on August 30, 1999[119] and for Remote Pickup BAS on September 19, 2000.[120] 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.[121] 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 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.[122] Stations operating under the broadcast auxiliary rules are subject to the construction requirements specified in Section 73.3598,[123] which provide three years to construct stations from the date a construction permit is issued.[124] 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[125] 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.

---

[119] *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.

[120] *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.

[121] *See ULS Report and Order* at 21055.

[122] 47 C.F.R. §1.946.

[123] 47 C.F.R. § 73.3598.

[124] 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.

[125] 47 C.F.R. § 73.3598.

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.[126] 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,[127] 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.[128] In implementing this policy, the Commission stated that this will, "reduce applicant and licensee burdens, increase efficiency and better serve the public interest."[129] 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.[130] 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.[131] 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.[132] 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

---

[126] 47 C.F.R. § 90.167.

[127] 47 C.F.R. §§ 74.433(b), 74.537(b), and 74.633(b).

[128] *See ULS Report and Order* at 21052.

[129] *See Id.*

[130] 47 C.F.R. § 1.931(b)(5).

[131] *See ULS Report and Order* at 21058.

[132] 47 C.F.R. § 1.947(b).

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.[133] 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.[134] We note that this section contains emission designators that no longer conform to current International Telecommunication Union (ITU) specifications or to those contained in Subpart C of Part 2 of the Commission's rules.[135] 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.[136] 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.[137] Also, when cables are used, a staff person must tend to them to ensure the safety of the actors and the crew.[138] Thus, AMPTP claims that using WAVDs would create efficiency on production sets and lower film and television production costs.[139]

---

[133] 47 C.F.R. § 1.931(d)(1)(i).

[134] 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.

[135] *See* International Radio Regulations, Appendix S1 and 47 C.F.R. § 2.201.

[136] *See AMPTP Petition* at 2-3.

[137] *Id.* at 3.

[138] *Id.*

[139] *Id.* at 2.

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.[140] 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.[141]

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 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.[142] 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.[143] 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.[144] 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.[145] 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,[146] or Part 74 users using this spectrum.[147] 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

---

[140] *Id.* at 4-6.

[141] 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.

[142] NAB comments at 1.

[143] SBE comments at 3.

[144] NAB comments at 2; SBE comments at 3.

[145] SBE comments at 2.

[146] 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.

[147] 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).

216-217 MHz and 167-170 MHz bands.[148] Several commenters note that because WAVD operation would be itinerant, it would be extremely difficult to track the source of interference if it occurs.[149] 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.[150]

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, limiting operation in the high VHF-TV band to channels 8-12 to protect adjacent channel low power operations.[151]

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,[152] 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.[153] 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.[154] A notification procedure, AMPT argues, also should alleviate commenters concerns regarding the lack of available spectrum.[155] Finally, with respect to unauthorized

[148] 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).

[149] SBE comments at 2; Phonic Ear comments at 2.

[150] 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.

[151] Phonic Ear comments at 3.

[152] AMPTP reply comments at 2.

[153] *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 Mangers of the technical parameters, including frequency, type of emission, ERP, and location, of any site constructed in the Guard Band Mangers 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).

[154] AMPTP reply comments at 3.

[155] *Id* at 4.

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.[156]

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.[157] AMPTP also suggests that the Commission require a 6 megahertz separation between any public safety channel and any channel selected for WAVD use.[158]

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 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.[159] 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.[160] 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.[161] 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

[156] *Id* at 5.

[157] *Id* at 3.

[158] *Id* at 4.

[159] *See, e.g.*, 47 C.F.R. § 74.602(h).

[160] *See* para. 85, *supra*.

[161] *See, e.g.*, para. 83, *supra*.

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.[162] These entities are currently eligible to hold Low Power Auxiliary Station licenses.[163] 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 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.[164] 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,[165] 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).[166] 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.[167] Specifically, we propose that applicants use FCC Form 601 to apply for an 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

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

[163] 47 C.F.R. §§ 74.832(a)(4) and (5).

[164] *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.

[165] 47 C.F.R. § 2.106.

[166] *See* proposed rule changes to Section 2.106, including revised language for Footnote NG115 in Appendix C.

[167] 47 U.S.C. § 301.

operation.[168] 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.[169] 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.[170] Further, we propose that a WAVD licensee be authorized to use any authorized frequency[171] and to operate on as many frequencies simultaneously as necessary, subject to the limitations and the notification requirements described below.[172] 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 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.[173] 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.[174]

---

[168] 47 C.F.R. § 74.15.

[169] 47 C.F.R. § 73.1020.

[170] 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.

[171] *See* paras. 96-99, *infra*.

[172] *See* para. 107, *infra*.

[173] 47 C.F.R. § 90.265.

[174] 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.

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.[175] Additionally, we propose to restrict the use of WAVDs on channels adjacent to public safety channels in those cities.[176] 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.[177] In addition, we propose that 482-488 MHz (TV channel 16), which New York City public safety users are using under a waiver, also be excluded from WAVD usage in that area.[178] 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[179] and for communication links in the Offshore Radiotelephone Service (ORS) under Part 22 of our rules.[180] 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.[181]. 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.[182]

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

[175] 47 C.F.R. Part 90, Subpart L. *See also*, 47 C.F.R. §§ 22.591, 22.621, 22.651, and 22.1007.

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

[177] 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.

[178] *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.

[179] 47 C.F.R. § 90.315.

[180] 47 C.F.R. Part 22, Subpart I.

[181] 47 C.F.R. §§ 2.106, Note NG127 and 22.603.

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

Area	Excluded Frequencies (MHz)	Excluded Channels
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.[183] We also note that the Commission has recently authorized the use of medical telemetry in the 608-614 MHz band[184] 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.[185] 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.[186] 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:

[183] 47 C.F.R. § 2.106, Note US246.

[184] *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).

[185] *See* para. 59, *supra.*

[186] AMPTP reply comments at 2; AMPTP Petition at 5.

- 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.[187] 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.[188]

102. We also propose that all WAVD transmitters be authorized for use under the certification procedures of Part 2 of our rules.[189] This third-party review process will insure that these transmitters are designed to the parameters ultimately adopted.[190] We seek comment on whether we should authorize these low power devices under declaration of conformity (DOC) procedures.[191] 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.[192] 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.[193] This distance corresponds to Grade B contour of a TV station operating in the upper VHF-TV band with maximum power.[194] 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,[195] maintain distances of up to 129 kilometers from TV broadcasting stations,[196] 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

[187] AMPTP Petition at 5.

[188] *See* paras. 25-30, *supra* for our proposals regarding the TV BAS emission mask.

[189] 47 C.F.R. Part 2, Subpart J.

[190] 47 C.F.R. § 2.952.

[191] *Id.*

[192] 47 C.F.R. §§ 2.1073, 2.1074, and 2.1077

[193] AMPTP Petition at 4.

[194] 47 C.F.R. § 73.683.

[195] 47 C.F.R. § 74.861(e)(1).

[196] 47 C.F.R. § 74.802(b). *See also*, Note 141 *supra*.

operating in the upper VHF TV band,[197] 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.[198] 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[199] should offset the difference in power levels between the two devices.[200] Thus, similar to the rules for wireless microphones, we propose that WAVDs maintain 129 kilometers separation from TV broadcasting stations, including low 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.[201] 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.[202]

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.[203] To further define this protection criteria, we will define the size of the area in which WAVD co-channel operation will not be allowed.[204] 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,[205] and mobile stations must limit operations to within 48 kilometers of the base station.[206]

---

[197] The 250 milliwatts proposed for WAVDs is 7 dB more than the 50 milliwatts allowed for wireless microphones in the VHF-TV band.

[198] 47 C.F.R. § 74.861(e)(5).

[199] 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.

[200] *See* Note 197, *supra.*

[201] 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.

[202] *See* para. 107, *infra.*

[203] *See* para. 97, *supra.*

[204] 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.

[205] 47 C.F.R. §§ 22.657, 90.303.

[206] 47 C.F.R. §§ 22.657, 90.305.

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 receives 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.[207] 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 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.[208] 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

[207] 47 C.F.R. §§ 22.1001, 90.315.

[208] AMPTP reply comments at 2.

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.[209] 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[210] 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 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,[211] which require that stations transmit station identification at the beginning and end of each period of operation at a single location.[212] 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

[209] *See* Note 153, *supra.*

[210] 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.

[211] 47 C.F.R. § 74.882. This rule currently includes only those transmitters used for voice transmissions.

[212] *Id.* A period of operation is defined may consist of a continuous transmission or intermittent transmissions pertaining to a single event.

authority to make reasonable regulations governing the interference potential of devices which emit radio frequency energy.[213] 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.[214] 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,[215] explaining that operation may not cause interference to TV reception,[216] and identifying the intended uses of the device.[217] 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.

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,[218] 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.[219]

---

[213] *See* 47 U.S.C. § 302.

[214] 47 C.F.R. § 15.19.

[215] For example, "Not authorized to operate without an FCC license."

[216] 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."

[217] For example, "Operation is intended only for the production of TV program material and motion pictures."

[218] *See* 5 U.S.C. § 603.

[219] *See* 5 U.S.C. § 603(a).

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.[220]

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.[221] 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;
- 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

[220] *See, generally*, 47 C.F.R. §§ 1.1202, 1.1203, and 1.1206.

[221] *See* Pub. L. No. 104-13.

or before **[60 days after publication in the Federal Register]**.[222] Comments may be filed using the Commission's Electronic Comment Filing System (ECFS), or by filing paper copies.[223]

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 "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 20th 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. This *Notice of Proposed Rule Making* can also be downloaded at http://www.fcc.gov/oet.

---

[222] 47 C.F.R. §§ 1.415, 1.419.

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

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

Magalie Roman Salas

Secretary