>6</sup>

5. A small organization is generally "any not-for-profit enterprise which is independently owned and operated and is not dominant in its field."<sup>7</sup> Nationwide, as of 1992, there were approximately 275,801 small organizations.<sup>8</sup> The definition of "small governmental entity" is one with populations of fewer than 50,000.<sup>9</sup> There are approximately 85,006 governmental entities in the nation.<sup>10</sup> This number includes such entities as states, counties, cities, utility districts and school districts. There are no figures available on what portion of this number have populations of fewer than 50,000. However, this number includes 38,978 counties, cities and towns, and of those, 37,556, or ninety-six percent, have populations of fewer than 50,000.<sup>11</sup> The Census Bureau estimates that this ratio is approximately accurate for all governmental entities. Thus, of the 85,006 governmental entities, we estimate that ninety-six percent, or about 81,600, are small entities that may be affected by our rules.

6. The proposals in this *NPRM* would affect licensees of BAS (remote pickup, aural, and television), CARS, and fixed microwave services. Additionally, they affect manufacturers of equipment that supports the BAS. BAS involves a variety of transmitters, generally used to relay broadcast programming to the public (through translator and booster stations) or within the program distribution chain (from a remote news gathering unit to the studio or from the studio to the transmitter). CARS includes transmitters generally used to relay cable programming within cable television system distribution systems. The Commission has not developed a definition of small entities applicable to these licensees. Therefore, the applicable definitions of small entities for each of these services under the Small Business Administration (SBA) rules is as follows: 1. For TV BAS, we will use standard industrial classification (SIC) code 4833 (Television Broadcasting Stations) which are classified as small businesses if they have annual revenues of no more than \$10.5 million;<sup>12</sup> 2. For Aural BAS, we will use SIC code 4832 (Radio Broadcasting Stations) which are classified as small businesses if they have revenue of no more than \$5 million;<sup>13</sup> 3. For Remote pickup BAS we will use SIC code 4833 when used by a TV station or 4832 when used by a radio station. The definition of small business for these codes has already been listed; 4. For CARS, we will use SIC code 4841 (Cable and Other Pay Television Services) which are classified as small businesses if they have annual revenue of no more than \$11 million;<sup>14</sup> 5. For fixed microwave, we will use SIC code 4812 (Radiotelephone Communications) which are classified as small businesses if they employ no more than 1,500 people;<sup>15</sup> 6. For BAS equipment manufacturers, we will use SIC code 3663 (Radio

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<sup>6</sup> *Id.* at § 632.

<sup>7</sup> *Id.* at § 601(4).

<sup>8</sup> Department of Commerce, U.S. Bureau of the Census, 1992 Economic Census, Table 6 (special tabulation of data under contract to Office of Advocacy of the U.S. Small Business Administration).

<sup>9</sup> 5 U.S.C. § 601(5).

<sup>10</sup> 1992 Census of Governments, U.S. Bureau of the Census, U.S. Department of Commerce.

<sup>11</sup> *Id.*

<sup>12</sup> 13 C.F.R. § 121.201, SIC Code 4833 (NAICS code 51312).

<sup>13</sup> *Id.*, SIC Code 4832 (NAICS code 513112, Radio Stations).

<sup>14</sup> *Id.*, SIC Code 4841 (NAICS code 51322, Cable and Other Program Distribution).

<sup>15</sup> *Id.*, SIC Code 4812 (NAICS code 513322, Cellular and Other Wireless Telecommunications).

and Television Broadcasting and Communications Equipment) which are classified as small businesses if they employ no more than 750 people.<sup>16</sup>

7. The 1992 Census of Transportation, Communications, and Utilities, conducted by the Bureau of the Census, which is the most recent information available, shows that 715 TV broadcasting firms out of a total of 885 had less than \$10 million annual revenue,<sup>17</sup> 4748 radio broadcasting firms<sup>18</sup> out of a total of 4932 had less than \$5 million annual revenue,<sup>19</sup> between 1401 and 1471 cable television firms out of a total of 1573 had less than \$11 million annual revenue,<sup>20</sup> and more than 1166 radiotelephone firms out of a total of 1178 had fewer than 1,500 employees.<sup>21</sup> Similarly, the 1992 Census of Manufactures shows that between 908 and 925 out of 948 radio and television communications equipment manufacturing establishments<sup>22</sup> had fewer than 750 employees.<sup>23</sup> Any of these small businesses can potentially be affected by the proposals of the *NPRM*. We seek comment on this analysis. In providing such comment, commenters are requested to provide information regarding how many total and small business entities would be affected.

#### **D. Description of projected reporting, recordkeeping, and other compliance requirements.**

8. Under the proposals contained in this *NPRM*, there are changes to reporting, recordkeeping, and other compliance requirements. In many cases, these changes streamline the existing licensing process or provide additional flexibility to licensees and applicants. Many of the proposed changes are related to the use of the Universal Licensing System (ULS) by BAS applicants and licensees. As explained in the *NPRM*, applicants for BAS stations must apply through the Wireless Telecommunications Bureau using the ULS, which was adopted by *Report and Order* in 1998.<sup>24</sup> To

<sup>16</sup> *Id.*, SIC Code 3663 (NAICS code 33422).

<sup>17</sup> See U.S. Bureau of the Census, U.S. Department of Commerce, 1992 Census of Transportation, Communications, and Utilities, UC92-S-1, Subject Series, Establishment and Firm Size, Table 4, Revenue Size of Firms: 1992, SIC Code 4833 (issued May 1995) (1992 Census of Communications).

<sup>18</sup> A firm is a business organization or entity consisting of one domestic establishment (location) or more under common ownership or control. All establishments of subsidiary firms are included as part of the owning or controlling firm. For the economic census, the terms “firm” and “company” are synonymous.

<sup>19</sup> See 1992 Census of Communications, SIC Code 4832.

<sup>20</sup> *Id.*, SIC Code 4841. The number of small businesses is characterized as a range because the threshold annual revenue determining a small business in this category is \$11 million, but the relevant census data is reported as annual revenue in the \$10 million to \$24,999,999 range.

<sup>21</sup> *Id.*, Table 5, Employment Size of Firms: 1992, SIC Code 4812 (issued May 1995). The number of small businesses is not given as a definite number because the threshold number of employees determining a small business in this category is 1,500, but the relevant census data is only reported as firms with 1,000 or more employees.

<sup>22</sup> An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

<sup>23</sup> U.S. Bureau of the Census, U.S. Department of Commerce, 1992 Census of Manufactures, MC92-I-36D, Industry Series, Communications Equipment, Including Radio and Television, Table 4, Industry Statistics by Employment Size of Establishment: 1992, SIC Code 3663 (issued Mar. 1995).

<sup>24</sup> See para. 74 in the *NPRM*.

comply with this system, our proposals for BAS are consistent with the decisions reached in that *Report and Order*. Accordingly, our proposals include eliminating requests made by letter if there is a standard application form which can be used instead,<sup>25</sup> modifying the rules defining major and minor changes to those used for fixed microwave systems,<sup>26</sup> and eliminating the need to report transmitter output power and requiring that all stations comply with limits on effective isotropic radiated power.<sup>27</sup> We also propose to change the period of construction for a BAS station from the currently used three years to eighteen months, consistent with the period used for fixed microwave stations.<sup>28</sup>

9. Additionally, we propose to conform some of the rules that affect frequency bands that are shared among BAS licensees (Part 74), CARS licensees (Part 78), and fixed microwave licensees (Part 101). Here, we propose to update the rules that protect interference to geostationary satellites from receiving harmful interference from fixed stations to those currently listed in the ITU International Radio Regulations. The effect of this update is to expand the number of frequency bands to which these rules apply.<sup>29</sup> We also propose to adopt for BAS equipment, emission limitations that are consistent with those already being used for fixed microwave stations.<sup>30</sup> We also propose that all BAS applicants for stations operating above 944 MHz, comply with the same frequency coordination guidelines in place for fixed microwave stations.<sup>31</sup>

10. Further changes entail providing technical guidelines for TV studio-to-transmitter links and TV relay stations that operate on UHF-TV channels. These guidelines have always been imposed, but never codified.<sup>32</sup> Also, with respect to BAS Remote Pickup stations, we propose to alter their channel plan to be consistent with the same channel spacing requirements as are used for Private Land Mobile Radio stations in Part 90 of our rules.<sup>33</sup> Finally, we propose to allow a new type of device to operate on certain VHF and UHF TV channels, wireless assist video devices. Because they are new, we propose rules for the licensing and use of these devices.<sup>34</sup> We request comment on how these requirements can be modified to reduce the burdens on small entities and still meet the objectives of this proceeding.

#### **E. Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered.**

11. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the

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<sup>25</sup> *See Id.* at para. 78.

<sup>26</sup> *See Id.* at para. 79.

<sup>27</sup> *See Id.* at para. 18.

<sup>28</sup> *See Id.* at para. 76.

<sup>29</sup> *See Id.* at para. 35.

<sup>30</sup> *See Id.* at para. 25.

<sup>31</sup> *See Id.* at para.37.

<sup>32</sup> *See Id.* at para.55.

<sup>33</sup> *See Id.* at para.66.

<sup>34</sup> *See Id.* at paras. 93-107.

resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.<sup>35</sup>

12. We have proposed to reduce burdens wherever possible. Our proposals regarding the BAS would reduce burdens on small entities. First, we have proposed to allow aural and TV BAS licensees to use digital modulation techniques in all of their allocated frequency bands. Currently, they can only use these techniques in a few bands and must file waiver requests and requests for special temporary authority (STA) to transmit digital signals in other bands. Our proposals would eliminate the need for these waivers and STAs, thus saving businesses the time it takes to prepare these requests and their associated filing fees.<sup>36</sup> Second, we have proposed to alter the equation used to determine the allowable EIRP for short path lengths. Under our proposal, there would no longer be a large drop-off in allowable EIRP when the path length of a fixed station was slightly shorter than the minimum necessary for maximum power. The effect of this would be to provide more flexibility in the way small entities design their systems. Because they would be able to use fewer sites, this would have the effect would be a reduction in the cost of a system.<sup>37</sup> Third, we have proposed to allow automatic transmit power control (ATPC). ATPC would benefit small entities by reducing outages to digital receivers and expanding battery life. Both of these effects benefit small businesses by making their systems more reliable.<sup>38</sup>

13. Many of our proposed rule amendments and their benefits, stem from the use of the ULS for application filing. This system, by providing for electronic filing on standardized forms benefits small entities in several ways. Applicants can submit applications to the Commission as soon as they have the necessary information on-hand. And they can get instant feedback as to the correctness of that application; ULS will not accept the application for filing unless it is correct on its face. If there are errors, ULS will provide error messages so that the application can be corrected and resubmitted. Also, the system makes extensive use of electronic processing, so that many of the tasks that were done by hand are now done by the computer. The overall effect is that application are processed faster and licenses are issued sooner, thus allowing small entities to begin providing service in a more timely manner.<sup>39</sup>

14. We have proposed rules in the *NPRM* that would conform rules for similar services that share spectrum. These are TV BAS, CARS, and the fixed microwave service. As a whole, these proposals reduce burdens to small entities because many of these entities have licenses in each of these rule parts, but must currently contend with different rules in each part. Thus, small entities will benefit because they will, in many instances, be able to comply with a common set of rules for their systems, which operate in any of the named services.<sup>40</sup>

15. Additionally, we have proposed many other changes that will benefit small entities. We have proposed to require that BAS systems prior coordinate their frequency use. Such a requirement will ensure that systems begin operating in a manner that minimizes the potential of causing interference. This protects the new system from possibly being shut down due to causing interference and protects the existing

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<sup>35</sup> 5 U.S.C. § 603(c).

<sup>36</sup> *See Id.* at para. 9.

<sup>37</sup> *See Id.* at para.13.

<sup>38</sup> *See Id.* at para.33.

<sup>39</sup> *See* Section III-B of *NPRM*.

<sup>40</sup> *See* Section III-C of *NPRM*.

system from suffering a service disruption from receiving interference. Both of these results will benefit small entities operating in the BAS service.<sup>41</sup> Along with the frequency coordination requirement, we have proposed to extend the ability to operate under temporary conditional authority to all BAS frequency bands. This would benefit small entities by allowing them to begin operating sooner.<sup>42</sup> Further, we have proposed to extend the reach of the short-term operation rule to all entities eligible for a BAS license. This benefits small entities because many would not need to obtain additional licenses from the Commission to provide limited service a few times a year in areas in which they do not traditionally operate. Such a change would save small entities the time and money that they would otherwise expend obtaining a license.<sup>43</sup> Another proposed change entails us laying out the technical requirements for operating TV STLs or TV relay stations on UHF-TV channels. By doing this, applicants will know before applying exactly the requirements they must meet in order to obtain a license, thereby reducing the number of applications that must be returned by the Commission. Thus, small entities will benefit by not having to respond to returned applications.<sup>44</sup> We have also proposed to alter the channel plan for remote pickup BAS to conform to the channel plan adopted for PLMR services. Unless the same technical criteria are used for both services, different radios must be developed. Thus, our proposal would benefit small entities by keeping equipment costs down.<sup>45</sup> Finally, we have proposed to allow motion picture and television producers to operate a new type of device, wireless assist video devices, on certain unused VHF and UHF TV channels. This will benefit small entities by providing a more cost effective means for producers to monitor multiple camera angles when producing program material.<sup>46</sup>

16. The regulatory burdens we have retained, such as filing applications on appropriate forms, are necessary to ensure that the public receives the benefits of new and existing services in a prompt and efficient manner. We also considered revising the burden of frequency coordination, but found that this alternative would unnecessarily increase the potential of harmful interference.<sup>47</sup> Additionally, under the frequency coordination procedures proposed, entities may self coordinate rather than paying a frequency coordinator.<sup>48</sup> We will continue to examine alternatives in the further with the objectives of eliminating unnecessary regulations and minimizing significant economic impact on small entities. We seek comment on significant alternatives commenters believe we should adopt.

#### **F. Federal Rules that May Duplicate, Overlap, or Conflict With the Proposed Rules.**

17. None.

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<sup>41</sup> See para. 37 in the *NPRM*.

<sup>42</sup> See *Id.* at para.46.

<sup>43</sup> See *Id.* at para.50.

<sup>44</sup> See *Id.* at para.55.

<sup>45</sup> See *Id.* at para.62.

<sup>46</sup> See *Id.* at paras.90-107.

<sup>47</sup> See *Id.* at paras. 37-40

<sup>48</sup> 47 C.F.R. § 101.103(d).

### APPENDIX C – Proposed Rules

Parts 1, 2, 73, 74, 78 and 101 of Chapter I of Title 47 of the Code of Federal Regulations are proposed to be amended as follows:

#### I. PART 1 – PRACTICE AND PROCEDURE

1. The authority citation for Part 1 continues to read as follows:

**AUTHORITY:** 47 U.S.C. 151, 154, 207, 303, and 309(j).

2. Section 1.901 is proposed to be revised to read as follows:

##### § 1.901 Basis and purpose.

These rules are issued pursuant to the Communications Act of 1934, as amended, 47 U.S.C 151 *et seq.* The purpose of these rules is to establish the requirements and conditions under which entities may be licensed in the Wireless Radio Services as described in this part and in parts 13, 20, 22, 24, 26, 27, 74, 80, 87, 90, 95, 97 and 101 of this chapter.

3. Section 1.902 is proposed to be revised to read as follows:

##### § 1.902 Scope.

In case of any conflict between the rules set forth in this subpart and the rules set forth in Parts 13, 20, 22, 24, 26, 27, 74, 80, 87, 90, 95, 97, and 101 of Title 47, Chapter I of the Code of Federal Regulations, the rules in Part 1 shall govern.

4. Section 1.929 is proposed to be amended by revising the introductory text of paragraphs (c)(4) and (d) to read as follows:

##### § 1.929 Classification of filings as major or minor.

\* \* \* \* \*

(c) \* \* \*

(4) In the Private Land Mobile Radio Services (PLMRS), the remote pickup broadcast auxiliary service, and GMRS systems licensed to non-individuals:

\* \* \* \* \*

(d) In the microwave, aural broadcast auxiliary, and television broadcast auxiliary services:

\* \* \* \* \*

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**II. PART 2 – FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS;  
GENERAL RULES AND REGULATIONS**

5. The authority citation for Part 2 continues to read as follows:

**AUTHORITY: 47 U.S.C. 154, 302a, 303, and 336, unless otherwise noted.**

6. Amend Section 2.106, the Table of Frequency Allocations, as follows:

(a) Revising pages 25, 26, 37, and 38.

(b) Revise footnotes US11 and NG115.

The revisions read as follows:

**§ 2.106 Table of frequency allocations.**

\* \* \* \* \*

50-123.5875 (VHF)

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International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
See previous page for 47-68 MHz	50-54 AMATEUR  S5.166 S5.167 S5.168 S5.170		50-73	50-54 AMATEUR	Amateur (97)
	54-68 BROADCASTING Fixed Mobile  S5.172	54-68 FIXED MOBILE BROADCASTING		54-72 BROADCASTING	Broadcast Radio (TV) (73) Auxiliary Broadcasting (74)
68-74.8 FIXED MOBILE except aeronautical mobile	68-72 BROADCASTING Fixed Mobile  S5.173	68-74.8 FIXED MOBILE	50-73	NG115 NG128 NG149	Public Mobile (22) Private Land Mobile (90) Personal Radio (95)
	72-73 FIXED MOBILE			72-73 FIXED MOBILE  NG3 NG49 NG56	
	73-74.6 RADIO ASTRONOMY  S5.178			73-74.6 RADIO ASTRONOMY US74	
	74.6-74.8 FIXED MOBILE  S5.149 S5.174 S5.175 S5.177 S5.179	S5.149 S5.176 S5.179		74.6-74.8 FIXED MOBILE  US273	Private Land Mobile (90)
74.8-75.2 AERONAUTICAL RADIONAVIGATION  S5.180 S5.181			74.8-75.2 AERONAUTICAL RADIONAVIGATION  S5.180	Aviation (87)	
75.2-87.5 FIXED MOBILE except aeronautical mobile	75.2-75.4 FIXED MOBILE  S5.179		75.2-75.4 FIXED MOBILE  US273	Private Land Mobile (90)	

S5.175 S5.179 S5.184 S5.187 87.5-100 BROADCASTING  S5.190 100-108 BROADCASTING  S5.192 S5.194  108-117.975 AERONAUTICAL RADIONAVIGATION  S5.197  117.975-137 AERONAUTICAL MOBILE (R)	75.4-76 FIXED MOBILE	75.4-87 FIXED MOBILE  S5.149 S5.182 S5.183 S5.188	75.4-88	75.4-76 FIXED MOBILE NG3 NG49 NG56	Public Mobile (22) Private Land Mobile (90) Personal Radio (95)
	76-88 BROADCASTING Fixed Mobile			76-88 BROADCASTING	
	S5.185	87-100 FIXED MOBILE BROADCASTING	NG115 NG128 NG129 NG149		
	88-100 BROADCASTING		88-108 BROADCASTING	88-108 BROADCASTING	Broadcast Radio (FM) (73) Auxiliary Broadcasting (74)
S5.192 S5.194			US93	US93 NG2 NG128 NG129	
108-117.975 AERONAUTICAL RADIONAVIGATION			108-117.975 AERONAUTICAL RADIONAVIGATION		Note: The <i>NTIA Manual</i> (footnote G126) states that differential GPS stations may be authorized in the 108-117.975 MHz band, but the FCC has not yet addressed this footnote.
S5.197			US93		
117.975-137 AERONAUTICAL MOBILE (R)			117.975-121.9375 AERONAUTICAL MOBILE (R)		Aviation (87)
			S5.111 S5.199 S5.200 591 US26 US28		
			121.9375-123.0875  591 US30 US31 US33 US80 US102 US213	121.9375-123.0875 AERONAUTICAL MOBILE  591 US30 US31 US33 US80 US102 US213	
			123.0875-123.5875 AERONAUTICAL MOBILE  S5.200 591 US32 US33 US112		
S5.111 S5.198 S5.199 S5.200 S5.201 S5.202 S5.203 S5.203A S5.203B			See next page for 123.5875-137 MHz		See next page for 123.5875-137 MHz

470-849 MHz (UHF)

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International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
470-790 BROADCASTING	470-512 BROADCASTING Fixed Mobile  S5.292 S5.293	470-585 FIXED MOBILE BROADCASTING  S5.291 S5.298	470-608	470-512 FIXED NG127 BROADCASTING LAND MOBILE  NG66 NG114 NG115 NG128 NG149	Public Mobile (22) Broadcast Radio (TV) (73) Auxiliary Broadcasting (74) Private Land Mobile (90)
	512-608 BROADCASTING  S5.297			512-608 BROADCASTING  NG115 NG128 NG149	Broadcast Radio (TV) (73) Auxiliary Broadcasting (74)
	608-614 RADIO ASTRONOMY Mobile-satellite except aeronautical mobile-satellite (Earth-to-space)	S5.149 S5.305 S5.306 S5.307	608-614 LAND MOBILE US350 RADIO ASTRONOMY US74	Personal (95)	
	614-806 BROADCASTING Fixed Mobile	610-890 FIXED MOBILE BROADCASTING	US246		
			614-890	614-698 BROADCASTING  NG115 NG128 NG149	Broadcast Radio (TV) (73) Auxiliary Broadcast. (74)
				698-746 BROADCASTING  NG115 NG128 NG149	Broadcast Radio (TV) (73) Auxiliary Broadcast. (74)  Note: Band to be reallocated and auctioned by Sept. 30, 2002.

<p>S5.149 S5.291A S5.294 S5.296 S5.300 S5.302 S5.304 S5.306 S5.311 S5.312</p>			<p>746-764 FIXED MOBILE BROADCASTING  NG115 NG128 NG159</p>	<p>Wireless Communications (27) Broadcast Radio (TV) (73) Auxiliary Broadcast. (74) Private Land Mobile (90)</p>
<p>790-862 FIXED BROADCASTING</p>	<p>S5.293 S5.309 S5.311</p>		<p>764-776 FIXED MOBILE  NG115 NG128 NG158 NG159</p>	<p>Auxiliary Broadcasting (74) Private Land Mobile (90)</p>
	<p>806-890 FIXED MOBILE BROADCASTING</p>		<p>776-794 FIXED MOBILE BROADCASTING  NG115 NG128 NG159</p>	<p>Wireless Communications (27) Broadcast Radio (TV) (73) Auxiliary Broadcast. (74) Private Land Mobile (90)</p>
			<p>794-806 FIXED MOBILE  NG115 NG128 NG158 NG159</p>	<p>Auxiliary Broadcasting (74) Private Land Mobile (90)</p>
<p>S5.312 S5.314 S5.315 S5.316 S5.319 S5.321</p>			<p>806-821 FIXED LAND MOBILE  NG30 NG31 NG43 NG63 NG115</p>	<p>Public Mobile (22) Private Land Mobile (90)</p>
<p>See next page for 862-890 MHz</p>	<p>S5.317 S5.318</p>	<p>S5.149 S5.305 S5.306 S5.307 S5.311 S5.320</p>	<p>821-824 LAND MOBILE  NG30 NG43 NG63</p>	<p>Private Land Mobile (90)</p>
			<p>824-849 FIXED LAND MOBILE  NG30 NG43 NG63 NG151</p>	<p>Public Mobile (22)</p>
			<p>See next page for 849-894 MHz</p>	<p>See next page for 866-896 MHz</p>

\* \* \* \* \*

UNITED STATES (US) FOOTNOTES

\* \* \* \* \*

US11 The use of the frequencies 166.25 and 170.15 MHz may be authorized to non-Government remote pickup broadcast base and land mobile stations and to non-Government base, fixed and land mobile stations in the public safety radio services (the sum of the bandwidth of emission and tolerance is not to exceed 12.5 kHz, except that authorizations in existence as of January 1, 2002, using 25 kHz bandwidth are permitted to continue in operation until January 1, 2005) in the lower 48 contiguous States only, except within the area bounded on the west by the Mississippi River, on the north by the parallel of latitude 37° 30' N., and on the east and south by that arc of the circle with center at Springfield, Illinois, and radius equal to the airline distance between Springfield, Illinois, and Montgomery, Alabama, subtended between the foregoing west and north boundaries, on the condition that harmful interference shall not be caused to Government stations present or future in the Government band 162–174 MHz. The use of these frequencies by remote pickup broadcast stations shall not be authorized for locations within 150 miles of New York City; and use of these frequencies by the public safety radio services will not be authorized except for locations within 150 miles of New York City. As an exception to the secondary status of all other non-Government stations operating on the frequencies 166.25 and 170.15 MHz, non-Government remote pickup broadcast base stations operating as an integral part of the Emergency Alert System shall have primary status.

\* \* \* \* \*

NON-FEDERAL GOVERNMENT (NG) FOOTNOTES

\* \* \* \* \*

NG115 In the bands 54-72 MHz, 76-88 MHz, 174-216 MHz, 470-608 MHz, and 614-806 MHz, wireless microphones and wireless assist video devices may be authorized on a non-interference basis, subject to the terms and conditions set forth in 47 C.F.R. part 74, subpart H.

\* \* \* \* \*

**III. PART 73 – RADIO BROADCAST SERVICES**

7. The authority citation for Part 73 continues to read as follows:

**AUTHORITY: 47 U.S.C. 154, 303, 3334, and 336.**

8. Section 73.3500 is proposed to be amended by removing the entries for Forms 313 and 313-R from the table in paragraph (a) and adding an entry for Forms 601 and 603 to read as follows:

**§ 73.3500 Application and report forms.**

(a) \* \* \*

Form Number	Title
* * * * *	* * * * *
601 .....	FCC Application for Wireless Telecommunications Bureau Radio Service Authorization
603 .....	FCC Wireless Telecommunications Bureau Application for Assignments of Authorization and Transfers of Control

\* \* \* \* \*

9. Section 73.3533 is proposed to be amended by removing and reserving paragraph (a)(3) to read as follows:

**§ 73.3533 Application for construction permit or modification of construction permit.**

(a) \* \* \*

(3) [Reserved]

\* \* \* \* \*

10. Section 73.3536 is proposed to be amended by removing and reserving paragraph (b)(3) to read as follows:

**§ 73.3536 Application for license to cover construction permit.**

(b) \* \* \*

(3) [Reserved]

\* \* \* \* \*

11. Section 73.3598 is proposed to be amended by revising paragraph (a) to read as follows:

**§ 73.3598 Period of construction.**

(a) Each original construction permit for the construction of a new TV, AM, FM or International Broadcast; low power TV; TV translator; TV booster; FM translator; or FM booster, or to make changes

in such existing stations, shall specify a period of three years from the date of issuance of the original construction permit within which construction shall be completed and application for license filed.

\* \* \* \* \*

**IV. PART 74 – EXPERIMENTAL RADIO, AUXILIARY, SPECIAL BROADCASTING AND OTHER PROGRAM DISTRIBUTIONAL SERVICES**

**12.** The authority citation for Part 74 continues to read as follows:

**AUTHORITY: 47 U.S.C. 154, 303, 307, and 554.**

**13.** Section 74.5 is proposed to be amended by redesignating paragraphs (a)(4) through (a)(6) as paragraphs (a)(5) through (a)(7), adding a new paragraph (a)(4), and adding a new paragraph (f) to read as follows:

**§ 74.5 Cross reference to rules in other parts.**

\* \* \* \* \*

(a) \* \* \*

(4) Subpart F, “Wireless Telecommunications Services Applications and Proceedings”. (§§ 1.901 to 1.981).

\* \* \* \* \*

(f) Part 101, “Fixed Microwave Services”.

**14.** A new Section 74.6 is proposed to be added to read as follows:

**§ 74.6 Licensing of broadcast auxiliary and low power auxiliary stations.**

Applicants for and licensees of remote pickup broadcast stations, aural broadcast auxiliary stations, television broadcast auxiliary stations, and low power auxiliary stations authorized under subparts D, E, F, and H of this part are subject to the application and procedural rules for wireless telecommunications services contained in part 1, subpart F of this chapter.

**15.** Section 74.15 is proposed to be amended by revising the second sentence and deleting the last sentence of paragraph (f) to read as follows:

**§ 74.15 Station license period.**

\* \* \* \* \*

(f) \* \* \* An application for renewal of license shall be filed in accordance with the provisions of § 1.949.

\* \* \* \* \*

**16.** Section 74.24 is proposed to be amended by revising the introductory text and paragraphs (a), (d), (f), (g), and the last two sentences of paragraph (i), by adding a new sentence to the end of paragraph (h)(1), and by removing the Note after paragraph (g) to read as follows:

**§ 74.24 Short term operation.**

All classes of broadcast auxiliary stations provided for in subparts D, E, F and H of this part, except wireless video assist devices, may be operated on a short-term basis under the authority conveyed by

a Part 73 license or a broadcast auxiliary license without prior authorization from the FCC, subject to the following conditions:

(a) Licensees operating under this provision must be eligible to operate the particular class of broadcast auxiliary station.

\* \* \* \* \*

(d) Short-term operation under this section shall not exceed 720 hours annually per frequency.

Note: Certain frequencies shared with other services which are normally available for permanent broadcast auxiliary station assignment may not be available for short-term operation. Refer to any note(s) which may be applicable to the use of a specific frequency prior to initiating operation.

\* \* \* \* \*

(f) Stations operated pursuant to this section shall be identified by the transmission of the call sign of the associated Part 73 broadcast station or broadcast auxiliary station.

(g) Prior to operating pursuant to the provisions of this section, licensees shall, for the intended location or area-of-operation, notify the appropriate frequency coordination committee or any licensee(s) assigned the use of the proposed operating frequency, concerning the particulars of the intended operation and shall provide the name and telephone number of a person who may be contacted in the event of interference. Except as provided below, this notification provision shall not apply where an unanticipated need for immediate short-term mobile station operation would render compliance with the provisions of this paragraph impractical.

(1) A CARS licensee shall always be given advance notification prior to the commencement of short-term operation on or adjacent to an assigned frequency.

(2) The Commission may designate a frequency coordinator as the single point of contact under this section for advance coordination of major national and international events. Once designated, all short-term auxiliary broadcast use under this section must be coordinated in advance through the designated coordinator.

(i) Coordinators under this provision will not be designated unless the Commission receives a request to designate a coordinator.

(ii) The Commission will issue a Public Notice with information regarding the designation of such a coordinator.

(iii) All coordination must be done on a non-discriminatory basis.

(iv) All licensees must abide by the decision of the coordinator. The Commission will be the final arbiter of any disputes.

(3) An unanticipated need will never be deemed to exist for a scheduled event, such as a convention, sporting event, etc.

(h) \* \* \*

(1) \* \* \* See § 1.928(e) of this chapter for a definition of Line A and Line C.

\* \* \* \* \*

(i) \* \* \* It shall simply be necessary for the licensee to contact the potentially affected agency and obtain advance approval for the proposed short-term operation. Where protection to FCC monitoring stations is concerned, approval for short-term operation may be given by the District Director of a Commission field facility.

\* \* \* \* \*

17. A new Section 74.25 is proposed to be added to read as follows:

**§ 74.25 Temporary conditional operating authority.**

An applicant for a new broadcast auxiliary radio service station or a modification of an existing station under subparts D, E, F, or H of this part may operate the proposed station during the pendency of its applications upon the filing of a properly completed formal application that complies with the rules for the particular class of station, provided that the conditions set forth below are satisfied.

(a) Conditions applicable to all broadcast auxiliary stations.

(i) Stations operated pursuant to this section shall be identified by the transmission of the call sign of the associated Part 73 broadcast station, if one exists, or the prefix "WT" followed by the applicant's local business telephone number for broadcast or cable network entities.

(ii) The antenna structure(s) has been previously studied by the Federal Aviation Administration and determined to pose no hazard to aviation safety as required by subpart B of part 17 of this chapter; or the antenna or tower structure does not exceed 6.1 meters above ground level or above an existing man-made structure (other than an antenna structure), if the antenna or tower has not been previously studied by the Federal Aviation Administration and cleared by the FCC;

(iii) The grant of the application(s) does not require a waiver of the Commission's rules;

(iv) The applicant has determined that the facility(ies) will not significantly affect the environment as defined in § 1.1307 of this chapter;

(v) The station site does not lie, within a radio "Quiet Zone" identified in § 1.924 of this chapter.

(b) Conditions applicable to remote pickup broadcast auxiliary stations.

(i) The auxiliary station must be located within 80 km (50 mi) of the broadcast studio or broadcast transmitter.

(ii) The applicant must coordinate the operation with all affected co-channel and adjacent channel licensees in the area of operation. This requirement can be satisfied by coordination with the local frequency committee if one exists.

(iii) Operation under this provision is not permitted between 152.87 MHz and 153.35 MHz.

(c) Conditions applicable to aural and television broadcast auxiliary stations.

(i) The applicable frequency coordination procedures have been successfully completed and the filed application is consistent with that coordination.

(ii) The station site does lie within an area requiring international coordination.

(iii) If operated on frequencies in the 17.8-19.7 GHz band, the station site does not lie within any of the areas identified in § 1.924 of this chapter.

(d) Operation under this section shall be suspended immediately upon notification from the Commission or by the District Director of a Commission field facility, and shall not be resumed until specific authority is given by the Commission or District Director. When authorized by the District Director, short test operations may be made.

(e) Conditional authority ceases immediately if the application(s) is returned by the Commission because it is not acceptable for filing.

(f) Conditional authorization does not prejudice any action the Commission may take on the subject application(s). Conditional authority is accepted with the express understanding that such authority may be modified or cancelled by the Commission at any time without hearing if, in the Commission's discretion, the need for such action arises. An applicant operating pursuant to this conditional authority assumes all risks associated with such operation, the termination or modification of the conditional authority, or the subsequent dismissal or denial of its application(s).

**18.** Section 74.34 is proposed to be added to read as follows:

**§ 74.34 Period of construction; certification of completion of construction.**

(a) Each aural and television broadcast auxiliary station authorized under subparts E and F of this part must be in operation within 18 months from the initial date of grant.

(b) Each remote pickup broadcast auxiliary station authorized under subpart D of this part must be in operation within 12 months from the initial date of grant.

(c) Failure to timely begin operation means the authorization terminates automatically.

(d) Requests for extension of time may be granted upon a showing of good cause pursuant to § 1.946(e) of this chapter.

(e) Construction of any authorized facility or frequency must be completed by the date specified in the license as pursuant to § 1.946 of this chapter.

**19.** Section 74.402 is proposed to be revised to read as follows:

**§ 74.402 Frequency assignment.**

Operation on all channels listed in this section (except: 26.07, 26.11, 26.45, 450.01, 450.02, 450.98, 450.99, 455.01, 455.02, 455.98, and 455.99 MHz) shall be in accordance with the "priority of use" provisions in § 74.403(b). The channel will be assigned by its center frequency, channel bandwidth, and emission designator. In general, the frequencies listed in this section represent the center of the channel or channel segment. When an even number of channels are stacked in those sections stacking is permitted, channel assignments may be made for the frequency halfway between those listed.

(a) The following channels (except 1606, 1622, and 1646 kHz) may be assigned for use by broadcast remote pickup stations using any emission (other than single sideband or pulse) that will be in accordance with the provisions of § 74.462.

(1) MF Channels: 1606, 1622, and 1646 kHz. The channel 1606 kHz is subject to the condition listed in paragraph (e)(1) of this section.

(2) HF Channels: 25.87, 25.91, 25.95, 25.99, 26.03, 26.07, 26.09, 26.11, 26.13, 26.15, 26.17, 26.21, 26.23, 26.25, 26.27, 26.29, 26.31, 26.33, 26.35, 26.37, 26.39, 26.41, 26.43, 26.45, and 26.47 MHz. The channels 25.87-26.09 MHz are subject to the condition listed in paragraph (e)(2) of this section.

(3) VHF Channels: 166.25 and 170.15 MHz. These channels are subject to the condition listed in paragraph (e)(8) of this section.

(4) UHF Channels: 450.01, 450.02, 450.98, 450.99, 455.01, 455.02, 455.98, 455.99 MHz. These channels are subject to the condition listed in paragraph (e)(9) of this section.

(b) Up to four of the following 7.5 kHz VHF segments and up to eight of the following 6.25 kHz UHF segments may be stacked to form a channel which may be assigned for use by broadcast remote pickup stations using any emission contained within the resultant channel in accordance with the provisions of § 74.462.

(1) VHF segments: 152.8625, 152.870, 152.8775, 152.885, 152.8925, 152.900, 152.9075, 152.915, 152.9225, 152.930, 152.9375, 152.945, 152.9525, 152.960, 152.9675, 152.975, 152.9825, 152.990, 152.9975, 153.005, 153.0125, 153.020, 153.0275, 153.035, 153.0425, 153.050, 153.0575, 153.065, 153.0725, 153.080, 153.0875, 153.095, 153.1025, 153.110, 153.1175, 153.125, 153.1325, 153.140, 153.1475, 153.155, 153.1625, 153.170, 153.1775, 153.185, 153.1925, 153.200, 153.2075, 153.215, 153.2225, 153.230, 153.2375, 153.245, 153.2525, 153.260, 153.2675, 153.275, 153.2825, 153.290, 153.2975, 153.305, 153.3125, 153.320, 153.3275, 153.335, 153.3425, 153.350, and 153.3575. These channels are subject to the conditions listed in paragraphs (e) (3), (4), and (5) of this section.

(2) VHF segments: 160.860, 160.8675, 160.875, 160.8825, 160.890, 160.8975, 160.905, 160.9125, 160.920, 160.9275, 160.935, 160.9425, 160.950, 160.9575, 160.965, 160.9725, 160.980, 160.9875, 160.995, 161.0025, 161.010, 161.0175, 161.025, 161.0325, 161.040, 161.0475, 161.055, 161.0625, 161.070, 161.0775, 161.085, 161.0925, 161.100, 161.1075, 161.115, 161.1225, 161.130, 161.1375, 161.145, 161.1525, 161.160, 161.1675, 161.175, 161.1825, 161.190, 161.1975, 161.205, 161.2125, 161.220, 161.2275, 161.235, 161.2425, 161.250, 161.2575, 161.265, 161.2725, 161.280, 161.2875, 161.295, 161.3025, 161.310, 161.3175, 161.325, 161.3325, 161.340, 161.3475, 161.355, 161.3625, 161.370, 161.3775, 161.385, 161.3925, 161.400. These channels are subject to the condition listed in paragraph (e)(6) of this section.

(3) VHF segments: 161.625, 161.6325, 161.640, 161.6475, 161.655, 161.6625, 161.670, 161.6775, 161.685, 161.6925, 161.700, 161.7075, 161.715, 161.7225, 161.730, 161.7375, 161.745, 161.7525, 161.760, 161.7675, 161.775. These channels are subject to the conditions listed in paragraphs (e)(4) and (7) of this section.

(4) UHF segments: 450.03125, 450.0375, 450.04375, 450.050, 450.05625, 450.0625, 450.06875, 450.075, 450.08125, 450.0875, 450.09375, 450.100, 450.10625, 450.1125, 450.11875, 450.125, 450.13125, 450.1375, 450.14375, 450.150, 450.15625, 450.1625, 450.16875, 450.175, 450.18125, 450.1875, 450.19375, 450.200, 450.20625, 450.2125, 450.21875, 450.225, 450.23125, 450.2375, 450.24375, 450.250, 450.25625, 450.2625, 450.26875, 450.275, 450.28125, 450.2875, 450.29375, 450.300, 450.30625, 450.3125, 450.31875, 450.325, 450.33125, 450.3375, 450.34375, 450.350, 450.35625, 450.3625, 450.36875, 450.375, 450.38125, 450.3875, 450.39375, 450.400, 450.40625, 450.4125, 450.41875, 450.425, 450.43125, 450.4375, 450.44375, 450.450, 450.45625, 450.4625, 450.46875, 450.475, 450.48125, 450.4875, 450.49375, 450.500, 450.50625, 450.5125,

450.51875, 450.525, 450.53125, 450.5375, 450.54375, 450.550, 450.55625, 450.5625, 450.56875, 450.575, 450.58125, 450.5875, 450.59375, 450.600, 450.60625, 450.6125, 450.61875, 455.03125, 455.0375, 455.04375, 455.050, 455.05625, 455.0625, 455.06875, 455.075, 455.08125, 455.0875, 455.09375, 455.100, 455.10625, 455.1125, 455.11875, 455.125, 455.13125, 455.1375, 455.14375, 455.150, 455.15625, 455.1625, 455.16875, 455.175, 455.18125, 455.1875, 455.19375, 455.200, 455.20625, 455.2125, 455.21875, 455.225, 455.23125, 455.2375, 455.24375, 455.250, 455.25625, 455.2625, 455.26875, 455.275, 455.28125, 455.2875, 455.29375, 455.300, 455.30625, 455.3125, 455.31875, 455.325, 455.33125, 455.3375, 455.34375, 455.350, 455.35625, 455.3625, 455.36875, 455.375, 455.38125, 455.3875, 455.39375, 455.400, 455.40625, 455.4125, 455.41875, 455.425, 455.43125, 455.4375, 455.44375, 455.450, 455.45625, 455.4625, 455.46875, 455.475, 455.48125, 455.4875, 455.49375, 455.500, 455.50625, 455.5125, 455.51875, 455.525, 455.53125, 455.5375, 455.54375, 455.550, 455.55625, 455.5625, 455.56875, 455.575, 455.58125, 455.5875, 455.59375, 455.600, 455.60625, 455.6125, 455.61875.

(c) Up to two of the following 25 kHz segments may be stacked to form a channel which may be assigned for use by broadcast remote pickup stations using any emission contained within the resultant channel in accordance with the provisions of § 74.462. Users committed to 50 kHz bandwidths and transmitting program material will have primary use of these channels.

(1) UHF segments: 450.6375, 450.6625, 450.6875, 450.7125, 450.7375, 450.7625, 450.7875, 450.8125, 450.8375, 450.8625, 455.6375, 455.6625, 455.6875, 455.7125, 455.7375, 455.7625, 455.7875, 455.8125, 455.8375, 455.8625 MHz.

(2) [Reserved]

(d) Up to two of the following 50 kHz segments may be stacked to form a channel which may be assigned for use by broadcast remote pickup stations using any emission contained within the resultant channel in accordance with the provisions of § 74.462. Users committed to 100 kHz bandwidths and transmitting program material will have primary use of these channels.

(1) UHF segments: 450.900, 450.950, 455.900, and 455.950 MHz.

(2) [Reserved]

(e) Conditions on Broadcast Remote Pickup Service channel usage as referred to in paragraphs (a) through (d) of this section:

(1) Operation is subject to the condition that no harmful interference is caused to the reception of AM broadcast stations.

(2) Operation is subject to the condition that no harmful interference is caused to stations in the broadcast service.

(3) Operation is subject to the condition that no harmful interference is caused to stations operating in accordance with the Table of Frequency Allocations set forth in Part 2 of the Commission's Rules and Regulations. Applications for licenses to use frequencies in this band must include statements showing what procedures will be taken to ensure that interference will not be caused to stations in the Industrial/Business Pool (Part 90).

(4) These frequencies will not be licensed to network entities.

(5) These frequencies will not be authorized to new stations for use on board aircraft.

(6) These frequencies are allocated for assignment to broadcast remote pickup stations in Puerto Rico or the Virgin Islands only.

Note: These frequencies are shared with Public Safety and Industrial/Business Pools (Part 90).

(7) These frequencies may not be used by broadcast remote pickup stations in Puerto Rico or the Virgin Islands. In other areas, certain existing stations in the Public Safety and Industrial/Business Pools (Part 90) have been permitted to continue operation on these frequencies on the condition that no harmful interference is caused to broadcast remote pickup stations.

(8) Operation on the frequencies 166.25 MHz and 170.15 MHz is not authorized: (i) within the area bounded on the west by the Mississippi River, on the north by the parallel of latitude 37 degrees 30 minutes N., and radius equal to the air-line distance between Springfield, Ill., and Montgomery, Alabama, subtended between the foregoing west and north boundaries; (ii) within 150 miles (241 km) of New York City; and, (iii) in Alaska or outside the continental United States; and is subject to the condition that no harmful interference is caused radio stations in the band 162-174 MHz.

(9) The use of these frequencies is limited to operational communications, including tones for signaling and for remote control and automatic transmission system control and telemetry.

(f) License applicants shall request assignment of only those channels, both in number and bandwidth, necessary for satisfactory operation and for which the system is equipped to operate. However, it is not necessary that each transmitter within a system be equipped to operate on all frequencies authorized to that licensee.

(g) Remote pickup stations or systems will not be granted exclusive channel assignments. The same channel or channels may be assigned to other licensees in the same area. When such sharing is necessary, the provisions of § 74.403 shall apply.

**20.** Section 74.431 is proposed to be amended by revising the first sentence of paragraph (i) and removing and reserving paragraph (g) to read as follows:

**§ 74.431 Special rules applicable to remote pickup stations.**

\* \* \* \* \*

(g) [Reserved]

\* \* \* \* \*

(i) Remote pickup mobile or base stations may be used for activities associated with the Emergency Alert System (EAS) and similar emergency survival communications systems. \* \* \*

**21.** Section 74.432 is proposed to be amended revising paragraphs (b) and (g) and the first sentence of paragraph (k) to read as follows:

**§ 74.432 Licensing requirements and procedures.**

\* \* \* \* \*

(b) Base stations may operate as automatic relay stations on the frequencies listed in § 74.402(b)(4) and (c)(1) of this part under the provisions of § 74.436, however, one licensee may not operate such stations on more than two frequency pairs in a single area.

\* \* \* \* \*

(g) An application for a remote pickup broadcast station or system shall specify the broadcasting station with which the remote pickup broadcast facility is to be principally used and the licensed area of operation for a system which includes mobile stations shall be the area considered to be served by the associated broadcasting station. Mobile stations may be operated outside the licensed area of operation pursuant to § 74.24 of this part. Where the applicant for remote pickup broadcast facilities is the licensee of more than one class of broadcasting station (AM, FM, TV), all licensed to the same community, designation of one such station as the associated broadcasting station will not preclude use of the remote pickup broadcast facilities with those broadcasting stations not included in the designation and such additional use shall be at the discretion of the licensee.

\* \* \* \* \*

(k) In case of permanent discontinuance of operations of a station licensed under this subpart, the licensee shall cancel the station license using FCC Form 601. \* \* \*

**22.** Section 74.433 is proposed to be amended by revising paragraphs (b) and (c) to read as follows:

**§ 74.433 Temporary authorizations.**

\* \* \* \* \*

(b) A request for special temporary authority for the operation of a remote pickup broadcast station must be made in accordance with the procedures of § 1.931(b) of this chapter.

(c) All requests for special temporary authority of a remote pickup broadcast station must include full particulars including: licensee's name and address, facility identification number of the associated broadcast station or stations, call letters of remote pickup station (if assigned), type and manufacturer of equipment, power output, emission, frequency or frequencies proposed to be used, commencement and termination date, location of operation and purpose for which request is made including any particular justification.

\* \* \* \* \*

**23.** Section 74.451 is proposed to be amended by revising paragraph (a) to read as follows:

**§ 74.451 Certification of equipment.**

(a) Applications for new remote pickup broadcast stations or systems or for changing transmitting equipment of an existing station will not be accepted unless the transmitters to be used have been certificated by the FCC pursuant to the provisions of this subpart, or have been certificated for licensing under Part 90 of the FCC rules and do not exceed the output power limits specified in § 74.461(b).

\* \* \* \* \*

24. Section 74.452 is proposed to be revised to read as follows:

**§ 74.452 Equipment changes.**

(a) Modifications may be made to an existing authorization in accordance with §§ 1.929 and 1.947 of this chapter.

(b) All transmitters initially installed after November 30, 1977, must be certificated for use in this service or other service as specified in § 74.451(a).

25. Section 74.462 is proposed to be amended by revising paragraph (a) and the table in paragraph (b) and removing paragraphs (f) and (g) to read as follows:

**§ 74.462 Authorized bandwidth and emissions.**

(a) Each authorization for a new remote pickup broadcast station or system shall require the use of certificated equipment and such equipment shall be operated in accordance with emission specifications included in the grant of certification and as prescribed in paragraphs (b), (c), and (d) of this section.

(b) \* \* \*

Frequencies	Authorized bandwidth (kHz)	Maximum frequency deviation <sup>1</sup> (kHz)	Type of emission <sup>2</sup>
kHz			
1606, 1622, and 1646	10	N/A	A3E
MHz			
25.87 to 26.03 .....	40	10	A3E, F1E, F3E, F9E
26.07 to 26.47 .....	20	5	A3E, F1E, F3E, F9E
152.8625 to 153.3575 <sup>3</sup> .....	30/60	5/10	A3E, F1E, F3E, F9E
160.860 to 161.400 .....	60	10	A1E, A2E, A3E, F1E, F2E, F3E, F9E
161.625 to 161.775 .....	30	5	A1E, A2E, A3E, F1E, F2E, F3E, F9E
166.25 and 170.15 <sup>4</sup> .....	12.5/25	5	A1E, A2E, A3E, F1E, F2E, F3E, F9E
450.01, 450.02, 450.98, 450.99			
455.01, 455.02, 455.98, 455.99 .....	10	1.5	A1E, A2E, A3E, F1E, F2E, F3E, F9E
450.03125 to 450.61875			
455.03125 to 455.61875 .....	Up to 25	5	A1E, A2E, A3E, F1E, F2E, F3E, F9E
450.6375 to 450.8625			
455.6375 to 455.8625 .....	25 - 50	10	A1E, A2E, A3E, F1E, F2E, F3E, F9E
450.900, 450.950			
455.900, 450.950 .....	50 - 100	35	A1E, A2E, A3E, F1E, F2E, F3E, F9E

<sup>1</sup> Applies where F1E, F2E, F3E, or F9E emissions are used.

<sup>2</sup> Stations operating above 450 MHz shall show a need for employing A1E, A2E, F1E, or F2E emission.

<sup>3</sup> New or modified licenses for use of the frequencies will not be granted to utilize transmitters on board aircraft, or to use a bandwidth in excess of 30 kHz and maximum deviation exceeding 5 kHz

<sup>4</sup> After January 1, 1995, all new systems, and after January 1, 2005, all systems must be capable of operating within a 12.5 kHz channel.

\* \* \* \* \*

**26.** Section 74.482 is proposed to be amended by revising the second sentence of paragraph (a) and paragraph (e) to read as follows:

**§ 74.482 Station identification.**

(a) \* \* \* For systems, the licensee (including those operating pursuant to § 74.24 of this part) shall assign a unit designator to each station in the system. \* \* \*

\* \* \* \* \*

(e) For stations using F1E or G1E emissions, identification shall be transmitted in the unscrambled analog (F3E) mode or in International Morse Code pursuant to the provisions of paragraph (d) of this section at intervals not to exceed 15 minutes. For purposes of rule enforcement, all licensees using F1E or G1E emissions shall provide, upon request by the Commission, a full and complete description of the encoding methodology they currently use.

\* \* \* \* \*

**27.** Section 74.502 is proposed to be amended by removing the second sentence of the introductory text of paragraph (b) and revising the last sentence of the introductory text of paragraph (b) and adding two new sentences to the end of the introductory text of paragraph (b) to read as follows:

**§ 74.502 Frequency assignment.**

(a) \* \* \* \* \*

(b) \* \* \* The frequencies listed below are the centers of individual segments. When stacking an even number of segments, the center frequency specified will deviate from the list below in that it should correspond to the actual center of stacked channels. When stacking an odd number of channels, the center frequency specified will correspond to one of the frequencies listed below.

\* \* \* \* \*

**28.** Section 74.532 is proposed to be amended by removing the Note after paragraph (d) and revising paragraph (f) to read as follows:

**§ 74.532 Licensing requirements.**

\* \* \* \* \*

(f) In case of permanent discontinuance of operations of a station licensed under this subpart, the licensee shall cancel the station license using FCC Form 601. For purposes of this section, a station which is not operated for a period of one year is considered to have been permanently discontinued.

**29.** Section 74.534 is proposed to be revised to read as follows:

**§ 74.534 Power limitations.**

(a) Transmitter output power.

(1) Transmitter output power shall be limited to that necessary to accomplish the function of the system.

(2) In the 17,700 to 19,700 MHz band, transmitter output power shall not exceed 10 watts.

(b) In no event shall the average equivalent isotropically radiated power (EIRP), as referenced to an isotropic radiator, exceed the values specified below. In cases of harmful interference, the Commission may, after notice and opportunity for hearing, order a change in the effective radiated power of this station.

Frequency Band (MHz)	Maximum Transmitter Output Power (watts) <sup>1</sup>	Maximum Allowable EIRP (dBW)
944 to 952 .....	.....	+40
17,700 to 18,600 .....	10.0	+55
18,600 to 19,700 .....	.....	+35

<sup>1</sup> Peak envelop power

(c) The EIRP of transmitters that use Automatic Transmitter Power Control (ATPC) shall not exceed the EIRP specified on the station authorization. The EIRP of non-ATPC transmitters shall be maintained as near as practicable to the EIRP specified on the station authorization.

**30.** Section 74.535 is proposed to be amended by revising paragraphs (a), (b) and (d), removing existing paragraphs (e) and (f), and redesignating paragraph (g) as paragraph (e) to read as follows:

**§ 74.535 Emission and bandwidth.**

(a) The mean power of emissions shall be attenuated below the mean transmitter power (P) in accordance with the following schedule:

(1) When using frequency modulation:

(i) On any frequency removed from the assigned (center) frequency by more than 50% up to and including 100% of the authorized bandwidth: At least 25 dB;

(ii) On any frequency removed from the assigned (center) frequency by more than 100% up to and including 250% of the authorized bandwidth: At least 35 dB;

(iii) On any frequency removed from the assigned (center) frequency by more than 250% of the authorized bandwidth: At least 43+10 log<sub>10</sub> (mean output power in watts) dB, or 80 dB, whichever is the lesser attenuation.

(2) When using transmissions employing digital modulation techniques:

(i) For operating frequencies below 15 GHz, in any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 50 percent up to and including 250 percent of the authorized bandwidth: As specified by the following equation but in no event less than 50 decibels:

$$A = 35 + 0.8(P - 50) + 10 \text{ Log}_{10} B.$$

(Attenuation greater than 80 decibels is not required.)

where:

A = Attenuation (in decibels) below the mean output power level.  
 P = Percent removed from the carrier frequency.

B = Authorized bandwidth in MHz.

(ii) For operating frequencies above 15 GHz, in any 1 MHz band, the center frequency of which is removed from the assigned frequency by more than 50 percent up to and including 250 percent of the authorized bandwidth: As specified by the following equation but in no event less than 11 decibels:

$$A = 11 + 0.4(P - 50) + 10 \text{ Log}_{10} B.$$

(Attenuation greater than 56 decibels is not required.)

(iii) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least  $43 + 10 \text{ Log}_{10}$  (mean output power in watts) decibels, or 80 decibels, whichever is the lesser attenuation.

(b) For all emissions not covered in paragraph (a) of this section, the peak power of emissions shall be attenuated below the peak envelope transmitter power (P) in accordance with the following schedule:

(1) On any frequency 500 Hz inside the channel edge up to and including 2500 Hz outside the same edge, the following formula will apply:

$$A = 29 \text{ Log}_{10} [(25/11)[(D + 2.5 - (W/2))]^2] \text{ dB}$$

(Attenuation greater than 50 decibels is not required.)

Where:

A = Attenuation (in dB) below the peak envelope transmitter power.

D = the displacement frequency (kHz) from the center of the authorized bandwidth.

W = the channel bandwidth (kHz).

(2) On any frequency removed from the channel edge by more than 2500 Hz: At least  $43 + 10 \text{ Log}_{10}$  (P) dB.

\* \* \* \* \*

(d) For purposes of compliance with the emission limitation requirements of this section, digital modulation techniques are considered as being employed when digital modulation occupies 50 percent or more to the total peak frequency deviation of a transmitted radio frequency carrier. The total peak frequency deviation will be determined by adding the deviation produced by the digital modulation signal and the deviation produced by any frequency division multiplex (FDM) modulation used. The deviation (D) produced by the FDM signal must be determined in accordance with § 2.202(f) of this chapter.

\* \* \* \* \*

**31.** Section 74.536 is proposed to be amended by removing the line for 31.0 to 31.3 and footnotes 2 and 3 from the table in paragraph (c).

**32.** Section 74.537 is proposed to be amended by revising paragraphs (b) and (c) to read as follows:

**§ 74.537 Temporary authorizations.**

\* \* \* \* \*

(b) A request for special temporary authority for the operation of an aural broadcast STL or an intercity relay station must be made in accordance with the procedures of § 1.931(b) of this chapter.

(c) All requests for special temporary authority of an aural broadcast auxiliary stations must include full particulars including: licensee's name and address, facility identification number of the associated broadcast station(s), call letters of the aural broadcast STL or intercity relay station, if assigned, type and manufacturer of equipment, effective isotropic radiated power, emission, frequency or frequencies proposed for use, commencement and termination date and location of the proposed operation, and purpose for which request is made including any particular justification.

\* \* \* \* \*

**33.** Section 74.551 is proposed to be amended by revising paragraph (a), removing and deleting paragraphs (b) and (c), and redesignating existing paragraph (d) as paragraph (b) to read as follows:

**§ 74.551 Equipment changes.**

(a) Modifications may be made to an existing authorization in accordance with §§ 1.929 and 1.947 of this chapter.

\* \* \* \* \*

**34.** Section 74.561 is proposed to be amended by removing the line for 31,000 to 31,300 from the table.

**35.** Section 74.602 is proposed to be amended by removing the third sentence and revising the second to last sentence of the introductory text and footnote 2 to the table of paragraph (a), paragraph (d), the first sentence of paragraph (f), paragraph (h), and the second to last sentence of the introductory text of paragraph (i), and removing and reserving paragraph (a)(2).

**§ 74.602 Frequency assignment.**

(a) \* \* \* The band segment 6425-6525 MHz is available for broadcast auxiliary stations as described in paragraph (i) of this section. \* \* \*

Band A MHz	Band B MHz	Band D <sup>1</sup> GHz			
		Group A channels		Group B channels	
		Designation	Channel boundaries	Designation	Channel boundaries
* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *

<sup>1</sup> For fixed stations using Band D Channels, applicants are encouraged to use alternate A and B channels such that adjacent R.F. carriers are spaced 12.5 MHz. As an example, a fixed station, relaying several channels, would use A01, B01, A02, B02, A03, etc.

<sup>2</sup> The band 13.150-13.2125 GHz is reserved exclusively for the assignment of Television Pickup and CARS Pickup stations on a co-equal basis. Fixed television auxiliary stations licensed prior to the effective date of the rules in ET Docket No. 98-206, may continue operation on channels in the 13.15-13.2125 GHz band, subject to periodic license renewals.

(1) \* \* \*

(2) [Reserved]

\* \* \* \* \*

(d) Cable television relay service stations may be assigned channels in Band D between 12,700 and 13,200 MHz subject to the condition that no harmful interference is caused to TV STL and TV relay stations authorized at the time of such grants. Similarly, new TV STL and TV relay stations must not cause harmful interference to community antenna relay stations authorized at the time of such grants. The use of channels between 12,700 and 13,200 MHz by TV pickup stations is subject to the condition that no harmful interference is caused to Cable Television Relay Service stations, TV STL and TV relay stations, except as provided for in § 74.602(a) Note 2. Band D channels are also shared with certain Private Operational Fixed Stations, see § 74.638.

\* \* \* \* \*

(f) TV auxiliary stations licensed to low power TV stations and translator relay stations will be assigned on a secondary basis, i.e., subject to the condition that no harmful interference is caused to other TV auxiliary stations assigned to TV broadcast stations, or to cable television relay service stations (CARS) operating between 12,700 and 13,200 MHz. \* \* \*

(g) \* \* \* \* \*

(h) TV STL, TV relay stations, and TV translator relay stations may be authorized to operate fixed point-to-point service on the UHF TV channels 14-69 on a secondary basis and subject to the provisions of subpart G of this part and those specified below:

(1) These stations must not interfere with and must accept interference from current and future full-power UHF-TV stations, LPTV stations, and translator stations. They will also be secondary to land mobile stations in areas where land mobile sharing is currently permitted.

(2) Applications for authorization in accordance with this paragraph may be submitted without an engineering analysis if they comply with the following technical requirements:

(i) Maximum EIRP is limited to 35 dBW;

(ii) Transmitting antenna beamwidth is limited to 25 degrees (measured at the 3 dB points); and

(iii) Vertical polarization is used.

(i) \* \* \* This band is co-equally shared with mobile stations licensed pursuant to Parts 78 and 101 of the Commission's Rules. \* \* \*

\* \* \* \* \*

**36.** Section 74.603 is proposed to be revised by removing and reserving paragraph (b) to read as follows:

**§ 74.603 Sound channels.**

\* \* \* \* \*

(b) [Reserved]

\* \* \* \* \*

**37.** Section 74.604 is proposed to be amended by removing and reserving paragraph (a) to read as follows:

**§ 74.604 Interference avoidance.**

(a) [Reserved]

\* \* \* \* \*

**38.** Section 74.631 is proposed to be amended by revising the first sentence of paragraph (a) to read as follows:

**§ 74.631 Permissible service.**

(a) The licensee of a television pickup station authorizes the transmission of program material, orders concerning such program material, and related communications necessary to the accomplishment of such transmissions, from the scenes of events occurring in places other than a television studio, to its associated television broadcast station, to an associated television relay station, to such other stations as are broadcasting the same program material, or to the network or networks with which the television broadcast station is affiliated.

\* \* \* \* \*

**39.** Section 74.632 is proposed to be amended by removing the last two sentences of paragraph (a) and the Note after paragraph (f), and revising the first sentence of paragraph (c), and paragraphs (e) and (g).

**§ 74.632 Licensing requirements.**

\* \* \* \* \*

(c) An application for a new TV pickup station shall designate the TV broadcast station with which it is to be operated and specify the area in which the proposed operation is intended. \* \* \*

\* \* \* \* \*

(e) A license for a TV translator relay station will be issued only to licensees of low power TV and TV translator stations. *However*, a television translator relay station license may be issued to a cooperative enterprise wholly owned by licensees of television broadcast translators or licensees of television broadcast translators and cable television owners or operators upon a showing that the applicant is qualified under the Communication Act of 1934, as amended.

\* \* \* \* \*

(g) In case of permanent discontinuance of operations of a station licensed under this subpart, the licensee shall cancel the station license using FCC Form 601. For purposes of this section, a station which is not operated for a period of one year is considered to have been permanently discontinued.

40. Section 74.633 is proposed to be amended by revising paragraphs (b) and (c) to read as follows:

**§ 74.633 Temporary authorizations.**

\* \* \* \* \*

(b) A request for special temporary authority for the operation of a remote pickup broadcast station must be made in accordance with the procedures of § 1.931(b) of this chapter.

(c) All requests for special temporary authority of a television broadcast auxiliary station must include full particulars including: licensee's name and address, facility identification number of the associated broadcast station(s) (if any), call letters of the television broadcast STL or intercity relay station (if assigned), type and manufacturer of equipment, effective isotropic radiated power, emission, frequency or frequencies proposed for use, commencement and termination date and location of the proposed operation, and purpose for which request is made including any particular justification.

\* \* \* \* \*

41. Section 74.636 is proposed to be revised as follows:

**§ 74.636 Power limitations.**

(a) On any authorized frequency, transmitter peak output power and the average power delivered to an antenna in this service must be the minimum amount of power necessary to carry out the communications desired and shall not exceed the values listed in the table below. Application of this principle includes, but is not to be limited to, requiring a licensee who replaces one or more of its antennas with larger antennas to reduce its antenna input power by an amount appropriate to compensate for the increased primary lobe gain of the replacement antenna(s). In no event shall the average equivalent isotropically radiated power (EIRP), as referenced to an isotropic radiator, exceed the values specified below. In cases of harmful interference, the Commission may, after notice and opportunity for hearing, order a change in the effective radiated power of this station.

Frequency Band (MHz)	Maximum Allowable Transmitter Power		Maximum Allowable EIRP	
	Fixed (W)	Mobile (W)	Fixed (dBW)	Mobile (dBW)
2025 to 2110 .....	20.0	12.0	+45	+35
2450 to 2500 .....	20.0	12.0	+45	+35
6425 to 6525 .....	.....	12.0	.....	+35
6875 to 7125 .....	20.0	12.0	+55	+35
12,700 to 13,250 .....	5.0	1.5	+55	+45
17,700 to 18,600 .....	10.0	.....	+55	.....
18,600 to 18,800 <sup>1</sup> .....	10.0	.....	+35	.....
18,800 to 19,700 .....	10.0	.....	+55	.....

<sup>1</sup> The power delivered to the antenna is limited to -3 dBW.

(b) The EIRP of transmitters that use Automatic Transmitter Power Control (ATPC) shall not exceed the EIRP specified on the station authorization. The EIRP of non-ATPC transmitters shall be maintained as near as practicable to the EIRP specified on the station authorization.

42. Section 74.637 is proposed to be amended by revising paragraphs (a), (b) and (c) and removing the line for 31,000 to 31,300 and the line for 38,600-40,000 from the table in paragraph (g) to read as follows:

**§ 74.637 Emissions and emission limitations.**

(a) The mean power of emissions shall be attenuated below the mean transmitter power (P) in accordance with the following schedule:

(1) When using frequency modulation:

(i) On any frequency removed from the assigned (center) frequency by more than 50% up to and including 100% of the authorized bandwidth: At least 25 dB;

(ii) On any frequency removed from the assigned (center) frequency by more than 100% up to and including 250% of the authorized bandwidth: At least 35 dB;

(iii) On any frequency removed from the assigned (center) frequency by more than 250% of the authorized bandwidth: At least  $43 + 10 \log_{10}$  (mean output power in watts) dB, or 80 dB, whichever is the lesser attenuation.

(2) When using transmissions employing digital modulation techniques:

(i) For operating frequencies below 15 GHz, in any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 50 percent up to and including 250 percent of the authorized bandwidth: As specified by the following equation but in no event less than 50 decibels:

$$A = 35 + 0.8(P - 50) + 10 \log_{10} B.$$

(Attenuation greater than 80 decibels is not required.)

where:

A = Attenuation (in decibels) below the mean output power level.  
 P = Percent removed from the carrier frequency.  
 B = Authorized bandwidth in MHz.

(ii) For operating frequencies above 15 GHz, in any 1 MHz band, the center frequency of which is removed from the assigned frequency by more than 50 percent up to and including 250 percent of the authorized bandwidth: As specified by the following equation but in no event less than 11 decibels:

$$A = 11 + 0.4(P - 50) + 10 \log_{10} B.$$

(Attenuation greater than 56 decibels is not required.)

(iii) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least  $43 + 10 \log_{10}$  (mean output power in watts) decibels, or 80 decibels, whichever is the lesser attenuation.

(3) Amplitude Modulation. For vestigial sideband AM video: On any frequency removed from the center frequency of the authorized band by more than 50%: at least 50 dB below peak power of the emission.

(b) For all emissions not covered in paragraph (a) of this section, the peak power of emissions shall be attenuated below the peak envelope transmitter power (P) in accordance with the following schedule:

(1) On any frequency 500 Hz inside the channel edge up to and including 2500 Hz outside the same edge, the following formula will apply:

$$A = 29 \text{ Log}_{10} [(25/11)[(D + 2.5 - (W/2))^2] \text{ dB}$$

(Attenuation greater than 50 decibels is not required.)

Where:

A = Attenuation (in dB) below the peak envelope transmitter power.

D = the displacement frequency (kHz) from the center of the authorized bandwidth.

W = the channel bandwidth (kHz).

(2) On any frequency removed from the channel edge by more than 2500 Hz: At least  $43 + 10 \text{ Log}_{10}(P)$  dB.

(c) For purposes of compliance with the emission limitation requirements of this section, digital modulation techniques are considered as being employed when digital modulation occupies 50 percent or more to the total peak frequency deviation of a transmitted radio frequency carrier. The total peak frequency deviation will be determined by adding the deviation produced by the digital modulation signal and the deviation produced by any frequency division multiplex (FDM) modulation used. The deviation (D) produced by the FDM signal must be determined in accordance with § 2.202(f) of this chapter.

\* \* \* \* \*

**43.** Section 74.638 is proposed to be revised to read as follows:

**§ 74.638 Frequency coordination.**

(a) Coordination of all assignments above 1990 MHz will be in accordance with the procedure established in § 101.103(d) of this chapter, except that the prior coordination process for mobile (temporary fixed) assignments may be completed orally and the period allowed for response to a coordination notification may be less than 30 days if the parties agree.

(b) Channels in Band D are shared with certain Private Operational Fixed Stations authorized under Part 101, § 101.147(p) of this chapter and Cable Television Relay Stations authorized under Part 78, § 78.18 of this chapter. All Broadcast Auxiliary use of these bands is subject to coordination using the following procedure:

(1) Before filing an application for new or modified facilities under this part, the applicant must perform a frequency engineering analysis to ensure that the proposed facilities will not cause interference to existing or previously applied for stations in this band of a magnitude greater than that specified below.

(2) The general criteria for determining allowable adjacent or co-channel interference protection to be afforded, regardless of system length or type of modulation, multiplexing or frequency band, shall be such that the interfering signal shall not produce more than 1.0 dB degradation of the practical threshold of the protected receiver. Degradation is determined by calculating the ratio in dB between the desired carrier signal and undesired interfering signal (C/I ratio) appearing at the input to the receiver under investigation (the victim receiver). The development of the C/I ratios from the criteria for maximum allowable interference level per exposure and the methods used to perform path calculations shall follow generally

acceptable good engineering practices. Procedures as may be developed by the Electronics Industries Association (EIA), the Institute of Electrical and Electronics Engineers, Inc. (IEEE), the American National Standards Institute (ANSI) or any other recognized authority will be acceptable to the FCC.

(3) Where the development of the carrier to interference ratio (C/I) is not covered by generally acceptable procedures or where the applicant does not wish to develop the carrier to interference ratio, the applicant shall employ the following C/I protection ratios.

(i) Co-channel interference: For both sideband and carrier-beat, (applicable to all bands), the previously authorized system shall be afforded a carrier to interfering signal protection ratio of at least 90 dB.

(ii) Adjacent channel interference: The existing or previously authorized system shall be afforded a carrier to interfering signal protection ratio of at least 56 dB.

**44.** Section 74.641 is proposed to be amended by revising the introductory text of paragraph (a), removing the line for 31.0 to 31.3 and footnotes 2 and 3 from the table in paragraph (a)(1), removing the second sentence of paragraph (a)(5), and revising the introductory text of paragraph (b) to read as follows:

**§ 74.641 Antenna systems.**

(a) For fixed stations operating above 2025 MHz, the following standards apply:

\* \* \* \* \*

(b) All fixed stations are to use antenna systems in conformance with the standards of this section. TV auxiliary broadcast stations are considered to be located in an area subject to frequency congestion and must employ a Category A antenna when:

\* \* \*

**45.** Section 74.643 is proposed to be revised to read as follows:

**§ 74.643 Interference to geostationary-satellites.**

Applicants and licensees must comply with § 101.145 of this chapter to minimize the potential of interference to geostationary satellites.

**46.** Section 74.644 is proposed to be amended by revising the table in paragraph (a) and paragraph (b) to read as follows:

**§ 74.644 Minimum path lengths for fixed links.**

(a) \* \* \*

Frequency band (MHz)	Minimum path length (km)
Below 1990 .....	n/a
1990 – 7125 .....	17
12,200 – 13,250 .....	5
Above 17,700 .....	n/a

(b) For paths shorter than those specified in the Table, the EIRP shall not exceed the value derived from the following equation.

$$\text{EIRP} = \text{MAXEIRP} - 40 \log(A/B) \text{ dBW}$$

Where:

- EIRP = The new maximum EIRP (equivalent isotropically radiated power) in dBW.
- MAXEIRP = Maximum EIRP as set forth in the Table in § 74.636 of this part.
- A = Minimum path length from the Table above for the frequency band in kilometers.
- B = The actual path length in kilometers.

NOTE TO PARAGRAPH (b): For transmitters using Automatic Transmitter Power Control, EIRP corresponds to the maximum transmitter power available, not the coordinated transmit power or the nominal transmit power.

\* \* \* \* \*

47. Section 74.651 is proposed to be amended by revising paragraphs (a) and (b), removing and deleting paragraphs (c) and (d), and redesignating paragraph (e) as paragraph (c) to read as follows:

**§ 74.651 Equipment changes.**

- (a) Modifications may be made to an existing authorization in accordance with §§ 1.929 and 1.947 of this chapter.
- (b) Multiplexing equipment may be installed on any licensed TV broadcast STL, TV relay or translator relay station without authority from the Commission.

\* \* \* \* \*

48. Section 74.655 is proposed to be amended by removing the last sentence of paragraph (a).

49. Section 74.661 is proposed to be amended by revising the table to read as follows:

**§ 74.661 Frequency tolerance.**

\* \* \* \* \*

Frequency band (MHz)	Frequency tolerance (%)
1990 to 2110	0.005 <sup>1</sup>
2450 to 2483.5	0.001
6425 to 6525	0.005
6875 to 7125	0.005 <sup>1</sup>
12,700 to 13,250	0.005 <sup>1</sup>
17,700 to 18,820	0.003
18,920 to 19,700	0.003

<sup>1</sup> Television translator relay stations shall maintain a frequency tolerance of 0.002%.

50. Section 74.801 is proposed to be amended by adding a definition for Wireless Assist Video Device in alphabetical order to read as follows:

**§ 74.801 Definitions.**

\* \* \* \* \*

*Wireless Assist Video Device.* An auxiliary station authorized and operated by motion picture and television program producers pursuant to the provisions of this subpart. These stations are intended to transmit over distances of approximately 300 meters for use as an aid in composing camera shots on motion picture and television sets.

**51.** Section 74.802 is proposed to be amended by revising paragraph (b)(3) to read as follows:

**§ 74.802 Frequency assignment.**

\* \* \* \* \*

(b) \* \* \*

(3) 470.000-608.000 MHz and 614.000-806.000 MHz

All zones 113 km (70 miles)

\* \* \* \* \*

**52.** Section 74.832 is proposed to be amended by revising paragraphs (e), (g), and (i) to read as follows:

**§ 74.832 Licensing requirements and procedures.**

\* \* \* \* \*

(e) An application for low power auxiliary stations or for a change in an existing authorization shall specify the broadcast station, or the network with which the low power broadcast auxiliary facilities are to be principally used as given in paragraph (h) of this section; or it shall specify the motion picture or television production company or the cable television operator with which the low power broadcast auxiliary facilities are to be solely used. A single application, filed on FCC Form 601 may be used in applying for the authority to operate one or more low power auxiliary units. The application must specify the frequency bands which will be used. Motion picture producers, television program producers, and cable television operators are required to attach a single sheet to their application form explaining in detail the manner in which the eligibility requirements given in paragraph (a) of this section are met.

\* \* \* \* \*

(g) Low power auxiliary licensees shall specify the maximum number of units that will be operated.

\* \* \* \* \*

(i) In case of permanent discontinuance of operations of a station licensed under this subpart, the licensee shall cancel the station license using FCC Form 601. For purposes of this section, a station which is not operated for a period of one year is considered to have been permanently discontinued.

\* \* \* \* \*

53. Section 74.833 is proposed to be amended by revising paragraphs (b) and (c) to read as follows:

**§ 74.833 Temporary authorizations.**

\* \* \* \* \*

(b) A request for special temporary authority for the operation of a remote pickup broadcast station must be made in accordance with the procedures of § 1.931(b) of this chapter.

(c) All requests for special temporary authority of a low power auxiliary station must include full particulars including: licensee's name and address, statement of eligibility, facility identification number of the associated broadcast station (if any), type and manufacturer of equipment, power output, emission, frequency or frequencies proposed to be used, commencement and termination date, location of proposed operation, and purpose for which request is made including any particular justification.

\* \* \* \* \*

54. Section 74.870 is proposed to be added to read as follows:

**§ 74.870 Wireless video assist devices.**

Television Broadcast Auxiliary licensees and motion picture and television producers, as defined in § 74.801 of this part, may operate wireless video assist devices on a non-interference basis on VHF and UHF television channels to assist with production activities.

(a) The use of wireless video assist devices must comply with all provisions of this subpart, except as indicated in paragraphs (b) through (i) of this section.

(b) Wireless video assist devices may only be used for scheduled productions. They may not be used to produce live events and may not be used for electronic news gathering purposes.

(c) Wireless video assist devices may operate with a bandwidth not to exceed 6 MHz on frequencies in the band 180-210 MHz (TV channels 8-12) and 470-698 MHz (TV channels 14-51) subject to the following restrictions:

(1) The bandwidth may only occupy a single TV channel.

(2) Operation is prohibited within the 608-614 MHz (TV channel 37) band.

(3) Operation is prohibited within 129 km of a television broadcasting station, including Class A television stations, low power television stations and translator stations.

(4) For the area and frequency combinations listed in the table below, operation is prohibited within the distances indicated from the listed geographic coordinates.

Note: All coordinates are referenced to the North American Datum of 1983.

Area	North Latitude	West Longitude	Excluded Frequencies (MHz)	Excluded Channels		
				200 km	128 km	52 km
Boston, MA .....	42° 21' 24.4"	71° 03' 23.2"	470-476	14		

Area	North Latitude	West Longitude	Excluded Frequencies (MHz)	Excluded Channels		
				200 km	128 km	52 km
Chicago, IL .....	41° 52' 28.1"	87° 38' 22.2"	476-482		15	15, 16, 17 17
			482-488	16		
			488-494		17	
			470-476	14		
			476-482	15		
Cleveland, OH <sup>1</sup> .....	41° 29' 51.2"	81° 41' 49.5"	482-488		16	
			470-476	14		
			476-482		15	
Dallas/Fort Worth, TX .....	32° 47' 09.5"	96° 47' 38.0"	482-488	16		
			488-494		17	
			476-482		15	
Detroit, MI <sup>1</sup> .....	42° 19' 48.1"	83° 02' 56.7"	482-488	16		
			488-494		17	
			470-476		14	
Gulf of Mexico			476-482	15		
			482-488		16	
			488-494	17		
Hawaii						
Houston, TX .....	29° 45' 26.8"	95° 21' 37.8"	476-494		15, 16, 17	
			482-488		16	
Los Angeles, CA .....	34° 03' 15.0"	118° 14' 31.3"	488-494	17		
			494-500		18	
			470-476	14		
			476-482		15	
			482-488	16		
			488-494		17	
			500-506		19	
Miami, FL .....	25° 46' 38.4"	80° 11' 31.2"	506-512	20		
			512-518		21	
			470-476	14		
New York/N.E. New Jersey .....	40° 45' 06.4"	73° 59' 37.5"	476-482		15	
			470-476	14		
			476-482	15		
Philadelphia, PA .....	39° 56' 58.4"	75° 09' 19.6"	482-488	16		
			488-494		17	
			494-500		18	
			500-506	19		
			506-512	20		
Pittsburgh, PA .....	40° 26' 19.2"	79° 59' 59.2"	512-518		21	
			470-476	14		
			476-482		15	
			488-494		17	
			494-500	18		

Area	North Latitude	West Longitude	Excluded Frequencies (MHz)	Excluded Channels		
				200 km	128 km	52 km
San Francisco/Oakland, CA...	37° 46' 38.7"	122° 24' 43.9"	500-506		19	
			476-482		15	
			482-488	16		
			488-494	17		
Washington D.C./MD/VA .....	38° 53' 51.4"	77° 00' 31.9"	494-500		18	
			482-488		16	
			488-494	17		
			494-500	18		
			500-506		19	

<sup>1</sup> The distance separation requirements are not applicable in these cities until further order from the Commission.

(d) Wireless video assist devices are limited to a maximum of 250 milliwatts ERP and must limit power to that necessary to reliably receive a signal at a distance of 300 meters.

(e) The antenna of a wireless video assist device must be permanently attached to the transmitter. When transmitting the antenna must not be more than 10 meters above ground level.

(f)(1) A license for a wireless video assist device will authorize the license holder to use all frequencies available for wireless video assist devices, subject to the limitations specified in this section.

(2) Licensees may operate as many wireless video assist devices as necessary, subject to the notification procedures of this section.

(g) *Notification procedure.* Prior to the commencement of transmitting, licensees must notify the local broadcasting coordinator of their intent to transmit. If there is no local coordinator in the intended area of operation, licensees must notify all adjacent channel TV stations within 161 km (100 mi) of the proposed operating area.

(1) Notification must be made at least 10 working days prior to the date of intended transmission.

(2) Notifications must include:

- (A) Frequency or frequencies.
- (B) Location.
- (C) Antenna height.
- (D) Emission type(s).
- (E) Effective radiated power.
- (F) Intended dates of operation.
- (G) Licensee contact information.

- (3) Failure of a coordinator to respond to a notification request prior to the intended dates of operation indicated on the request will be considered as having the approval of the coordinator.
- (4) Licensees must operate in a manner consistent with the response of the coordinator. Disagreements may be appealed to the Commission. However, in those instances, the licensee will bear the burden of proof and proceeding to overturn a coordinator's recommendation.
- (h) Licenses for wireless video assist devices may not be transferred or assigned.
- (i) The product literature that manufacturers include with a wireless assist video device must contain information regarding the requirement for users to obtain an FCC license, the requirement that stations must locate at least 129 kilometers away from a co-channel TV station, the limited class of users that may operate these devices, the authorized uses, the need for users to obtain a license, and the requirement that a local coordinator (or adjacent channel TV stations, if there is no local coordinator) must be notified prior to operation.

55. Section 74.882 is proposed to be revised to read as follows:

**§ 74.882 Station identification.**

- (a) For transmitters used for voice transmissions and having a transmitter output power exceeding 50 mW, an announcement shall be made at the beginning and end of each period of operation at a single location, over the transmitting unit being operated, identifying the transmitting unit's call sign or designator, its location, and the call sign of the broadcasting station or name of the licensee with which it is being used. A period of operation may consist of a continuous transmission or intermittent transmissions pertaining to a single event.
- (b) Each wireless video assist device, when transmitting, must transmit station identification at the beginning and end of each period of operation. Identification may be made by transmitting the station call sign by visual or aural means or by automatic transmission in international Morse telegraphy.
  - (1) A period of operation is defined as a single uninterrupted transmission or a series of intermittent transmissions from a single location.
  - (2) Station identification shall be performed in a manner conducive to prompt association of the signal source with the responsible licensee. In exercising the discretion provide by this rule, licensees are expected too act in a responsible manner to assure that result.

**V. PART 78 – CABLE TELEVISION RELAY SERVICE**

56. The authority citation for Part 78 continues to read as follows:

**AUTHORITY:** Secs. 2, 3, 4, 301, 303, 307, 308, 309, 48 Stat., as amended, 1064, 1065, 1066, 1081, 1082, 1083, 1084, 1085; 47 U.S.C. 152, 153, 154, 301, 303, 307, 308, 309.

57. Section 78.36 is revised to read as follows:

**§ 78.36 Frequency coordination.**

(a) Coordination of all assignments will be in accordance with the procedure established in paragraph (b) of this section, except that the prior coordination process for mobile (temporary fixed) assignments may be completed orally and the period allowed for response to a coordination notification may be less than 30 days if the parties agree.

(b) Frequency coordination. For each frequency authorized under this part, the following frequency usage coordination procedures will apply:

(1) General requirements. Proposed frequency usage must be prior coordinated with existing licensees, permittees and applicants in the area, and other applicants with previously filed applications, whose facilities could affect or be affected by the new proposal in terms of frequency interference on active channels, applied-for channels, or channels coordinated for future growth. Coordination must be completed prior to filing an application for regular authorization, or a major amendment to a pending application, or any major modification to a license. In coordinating frequency usage with stations in the fixed satellite service, applicants must also comply with the requirements of § 101.21(f). In engineering a system or modification thereto, the applicant must, by appropriate studies and analyses, select sites, transmitters, antennas and frequencies that will avoid interference in excess of permissible levels to other users. All applicants and licensees must cooperate fully and make reasonable efforts to resolve technical problems and conflicts that may inhibit the most effective and efficient use of the radio spectrum; however, the party being coordinated with is not obligated to suggest changes or re-engineer a proposal in cases involving conflicts. Applicants should make every reasonable effort to avoid blocking the growth of systems as prior coordinated. The applicant must identify in the application all entities with which the technical proposal was coordinated. In the event that technical problems are not resolved, an explanation must be submitted with the application. Where technical problems are resolved by an agreement or operating arrangement between the parties that would require special procedures be taken to reduce the likelihood of interference in excess of permissible levels (such as the use of artificial site shielding) or would result in a reduction of quality or capacity of either system, the details thereof may be contained in the application.

(2) Coordination procedure guidelines are as follows:

(i) Coordination involves two separate elements: notification and response. Both or either may be oral or in written form. To be acceptable for filing, all applications and major technical amendments must certify that coordination, including response, has been completed. The names of the licensees, permittees and applicants with which coordination was accomplished must be specified. If such notice and/or response is oral, the party providing such notice or response must supply written documentation of the communication upon request;

(ii) Notification must include relevant technical details of the proposal. At minimum, this should include, as applicable, the following:

Applicant's name and address.

Transmitting station name.

Transmitting station coordinates.

Frequencies and polarizations to be added, changed or deleted.

Transmitting equipment type, its stability, actual output power, emission designator, and type of modulation (loading).

Transmitting antenna type(s), model, gain and, if required, a radiation pattern provided or certified by the manufacturer.

Transmitting antenna center line height(s) above ground level and ground elevation above mean sea level.

Receiving station name.

Receiving station coordinates.

Receiving antenna type(s), model, gain, and, if required, a radiation pattern provided or certified by the manufacturer.

Receiving antenna center line height(s) above ground level and ground elevation above mean sea level.

Path azimuth and distance.

Estimated transmitter transmission line loss expressed in dB.

Estimated receiver transmission line loss expressed in dB.

For a system utilizing ATPC, maximum transmit power, coordinated transmit power, and nominal transmit power.

Note: The position location of antenna sites shall be determined to an accuracy of no less than  $\pm 1$  second in the horizontal dimensions (latitude and longitude) and  $\pm 1$  meter in the vertical dimension (ground elevation) with respect to the National Spatial Reference System.

(iii) For transmitters employing digital modulation techniques, the notification should clearly identify the type of modulation. Upon request, additional details of the operating characteristics of the equipment must also be furnished;

(iv) Response to notification should be made as quickly as possible, even if no technical problems are anticipated. Any response to notification indicating potential interference must specify the technical details and must be provided to the applicant, in writing, within the 30-day notification period. Every reasonable effort should be made by all applicants, permittees and licensees to eliminate all problems and conflicts. If no response to notification is received within 30 days, the applicant will be deemed to have made reasonable efforts to coordinate and may file its application without a response;

(v) The 30-day notification period is calculated from the date of receipt by the applicant, permittee, or licensee being notified. If notification is by mail, this date may be ascertained by:

(A) The return receipt on certified mail;

(B) The enclosure of a card to be dated and returned by the recipient; or

(C) A conservative estimate of the time required for the mail to reach its destination. In the last case, the estimated date when the 30-day period would expire should be stated in the notification.

(vi) An expedited prior coordination period (less than 30 days) may be requested when deemed necessary by a notifying party. The coordination notice should be identified as "expedited" and the

requested response date should be clearly indicated. However, circumstances preventing a timely response from the receiving party should be accommodated accordingly. It is the responsibility of the notifying party to receive written concurrence (or verbal, with written to follow) from affected parties or their coordination representatives.

(vii) All technical problems that come to light during coordination must be resolved unless a statement is included with the application to the effect that the applicant is unable or unwilling to resolve the conflict and briefly the reason therefor;

(viii) Where a number of technical changes become necessary for a system during the course of coordination, an attempt should be made to minimize the number of separate notifications for these changes. Where the changes are incorporated into a completely revised notice, the items that were changed from the previous notice should be identified. When changes are not numerous or complex, the party receiving the changed notification should make an effort to respond in less than 30 days. When the notifying party believes a shorter response time is reasonable and appropriate, it may be helpful for that party to so indicate in the notice and perhaps suggest a response date;

(ix) If, after coordination is successfully completed, it is determined that a subsequent change could have no impact on some parties receiving the original notification, these parties must be notified of the change and of the coordinator's opinion that no response is required;

(x) Applicants, permittees and licensees should supply to all other applicants, permittees and licensees within their areas of operations, the name, address and telephone number of their coordination representatives. Upon request from coordinating applicants, permittees and licensees, data and information concerning existing or proposed facilities and future growth plans in the area of interest should be furnished unless such request is unreasonable or would impose a significant burden in compilation;

(xi) Parties should keep other parties with whom they are coordinating advised of changes in plans for facilities previously coordinated. If applications have not been filed 6 months after coordination was initiated, parties may assume that such frequency use is no longer desired unless a second notification has been received within 10 days of the end of the 6 month period. Renewal notifications are to be sent to all originally notified parties, even if coordination has not been successfully completed with those parties; and

(xii) Any frequency reserved by a licensee for future use in the bands subject to this part must be released for use by another licensee, permittee or applicant upon a showing by the latter that it requires an additional frequency and cannot coordinate one that is not reserved for future use.

58. Section 78.101 is proposed to be amended by revising the entry for 1990 to 2110 MHz in the table in paragraph (a) and adding a new paragraph (c) to read as follows:

**§ 78.101 Power limitations.**

\* \* \* \* \*

Frequency band (MHz)	Maximum allowable transmitter power		Maximum allowable EIRP	
	Fixed (W)	Mobile (W)	Fixed (dBW)	Mobile (dBW)
1990 to 2110 .....	.....	20.0	.....	+35
* * * * *	.....		.....	

\* \* \* \* \*

(c) The EIRP of transmitters that use Automatic Transmitter Power Control (ATPC) shall not exceed the EIRP specified on the station authorization. The EIRP of non-ATPC transmitters shall be maintained as near as practicable to the EIRP specified on the station authorization.

**59.** Section 78.103 is proposed to be amended by removing the entry for 31,000 to 31,300 from the table in paragraph (e).

**60.** Section 78.105 is proposed to be amended by removing the entries for 31,000 to 31,300, 38,600 to 40,000, and Footnotes 2 and 3 from the table in paragraph (a)(1).

**61.** Section 78.106 is proposed to be revised to read as follows:

**§ 78.106 Interference to geostationary-satellites.**

Applicants and licensees must comply with § 101.145 of this chapter to minimize the potential of interference to geostationary satellites.

**62.** Section 78.108 is proposed to be amended by revising paragraph (b) to read as follows:

**§ 78.108 Minimum path lengths for fixed links.**

\* \* \* \* \*

(b) For paths shorter than those specified in the Table, the EIRP shall not exceed the value derived from the following equation.

$$\text{EIRP} = \text{MAXEIRP} - 40 \log(A/B) \text{ dBW}$$

Where:

EIRP = The new maximum EIRP (equivalent isotropically radiated power) in dBW.  
 MAXEIRP = Maximum EIRP as set forth in the Table in § 74.636 of this part.  
 A = Minimum path length from the Table above for the frequency band in kilometers.  
 B = The actual path length in kilometers.

NOTE TO PARAGRAPH (b): For transmitters using Automatic Transmitter Power Control, EIRP corresponds to the maximum transmitter power available, not the coordinated transmit power or the nominal transmit power.

\* \* \* \* \*

**63.** Section 78.111 is proposed to be amended by removing the entry for 31,000 to 31,300 from the table.