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**47 CFR Parts 1, 2, 73, 74, 78 and 101
Broadcast Auxiliary Service Rules; Final
Rule**

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Parts 1, 2, 73, 74, 78 and 101

[ET Docket No. 01-75; FCC 02-298]

Broadcast Auxiliary Service Rules

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: This document amends our rules pertaining to the Broadcast Auxiliary Services (BAS) to permit BAS stations to introduce new technologies and create a more efficient BAS that can more readily adapt as the broadcast industry converts to the use of digital technology, such as digital television (DTV). We also make conforming amendments our rules pertaining to the Radio Broadcast Services, the Cable Television Relay Service (CARS), and to our rules pertaining to Fixed Microwave Services (FS). In many cases, the BAS, CARS, and FS share frequency bands and have technically and operationally similar stations, and our rule changes will permit these three services to operate under consistent regulatory guidelines.

DATES: Effective April 16, 2003, except for §§ 74.535 and 74.637 which became effective on October 30, 2002.

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SUPPLEMENTARY INFORMATION: This is a summary of the Commission's *Report and Order*, ET Docket No. 01-75, FCC 02-298, adopted October 30, 2002, and released November 13, 2002. The full text of this document is available for inspection and copying during regular business hours in the FCC Reference Center (Room CY-A257), 445 12th Street, SW., Washington, DC 20554. The complete text of this document also may be purchased from the Commission's copy contractor, Qualex International, 445 12th Street, SW., Room, CY-B402, Washington, DC 20554. The full text may also be downloaded at: <http://www.fcc.gov>. Alternative formats are available to persons with disabilities by contacting Brian Millin at (202) 418-7426 or TTY (202) 418-7365.

Summary of the Report and Order

1. The *Report and Order* amends part 74 of our rules pertaining to the Broadcast Auxiliary Services (BAS) to permit BAS stations to introduce new technologies and create a more efficient BAS that can more readily adapt as the broadcast industry converts to the use of digital technology, such as digital

television (DTV). We also make conforming amendments to part 73 of our rules pertaining to the Radio Broadcast Services, to part 78 of our rules pertaining to the Cable Television Relay Service (CARS), and to part 101 of our rules pertaining to Fixed Microwave Services (FS). In many cases, the BAS, CARS, and FS share frequency bands and have technically and operationally similar stations, and our rule changes will permit these three services to operate under consistent regulatory guidelines.

BAS Technical Rules (Part 74) and Conforming Technical Rules for Parts 74, 78 and 101 Digital Modulation in All Television and Aural BAS Bands

2. Section 74.637 of the Commission's rules sets forth emission requirements for TV BAS operations. Digital modulation provides for analog or digital modulation in the 6425-6525 MHz, 17.7-19.7 GHz, and 31.0-31.3 GHz bands. Although the rules do not specifically prohibit digital modulation in other TV BAS bands (*i.e.*, 2025-2110 MHz and 2450-2483.5 MHz (2 GHz), 6875-7125 MHz (7 GHz), and 12.7-13.25 GHz (13 GHz)), the Commission's policy relative to BAS has been to allow digital modulation only in bands where it specifically authorized. Therefore, 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.

3. The *Report and Order* modified § 74.637 to permit use of any available digital modulation technique in all TV BAS bands and also modifies § 74.535 to permit digital modulation in all aural BAS bands. We find that permitting digital modulation in the 2 GHz, 7 GHz, 13 GHz TV BAS bands, and all aural BAS bands will provide licensees with increased flexibility in the provision of BAS operations, promote more efficient use of this spectrum, and facilitate the transition to reduced channel bandwidths in the 2 GHz band, and to DTV.

4. In order to facilitate the expeditious processing of the approximately 500 pending applications for digital BAS operations, the following BAS rules will become effective October 30, 2002, the adopted date of the *Report and Order*: §§ 74.535 and 74.637. Pursuant to 5 U.S.C. 553(d)(1) and 553(d)(3), we find good cause to make these rules effective immediately rather than to follow the normal practice of making them effective 30 days after publication in the **Federal Register**, due to the pendency of the BAS applications. Accordingly, we began processing these BAS applications on October 30, 2002, the

adoption date of the *Report and Order*. Defective BAS applications filed on or before November 13, 2002, the release date of the *Report and Order*, will be returned with the opportunity to amend. Defective BAS applications filed after November 13, 2002, the release date of the *Report and Order* may be subject to dismissal. In addition, we will allow relief from any new frequency coordination requirement imposed by the rules we adopted, such as new prior coordination procedures for fixed systems proposed in applications accepted for filing before the effective date of the rules. Specifically, we deem digital applications filed before the effective date of the rules in the *Report and Order* to have been properly coordinated under the existing coordination requirements, absent any evidence to the contrary, and we will not require re-coordination of these applications under prior coordination procedures effective under the new rules that also permit digital modulation (see footnote 22 in the *Report and Order*). We conclude that adherence to the existing frequency coordination requirements has been sufficient to ensure that these digital and analog/digital systems do not cause harmful interference to existing stations, and that re-coordination, or the imposition of frequency coordination where it was not previously required, would be unnecessarily burdensome to the applicants. Moreover, most digital BAS systems that have been applied for are operating under an STA and we have not received any evidence of interference from these systems. We therefore will not require re-coordination for digital applications filed before the effective date of the rules. Finally, we will exercise flexibility with respect to compliance with the technical rules adopted herein when processing these applications.

Maximum Effective Isotropic Radiated Power for Short Paths

5. We have modified the rules to implement in §§ 74.644 and 78.108 the same equation codified at § 101.143 for determining the maximum effective isotropic radiated power for short paths (EIRP) for path lengths shorter than the specified minimum. Further, we are grandfathering existing fixed links that are less than 17 km in length in the 2450-2483.5 MHz band. However, we will not permit grandfathered or other existing links that are modifying from analog operation to analog/digital or digital operation, to retain grandfathered status, and thus continue operation at their current elevated power levels, or be

treated as minor modifications, even if operation is interference-free or is frequency coordinated, unless operation at the higher power levels is justified. Such continuation would otherwise ignore the existing requirement in §§ 74.644 and 78.108(c) that power in excess of that specified be justified by an appropriate technical showing, and could lead to the continuation of unnecessarily excessive power levels, thus defeating the spectral efficiency intended by minimum path length requirements. We decline to classify the conversion from analog to analog/digital or digital operation as a minor modification. Such a change is and will remain classified as major under § 1.929. Further, while operation without interference is possible, and frequency coordination may demonstrate the ability of the system to operate without interference, neither would necessarily justify the continuation of higher power levels, or thus warrant the continuation. We therefore decline to accept such conditions as sufficient justification to warrant the continuation of higher power levels, and will continue to require an appropriate technical showing justifying the elevated power, as required by § 74.644. With respect to MRC's recommendation to require upgrade of old analog receivers to avert harmful interference from a system converting to multiplexed analog/digital operation, we decline to impose such an upgrade, as our rules do not contain minimum receiver performance requirements.

6. We decline to designate the 1990–2110 MHz and 2450–2483.5 MHz bands for use by Remote Pickup BAS operations. We also decline to phase out fixed operation in these bands, to prohibit new fixed path lengths shorter than 17 km in these bands, or to phase out existing short paths in these bands in five years. We recognize that it is possible that the removal of fixed paths could free up spectrum for mobile use in some areas. However, we find that such action would unnecessarily limit the flexibility of TV BAS to accommodate fixed paths, where such paths are feasible and desirable with respect to mobile use of the band. This is particularly true for short paths, whose reduced EIRP can accommodate them in a spectrally efficient way. Moreover, the forced relocation of existing fixed links would be a burden on licensees.

Transmitter Power

7. We find that the proposals to harmonize power limits among parts 74, 78, and 101, and to express those limits

as maximum EIRPs will provide consistency and promote greater efficiency in our rules. We have adopted our proposals as stated in the *Notice of Proposed Rule Making*, (NPRM) 66 FR 28686, May 24, 2001, and are specifying the following EIRP limits: (a) For aural BAS operations in the 944–952 MHz band, 40 dBW; (b) for fixed operations for TV BAS in the 1990–2110 MHz and 2450–2483.5 MHz bands, 45 dBW; and (c) for mobile operations for TV BAS in the 1990–2110 MHz and 2450–2483.5 MHz bands and CARS operations in the 1990–2110 MHz band, 35 dBW. We have also deleted output power limitations for fixed systems as it will permit flexibility in designing systems. However, we will maintain output power limitations in the rules for mobile systems. Maintaining these limits will reduce the potential for interference from mobile systems because they limit EIRP for omnidirectional mobile systems and reduce off-axis EIRP for directional mobile systems.

8. Comsearch asked that the part 101 EIRP limit for the 12,200–13,250 MHz band be amended from 50 dBW to conform to the parts 74 and 78 limit of 55 dBW. We generally agree. We believe that providing common technical standards for similar stations simplifies the manufacturing and licensing process. We note that, except for LTTS, fixed stations under part 101 have not been eligible for new licenses in the 12,700–13,200 MHz portion of the band since 1983. These stations were designed and have been operating for the last 19 years or more with the 50 dBW limit. Thus, we see no reason to modify that limit for these stations. We will increase the EIRP limit to 55 dBW for all FS stations in the 13,200–13,250 MHz portion of the band. Further, we note that the rules for common carriers in the LTTS specify that they are subject to the technical rules of parts 74 and 78 in certain frequency bands shared with BAS and CARS. Therefore, they also will be subject to the higher 55 dBW limit we are adopting for fixed stations. To avoid confusion in the rules, we will amend § 101.807 to clearly state that LTTS stations in certain bands shared with BAS and CARS should follow the power rules of parts 74 and 78.

9. We found that maintaining the same EIRP limits for digital and analog systems is appropriate because, although digital systems would normally require less EIRP to operate, lowering their maximum EIRP could render them more susceptible to interference from higher powered analog systems. Finally, regarding BAS station operations at 2483.5–2500 MHz, the new EIRP limits should not apply to

grandfathered systems. Accordingly, in the final rules, we will specify that only the 2450–2483.5 MHz band is available for BAS stations. We note, however, that this action in no way affects the continued rights of grandfathered BAS stations in the 2483.5–2500 MHz band, as described in footnote NG147 of the Table of Frequency Allocations.

Emission Masks

10. 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. Although the same equipment is often certified and used by licensees in different services, our rules, in some cases, allow each service to use a different emission mask for the same type of emission (e.g., FM, AM, etc.) in the same frequency band. The Commission in the *NPRM* proposed to make the FM and digital modulation emission mask requirements for BAS consistent with the requirements for FS in part 101 and proposed to adopt standard measurement procedures to measure emissions. Additionally, the Commission proposed to grandfather existing equipment authorized pursuant to current emission masks.

11. Commenters did not address our proposals to standardize the emission masks between part 74 and part 101. Most comments addressed nuances of the rules, such as how they apply to composite systems. On the specific emission masks proposed, the comments received were supportive. We believe that maintaining the status quo in the 2 GHz band would harm the industry more than help it. By providing certainty to manufacturers and users regarding equipment, we believe that the industry will be able to move forward and begin making wide scale use of digital equipment to increase spectral efficiency and to ensure that equipment is available for broadcasters as they transition to DTV. Accordingly, we adopted the proposals to amend the part 74 aural and TV BAS emission masks to make them consistent with the emission masks of part 101. As stated in the *NPRM*, 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. In addition, we adopt our proposal to grandfather existing equipment, and will do so for existing equipment and equipment of current production lines authorized, via certification or verification pursuant to the current emission standards, up to two years after the adoption of this *Report and Order*, and for stations authorized to use such equipment pursuant to an application filed up to two years after the adoption of this *Report and Order*. However, any such non-conforming equipment replaced on or after two years after the adoption of this *Report and Order* must be replaced by conforming equipment.

12. We will require Coded Orthogonal Frequency Division Multiplexing (COFDM) systems to meet the emission limitations of the digital mask. We will grandfather existing equipment and equipment of current production lines for two years consistent with our decision. Finally, we clarify that the correct emission type for COFDM is W7D.

13. MRC, the only commenter to address the issue of hybrid digital/analog systems, supports our proposal to apply the digital mask to such systems if the digital traffic is 50% or more of the total peak deviation. We adopted this proposal. For comparison digital/analog systems, similar to hybrid systems, we will apply the appropriate analog or digital emission mask based on the percentage of the channel that carries a digital signal. Specifically, this percentage will be calculated as the system's digital necessary bandwidth divided by the aggregate necessary bandwidth. For purposes of equipment authorization and licensing, the output power and EIRP of a composite system will be its aggregate output power and EIRP. Both composite and hybrid systems will ease the transition to DTV as they provide a migration path for licensees to transition from an analog NTSC signal to a dual analog/digital (NTSC/ATSC) signal, and eventually to only a digital signal. We believe that the procedures we have adopted will simplify and advance the transition to DTV while protecting the ability of coordinators to engineer systems.

14. To determine the emission designator for a composite system, we will use the aggregate necessary bandwidth of the system, which is comprised of the analog necessary bandwidth, any band between the analog and digital signals, and the digital necessary bandwidth. The emission designator will also use the appropriate emission type, such as F9F

or F9W, indicating that the system accommodates at least one analog and at least one digital signal. We note that licensees who modify their equipment from an analog system to a composite analog/digital system, must also modify their station authorization to show the new emission type using ULS. Under the rules, such a change would be considered major and require a new frequency coordination.

15. We did not receive any comments with regard to our proposals for standardized measurement procedures. We continue to believe that our procedures should ensure that all equipment is measured consistently. Therefore, for measuring compliance with the emission mask, for emissions removed from the center frequency by 250% of the emission bandwidth or less, we will permit a reduction of the measurement reference bandwidth below the mask reference bandwidth to a value not less than 1% of the emission bandwidth, or the next higher measurement bandwidth available. This will allow for more accurate emissions measurements just outside the edge of the emission bandwidth, which might otherwise be blurred by the contribution of much greater emissions within the emission bandwidth. For measurements outside this range, we will use the International Telecommunication Union (ITU) guidelines of a 100 kHz resolution bandwidth for systems operating on frequencies below 1 GHz and a 1 MHz resolution bandwidth for systems operating on frequencies above 1 GHz. We realize that this may create a situation where the emissions mask reference bandwidth stated in the rule is less than the measurement resolution bandwidth. If this occurs, there could be some blurring of spectral spikes that might otherwise be detected. We believe that the benefits of simplification and standardization outweigh the potential for such effects to result in interference to adjacent channels. Further, to protect adjacent channel operations, we will require that the emission mask attenuation requirement be corrected to decrease with the ratio of measurement resolution bandwidth to mask reference bandwidth, *i.e.*, by a factor of $10 \log_{10}(B_{res}/B_{ref})$, where B_{res} is the measurement resolution bandwidth and B_{ref} is the emissions mask reference bandwidth in the rule. Finally, we note that the analog FM emission mask does not specify a mask reference bandwidth, which, in conjunction with the measurement resolution bandwidth, could be used to calculate the correction. However, it is the policy of the Commission's Laboratory Division,

which approves equipment authorizations, to require the use of a mask reference bandwidth of 100 kHz for this mask. Accordingly, we have amended the analog FM emission mask for part 74 TV and aural BAS to reflect a 100 kHz emission mask reference bandwidth.

Automatic Transmit Power Control

16. Automatic transmit power control (ATPC) is a function that provides for more efficient spectrum use by ensuring that the transmitter only uses the power necessary to maintain reliable communications. Radios that use ATPC operate with certain power levels during normal propagation conditions. When the receiver detects a drop in received signal level, due to multipath or a rain fade, for example, the receiver 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, by keeping signal levels low, ATPC reduces power consumption of the radio, which lowers operating costs and increases equipment reliability.

17. As proposed in the *NPRM*, we will permit TV BAS, aural BAS, and CARS licensees to use ATPC, and we encourage using TIA TSB 10-F guidelines. While the benefits of using ATPC for BAS may not be as great in other services because BAS generally uses one-way, rather than two-way, communications, the benefits can still be significant. For those stations using two-way communications, ATPC will permit more systems to be frequency coordinated, thus promoting the maximum utilization of spectrum. With respect to TIA TSB 10-F, we recognize the value of standardized, industry-wide frequency coordination guidelines.

Interference to Geostationary Satellites

18. We have adopted our proposal to consolidate in part 101 any parts 74 and 78 technical rules that pertain to protecting geostationary satellites from interference from terrestrial systems. This action will decrease redundancy in our rules and ensure that future changes to GSO protection requirements are consistent across affected services. In this connection, we have updated the frequencies listed in § 101.145(b) and (c) to encompass the BAS and CARS bands subject to RF radiation limits directed towards satellites. We note that this will result in the addition of the frequency

band 6875–7075 MHz to § 101.145(b) and the frequency band 12.75–13.25 GHz to § 101.145(c). We are removing § 78.105(a)(4), which restricts CARS antenna orientation to prevent interference to GSO satellites in the 12.70–12.75 GHz band, as these protections are redundant with those afforded by § 78.106(b) for the larger 12.70–13.25 GHz band.

Frequency Coordination

19. We adopted frequency coordination procedures for all TV and aural BAS and CARS frequency bands. The rules adopted in the *R&O* will require all fixed stations, except for those in the 1990–2110 MHz band, to use the frequency coordination procedures of § 101.103(d). For mobile BAS and CARS, we will maintain the use of § 101.103(d) procedures in those bands where it is currently required (*i.e.*, 6425–6525 MHz and 17.7–19.7 GHz) and flexibly permit use of § 101.103(d) or local coordination procedures for the 2450–2483.5 MHz, 6875–7125 MHz, and 12,700–13,250 MHz bands. For all other mobile BAS and CARS stations, we will continue to allow mobile stations to coordinate locally. In the 1990–2110 MHz band, we will maintain the current system which allows for local coordination of all stations. The rules will be applied uniformly across the United States for both urban and rural environments.

20. For the 1990–2110 MHz band, we will continue to maintain procedures which allow for local frequency coordination for all stations “fixed and mobile. In this band, we deviate from the policy articulated above for fixed stations based on unique circumstances of this band. Specifically, it is used predominantly by mobile TV pickup stations, but also supports some fixed links and it is currently transitioning to accommodate MSS in the 1990–2025 MHz portion of the band. Because each area of the United States may transition to MSS at different times, local frequency coordinators may be in the best position to accommodate requests to local operating conditions. We have adopted changes to §§ 74.638 and 78.36 which supplement local frequency coordination procedures for fixed systems to require the submission of a certification attesting that all co-channel and adjacent-channel licensees and applicants potentially affected by the proposed fixed use of the frequencies have been notified and are in agreement that the proposed facilities can be installed without causing harmful interference to other users.

21. An additional issue related to frequency coordination involves

protection standards for stations. The *NPRM* discussed the importance of uniform frequency coordination procedures and standards to simplify coordination in shared bands and minimize the potential of stations causing interference. In this regard, the procedures in part 101 have served the FS well in the past, providing a firm and uniform, yet adaptable, basis for engineering systems without harmful interference, while maximizing frequency re-use. Thus, we believe that these same procedures will similarly benefit BAS and CARS. We note that these criteria are consistent with those already in effect for all BAS and CARS operations in the 12.7–13.25 GHz band. Therefore, we have adopted § 101.105 interference criteria for use where § 101.103(d) frequency coordination procedures apply to BAS and CARS.

Frequency Tolerance

22. We have eliminated separate frequency tolerance requirements for base and mobile operations, and adopted a frequency tolerance of 0.001% for fixed and mobile TV BAS equipment operating in the 2450–2483.5 MHz band. We found that having consistent frequency tolerance requirements for both fixed and mobile transmitters will simplify frequency coordination and improve spectrum efficiency. Similarly, by adopting a frequency tolerance requirement, we will ensure that spectrally efficient equipment is used and, for example, in the 2450–2483.5 MHz band, that the potential for adjacent channel interference is reduced. In that regard, to accommodate existing product lines in the 2450–2483.5 MHz band such as those of MRC, we will delay the effective date of the 0.001% tolerance in that band for two years. We found that this will accommodate MRC's existing product line, and strikes a balance between the benefits of spectrum efficiency afforded by a tighter tolerance and the indefinite accommodation sought by MRC for non-compliant product lines. Thus, we will grandfather existing equipment and equipment of current production lines exceeding the new 0.001% tolerance in the 2450–2483.5 MHz band and authorized, via certification or verification, up to two years after the adoption of the *Report and Order*, and stations authorized to use such equipment pursuant to an application filed up to two years after the adoption of the *Report and Order*. However, any such non-conforming equipment replaced on or after two years after the adoption of the *Report and Order* must be replaced by conforming equipment.

Use of the 13.150–13.2125 GHz Band by BAS and CARS Pickup Stations

23. As proposed in the *NPRM*, we are updating § 74.602(a) Note 2 to implement, in accordance with the *NGSO Order*, 66 FR 7606, January 24, 2001, expansions in mobile TV BAS and CARS pickup stations' use of the 13.15–13.2125 GHz band and the exclusion of NGSO FSS from that band. We note that the recent *Optel Order* 67 FR 43257, June 27, 2002, has rendered BAS pickup stations primary, and CARS stations, secondary to BAS pickup stations, in the 13.20–13.25 GHz band, and we have updated § 74.602(a), Note 2, to reflect this status in the 13.20–13.2125 sub-band. Consistent with these actions, we have also updated § 78.18(1) with respect to CARS, and footnote NG53 to the Table of Frequency Allocations in § 2.106. Further, we are grandfathering at their current status all fixed stations licensed in the 13.15–13.2125 GHz band prior to the effective date of the rules in the *Report and Order*.

Use of the 31.0–31.3 GHz and 38.6–40.0 GHz Bands by the BAS and CARS

24. We adopted the proposals in the *NPRM* to eliminate references to the 31.0–31.3 GHz and 38.6–40.0 GHz bands from BAS and CARS technical rules, and to grandfather BAS incumbents in the 38.6–40.0 GHz band. We note that the incumbent BAS licensees remain bound by the operational parameters specified on their current authorizations. We also clarify that, as stated in footnote US291 to the Table of Frequency Allocations, mobile BAS facilities in the 38.6–40.0 GHz band operate on a secondary basis with respect to stations operating in accordance with the Table of Frequency Allocations, which include Winstar's operations under part 101. In this connection, consistent with our actions removing references to the 38.6–40.0 GHz band from part 74, we are removing Auxiliary Broadcasting from that band in the Table of Frequency Allocations. We are also removing footnote US291 from the Federal Government and Non-Federal Government columns of the table and replacing it with footnote NG175 in the Non-Federal Government column only, revised to show that the band is no longer available for BAS, and that incumbent mobile BAS operations licensed as of the effective date of the rules in the *Report and Order* are grandfathered and may continue to operate indefinitely on a secondary basis with respect to part 101 licensees. We are revising § 2.106, Table of Frequency Allocations, and part 74 of our rules.

BAS Service Rules (Part 74)*Temporary Conditional Authority*

25. The Commission proposed in the *NPRM* to allow BAS 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 and Remote Pickup BAS. The Commission proposed to make such 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.
- 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.

The Commission also proposed to allow temporary conditional authority for low power auxiliary stations authorized under part 74, subpart H. To effectuate these changes, the Commission proposed to remove § 74.431(g) and to adopt new § 74.25 to allow temporary conditional authorizations for all broadcast auxiliary services. We find that providing BAS applicants with the ability to operate under temporary conditional authority is appropriate. We are removing § 74.431(g) and adopting a new § 74.25 to allow temporary conditional authorizations for all broadcast auxiliary services.

Short Term Operation

26. 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 auxiliary station on a short-term secondary basis, for up to 720 hours per year, without prior authorization from the Commission, subject to providing notification to the local frequency coordinator, and to co-channel and

adjacent channel CARS licensees. This rule section provides broadcasters with flexibility to respond to short term situations that occur outside of a station's normal operating area without coming to the Commission with requests for STA. However, the same flexibility is not afforded to broadcast network entities, cable network entities, or LPTV stations, even though these entities are eligible to hold BAS licenses. To promote consistent treatment of licensees with similar operations, we adopted our proposal to extend the short-term operation rules to broadcast network entities, cable network entities, and LPTV stations. This action will simplify the process for these entities when it is necessary to provide coverage of events outside of its normal coverage area. In addition, our proposal to codify rules and procedures for designating a coordinator for major special events was supported by commenters and is adopted as proposed with one clarification; we will specify in § 74.24(g)(2)(i) that the initial request for such designation be made in writing. Such designations will be made by public notice which will include all necessary contact information. We will maintain the current limitation of 720 hours per year per frequency for short-term operation.

27. Extending this rule to cover additional entities raises questions regarding compliance with the various station identification rules. Therefore, because broadcast network and cable network entities do not have individual station call signs for identification purpose, we will require them to use their network or cable entity name along with their base of operations city for compliance with the station identification rules. Using such a scheme will make it easy to identify the proper point of contact should a problem arise.

Use of UHF-TV Channels for TV STLs and TV Relay Stations

28. We adopt, with some modification, our proposals with respect to the future use of UHF-TV channels by TV STLs, TV relay stations, and TV translator relay stations. We will permit these stations to obtain authorizations without submitting an engineering analysis so long as they meet the specified technical parameters—maximum EIRP of 35 dBW, maximum transmitting antenna beamwidth of 25 degrees, and use of vertical polarization. In addition, we will limit future licensing, beginning as of the effective date of the rules of the *Report and Order*, of TV STLs and TV relay stations to channels 14–51; current stations on

channels 52–69 will be grandfathered under the terms of their current authorization until the end of the DTV transition or until new primary licensees require the removal of such operations. Finally, we will permit future licensing of TV translator relay stations on all UHF-TV channels 52–69 through the end of the DTV transition as long as harmful interference is not caused to new primary services.

29. We decline to adopt any additional restrictions or review procedures which would unnecessarily burden licensees or the licensing process. We will however make a slight wording change to § 74.602(h)(1) to clarify that if any of the specified parameters are exceeded, an engineering analysis must accompany the application. We also point out that stations licensed under § 74.602(h) are secondary and regardless of their operating parameters, must protect all primary stations using the UHF-TV spectrum, including land mobile stations.

TV BAS Sound Channels

30. In the *NPRM*, the Commission stated that its understanding of current industry practice is for broadcasters to use multiplexing techniques, rather than separate sound channels, to transmit the aural portion and video portion of their programming over a single TV BAS channel. Therefore, the Commission proposed to eliminate § 74.603(b). Additionally, the Commission proposed to eliminate the corresponding provision of § 74.502(b) that provides TV BAS licensees' authorization to use the aural BAS channels. The Commission also sought comment on whether it should remove § 74.603(c), which provides grandfathering rights so that TV BAS stations could continue operating aural STL or relay stations that were in service prior to July 10, 1970. SBE, the only commenter on this issue, confirms the Commission's understanding of current industry practice and concurs with the proposals. Accordingly, we adopted the proposals to eliminate §§ 74.603(b), 74.502(b), and 74.603(c).

Remote Pickup Broadcast Auxiliary Frequency Assignment

31. The Commission amends the channel plan for 150 MHz and 160 MHz Remote Pickup stations to list channels every 7.5 kilohertz and allow licensees to stack up to four channels for a total of 30 megahertz. In addition, we will modify the Group N1 and N2 450 MHz channels to list channels every 6.25 kilohertz and allow licensees to stack up to eight channels for a total of 50

megahertz. We will also modify the Group P channels to list them every 6.25 kHz and allow licensees to stack up to two channels. Further, we will require new Remote Pickup station equipment designed to operate on channels 30 kilohertz wide or less to comply with the part 90 technical standards, including emission mask, frequency tolerance, and transient frequency behavior. By harmonizing all RPU channels and equipment with the Part 90 PLMR channel plan, licensees will benefit from economies of scale resulting from the use of equipment consistent with part 90 operations. Additionally, this will simplify station coordination and reduce the potential for harmful interference.

32. To ease the transition to this new channel plan, we adopted our proposal to provide a three-year period for licensees operating on the channels adopted in 1984 to modify their licenses to the new channels. After three years, they may remain on their current channel assignments, but on a secondary, non-interference basis. Consistent with our action for the N₁ and N₂ channels we will also provide three years to licensees operating on the 10 kilohertz P channels to modify their licenses to the new channel plan. After that time they may remain on their current channel assignment but on a secondary basis. This will provide for a smooth transition to the new channels where incumbent operations will not inhibit the growth of systems on the new frequency plan.

Federal Narrowbanding of 162–174 MHz Band Land Mobile Frequencies

33. In accordance with the comments of SBE and our proposal, we amended the rules to require that existing and applied for Remote Pickup BAS facilities on 166.25 MHz and 170.15 MHz use no more than 12.5 kilohertz channel bandwidth by January 1, 2005. This will apply to all stations on these frequencies that obtained licenses or applied for licenses on or before the effective date of the rules in this *Report and Order*. This approach will ensure that existing licensed stations and applicants who are planning stations on these frequencies have adequate time to transition to narrowband equipment. To further ease this transition, we will not require licensees to modify their licenses. Instead, the Commission will automatically issue a superseded license, effective January 1, 2005, showing the reduction in authorized bandwidth. Additionally, in the event that the January 1, 2005 deadline for Federal Government systems is extended, we will consider amending

the rules to implement the extension for Non-Government systems on the 166.25 MHz and 170.15 MHz frequencies as well. Stations applied for after the effective date of the rules in the *Report and Order* must comply with the 12.5 kilohertz channel bandwidth requirement. Rather than placing these requirements in footnote US11 as proposed, we will instead amend § 74.462. This action is appropriate as it consolidates all Remote Pickup BAS service rules in one place.

34. With respect to Remote Pickup BAS base stations operating as an integral part of the EAS, we are adopting a procedure recommended by NTIA to ensure that such stations will be protected. Under this procedure NTIA will place a notation in the Government Master Frequency (GMF) database licensing record of these stations which will require Government stations to protect them from harmful interference. Thus, there is no need to amend footnote US11.

950 MHz Aural BAS Channel Splits

35. The *Report and Order* in MM Docket 85–36, 50 FR 48596, November 26, 1985, specified that the 950 MHz Aural BAS Channel Plan listed in § 74.502(b) would become effective upon a future Order from the Commission to be issued when the licensing system was capable of accommodating this channel plan. With the implementation of ULS for licensing, we are implementing that rule section with this *Report and Order*.

Universal Licensing System and BAS

36. The *Universal Licensing System* (ULS) is an automated licensing system and integrated database designed to provide greater efficiency in 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 *ULS Report and Order*, 63 FR 68904, December 14, 1998, consolidated the application and processing rules for all wireless services into Subpart F of Part 1, now the only rule section that wireless applicants and licensees, including BAS applicants and licensees, must consult regarding application procedures, such those as for amendments, modifications, and STAs. The Commission's WTB, which is responsible for licensing BAS, began using ULS for Aural and TV BAS licensing in August, 1999 and for Remote Pickup BAS in September, 2000. As a result, several BAS service rules require updating to reflect new ULS application processing procedures.

Many of these changes, such as updating application form numbers, are ministerial in nature.

Applications Procedures and Construction Periods

37. We have adopted the proposals from the *NPRM* regarding applications and STA filing procedures. We are amending §§ 1.901 and 1.902 to reference part 74 and are adding a new § 74.6 to reference BAS applicants and licensees to the application and processing rules in part 1, subpart F. These changes will simplify our rules and result in processing efficiencies for BAS licensing. We observe that specific changes to the ULS system, including forms, affect multiple services. Thus, we lack adequate notice to all potentially affected services and we therefore decline to adopt changes to Form 601. We note that no commenter opposed the proposal with respect to STAs. Therefore, we are also adopting the proposals amending part 74 to require that BAS STA requests follow the procedures outlined in § 1.931. We clarify that electronic filing is not required for STAs; they may be filed either electronically or manually.

38. We have also adopted the proposed rule amendments to remove the construction requirements for BAS stations from part 73 and place them in a new § 74.34. This approach will promote timely construction of facilities, ensure consistent construction requirements among the services, and prevent warehousing of spectrum. We note that the rules already require licensees to file a notification of completion of construction. Failure to file such a notification results in the termination of the license by the Commission.

Classification of Filings as Major or Minor

39. The Commission proposed to amend the part 74 rules to adhere to the procedures adopted in the ULS proceeding for major and minor amendments and modifications; *i.e.*, 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 §§ 1.929(a) and 1.929(d), and Remote Pickup BAS applications would follow the rules set forth in §§ 1.929(a) and 1.929(c)(4). In many cases, the rules adopted in the *ULS Report and Order*, 63 FR 68904, December 14, 1998, provide more flexibility than is afforded BAS licensees under part 74. For example, §§ 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 § 1.929(d)(1)(i) classifies changes in transmitting antenna location that are 5 seconds or less in latitude and/or longitude as minor. The proposal made in the *NPRM* would implement rule changes that treat BAS applicants in a consistent manner with the treatment given other wireless services.

40. We have adopted our proposals to amend the part 74 rules so that BAS applicants and licensees are subject to the same rules as specified for the land mobile and microwave services for determining major and minor application and license changes. This action will align Remote Pickup BAS processing rules with those for similar services under part 90 and align the rules for TV and aural BAS with the rules for part 101. Thus, similar stations will be treated in a consistent manner.

41. We note that changes in emissions, such as a conversion from analog to digital modulation or to composite analog/digital modulation, are already classified as major changes under the rules in §§ 1.929(c)(4)(ii) and (d)(1)(iv), and frequency coordination would be required when a major change is requested. With regard to location changes of less than 5 seconds in latitude and/or longitude, we note that the Commission in the *ULS Reconsideration Order*, 66 FR 53231, October 1, 1999, clarified that such minor changes are not exempt from the coordination requirement. The Commission explained that an applicant requesting a minor change must still coordinate as required by § 101.103(d)(2)(ix) prior to implementing the change and that this process is sufficient to ensure that minor changes are properly coordinated to avoid harmful interference, without imposing an unnecessary filing burden on applicants. We find that this procedure will work equally well for part 74 services.

Emission Designators

42. Section 74.462 of the Commission's rules specifies authorized emissions for Remote Pickup BAS frequencies and frequency bands. In the *NPRM*, the Commission observed that this section contains emission designators that no longer conform to current ITU specifications or to those contained in subpart C of part 2 of the Commission's rules in the *NPRM* the Commission proposed to update § 74.462 to replace all outdated emission designators with emission designators that conform to ITU specifications and part 2 rules. We have

adopted our proposal and updated the emission designators of § 74.462.

AMPTP Petition

43. Video assist devices produce low resolution images that can be used by a production crew to make decisions with respect to content, lighting, and image framing. 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 camera needs to be mobile to follow the action. To improve their utility and increase safety, the Commission, based on a petition filed by AMPTP on November 15, 1999, RM-9856, proposed 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.

Authorization of WAVDs

44. We have adopted our proposal to allow the use of WAVDs on a secondary, non-interference basis on vacant upper VHF-TV and UHF-TV channels. In the *NPRM*, we proposed to authorize WAVDs as low power auxiliary stations under part 74, subpart H. We believe that this is the appropriate subpart in which to place WAVDs due to their similarity to existing low power auxiliary devices, rather than the Remote Pickup BAS rules. If after gaining experience with WAVDs, we determine that communications on television channels needs to be prioritized, we can revisit this issue.

Eligibility, Permitted Use, and Licensing of WAVDs

45. As proposed in the *NPRM*, we have adopted our proposal to permit all entities eligible to hold part 74 licenses to use WAVDs. This includes television and motion picture producers. We have also adopted our proposal to restrict the use of WAVDs from use at live events or for ENG operations. We clarify that WAVDs may be used to produce cable, satellite, and motion picture events for later showing on television (through free over the air TV, cable TV systems, and satellite TV systems) or in theaters, but may not be used in the production of live events. Similarly, we have adopted our proposal that WAVDs be excluded from operating under the short-term operation rule. This will ensure that WAVDs are properly coordinated and television stations, notified, to ensure that the potential of these devices to interfere with television broadcasts is minimized.

46. We have also adopted our proposal to require that WAVD stations

be licensed prior to operating. Such licenses will be obtained through the ULS using FCC Form 601. In addition, consistent with our licensing of other low power auxiliary devices, WAVD licenses will normally be issued for a period of eight years and, for those held by a broadcast station, run concurrently with the license term of that station. For other license holders, the expiration date will be determined by the area of the country in which the station operates.

47. We address the request of AMPTP to allow third party contractors to obtain WAVD licenses. AMPTP states that third party contractors may wish to operate and/or rent WAVDs to studios. We will not expand the eligibility for WAVD licenses to entities beyond those proposed. We stress that this does not preclude the operation of WAVDs by third party contractors. A party under contract to a television or motion picture producer may rent equipment and even operate it for the producer. However, such operation would be under the authority of the producer's license. This arrangement is consistent with rules in other services where entities are able to operate equipment under the authority of another entity's license. Based on our experience, we believe that this arrangement best promotes accountability and compliance with our rules.

Authorized Frequencies

48. In light of the lack of comments on this issue, we have adopted our proposals regarding authorized frequencies as proposed in the *NPRM*. Accordingly, WAVDs may operate on unused television broadcast frequencies in the 180–210 MHz, 470–608 MHz and 614–698 MHz bands. As proposed, we will not allow WAVDs to operate in the 174–180 MHz and 210–216 MHz bands (TV channels 7 and 13), in order to protect the Low Power Radio Service (LPRS), which supports auditory assistance devices and health care aids that operate pursuant to part 95 and other low power devices operating under § 90.265 of our rules. In addition, this channel restriction will protect from interference the Navy's SPASUR radar system, which operates in the 216.88–217.08 MHz band. We find that given the amount of spectrum we are authorizing for WAVDs, these restrictions will have minimal impact on their ability to identify spectrum on which to operate.

49. We adopt the proposal to exclude WAVDs from using land mobile radio channels in the 470–512 MHz band (TV channels 14–20) in areas around the coordinates listed in § 90.303 because

nomadic WAVDs could not likely share spectrum with land mobile operations. We also adopt the proposal to require WAVDs to maintain at least 6 megahertz frequency separation from such land mobile channels when operating within these areas. This frequency and geographic separation is necessary to protect public safety land mobile use, which in the 470–512 MHz private land mobile bands could occur on any of the channels allocated in a given area. Therefore, all TV channels listed in § 90.303 are excluded from WAVD use at the locations listed. As discussed in

the *NPRM*, the band 482–488 MHz (TV channel 16) will also be excluded from WAVD use in the New York City area to protect New York City public safety entities which are using that spectrum under a waiver. Similarly, the band 476–494 MHz (TV channels 15–17) will be excluded from WAVD in areas near the Gulf of Mexico to protect the PLMRS and communication links in the ORS under part 22 of our rules. Communications with mobile stations under these rules are generally limited to stations within the Gulf (*e.g.*, stations on boats or aircraft) or to stations on the

shore. Finally, WAVDs will be excluded from the band 488–494 MHz (TV channel 17) in areas near Hawaii to protect common carrier control and repeater stations for point-to-point inter-island communications.

50. The frequencies on which we will exclude WAVD use are summarized in the following table. We reiterate that these exclusions will not prevent WAVDs from operating on channels listed in the table when WAVDs are a sufficient distance from the cities listed in the following table.

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, 500–518	14–17, 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, 488–506	14–15, 17–19
San Francisco/Oakland, CA	476–500	15–18
Washington DC/MD/VA	482–506	16–19

51. Finally, as proposed in the *NPRM*, we will exclude WAVDs from operating in the 608–614 MHz band (TV channel 37) to protect radio astronomy operations in that band. This exclusion is consistent with the Table of Allocations in part 2 of our rules, which specifies that no stations will be authorized to transmit in that band. We also note we have recently authorized the use of medical telemetry in the 608–614 MHz band, and this exclusion will also protect those operations. Finally, WAVDs will not be allowed to use channels above 698 MHz (channel 51) in the UHF–TV band due to a recent spectrum reallocation of those channels to uses other than broadcasting. We find that these exclusions are justified to protect existing operations in these bands.

Technical and Operational Requirements

52. The *NPRM* proposed conservative technical and operational requirements to allow WAVDs to operate without harming other operations. Specifically, the *NPRM* proposed: (1) To limit the ERP of WAVDs to 250 milliwatts (mW); (2) to require that the transmitting devices use a permanently attached antenna; (3) to allow WAVDs bandwidths of up to 6 megahertz, limited to transmitting on a single TV

channel (*i.e.*, WAVD transmissions may not overlap the TV channel edge); (4) to use the same emission limitations being proposed for other TV BAS transmitters in this proceeding; (5) to authorize WAVD transmitters under the certification procedures of part 2 of our rules; (6) to require WAVDs to maintain a 129 km separation distance from TV broadcasting stations operating on the same frequency and a 200 km separation distance from cities where land mobile operations are authorized; (7) to require WAVD operators to achieve prior notification, rather than coordination, with the local broadcast coordinator or any adjacent channel TV station within 161 km of each intended WAVD operation at least 10 business days in advance of operation; (8) that WAVD licensees be subject to the station identification requirements of § 74.882; and (9) that manufacturers include certain information in the product literature that is included with WAVDs to indicate the requirements for using these devices.

53. The various technical and operational requirement proposals for WAVDs set forth in the *NPRM* were designed to protect other users of the TV bands without unnecessarily hindering WAVD operations. Most of these were unopposed, and we will adopt them as proposed. Specifically, we have adopted

the ERP limit of 250 mW, the bandwidth limit of 6 megahertz on a single TV channel, the requirement to meet the same emissions limitations as other part 74 transmitters, part 2 certification procedures for WAVD transmitters, the proposed separation distances from TV and land mobile stations, the requirement that WAVD licensees follow the station identification requirements of § 74.882; and the requirement that manufacturers include certain information in their product literature.

54. With respect to the antenna issue raised by commenters, we agree with SBE that the use of unintended antennas should be avoided because they could increase the interference potential. We also agree with AMPTP that a permanently attached antenna may result in increased repair costs. We believe that a reasonable compromise between these positions exists. We note that our part 15 rules contain a provision allowing either permanently attached antennas or devices with unique couplings to permit antennas to be more easily repaired. This has worked well in the preventing unintended antennas from being attached to low power unlicensed devices and we believe a similar requirement would work here. Accordingly, we have adopted a

requirement that WAVDs contain a permanently attached antenna or contain a unique connector that allows for easy antenna repair while preventing the use of unauthorized antennas.

55. We believe that notification is more appropriate than full coordination for WAVDs. We take this position based on the low ERP, limited range, and non-interference status of WAVDs. In addition, because WAVDs may be used at multiple locations in support of a production, notification will be less burdensome than coordination for both the WAVD licensee and the coordinator while still providing adequate protection to broadcast transmissions. In this connection, we have adopted our proposal to consider the absence of a response from a coordinator after ten business days have passed as an approval. Once the WAVD operator has made reasonable attempts to notify the BAS coordinator or appropriate TV stations, we find that failure of these entities to respond to the WAVD operator approval is an insufficient basis to delay use of WAVDs. We find that this approach strikes a reasonable balance between the requirements of producers and the needs of the coordinator to study notifications and respond to operators as necessary. We will require WAVD licensees to notify, for informational purposes only, nearby co-channel and adjacent channel TV stations (*i.e.*, those stations within 161 km of the WAVD location). As stated, this will be informational only and television stations will not be able to prevent a WAVD from operating. However, this informational notification may help identify the source of interference if any is experienced after a WAVD begins operating. We have adopted all other aspects of the notification proposal as proposed in the *NPRM*.

Final Regulatory Flexibility Analysis

56. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),¹ an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Notice of Proposed Rule Making, 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*.² The

¹ See 5 U.S.C. 603. The RFA, see 5 U.S.C. 601–612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Public Law 104–121, Title II, 110 Stat. 857 (1996).

² See *Notice of Proposed Rule Making*, ET Docket No. 01–75, 16 FCC Rcd 10556, 10601 (2001), 66 FR 28686, May 24, 2001.

Commission sought written public comment on the proposals in the Notice, including comment on the IRFA. The comments received are discussed further. This present Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.³

(A) Need for and Objective of the Report and Order

57. The *Report and Order* updates the Broadcast Auxiliary Service (BAS) rules in part 74 and will permit increased compatibility between Broadcast Auxiliary Services, the Cable Television Relay Service (CARS), and Fixed Service Microwave (FS) systems operating on shared spectrum. Specifically, we permit TV and aural BAS stations to use any available digital modulation technique in all BAS frequency bands so that BAS stations can take advantage of the latest developments in technology and make smooth the transition to digital TV and digital radio; update BAS emission masks to facilitate the introduction of digital equipment and to provide consistency with emission masks used in part 101 of the rules; modify the equation used by BAS and CARS services for determining the maximum effective isotropic radiated power (EIRP) for short path lengths (this change eliminates the steep reduction in EIRP for BAS and CARS path lengths shorter than the minimum); allow BAS and CARS stations to use automatic transmit power control (ATPC) in order to facilitate more efficient spectrum use; update transmitter power rules for BAS and CARS services to provide EIRP limits for all frequency bands; require TV BAS and CARS services to prior coordinate their frequency use when using shared frequency bands to minimize the potential for harmful interference occurring when a new station begins transmitting. We also permit “wireless assist video devices” to operate on certain VHF and UHF TV spectrum, thereby increasing spectrum efficiency and promoting equipment, which will increase safety at production sites as well as lower film and television production costs. In addition, we update many other BAS rules and make minor rule changes to clarify or fix typographical errors in the existing rules.

(B) Summary of Significant Issues Raised by Public Comments in Response to the IRFA

58. In the Notice, the Commission performed an IRFA and asked for comments that specifically addressed

³ See 5 U.S.C. 604.

issues raised in the IRFA. No parties filed comments directly in response to the IRFA. However, commenters made recommendations regarding channel splitting, and the Commission, in response, is overlaying narrowband channels in various bands and is authorizing an effective date for channel splitting in the 950 MHz aural BAS band.

(C) Description and Estimate of the Number of Entities Affected to Which Rules Will Apply

59. 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 action taken.⁴ The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”⁵ In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.⁶ A small business concern is one that: (1) Is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).⁷ A small organization is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.”⁸ Nationwide, as of 1992, there were approximately 275,801 small organizations.⁹ Finally, “small governmental jurisdiction” generally means “governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than 50,000.”¹⁰ As of 1992, there were approximately 85,006 such jurisdictions in the United States.¹¹ This number includes 38,978 counties, cities, and towns; of these, 37,566, or 96 percent, have populations

⁴ 5 U.S.C. 603(b)(3).

⁵ *Id.*, 601(6).

⁶ 5 U.S.C. 601(3) (incorporating by reference the definition of “small business concern” in 15 U.S.C. 632). Pursuant to the RFA, the statutory definition of a small business applies “unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the **Federal Register**.” 5 U.S.C. 601(3).

⁷ Small Business Act, 15 U.S.C. 632.

⁸ 5 U.S.C. 601(4).

⁹ 1992 Economic Census, U.S. Bureau of the Census, Table 6 (special tabulation of data under contract to Office of Advocacy of the U.S. Small Business Administration).

¹⁰ 5 U.S.C. 601(5).

¹¹ U.S. Dept. of Commerce, Bureau of the Census, “1992 Census of Governments.”

of fewer than 50,000.¹² The United States Bureau of the Census (Census Bureau) estimates that this ratio is approximately accurate for all governmental entities. Thus, of the 85,006 governmental entities, we estimate that 81,600 (91 percent) are small entities.

60. The rules adopted in the *Report and Order* affect licensees of BAS (Remote Pickup, aural, and television), CARS, and fixed microwave services. Additionally, they affect manufacturers of equipment that supports the BAS.

Broadcast Auxiliary Service (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 back to the stations). The Commission has not developed a definition of small entities specific to broadcast auxiliary licensees. The U.S. Small Business Administration (SBA) has developed small business size standards, as follows: (1) For TV BAS, we will use the size standard for Television Broadcasting, which consists of all such companies having annual receipts of no more than \$12.0 million;¹³ (2) For Aural BAS, we will use the size standard for Radio Stations, which consists of all such companies having annual receipts of no more than \$6 million;¹⁴ (3) For Remote Pickup BAS we will use the small business size standard for Television Broadcasting when used by a TV station and that for Radio Stations when used by such a station.

61. According to Census Bureau data for 1997, there were 906 Television Broadcasting firms, total that operated for the entire year.¹⁵ Of this total, 734 firms had annual receipts of \$9,999,999.00 or less and an additional 71 had receipts of \$10 million to \$24,999,999.00.¹⁶ Thus, under this standard, the majority of firms can be considered small.

62. According to Census Bureau data for 1997, there were 4,476 Radio Stations (firms), total, that operated for the entire year.¹⁷ Of this total 4,265 had annual receipts of \$4,999,999.00 or less, and an additional 103 firms had receipts

of \$5 million to \$9,999,999.00.¹⁸ Thus, under this standard, the great majority of firms can be considered small.

Cable Antenna Relay Service (CARS) includes transmitters generally used to relay cable programming within cable television system distribution systems. The SBA has developed a small business size standard for Cable and other Program Distribution, which consists of all such companies having annual receipts of no more than \$12.5 million.¹⁹ According to Census Bureau data for 1997, there were 1,311 firms within the industry category Cable and Other Program Distribution, total, that operated for the entire year.²⁰ Of this total, 1,180 firms had annual receipts of \$9,999,999.00 or less, and an additional 52 firms had receipts of \$10 million to \$24,999,999.00.²¹ Thus, under this standard, the majority of firms can be considered small.

Fixed Microwave Services (FS) includes common carrier, private-operational fixed, and broadcast auxiliary radio services. Presently there are approximately 22,015 common carrier fixed licensees and 61,670 private operational-fixed licensees and broadcast auxiliary radio licensees in the microwave services. The SBA has developed a small business size standard for Cellular and other Wireless Telecommunications, which consists of all such companies having 1,500 or fewer employees.²² According to Census Bureau data for 1997, there were 977 firms in this category, total, that operated for the entire year.²³ Of this total, 965 firms had employment of 999 or fewer employees, and an additional 12 had employment of 1,000 employees or more.²⁴ Thus, under this standard, virtually all firms can be considered small.

(D) Description of Projected Reporting, Recordkeeping and Other Compliance Requirements for Small Entities

63. Under the rules adopted in the *Report and Order*, 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. Applicants for BAS stations must apply through the Wireless Telecommunications Bureau using the ULS, which was adopted by *Report and Order* in 1998. To comply with this system, our decisions in the *Report and Order* are consistent with the decisions reached in that *Report and Order*. Accordingly, we have eliminated requests made by letter if there is a standard application form that can be used instead, modified the rules defining major and minor changes to those used for fixed microwave systems, and eliminated the need to report transmitter output power and requiring that all stations comply with limits on effective isotropic radiated power. We also have changed 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.

64. Additionally, we have conformed 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). Specifically, we have updated 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. We also have adopted for BAS equipment, emission limitations that are consistent with those already being used for fixed microwave stations. We also are generally requiring that all BAS applicants for fixed stations operating above 944 MHz comply with the same frequency coordination guidelines in place for fixed microwave stations.

65. 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. Also, with respect to BAS Remote Pickup stations, we are altering 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. Finally, as noted, we have allowed a new type of device to operate on certain VHF and UHF TV channels, wireless assist video devices. These devices will follow the existing

¹² *Id.* The census data do not provide a more precise estimate.

¹³ *Id.* at NAICS code 513220.

¹⁴ *Id.* at NAICS code 513220.

¹⁵ *Id.* The census data do not provide a more precise estimate.

¹⁶ 13 CFR 121.201, NAICS code 513322.

¹⁷ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, "Employment Size of Firms Subject to Federal Income Tax: 1997," Table 5, NAICS code 513310 (issued Oct. 2000).

¹⁸ *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is "Firms with 1,000 employees or more."

¹² *Id.*

¹³ 13 CFR 121.201, NAICS code 513120.

¹⁴ *Id.* at NAICS code 513112.

¹⁵ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, "Receipts Size of Firms Subject to Federal Income Tax: 1997," Table 4, NAICS code 513120 (issued Oct. 2000).

¹⁶ *Id.* The census data do not provide a more precise estimate.

¹⁷ *Id.* At NAICS code 513112.

service rules for Low Power Auxiliary Stations, with minor exceptions.²⁵

(E) Steps Taken To Minimize the Significant Economic Impact on Small Entities and Significant Alternatives Considered

66. 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 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.²⁶

67. We have reduced burdens wherever possible. Our rules regarding the BAS would reduce burdens on small entities. First, we have simplified and expanded the opportunity for aural and TV BAS licensees to use digital modulation techniques in all of their allocated frequency bands. Currently, they can use these techniques only in a few bands and must file waiver requests and requests for special temporary authority (STA) to transmit digital signals in other bands. Our rules eliminate the need for these waivers and STAs, thus saving businesses the time it takes to prepare these requests and their associated filing fees. Second, we have altered the equation used to determine the allowable EIRP for short path lengths. Under our new rules, there will no longer be a large drop-off in allowable EIRP when the path length of a fixed station is slightly shorter than the minimum necessary for maximum power. The effect of this is to provide more flexibility in the way small entities design their systems. Because they will be able to use fewer sites, this has the effect of a reduction in the cost of a system. Third, we have allowed automatic transmit power control (ATPC). ATPC benefits 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.

68. Many of our 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 receive instant feedback as to the correctness of that application because ULS will not accept the application for filing unless it is correct. If there are errors, ULS provided 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 one by computer. The overall effect is that applications are processed faster and licenses are issued sooner, thus allowing small entities to begin providing service in a more timely manner.

69. We have also adopted rule amendments that conform rules for similar services that share spectrum. These are TV BAS, CARS, and the fixed microwave service. As a whole, these amendments 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.

70. Additionally, we have adopted many other rule changes that will benefit small entities. We are requiring that fixed BAS systems prior coordinate their frequency use, which will ensure that systems operate 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 system from suffering a service disruption from receiving interference. Both of these results will benefit small entities operating in the BAS service. Along with the frequency coordination requirement, we have extended the ability to operate under temporary conditional authority to all BAS frequency bands. This benefits small entities by allowing them to begin operating sooner. Further, we have extended 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 saves small entities the time and money that they would otherwise expend obtaining a license. Another change entails the Commission establishing technical requirements for operating TV STLs or TV relay stations

on UHF-TV channels. This change permits applicants to know the requirements they must meet before applying for a license, thereby reducing the number of applications that must be returned by the Commission. Thus, small entities will benefit by having to respond to returned applications less often. We have also altered 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 rules change will benefit small entities by lowering equipment costs. Finally, we have permitted motion picture and television producers to operate new 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.

71. 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 for fixed BAS systems, but found that this alternative would unnecessarily increase the potential of harmful interference. However, under our frequency coordination procedures, entities may self coordinate rather than paying a frequency coordinator. We will continue to examine alternatives in the future with the objectives of eliminating unnecessary regulations and minimizing significant economic impact on small entities.

(F) Report to Congress

72. The Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, will send a copy of the *Report and Order*, including this FRFA, in a report to be sent to Congress pursuant to the Congressional Review Act.²⁷ In addition, the Commission will send a copy of the *Report and Order*, including this FRFA, to the Chief Counsel for Advocacy of the SBA.

Ordering Clauses

73. 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, the *Report and Order* and the rules specified are Adopted. The rules set forth will become effective April 16, 2003.

²⁵ See *Report and Order*, paragraphs 153, 154 and 155, *supra*.

²⁶ 5 U.S.C. 603(c).

²⁷ See 5 U.S.C. 801(a)(1)(A).

74. Pursuant to 5 U.S.C. 553(d)(1) and 553(d)(3), the rules implementing digital modulation of BAS stations specified in the rules section, specifically §§ 74.535 and 74.637 of the Commission's Rules, 47 CFR 74.535 and 74.637, became effective on October 30, 2002, adoption date of the *Report and Order*.

List of Subjects

47 CFR Part 1

Administrative practice and procedure, Radio, Television.

47 CFR Part 2

Communications equipment, Radio.

47 CFR Part 73

Communications equipment, Radio, Reporting and recordkeeping requirements, Television.

47 CFR Part 74

Communications equipment, Radio, Reporting and recordkeeping requirements, Television.

47 CFR Part 78

Cable television, Communications equipment, Radio, Reporting and recordkeeping requirements.

47 CFR Part 101

Communications equipment, Radio, Federal Communications Commission.

Marlene H. Dortch,
Secretary.

Rule Changes

For the reasons discussed in the preamble, the Federal Communications

Commission amends 47 CFR parts 1, 2, 73, 74, 78 and 101 as follows:

PART 1—PRACTICE AND PROCEDURE

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

Authority: 47 U.S.C. 151, 154(i), 154(j) 155, 255, 303(r), 309 and 325(e).

2. Section 1.901 is 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 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 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:

* * * * *

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 § 2.106 as follows:

a. Revise pages 25, 26, 37, 38 and 76 of the Table.

b. In the list of United States Footnotes, revise footnote US11 and remove footnote US291.

c. In the list of non-Federal government footnotes, revise footnotes NG53 and NG115 and add footnote NG175.

The additions and revisions read as follows:

§ 2.106 Table of Frequency Allocations.

* * * * *

BILLING CODE 6712-01-P

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		50-73	50-54 AMATEUR
	5.162A 5.166 5.167 5.168 5.170			54-72 BROADCASTING
	54-68 BROADCASTING Fixed Mobile	54-68 FIXED MOBILE BROADCASTING		Broadcast Radio (TV) (73) Auxiliary Broadcasting (74)
	5.172	5.162A		
68-74.8 FIXED MOBILE except aeronautical mobile	68-72 BROADCASTING Fixed Mobile	68-74.8 FIXED MOBILE		
	5.173			NG115 NG128 NG149
	72-73 FIXED MOBILE			72-73 FIXED MOBILE
	73-74.6 RADIO ASTRONOMY			NG3 NG49 NG56
	5.178			
	74.6-74.8 FIXED MOBILE			
5.149 5.174 5.175 5.177 5.179		5.149 5.176 5.179		
74.8-75.2 AERONAUTICAL RADIONAVIGATION				
5.180 5.181				
75.2-87.5 FIXED MOBILE except aeronautical mobile	75.2-75.4 FIXED MOBILE			
	5.179			
			73-74.6 RADIO ASTRONOMY US74	
			74.6-74.8 FIXED MOBILE	Private Land Mobile (90)
			US273	
			74.8-75.2 AERONAUTICAL RADIONAVIGATION	Aviation (87)
			5.180	
			75.2-75.4 FIXED MOBILE	Private Land Mobile (90)
			US273	

50-123.5875 (VHF)

75.4-76 FIXED MOBILE	75.4-87 FIXED MOBILE	75.4-76 FIXED MOBILE	Public Mobile (22) Private Land Mobile (90) Personal Radio (95)
76-88 BROADCASTING Fixed Mobile	5.182 5.183 5.188	76-88 BROADCASTING	Broadcast Radio (TV) (73) Auxiliary Broadcasting (74)
5.175 5.179 5.184 5.187	87-100 FIXED MOBILE BROADCASTING	NG115 NG128 NG129 NG149	
87.5-100 BROADCASTING	5.185	88-108 BROADCASTING	Broadcast Radio (FM) (73) Auxiliary Broadcasting (74)
5.190	88-100 BROADCASTING	US93 NG2 NG128 NG129	
100-108 BROADCASTING			
5.192 5.194		US93	
108-117.975 AERONAUTICAL RADIONAVIGATION		108-117.975 AERONAUTICAL RADIONAVIGATION	Note: The NTIA Manual (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.
5.197		US93	
117.975-137 AERONAUTICAL MOBILE (F)		117.975-121.9375 AERONAUTICAL MOBILE (F)	Aviation (87)
		5.111 5.199 5.200 5.201 5.202 5.203 5.203A 5.203B	
		121.9375-123.0875 AERONAUTICAL MOBILE	
		591 US30 US31 US33 US80 US102 US213	
		123.0875-123.5875 AERONAUTICAL MOBILE	
		5.200 5.201 5.202 5.203 5.203A 5.203B	
		See next page for 123.5875-137 MHz	See next page for 123.5875-137 MHz

470-849 MHz (UHF) Page 37

International Table		United States Table		FCC Rule Part(s)	
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
Region 1 470-790 BROADCASTING	470-512 BROADCASTING Fixed Mobile	470-585 FIXED MOBILE BROADCASTING	470-608	470-512 BROADCASTING NG128 NG149 FIXED NG127 LAND MOBILE NG66 NG114 NG115	Public Mobile (22) Broadcast Radio (TV) (73) Auxiliary Broadcasting (74) Private Land Mobile (90)
	5.292 5.293				
	512-608 BROADCASTING	5.291 5.298		512-608 BROADCASTING NG128 NG149	Broadcast Radio (TV) (73) Auxiliary Broadcasting (74)
	5.297	585-610 FIXED MOBILE BROADCASTING RADIONAVIGATION			
608-614 RADIO ASTRONOMY Mobile-satellite except aeronautical mobile-satellite (Earth-to-space)	614-806 BROADCASTING Fixed Mobile	5.149 5.305 5.306 5.307	608-614 RADIO ASTRONOMY US74 LAND MOBILE US350		Personal (95)
		610-890 FIXED MOBILE 5.317A BROADCASTING	US246		
			614-890	614-698 BROADCASTING NG128 NG149 NG115 698-746 BROADCASTING NG128 FIXED MOBILE NG115 NG159	Broadcast Radio (TV) (73) Auxiliary Broadcasting (74) Wireless Communications (27) Broadcast Radio (TV) (73) Auxiliary Broadcasting (74)

<p>746-764 BROADCASTING NG128 FIXED MOBILE</p> <p>NG115 NG159</p>	<p>Wireless Communications (27) Broadcast Radio (TV) (73) Auxiliary Broadcast. (74) Private Land Mobile (90)</p>
<p>764-776 FIXED MOBILE</p> <p>NG115 NG128 NG158 NG159</p>	<p>Auxiliary Broadcasting (74) Private Land Mobile (90)</p>
<p>776-794 BROADCASTING NG128 FIXED MOBILE</p> <p>NG115 NG159</p>	<p>Wireless Communications (27) Broadcast Radio (TV) (73) Auxiliary Broadcast. (74) Private Land Mobile (90)</p>
<p>794-806 FIXED MOBILE</p> <p>NG115 NG128 NG158 NG159</p>	<p>Auxiliary Broadcasting (74) Private Land Mobile (90)</p>
<p>806-821 FIXED LAND MOBILE</p> <p>NG30 NG31 NG43 NG63</p>	<p>Public Mobile (22) Private Land Mobile (90)</p>
<p>821-824 LAND MOBILE</p> <p>NG30 NG43 NG63</p>	<p>Private Land Mobile (90)</p>
<p>824-849 FIXED LAND MOBILE</p> <p>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>
<p>5.149 5.291A 5.294 5.296 5.300 5.302 5.304 5.306 5.311 5.312</p> <p>790-862 FIXED BROADCASTING</p>	<p>5.149 5.305 5.306 5.307 5.311 5.320</p>
<p>5.293 5.309 5.311</p> <p>806-890 FIXED MOBILE 5.317A BROADCASTING</p>	<p>5.312 5.314 5.315 5.316 5.319 5.321</p> <p>See next page for 862-890 MHz</p>
<p>5.317 5.318</p>	<p>See next page for 862-890 MHz</p>

<p>36-37 EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)</p>	<p>36-37 EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)</p>	
<p>5.149</p>	<p>US263 US342</p>	
<p>37-37.5 FIXED MOBILE SPACE RESEARCH (space-to-Earth)</p>	<p>37-37.6 FIXED MOBILE</p>	
<p>5.547</p>		<p>Satellite Communications (25)</p>
<p>37.5-38 FIXED FIXED-SATELLITE (space-to-Earth) 5.551AA MOBILE SPACE RESEARCH (space-to-Earth) Earth exploration-satellite (space-to-Earth)</p>	<p>37.6-38.6 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE</p>	
<p>5.547</p>		
<p>38-39.5 FIXED FIXED-SATELLITE (space-to-Earth) 5.551AA MOBILE Earth exploration-satellite (space-to-Earth)</p>	<p>38-38.6 FIXED MOBILE</p>	
<p>5.547</p>	<p>38.6-39.5 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE NG175</p>	<p>Fixed Microwave (101)</p>
<p>39.5-40 FIXED FIXED-SATELLITE (space-to-Earth) 5.551AA MOBILE MOBILE-SATELLITE (space-to-Earth) Earth exploration-satellite (space-to-Earth)</p>	<p>39.5-40 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth)</p>	
<p>5.547</p>	<p>G117</p>	

* * * * *
United States (US) Footnotes
* * * * *

US11 The use of the frequencies 166.25 and 170.15 MHz may be authorized to non-Federal Government remote pickup broadcast base and land mobile stations and to non-Federal Government base, fixed and land mobile stations in the public safety radio services on the condition that harmful interference shall not be caused to present or future Federal Government stations in the band 162–174 MHz. Authorization on these frequencies shall be 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. The use of these frequencies by remote pickup broadcast stations shall not be authorized for locations within 150 miles (241.4 km) of New York City; and use of these frequencies

by the public safety radio services shall not be authorized except for locations within 150 miles of New York City.

* * * * *
Non-Federal Government (NG) Footnotes
* * * * *

NG53 In the band 12.7–13.15 GHz, television pickup stations and CARS pickup stations shall be assigned channels on a co-equal basis and shall operate on a secondary basis to fixed stations operating in accordance with the Table of Frequency Allocations. In the band 13.15–13.20 GHz, television pickup stations and CARS pickup stations shall be assigned channels on a primary co-equal basis within 50 kilometers of the television markets defined in 47 CFR 76.53. In the band 13.20–13.2125 GHz, television pickup stations shall be assigned channels on a primary basis, and CARS fixed and pickup stations shall operate on a secondary basis to television broadcast auxiliary stations.

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 CFR part 74, subpart H.

* * * * *
NG175 Television pickup stations in the mobile services authorized to use frequencies in the band 38.6–40.0 GHz on or before April 16, 2003, may continue to operate on a secondary basis to stations operating in accordance with the Table of Frequency Allocations.

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 amended by removing the entries for Forms 313 and 313–R from the table in paragraph (a) and adding entries for Forms 601 and 603 to read as follows:

§ 73.3500 Application and report forms.
(a) * * *

Table with 2 columns: Form No. and Title. Row 1: 601 FCC Application for Wireless Telecommunications Bureau Radio Service Authorization. Row 2: 603 FCC Wireless Telecommunications Bureau Application for Assignments of Authorization and Transfers of Control.

* * * * *
§ 75.3533 [Amended]
9. Section 73.3533 is amended by removing and reserving paragraph (a)(3).

§ 73.3536 [Amended]
10. Section 73.3536 is amended by removing and reserving paragraph (b)(3).

11. Section 73.3598 is 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 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.

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, 336(f), 336(h) and 554.

13. Section 74.5 is amended by redesignating paragraphs (a)(4) through (a)(7) as paragraphs (a)(5) through (a)(8) and by adding new paragraphs (a)(4) and (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. Section 74.6 is 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. Applicants for these stations may file either manually or electronically as specified in §§ 1.913(b) and (d) of this chapter.

15. Section 74.15 is amended by revising paragraph (f) to read as follows:

§ 74.15 Station license period.

(f) Licenses held by broadcast network-entities under Subpart F will ordinarily be issued for a period of 8 years running concurrently with the

normal licensing period for broadcast stations located in the same area of operation. An application for renewal of license shall be filed in accordance with the provisions of § 1.949.

* * * * *

16. Section 74.24 is amended by revising the introductory text and paragraphs (a), (d), (f), (g), (i), (h)(1), and by removing the Note after paragraph (h)(1) 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 to Paragraph (d): 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, or, in the case of stations operated by broadcast network and cable network entities, by the network or cable entity's name and base of operations city.

(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 herein, 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 an initial request, in writing, 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) Use of broadcast auxiliary service frequencies below 470 MHz is limited to areas of the United States south of Line A or west of Line C unless the effective radiated power of the station is 5 watts or less. See § 1.928(e) of this chapter for a definition of Line A and Line C.

* * * * *

(i) Short-term operation of a remote pickup broadcast base station, a remote pickup automatic relay station, an aural broadcast STL station, an aural broadcast intercity relay station, a TV STL station, a TV intercity relay station or a TV translator relay station in the National Radio Quiet Zone, the Table Mountain Radio Receiving Zone, or near FCC monitoring stations is subject to the same advance notification procedures applicable to regular applications as provided for in §§ 73.1030 and 74.12, except that inasmuch as short-term operation does not involve an application process, the provisions relating to agency objection procedures shall not apply. 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. Section 74.25 is 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 are satisfied.

(a) Conditions applicable to all broadcast auxiliary stations.

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

(2) 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;

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

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

(5) 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.

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

(2) 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.

(3) 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.

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

(2) The station site does not lie within an area requiring international coordination.

(3) 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 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 and the Commission must be notified pursuant to § 1.946 of this chapter.

19. Section 74.402 is revised to read as follows:

§ 74.402 Frequency assignment.

Operation on all channels listed in this section (except: frequencies 26.07 MHz, 26.11 MHz, and 26.45 MHz, and

frequencies listed in paragraphs (a)(4) and (c)(1) of this section 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, 26.19, 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: Up to two of the following 6.25 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: 450.00625 MHz, 450.0125 MHz, 450.01875 MHz, 450.025 MHz, 450.98125 MHz, 450.9875 MHz, 450.99375 MHz, 455.00625 MHz, 455.0125 MHz, 455.01875 MHz, 455.025 MHz, 455.98125 MHz, 455.9875 MHz, and 455.99375 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), (5), and (10) 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) and (10) 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), (7), and (10) 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 this chapter. 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 to Paragraph (e)(6): 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 frequencies 166.25 MHz and 170.15 MHz is subject to the condition that harmful interference shall not be caused to present or future Government stations in the band 162–174 MHz and is also subject to the bandwidth and tolerance limitations and compliance deadlines listed in § 74.462 of this part. Authorization on these frequencies shall be 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, or within 150 miles (241.4 km) of New York City.

(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. Stations licensed or applied for before April 16, 2003, must comply with the channel plan by March 17, 2006, or may continue to operate on a secondary, non-interference basis.

(10) Stations licensed or applied for before April 16, 2003, must comply with the channel plan by March 17, 2006, or may continue to operate on a secondary, non-interference basis.

(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 74.403 is amended by revising the introductory text of paragraph (b) to read as follows:

§ 74.403 Frequency selection to avoid interference.

* * * * *

(b) The following order of priority of transmissions shall be observed on all frequencies except frequencies 26.07 MHz, 26.11 MHz, and 26.45 MHz, and frequencies listed in § 74.402(a)(4) and (c)(1):

* * * * *

21. Section 74.431 is amended by removing and reserving paragraph (g) and by revising paragraph (i) to read as follows:

§ 74.431 Special rules applicable to remote pickup stations.

* * * * *

(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. Drills and test are also permitted on these stations, but the priority requirements of § 74.403(b) must be observed in such cases.

22. Section 74.432 is amended revising paragraphs (b), (g) and (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) 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. For purposes of this section, a station which is not operated

for a period of one year is considered to have been permanently discontinued.

23. Section 74.433 is 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.

24. Section 74.451 is 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 this chapter and do not exceed the output power limits specified in § 74.461(b).

25. Section 74.452 is 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).

26. Section 74.462 is amended by revising paragraph (a), the table in paragraph (b), and the introductory text to paragraph (c), and removing paragraphs (e), (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 ¹ (kHz)	Type of emission ²	
(kHz): 1606, 1622, and 1646 MHz:	10	N/A	A3E.	
25.87 to 26.03	40	10	Frequencies 25.87 to 153.3575 MHz: A3E, F1E, F3E, F9E.	
26.07 to 26.47	20	5		
152.8625 to 153.3575 ³	30/60	5/10		
160.860 to 161.400	60	10		
161.625 to 161.775	30	5		
166.25 and 170.15 ⁴	12.5/25	5		
450.00625 to 450.025 .....	.....	Frequencies 160.860 to 455.950 MHz: A1A, A1B, A1D, A1E, A2A, A2B, A2D, A2E, A3E, F1A, F1B, F1D, F1E, F2A, F2B, F2D, F2E, F3E, F9E	
450.98125 to 450.99375 .....	.....		
455.00625 to 455.025 .....	.....		
455.98125 to 455.99375	Up to 12.5			1.5
450.03125 to 450.61875		5	
455.03125 to 455.61875	Up to 25			
450.6375 to 450.8625 .....	.....		
455.6375 to 455.8625	25–50			10
450.900, 450.950			35
455.900, 455.950	50–100			

¹ Applies where F1A, F1B, F1D, F1E, F2A, F2B, F2D, F2E, F3E, or F9E emissions are used.

² Stations operating above 450 MHz shall show a need for employing A1A, A1B, A1D, A1E, A2A, A2B, A2D, A2E, F1A, F1B, F1D, F1E, F2A, F2B, F2D, or F2E emission.

³ 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.

⁴ For stations licensed or applied for before April 16, 2003, the sum of the bandwidth of emission and tolerance on frequencies 166.25 MHz or 170.15 MHz shall not exceed 25 kHz, and such operation may continue until January 1, 2005. For new stations licensed or applied for on or after April 16, 2003, the sum of the bandwidth of emission and tolerance on these frequencies shall not exceed 12.5 kHz. For all remote pickup broadcast stations, the sum of the bandwidth of emission and tolerance on these frequencies shall not exceed 12.5 kHz on or after January 1, 2005.

(c) For emissions on frequencies above 25 MHz with authorized bandwidths up to 30 kHz, the emissions shall comply with the emission mask and transient frequency behavior requirements of §§ 90.210 and 90.214 of this chapter. For all other emissions, the mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

* * * * *

27. Section 74.464 is amended by revising the introductory text to the table to read as follows:

§ 74.464 Frequency tolerance.

For operations on frequencies above 25 MHz using authorized bandwidths up to 30 kHz, the licensee of a remote pickup broadcast station or system shall maintain the operating frequency of each station in compliance with the frequency tolerance requirements of § 90.213 of this chapter. For all other operations, the licensee of a remote pickup broadcast station or system shall maintain the operating frequency of each station in accordance with the following:

* * * * *

28. Section 74.482 is amended by revising paragraphs (a) and (e) to read as follows:

§ 74.482 Station identification.

(a) Each remote pickup broadcast station shall be identified by the transmission of the assigned station or system call sign, or by the call sign of the associated broadcast station. 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. The call sign (and unit designator, where appropriate) shall be transmitted at the beginning and end of each period of operation. A period of operation may consist of a single continuous transmission, or a series of intermittent transmissions pertaining to a single event.

* * * * *

(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.

* * * * *

29. Section 74.502 is amended by revising paragraphs (b) introductory text, (c)(1)(ii), and (d) to read as follows:

§ 74.502 Frequency assignment.

* * * * *

(b) The frequency band 944–952 MHz is available for assignment to aural STL and ICR stations. One or more of the following 25 kHz segments may be stacked to form a channel which may be assigned with a maximum authorized bandwidth of 300 kHz except as noted in the following Table. The channel, will be assigned by its center frequency, channel bandwidth, and emission designator. The following frequencies are the centers of individual segments. When stacking an even number of segments, the center frequency specified will deviate from the following frequencies 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 following frequencies.

* * * * *

(c) * * *

(1) * * *

(ii) Licensees may use either a two-way link or one frequency of a frequency pair for a one-way link.

* * * * *

(d) For the coordination of all frequency assignments for fixed stations above 944 MHz, for each frequency authorized under this part, the interference protection criteria in § 101.105(a), (b), and (c) of this chapter and the frequency usage coordination procedures of § 101.103(d) of this chapter will apply.

* * * * *

30. Section 74.532 is amended by removing the note following 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.

31. Section 74.534 is 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 in the following table. In cases of harmful interference, the Commission may, after notice and opportunity for hearing, order a change in the equivalent isotropically radiated power of this station.

Frequency band (MHz)	Maximum Allowable ¹ EIRP (dBW)
944 to 952	+40
17,700 to 18,600	+55
18,600 to 19,700	+35

¹ Stations licensed based on an application filed before April 16, 2003, for EIRP values exceeding those specified above, may continue to operate indefinitely in accordance with the terms of their current authorizations, subject to periodic renewal.

(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.

32. Section 74.535 is amended by revising paragraphs (a), (b) and (d), removing 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_{MEAN}) 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 in any 100 kHz reference bandwidth (B_{REF});

(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 in any 100 kHz reference bandwidth;

(iii) On any frequency removed from the assigned (center) frequency by more than 250% of the authorized bandwidth: At least $43+10 \log_{10}(P_{MEAN}$ in watts) dB, or 80 dB, whichever is the lesser attenuation, in any 100 kHz reference bandwidth.

(2) When using transmissions employing digital modulation techniques:

(i) For operating frequencies below 15 GHz, in any 4 kHz reference bandwidth (B_{REF}), 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:

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

(Attenuation greater than 80 decibels is not required.)

Where:

A = Attenuation (in decibels) below the mean output power level.

G = Percent removed from the carrier frequency.

B = Authorized bandwidth in megahertz.

(ii) For operating frequencies above 15 GHz, in any 1 MHz reference bandwidth (B_{REF}), 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:

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

(Attenuation greater than 56 decibels is not required.)

(iii) In any 4 kHz reference bandwidth (B_{REF}), the center frequency of which is removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least $43 + 10 \text{ Log}_{10} (P_{MEAN}$ 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_{PEAK}) 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 $43 + 10 \text{ Log}_{10} (P_{PEAK}$ in watts) dB.

* * * * *

(d) For purposes of compliance with the emission limitation requirements of this section:

(1) If the transmitter modulates a single carrier, digital modulation techniques are considered as being employed when digital modulation occupies 50 percent or more of 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.

(2) If the transmitter modulates two or more carriers, with at least one using digital modulation and one using frequency or other analog modulation, digital modulation techniques are considered as being employed when the necessary bandwidth of the digital signal(s) is 50 percent or more of the aggregate bandwidth of the system, comprising the digital necessary bandwidth(s), the analog necessary bandwidth(s), and any bandwidth(s) between the digital and analog necessary bandwidths. In this case, the aggregate bandwidth shall be used for the authorized bandwidth (B) in paragraph (a) of this section, and for purposes of compliance with the bandwidth limitations in § 74.502 of this subpart; and the sum of the powers of the analog and digital signals shall be used for mean transmitter power (P_{MEAN}) in paragraph (a) or the peak envelope transmitter power (P_{PEAK}) in paragraph (b) of this section, and for purposes of compliance with the power limitations in § 74.534 of this subpart.

(3) For demonstrating compliance with the attenuation requirements for frequency modulation and digital modulation in paragraph (a) of this section, the resolution bandwidth (B_{RES}) of the measuring equipment used for measurements removed from the center frequency by more than 250 percent of the authorized bandwidth shall be 100 kHz for operating frequencies below 1 GHz, and 1 MHz for operating frequencies above 1 GHz. The resolution bandwidth for frequencies removed from the center frequency by less than 250 percent of the authorized bandwidth shall be the reference bandwidth (B_{REF}) specified in the individual emission limitations, but may be reduced to not less than one percent of the authorized bandwidth (B), adjusted upward to the nearest greater resolution bandwidth available on the measuring equipment. In all cases, if B_{RES} and B_{REF} are not equal, then the attenuation requirement must be increased (or decreased) as

determined by a factor of $10 \text{ log}_{10} [(B_{REF} \text{ in megahertz}) / (B_{RES} \text{ in megahertz})]$ decibels, where a positive factor indicates an increase in the attenuation requirement and a negative factor indicates a decrease in the attenuation requirement.

(4) Stations licensed pursuant to an application filed before March 17, 2005, using equipment not conforming with the emission limitations specified above, may continue to operate indefinitely in accordance with the terms of their current authorizations, subject to periodic renewal. Existing equipment and equipment of product lines in production before April 16, 2003, authorized via certification or verification before March 17, 2005, for equipment not conforming to the emission limitations requirements specified above, may continue to be manufactured and/or marketed, but may not be authorized for use under a station license except at stations licensed pursuant to an application filed before March 17, 2005. Any non-conforming equipment authorized under a station license, and replaced on or after March 17, 2005, must be replaced by conforming equipment.

* * * * *

§ 74.536 [Amended]

33. Section 74.536 is amended by removing the entry for 31.0 to 31.3 and footnotes 2 and 3 from the table in paragraph (c).

34. Section 74.537 is 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.

* * * * *

35. Section 74.551 is amended by revising paragraph (a) introductory text, removing paragraphs (b) and (c), and redesignating 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.

* * * * *

§ 74.561 [Amended]

36. Section 74.561 is amended by removing the entry for 31,000 to 31,300 from the table.

37. Section 74.602 is amended by revising paragraphs (a) introductory text, the channel boundaries for channel designation B03 in the table of paragraph (a), footnote 2 of the table of paragraph (a), paragraphs (d), (f), (h), and (i) introductory text, and by removing and revising paragraph (a)(2) to read as follows:

§ 74.602 Frequency assignment.

(a) The following frequencies are available for assignment to television pickup, television STL, television relay and television translator relay stations. The band segments 17,700–18,580 and

19,260–19,700 MHz are available for broadcast auxiliary stations as described in paragraph (g) of this section. The band segment 6425–6525 MHz is available for broadcast auxiliary stations as described in paragraph (i) of this section. Broadcast network-entities may also use the 1990–2110, 6425–6525 and 6875–7125 MHz bands for mobile television pickup only.

Band A MHz	Band B MHz	Band D ¹ GHz			
		Group A channels		Group B channels	
		Designation	Channel boundaries	Designation	Channel boundaries
*	*	*	*	*	*
				B03	12.7625–12.7875
*	*	*	*	*	*

¹ 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.

² The band 13.15–13.20 GHz is reserved for the assignment of CARS Pickup and Television Pickup stations on a primary co-equal basis within 50 kilometers of the television markets defined in § 76.53 of this chapter. The band 13.20–13.2125 GHz is reserved exclusively for the assignment of Television Pickup stations on a primary basis. Fixed stations licensed prior to April 16, 2003, may continue operation under their current status on channels in the 13.15–13.2125 GHz band, subject to periodic license renewals.

* * * * *

(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 cable television 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. Auxiliary stations licensed to low power TV stations and translator relay stations must accept any

interference caused by stations having primary use of TV auxiliary frequencies.

* * * * *

(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:

(1) Applications for authorization in accordance with this paragraph must comply with the following technical limits or be accompanied by an engineering analysis demonstrating why these limits must be exceeded:

- (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.

(2) 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.

(3) TV STL and TV relay stations licensed for operation on UHF TV channels 52–69 based on applications filed before April 16, 2003, may continue to operate under the terms of their current authorizations until the

end of transition to digital television in their market (DTV Transition), as set forth in §§ 73.622 through 73.625 of this chapter. Applications for TV STL and TV relay stations operating on UHF TV channels 52–69 will not be accepted for filing on or after April 16, 2003.

(4) TV translator relay stations licensed for operation on UHF TV channels 52–59 based on applications filed before the end of DTV transition may continue to operate under the terms of their current authorizations indefinitely. TV translator relay stations licensed for operation on UHF TV channels 60–69 based on applications filed before the end of DTV transition may continue to operate under the terms of their current authorizations until the end of DTV Transition. Applications for TV translator relay stations operating on UHF TV channels 52–69 will not be accepted for filing on or after the end of DTV Transition.

(i) *6425 to 6525 MHz—Mobile Only.* Paired and un-paired operations permitted. Use of this spectrum for direct delivery of video programs to the general public or multi-channel cable distribution is not permitted. This band is co-equally shared with mobile stations licensed pursuant to parts 78 and 101 of this chapter. The following channel plans apply.

* * * * *

§ 74.603 [Amended]

38. Section 74.603 is amended by removing and reserving paragraph (b).

§ 74.604 [Amended]

39. Section 74.604 is amended by removing and reserving paragraph (a).

40. Section 74.631 is 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. * * *

* * * * *

41. Section 74.632 is amended by removing the last two sentences of paragraph (a) and the Note following paragraph (f), and revising paragraphs (c), (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. The maximum permissible area of operation will generally be that of a standard

metropolitan area, unless a special showing is made that a larger area is necessary.

* * * * *

(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.

42. Section 74.633 is 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 television broadcast auxiliary 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.

* * * * *

43. Section 74.636 is revised to read 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 following table. 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 in the following table. 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. The table follows:

Frequency band (MHz)	Maximum allowable transmitter power Mobile (W)	Maximum allowable EIRP ²	
		Fixed (dBW)	Mobile (dBW)
2,025 to 2,110	12.0	+45	+35
2,450 to 2,483.5	12.0	+45	+35
6,425 to 6,525	12.0	.....	+35
6,875 to 7,125	12.0	+55	+35
12,700 to 13,250	1.5	+55	+45
17,700 to 18,600 .....	.....	+55	.....
18,600 to 18,800 ¹ .....	.....	+35	.....
18,800 to 19,700 .....	.....	+55	.....

¹ The power delivered to the antenna is limited to -3 dBW.

² Stations licensed based on an application filed before April 16, 2003, for EIRP values exceeding those specified above, may continue to operate indefinitely in accordance with the terms of their current authorizations, subject to periodic renewal.

(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.

44. Section 74.637 is amended by revising paragraphs (a), (b) and (c) and by removing the entries for 31,000 to 31,300 and 38,600 to 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_{MEAN}) 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 in any 100 kHz reference bandwidth (B_{REF});

(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 in any 100 kHz reference bandwidth;

(iii) On any frequency removed from the assigned (center) frequency by more than 250% of the authorized bandwidth: At least $43 + 10 \log_{10}(P_{MEAN}$ in watts) dB, or 80 dB, whichever is the lesser attenuation, in any 100 kHz reference bandwidth.

(2) When using transmissions employing digital modulation techniques:

(i) For operating frequencies below 15 GHz, in any 4 kHz reference bandwidth (B_{REF}), 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:

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

(Attenuation greater than 80 decibels is not required.)

Where:

A = Attenuation (in decibels) below the mean output power level.

G = Percent removed from the carrier frequency.

B = Authorized bandwidth in megahertz.

(ii) For operating frequencies above 15 GHz, in any 1 MHz reference bandwidth (B_{REF}), 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:

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

(Attenuation greater than 56 decibels is not required.)

(iii) In any 4 kHz reference bandwidth (B_{REF}), the center frequency of which is removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least $43 + 10 \log_{10}(P_{MEAN}$ 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_{PEAK}) 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:

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

(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 $43 + 10 \log_{10}(P_{PEAK}$ in watts) dB.

(c) For purposes of compliance with the emission limitation requirements of this section:

(1) If the transmitter modulates a single carrier, digital modulation techniques are considered as being employed when digital modulation occupies 50 percent or more of 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.

(2) If the transmitter modulates two or more carriers, with at least one using digital modulation and one using frequency or other analog modulation, digital modulation techniques are considered as being employed when the necessary bandwidth of the digital signal(s) is 50 percent or more of the aggregate bandwidth of the system, comprising the digital necessary bandwidth(s), the analog necessary bandwidth(s), and any bandwidth(s) between the digital and analog necessary bandwidths. In this case, the aggregate bandwidth shall be used for the authorized bandwidth (B) in paragraph (a) of this section, and for purposes of compliance with the bandwidth limitations in paragraph (g) of this section and in § 74.602 of this subpart; and the sum of the powers of the analog and digital signals shall be used for mean transmitter power (P_{MEAN}) in paragraph (a) or the peak

envelope transmitter power (P_{PEAK}) in paragraph (b) of this section, and for purposes of compliance with the power limitations in § 74.636 of this subpart.

(3) For demonstrating compliance with the attenuation requirements for frequency modulation and digital modulation in paragraph (a) of this section, the resolution bandwidth (B_{RES}) of the measuring equipment used for measurements removed from the center frequency by more than 250 percent of the authorized bandwidth shall be 100 kHz for operating frequencies below 1 GHz, and 1 MHz for operating frequencies above 1 GHz. The resolution bandwidth for frequencies removed from the center frequency by less than 250 percent of the authorized bandwidth shall be the reference bandwidth (B_{REF}) specified in the individual emission limitations, but may be reduced to not less than one percent of the authorized bandwidth (B), adjusted upward to the nearest greater resolution bandwidth available on the measuring equipment. In all cases, if B_{RES} and B_{REF} are not equal, then the attenuation requirement must be increased (or decreased) as determined by a factor of $10 \log_{10} [(B_{REF} \text{ in megahertz}) / (B_{RES} \text{ in megahertz})]$ decibels, where a positive factor indicates an increase in the attenuation requirement and a negative factor indicates a decrease in the attenuation requirement.

(4) Stations licensed pursuant to an application filed before March 17, 2005, using equipment not conforming with the emission limitations specified above, may continue to operate indefinitely in accordance with the terms of their current authorizations, subject to periodic renewal. Existing equipment and equipment of product lines in production before April 16, 2003, authorized via certification or verification before March 17, 2005, for equipment not conforming to the emission limitations requirements specified above, may continue to be manufactured and/or marketed, but may not be authorized for use under a station license except at stations licensed pursuant to an application filed before March 17, 2005. Any non-conforming equipment authorized under a station license, and replaced on or after March 17, 2005, must be replaced by conforming equipment.

* * * * *

45. Section 74.638 is revised to read as follows:

§ 74.638 Frequency coordination.

(a) Coordination of all frequency assignments for fixed stations in all

bands above 2110 MHz, and for mobile (temporary fixed) stations in the bands 6425–6525 MHz and 17.7–19.7 GHz, 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. Coordination of all frequency assignments for all mobile (temporary fixed) stations in all bands above 2110 MHz, except the bands 6425–6525 MHz and 17.7–19.7 GHz, will be conducted in accordance with the procedure established in paragraph (b) of this section or with the procedure in paragraph (d) of this section. Coordination of all frequency assignments for all fixed stations in the band 1990–2110 MHz will be in accordance with the procedure established in paragraph (c) of this section. Coordination of all frequency assignments for all mobile (temporary fixed) stations in the band 1990–2110 MHz will be conducted in accordance with the procedure in paragraph (d) of this section.

(b) Frequency coordination for all fixed stations in all bands above 2110 MHz, and for all mobile (temporary fixed) stations in the bands 6425–6525 MHz and 17.7–19.7 GHz. For each frequency authorized under this part, the interference protection criteria in § 101.105(a), (b), and (c) of this chapter and the frequency usage coordination procedures in § 101.103(d) of this chapter will apply, except that only stations in the bands 6425–6525 MHz and 17.7–19.7 GHz are subject to the provision in § 101.103(d) requiring compliance with § 101.21(f) of this chapter in coordinating frequency usage with stations in the fixed satellite service.

(c) Frequency coordination for all fixed stations in the band 1990–2110 MHz. For each frequency authorized under this part, the following frequency usage coordination procedures will apply:

(1) *General requirements.* Applicants are responsible for selecting the frequency assignments that are least likely to result in mutual interference with other licensees in the same area. Applicants may consult local frequency coordination committees, where they exist, for information on frequencies available in the area. Proposed frequency usage must be coordinated with existing licensees and applicants in the area 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, for major amendment to a pending application, or for major modification to a license.

(2) To be acceptable for filing, all applications for regular authorization, or major amendment to a pending application, or major modification to a license, must include a certification attesting that all co-channel and adjacent-channel licensees and applicants potentially affected by the proposed fixed use of the frequency(ies) have been notified and are in agreement that the proposed facilities can be installed without causing harmful interference to those other licensees and applicants.

(d) Frequency coordination for all mobile (temporary fixed) stations in all bands above 1990 MHz, except the bands 6425–6525 MHz and 17.7–19.7 GHz. For each frequency authorized under this part, applicants are responsible for selecting the frequency assignments that are least likely to result in mutual interference with other licensees in the same area. Applicants may consult local frequency coordination committees, where they exist, for information on frequencies available in the area. In selecting frequencies, consideration should be given to the relative location of receive points, normal transmission paths, and the nature of the contemplated operation.

46. Section 74.641 is amended by revising the introductory text of paragraph (a), removing the entry for 31,000 to 31,300 and footnotes 2 and 3 from the table in paragraph (a)(1), revising paragraphs (a)(5), and 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:

* * * * *

(5) Pickup stations are not subject to the performance standards herein stated.

(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:

* * * * *

47. Section 74.643 is 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.

48. Section 74.644 is 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 1,990	n/a
1,990–7,125	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.

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

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 1 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.

Note 2 to Paragraph (b): Stations licensed based on an application filed before April 16, 2003, in the 2450–2483.5 MHz band, for EIRP values exceeding those specified above, may continue to operate indefinitely in accordance with the terms of their current authorizations, subject to periodic renewal.

* * * * *

49. Section 74.651 is amended by revising paragraphs (a) and (b), removing 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.

* * * * *

§ 74.655 [Amended]

50. Section 74.655 is amended by removing the last sentence of paragraph (a).

51. Section 74.661 is amended by revising the table to read as follows:

§ 74.661 Frequency tolerance.

* * * * *

Frequency band (MHz)	Frequency tolerance (%)
2,025 to 2,110	1 0.005
2,450 to 2,483.5	2 0.001
6,425 to 6,525	0.005
6,875 to 7,125	1 0.005
12,700 to 13,250	1 0.005
17,700 to 18,820	0.003
18,920 to 19,700	0.003

¹Television translator relay stations shall maintain a frequency tolerance of 0.002%.

²Stations licensed pursuant to an application filed before March 17, 2005, for tolerance values exceeding those specified above, may continue to operate indefinitely in accordance with the terms of their current authorizations, subject to periodic renewal. Existing equipment and equipment of product lines in production before April 16, 2003, authorized via certification or verification before March 17, 2005, for tolerance values exceeding those specified above, may continue to be manufactured and/or marketed, but may not be authorized for use under station license except at stations licensed pursuant to an application filed before March 17, 2005. Any non-conforming equipment authorized under a station license, and replaced on or after March 17, 2005, must be replaced by conforming equipment.

52. Section 74.801 is 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.

53. Section 74.802 is 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)
* * * * *

54. Section 74.832 is 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.

* * * * *

55. Section 74.833 is 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 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.

* * * * *

56. Section 74.870 is 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 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 bands 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 to the following table: 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	.....	.....
			476–482	.....	15	.....
			482–488	16	.....	.....

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"	488-494	17		
			470-476	14		
			476-482	15		
Cleveland, OH ¹	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 ¹	42°19'48.1"	83°02'56.7"	488-494	17		
			470-476	14		
			476-482	15		
Gulf of Mexico	29°45'26.8"	95°21'37.8"	482-488	16		
			488-494	17		
			476-494			15, 16, 17
Hawaii			488-494			17
Houston, TX	29°45'26.8"	95°21'37.8"	482-488	16		
			488-494	17		
			494-500	18		
Los Angeles, CA	34°03'15.0"	118°14'31.3"	470-476	14		
			476-482	15		
			482-488	16		
Miami, FL	25°46'38.4"	80°11'31.2"	488-494	17		
			500-506	19		
			506-512	20		
New York/N.E. New Jersey	40°45'06.4"	73°59'37.5"	512-518	21		
			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		
Pittsburgh, PA	40°26'19.2"	79°59'59.2"	500-506	19		
			506-512	20		
			512-518	21		
San Francisco/Oakland, CA	37°46'38.7"	122°24'43.9"	470-476	14		
			476-482	15		
			488-494	17		
Washington D.C./MD/VA	38°53'51.4"	77°00'31.9"	494-500	18		
			500-506	19		
			476-482	15		

¹ 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. Wireless video assist devices must comply with the emission limitations of § 74.637.

(e) The antenna of a wireless video assist device must be attached to the transmitter either permanently, or by means of a unique connector designed to allow replacement of authorized antennas but prevent the use of unauthorized antennas. 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:

(i) Frequency or frequencies.

(ii) Location.

(iii) Antenna height.

(iv) Emission type(s).

(v) Effective radiated power.

(vi) Intended dates of operation.

(vii) Licensee contact information.

(3)(i) Failure of a local 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. In this case, licensees must in addition notify all co-channel and adjacent channel TV stations within 161 km (100 mi) of the proposed operating area. This notification is for information purposes only and will not enable TV stations to prevent a WAVD from operating, but is intended to help identify the source of interference if any is experienced after a WAVD begins operation.

(ii) If there is no local coordinator in the intended area of operation, failure of any adjacent channel TV station 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 TV station.

(4) Licensees must operate in a manner consistent with the response of the local coordinator, or, if there is no local coordinator in the intended area of operation, the responses of the adjacent channel TV stations. Disagreements may be appealed to the Commission. However, in those instances, the licensee will bear the burden of proof and proceeding to overturn the recommendation of the local coordinator or the co-channel or adjacent channel TV station.

(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.

57. Section 74.882 is 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 to act in a responsible manner to assure that result.

PART 78—CABLE TELEVISION RELAY SERVICE

58. 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.

59. Section 78.18 is amended by revising paragraph (l) to read as follows:

§ 78.18 Frequency assignments.

* * * * *

(l) The band 13.15–13.20 GHz is reserved for the assignment of CARS Pickup and Television Pickup stations on a primary co-equal basis within 50 kilometers of the television markets defined in § 76.53 of this chapter. The band 13.20–13.2125 GHz is reserved exclusively for the assignment of Television Pickup stations on a primary basis. Fixed stations licensed prior to April 16, 2003, may continue operation under their current status on channels in the 13.15–13.2125 GHz band, subject to periodic license renewals.

* * * * *

60. Section 78.36 is revised to read as follows:

§ 78.36 Frequency coordination.

(a) Coordination of all frequency assignments for fixed stations in all bands above 2110 MHz, and for mobile (temporary fixed) stations in the bands 6425–6525 MHz and 17.7–19.7 GHz, 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. Coordination of all frequency assignments for all mobile (temporary fixed) stations in all bands above 2110 MHz, except the bands 6425–6525 MHz and 17.7–19.7 GHz, will be conducted in accordance with the procedure established in paragraph (b) of this section or with the procedure in paragraph (d) of this section. Coordination of all frequency assignments for all fixed stations in the band 1990–2110 MHz will be in accordance with the procedure established in paragraph (c) of this section. Coordination of all frequency assignments for all mobile (temporary fixed) stations in the band 1990–2110 MHz will be conducted in accordance with the procedure in paragraph (d) of this section.

(b) Frequency coordination for all fixed stations in all bands above 2110 MHz, and for all mobile (temporary fixed) stations in the bands 6425–6525 MHz and 17.7–19.7 GHz. For each frequency authorized under this part, the interference protection criteria in § 101.105(a), (b), and (c) of this chapter and 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 for stations in the bands 6425–6525 MHz and 17.7–19.7 GHz 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:

- (A) Applicant's name and address,
- (B) Transmitting station name,
- (C) Transmitting station coordinates,
- (D) Frequencies and polarizations to be added, changed or deleted,
- (E) Transmitting equipment type, its stability, actual output power, emission designator, and type of modulation (loading),
- (F) Transmitting antenna type(s), model, gain and, if required, a radiation pattern provided or certified by the manufacturer,
- (G) Transmitting antenna center line height(s) above ground level and ground elevation above mean sea level,
- (H) Receiving station name,
- (I) Receiving station coordinates,
- (J) Receiving antenna type(s), model, gain, and, if required, a radiation pattern provided or certified by the manufacturer,
- (K) Receiving antenna center line height(s) above ground level and ground elevation above mean sea level,
- (L) Path azimuth and distance,
- (M) Estimated transmitter transmission line loss expressed in dB,
- (N) Estimated receiver transmission line loss expressed in dB,
- (O) For a system utilizing ATPC, maximum transmit power, coordinated

transmit power, and nominal transmit power.

Note to Paragraph (b)(2)(ii): The position location of antenna sites shall be determined to an accuracy of no less than ± 1 second in the horizontal dimensions (latitude and longitude) and ± 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 therefore;

(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.

(c) Frequency coordination for all fixed stations in the band 1990–2110 MHz. For each frequency authorized under this part, the following frequency usage coordination procedures will apply:

(1) *General requirements.* Applicants are responsible for selecting the frequency assignments that are least likely to result in mutual interference with other licensees in the same area. Applicants may consult local frequency coordination committees, where they exist, for information on frequencies available in the area. Proposed frequency usage must be coordinated with existing licensees and applicants in the area 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, for major amendment to a pending application, or for major modification to a license.

(2) To be acceptable for filing, all applications for regular authorization, or major amendment to a pending application, or major modification to a license, must include a certification attesting that all co-channel and adjacent-channel licensees and applicants potentially affected by the proposed fixed use of the frequency(ies) have been notified and are in agreement that the proposed facilities can be installed without causing harmful interference to those other licensees and applicants.

(d) Frequency coordination for all mobile (temporary fixed) stations in all bands above 1990 MHz, except the bands 6425–6525 MHz and 17.7–19.7 GHz. For each frequency authorized under this part, applicants are responsible for selecting the frequency

assignments that are least likely to result in mutual interference with other licensees in the same area. Applicants may consult local frequency coordination committees, where they exist, for information on frequencies available in the area. In selecting frequencies, consideration should be given to the relative location of receive points, normal transmission paths, and the nature of the contemplated operation.

61. Section 78.101 is amended by revising the table in paragraph (a) and adding paragraph (c) to read as follows:

§ 78.101 Power limitations.

(a) * * *

Frequency band (MHz)	Maximum allowable transmitter power—mobile (W)	Maximum allowable EIRP ^{1,2}	
		Fixed (dBW)	Mobile (dBW)
2,025 to 2,110	20.0	.....	+35
6,425 to 6,525	20.0	.....	+35
6,875 to 7,125	20.0	.....	+35
12,700 to 13,250	1.5	+55	+45
17,700 to 18,600 .....	.....	+55	.....
18,600 to 18,800 ¹ .....	.....	+35	.....
18,800 to 19,700 .....	.....	+55	.....

¹ The power delivered to the antenna is limited to -3 dBW.

² Stations licensed based on an application filed before April 16, 2003, for EIRP values exceeding those specified above, may continue to operate indefinitely in accordance with the terms of their current authorizations, subject to periodic renewal.

* * * * *

(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.

§ 78.103 [Amended]

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

63. Section 78.105 is amended by revising the introductory text for paragraph (a), removing the entries for 31,000 to 31,300 and 38,600 to 40,000 and footnotes 2 and 3 from the table in paragraph (a)(1) removing paragraph (a)(4) and by redesignating paragraph (a)(5) as paragraph (a)(4) to read as follows:

§ 78.105 Antenna systems.

(a) For fixed stations operating in the 12.7–13.2 GHz and 17.7–19.7 GHz bands, the following standards apply:

* * * * *

64. Section 78.106 is 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.

65. Section 78.108 is 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.

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

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.

* * * * *

§ 78.111 [Amended]

66. Section 78.111 is amended by removing the entry for 31,000 to 31,300 from the table.

PART 101—FIXED MICROWAVE SERVICES

67. The authority citation for part 101 continues to read as follows:

Authority: 47 U.S.C. 154, 303.

68. Section 101.113 is amended by revising the column headings and the entry for the 12,700–13,250 and adding 13,200–13,250 MHz frequency band in the table in paragraph (a) to read as follows:

§ 101.113 Transmitter power limitations.

(a) * * *

Frequency band (MHz)	Maximum allowable EIRP ^{1,2}	
	Fixed ^{1,2} (dBW)	Mobile (dBW)
* * *	*	*
12,700–13,200 ⁴	+50 .....	.....
13,200–13,250 ⁴	+55 .....	.....
* * *	*	*

¹ Per polarization.

² For multiple address operations, see § 101.147. Remote alarm units that are part of a multiple address central station protection system are authorized a maximum of 2 watts.

69. Section 101.145 is amended by revising the introductory text, and the first sentence of paragraphs (b) and (c) to read as follows:

§ 101.145 Interference to geostationary-satellites.

These limitations are necessary to minimize the probability of harmful interference to reception in the bands 2655–2690 MHz, 5925–7075 MHz, and 12.7–13.25 GHz on board geostationary-space stations in the fixed-satellite service.

* * * * *

(b) 2655 to 2690 MHz and 5925 to 7075 MHz. * * *

(c) 12.7 to 13.25 GHz. * * *

* * * * *

70. Section 101.803 is amended by revising the first sentence of paragraph (b) to read as follows:

§ 101.803 Frequencies.

* * * * *

(b) Communications common carriers in the Local Television Transmission Service may be assigned frequencies listed in §§ 74.602(a), 78.18(a)(6), and 78.18(a)(7) of this chapter to provide

service to television broadcast stations, television broadcast network-entities, cable system operators, and cable network-entities. * * *

* * * * *

71. Section 101.807 is revised to read as follows:

§ 101.807 Transmitter power.

Stations in this service will not be authorized to use transmitters having a rated power output in excess of the limits set forth in § 101.113(b) and a standby transmitter having a rated power output in excess of that of the main transmitter with which it is associated will not be authorized. As an exception, operations on frequencies listed in §§ 74.602(a), 78.18(a)(6), and 78.18(a)(7) of this chapter are subject to the power limitations of §§ 74.636 and 78.101(a).

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