

SUPPLEMENTARY INFORMATION: The Commission's regulations prescribing procedures for statements of employment and financial interests establish at 46 CFR 500.735-33 that annual supplementary statements shall be filed as of December 31 of each year. It has been the experience of the Commission that this filing deadline, which falls on the last day of the reporting period (*i.e.*, the calendar year), has caused a hardship on some employees resulting in inevitable delays in filing the supplementary statements. Some employees require additional time following the reporting period to accumulate the necessary data reflecting their financial holdings as of the final day of the reporting period. Also, employees who file their statements a few weeks prior to December 31, occasionally have to file additional statements for the same period to reflect employment or financial interest changes in the last days of the calendar year. Thus, it is apparent that a filing date some time after the end of the reporting period would be sensible.

The May 15 date has been chosen to coincide with the filing date of Standard Form 278, which is required of certain agency employees under the Ethics in Government Act of 1978 (5 U.S.C. 201). It is the Commission's opinion that identical filing dates will be more convenient for those Commission employees who must file both statements every year.

Therefore, it is ordered that 46 CFR 500.735-33 is amended as follows:

§ 500.735-33 Supplementary Statements.

Changes in, or additions to, employment and financial interests shall be reported in a Supplementary Statement to be filed no later than May 15 of each year, the reporting period being the previous calendar year, except that Special Government Employees shall submit such Supplementary Statements no later than 15 calendar days following any change in, or addition to, their employment and financial interests. If no changes or additions occur, a negative report must nevertheless be filed as of May 15 of each year.

By the Commission November 12, 1980.

Francis C. Hurney,
Secretary.

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FEDERAL COMMUNICATIONS COMMISSION

47 CFR Parts 2, 74 and 78

[Docket No. 21505; RM-2536; FCC 80-604]

Cable Television Relay Service and Television Auxiliary Broadcast Service; Type Acceptance of Broadcasting Equipment

AGENCY: Federal Communications Commission.

ACTION: Final rule (Second Report and Order).

SUMMARY: The FCC has adopted certain rules requiring transmitting equipment used in TV auxiliary broadcast stations be "type accepted" for the first time. (Type acceptance is an equipment authorization issued by the Commission for equipment to be used pursuant to a station authorization.) Equipment is type accepted to certain standards to ensure the efficient use of the radio spectrum. Because the standards adopted are generally a reflection of equipment now being marketed, it is not envisioned that this requirement will be burdensome to any party. Type acceptance for newly manufactured equipment will become effective October 1, 1981.

Also, similar technical standards for transmitting equipment used in the band allocated to TV auxiliary broadcast and Cable Television Relay stations were adopted to minimize the potential to cause harmful interference. In addition, standards were adopted to control the directivity of radiation from transmitting antennas operating in that band.

DATES: Effective Date: December 12, 1980, except for §§ 74.655(e) and 78.107(b)(1) which are effective October 1, 1981; and, § 74.655(f) which is effective October 1, 1985.

FOR FURTHER INFORMATION CONTACT: Melvin Murray, Spectrum Utilization Branch, Office of Science and Technology, Federal Communications Commission, Washington, D.C. 20554, (202) 653-8168.

In the matter of amendment of Parts 2 and 78 of the Commission's rules and regulations to expand the frequencies available for use by Cable Television Relay Service Stations and, amendment of Parts 74 and 78 of the Commission's rules and regulations to set aside 13.15-13.20 GHz for usage by Television and Cable Television Relay Service Pickup Stations on a co-equal basis, Docket No. 21505, RM-2208; and an inquiry to determine public interest and need to establish similar technical standards for both the Cable Television Relay Service and the Broadcast Auxiliary Service in

the 12.7-13.20 GHz band, and, amendment of Subpart F of Part 74 to require type acceptance of equipment used in television auxiliary broadcast stations, RM-2536.

Second Report and Order

Adopted: October 21, 1980.

Released: November 14, 1980.

1. A Notice of Proposed Rule Making and Notice of Inquiry in Docket No. 21505 was adopted by the Commission on December 21, 1977.¹ In that Notice, the Commission proposed expanding the Cable Television Relay Service (CARS) from 12.7-12.95 GHz to 12.7-13.20 GHz with co-equal sharing of the entire band with TV Auxiliary Broadcast Stations (Subpart F of Part 74). This allocation (12.7-13.20 GHz) was adopted May 17, 1979, by the Commission in the First Report and Order in Docket 21505.² The Inquiry section of the Notice of Proposed Rule Making and Notice of Inquiry in Docket 21505 requested that the public submit information relative to the merits of establishing like technical standards for both the Cable Television Relay and TV auxiliary Broadcast services. A *Further Notice of Proposed Rule Making*,³ adopted May 17, 1979, considered comments submitted relative to the Inquiry section and proposed type acceptance for transmitters used in Television Auxiliary Broadcast stations operating in bands A, B, and D, pursuant to Section 74.602, and certain technical standards for both Cable Television Relay and Television Auxiliary Broadcast Services. This Second Report and Order accordingly adopts rules which establish similar technical standards for both the Cable Television Relay and TV Auxiliary Broadcast services as well as requires equipment used in Television Auxiliary Broadcast stations (Subpart F of Part 74) to be type accepted.

Frequency Coordination

2. In the *Further Notice* we proposed that all applicants for Cable Television relay and TV auxiliary Broadcast stations undertake frequency coordination by submitting a statement indicating all entities with which the technical proposal was coordinated. The intent of such a proposed rule was to reduce, as much as possible, the likelihood of harmful interference to existing, or proposed facilities.

3. Comments received in response to the *Further Notice* indicate difficulties in coordinating stations in congested areas. In contrast, a group of 24 cable

¹ 43 FR 9500, March 8, 1978.

² 44 FR 32377, June 6, 1979.

³ 44 FR 32420, June 6, 1979.

system operators (hereinafter "Respondents") suggest that frequency coordination procedures as proposed are unnecessary in uncongested, rural areas and would prove burdensome to cable operators. Teleprompter (TPT) recommended that an applicant be required only to submit a statement certifying that there would be no harmful interference with other systems and to set forth the basis for such a determination.

4. In the *Memorandum, Opinion and Order* in this proceeding we indicated that our present rules state that each grant of authorization to operate either a CARS or TV Auxiliary station is subject to the condition that no harmful interference is caused to other CARS or TV Auxiliary stations authorized at the time of such grants. Accordingly, applicants are to cooperate with existing licensees and/or other applicants to coordinate their facilities so that the level of any interference will not be harmful to others. We believe this procedure to be practical. It will ease the burden on both the Commission and the applicants. Consequently, we are not adopting any additional frequency coordination procedure; and we are modifying §§ 74.604 and 78.19 accordingly.

Power Limitations

5. *Fixed stations.* For TV Auxiliary bands A (1990-2500 MHz) and B (6875-7125 MHz), we proposed in this proceeding a limit of 20 watts; for the shared band: TV Auxiliary and CARS (12.7-13.20 GHz) a 5 watt limit was proposed. In an associated paragraph of that proposed rule we indicated that a higher output power, up to fifty (50) watts, would be authorized provided sufficient justification for it was supplied. Several parties submitting comments interpreted this proposal to mean that our intent was to set the limits at 50 watts. However, our intent is that applicants use the least amount of power for reliable communications so as to minimize interference to others; therefore, to discourage the use of higher transmitter output powers, we are deleting this proposal. In cases where permission is sought to operate with a power higher than the limit set out in the Rules, a request for waiver will be entertained.⁴ Accordingly, the power limits as proposed for fixed stations are herein adopted. (See §§ 74.636 and 78.101.)

6. *Mobile stations.* For TV Auxiliary bands A and B a 20 watt limit was proposed. A 250 milliwatt limit was proposed for the shared 12.7-13.20 GHz

band. In reviewing the licenses of TV Auxiliary Mobile stations now operating in-bands A and B, we find that most are operating at levels of 12 watts or less. Since we see no need to raise this level to that proposed, we are accordingly setting the power limit for mobile stations which operate in bands A and B at 12 watts. We received numerous comments on the power limit of 250 milliwatts for the shared 12.7-13.20 GHz band. Only NCTA agreed that the proposed limit is sufficient. All others suggested that the limit be raised. They contend that higher power is necessary to overcome attenuation from operating over long path lengths and frequently from buildings which are used to reflect the signal. Several parties indicated that multi-band operation in already congested bands A and B would be necessary if a higher power limit were not allowed for band D. CBS recommended a power limit of one watt for pickup stations.

7. We concur with the submitted comments and believe that the power limit would be raised from the proposed 250 milliwatt level. We are adopting 1.5 watts (transmitter output power) as the limit for mobile (i.e., pickups) TV auxiliary and CARS transmitters; this limit, we feel, should be sufficient to permit the transmission of signals over path lengths appropriate for mobile operations.

8. For purposes of conforming the technical standards of Part 74 with those of Part 78, several changes were proposed. In § 74.637, entitled *Emission and Bandwidth* the reference level for measuring the attenuation of emissions was proposed to be changed from "decibels below the unmodulated carrier" to "decibels below the mean power of emission." NBC filed the only comment opposing the proposed rule change claiming the existing rules provide a very simple means of measuring the performance of the transmission system on an absolute basis. It contends the alternative proposed by the Commission is dependent upon the type of emission employed and would be quite difficult to apply in practice. NBC states "the existing method works well and there is no valid reason to tamper with it."

9. The method of measurement, as proposed, is not difficult to apply in practice. It is used in measurements of equipment requiring type acceptance under other radio services including CARS. Accordingly, we are changing the reference level to read "the mean power of the emissions" for purpose of conformance.

Frequency Stability

10. It was proposed to upgrade the stability from 0.02% to 0.005% for FM equipment used in CARS. No objections were received; it is accordingly adopted. With respect to Section 74.661(a) which proposed that the licensee maintain the operating frequency of its TV auxiliary broadcast station so that 99 percent of the sideband energy falls within the assigned channel. CBS filed comment contending this measurement may prove impractical. CBS feels that a "more meaningful method would be require all emissions outside of the allocated channel to be consistent with the proposed requirements of § 74.637."

11. Section 74.661(a) requires a measurement to show that the transmitter's occupied bandwidth meets or exceeds the definition set out in § 2.202(a). In contrast, § 74.637 requires a measurement to determine that the transmitter's spectral output is attenuated sufficiently outside the assigned channel. Each measurement is required to accomplish a different objective. The former measurement is to assure that the transmitter's output energy is conformed to a given standard; while the latter is to assure that generated spurious emissions are attenuated to another given standard. These proposed rules are accordingly adopted.

Modulation Limits

12. In § 74.663(a) we proposed to limit negative modulation peaks to 100% for equipment using amplitude modulation. In its comments, NAB pointed out that it is impossible to achieve anything greater than 100 percent negative modulation. We agree that negative modulation cannot exceed 100 percent, which would be zero carrier, or carrier cut off. The proposed rule, however, applies to *peaks* of the modulating signal producing negative modulation. If the modulating signal drives the RF (radio frequency) signal into carrier cutoff, then harmonics are generated which would cause interference to adjacent channels. Since this is an undesirable condition, § 74.663(a) is being adopted as proposed.

13. Regarding proposed § 74.663(b), NAB stated it appeared that this rule was redundant with proposed § 74.637. The former proposed rule required stations using FM transmission to maintain the total excursion of the RF carrier under modulation and the maximum modulation frequency such that the authorized bandwidth is not exceeded in operation. Proposed § 74.637, entitled "Emissions and Emission Limitations", set certain levels

⁴ See § 1.3 of the Commission's rules.

for suppression of spurious emissions. We concur that if a transmitter meets or exceeds the standards required by § 74.637, then the requirements proposed in § 74.663(b) are redundant. As suggested then, we have deleted § 74.663(b); similarly, § 78.115(b) also has been deleted.

Antenna Requirements

14. For TV auxiliary broadcast and CARS stations we proposed that the radiation pattern of the corresponding antenna system conform to certain specified limits. In areas of congestion, use of a more directive category "A" antenna would be employed; whereas in other less congested areas, a less directive category "B" antenna would be allowed. No performance standards were proposed for pickup stations except that they employ directional antennas. Also addressed was the matter of periscope antenna systems. We proposed that their radiation characteristic in a horizontal plane meet or exceed standards proposed for conventional antennas. A time period of ten years was proposed after which all such stations would be required to be in compliance.

15. Comment regarding the proposed antenna requirements was received from various broadcast and cable interests. NAB felt that more definite guidelines were needed for applicants to determine whether a particular area is frequency congested or not. We have attempted to resolve this matter by qualifying the proposed rule. A licensed station will be permitted continued usage of a category "B" antenna in any area until an applicant for a new TV auxiliary broadcast or CARS station or another licensee makes a showing indicating that the use of the existing category "B" antenna limits a proposed project because of interference and that the use of a category "A" antenna would remedy the interference thus allowing the project to be realized.

16. CBS and NBC felt that non-standard antennas should be allowed in exceptional cases based on a well-documented showing of need. Both cite as an example the World Trade Center in New York City where separation between the main columns of the buildings' outer walls is 28 inches. This physical restraint accordingly prohibits the use of a category "A" antenna. We agree that in certain circumstances it may not be possible to install the required category antenna. As an exception then to using antenna systems that do not comply with the standards we are adopting herein, we will individually entertain requests for exceptions where the applicant has

clearly indicated in detail why an antenna system complying with the required standards cannot be installed and demonstrating that frequency coordination, pursuant to § 74.604 or § 78.19, as appropriate, has been carried out.

17. Regarding pickup stations, the majority of comments requested that non-directional antennas be allowed. It was contended that flexibility to meet the varying exigencies of ENG operations would be impaired if the proposed rule requiring directional antennas were adopted. As examples, the employment of helicopters, blimps and back pack cameras often necessitate the use of omnidirectional antennas. We agree with the comments and are adopting a rule exempting pickup stations from using directional antennas. However, we caution licensees that pickup stations generally operate on a secondary basis; accordingly, they should take measures to protect primary stations from receiving any harmful interference due to their operations.

18. The issue concerning periscope antenna drew much comment. Opposition to the rule proposing that such antennas systems meet or exceed the standards proposed for conventional antennas came primarily from cable television operators. They indicated that rural areas will never have the degree of frequency usage that would require use of a category "A" or "B" antenna. A group of cable operators, hereafter called "Respondents", claim that associated interference problems resulting from a lack of antenna standards could be worked out during the coordination period. Gabriel Electronics, a manufacturer of antennas used in TV auxiliary and CARS supports *in toto* the proposed technical standards. A manufacturer of periscope antenna systems, Microflex, claims its products comply with the proposed technical standards for category "A" antennas. As a compromise, Teleprompter and Viacom have suggested that licensing of new periscope antenna systems be prohibited except upon submission of a specific showing that no frequency congestion exists in the area of proposed use. To protect against future congestion and interference, each authorization permitting use of a periscope antenna could be expressly conditioned to require conversion to a conventional antenna if and when congestion occurs.

19. It is our intention *not* to impose economic burdens upon licensees by adopting standards that require antenna

systems that are costly. Our desire is to provide standards now to avert future difficulties resulting from a greater number of licensees operating within the same spectrum space. Accordingly, we are adopting the standards as proposed; but, we are also providing exceptions as suggested in the comments. In particular, under § 74.641(b) and § 78.105(b), requests for use of periscope antenna systems may be approved where a persuasive showing is made that no frequency congestion exists in the area of proposed use. Approvals will be conditioned so as to require use of a standard antenna when an applicant of a new TV auxiliary broadcast or Cable Television Relay station indicates that the use of the existing antenna system will cause interference and the use of a category "A" or "B" antenna will remedy the interference.

Type Acceptance

20. In the Further Notice of Proposed Rule Making we proposed implementation of type acceptance for equipment used in TV auxiliary stations to assure certain technical standards are met. As we pointed out, adherence to the proposed standards would minimize interference to other users and maximize the use of the radio frequency spectrum. In its comments ABC contends that deregulatory licensing policies should be adopted. It explains that ENG operations should be licensed as an overall system rather than on a unit by unit basis. It continues, "For example, an applicant could ask for an authorization permitting five to ten TV pickup units to be activated as circumstances require so long as all equipment has been type accepted. This sensible deregulatory action would help alleviate current backlog problems being experienced in this service and eliminate the unnecessary paper work for licensees". Secondly, it suggests that the Commission allocate sufficient staff resources to handle any increased workload. It states, "Such measures would help assure that new regulations are not accompanied by increased regulatory delays".

21. We are not considering these comments at this time as they do not appear pertinent to the proposal.

22. In its comments, CBS Inc. requested the Commission to grandfather all equipment that would be operational prior to the date on which type acceptance would be required. It also recommended that an elapse of one year be allowed before the requirement for type acceptance becomes effective. "This would allow manufacturers sufficient time in which to file for and receive type acceptance". In the

proposed rules provision was made for the use of non-type accepted equipment by the licensee or its successors or assignees; however, no provision was made for the marketing of such equipment after the rules were to become effective.

23. In reviewing this matter we are choosing not to burden ourselves with the establishment of a grandfather list, as was suggested, but are adopting a procedure that is equitable and should be acceptable to all. Accordingly, to allow manufacturers sufficient time to comply with the new standards herein being adopted, type acceptance requirements will not become effective until October 1, 1981. Non-type accepted equipment which was manufactured and/or marketed before October 1, 1981, may be marketed until October 1, 1985, to permit the depletion of existing inventories. After that date, it may not be further marketed; however, the licensee may continue to use the equipment, as long as it does not cause interference. We feel this change will permit manufacturers sufficient time to deplete existing stock and then to design equipment to comply with the standards being adopted herein. Users are accordingly being allowed about five years to either sell and replace existing equipment with equipment that will be type accepted to the standards herein adopted or continue to use existing equipment subject to the provisions that it does not cause harmful interference due to its failure to comply with the technical standards and that it may not be marketed for reuse under Parts 74 or 78.

24. Also proposed was a rule that would have permitted the immediate use of equipment under Part 74 provided the equipment had been previously type accepted under other part(s) of the Rules. In reviewing this proposal, we envision the possibility that changes in the standards for TV broadcast auxiliary equipment (i.e., Part 74) may be different in the future from those required for equipment used in other services. Accordingly, we have not adopted this rule.

25. However, a manufacturer desiring to acquire type acceptance under Part 74 for equipment previously type accepted under other parts of the Rules need not file a new type acceptance application for inclusion under Subpart F of Part 74 if the equipment meets or exceeds all the technical standards adopted herein and other requirements as appropriate. Instead, FCC Form 731 requesting the addition of Subpart F of Part 74 to their existing grant of type acceptance should be sent to the FCC, Office of Science and Technology, P.O. Box 429,

Columbia, Maryland 21045. If upon examination the equipment is found to be in compliance, a new grant of type acceptance which includes Subpart F of Part 74 will be issued.

26. As an exemption to the requirement for type acceptance, pickup stations operating in excess of 250 mW licensed pursuant to applications accepted for filing prior to October 1, 1980, may continue operation subject to periodic renewal. NAB suggested that this "grandfather" provision should also appear under the rule sections entitled "Power limitations". We do not believe that such redundancy is necessary. This provision accordingly appears only under the rule sections entitled "Type acceptance".

27. In its comments NBC recommended that low-powered equipment (i.e., 250 mW or less output power) be exempted from type acceptance requirements for TV auxiliary broadcast bands "A" and "B" just as we proposed a similar exemption for Band "D". We feel this is a reasonable request as we don't expect these lower-power equipments to significantly cause harmful interference; accordingly we have adopted that recommendation herein.

28. In a separate petition for rule making (RM-2536), Fletcher, Heald, Rowell, Kenehan and Hildreth, a communications law firm, requested that equipment used under Subpart F of Part 74 be subject to type acceptance requirements. It contended that administrative requirements would be simplified. Since this proceeding provides for this request, the Petition as filed is herein being granted.

29. Accordingly, pursuant to authority contained in Section 4(i) and 303 of the Communications Act of 1934, as amended, it is ordered that Parts 74 and 78 are amended as shown in Appendix B. It is further ordered that proceedings in Docket 21505 are terminated.

30. For additional information contact: Mel Murray, Federal Communications Commission, Office of Science and Technology, 2025 "M" Street, NW., Washington, D.C. 20554. Telephone (202) 653-8168.

(Secs. 4, 303, 48 stat., as amended, 1066, 1082; (47 U.S.C. 154, 303))

Federal Communications Commission.

William J. Tricarico,

Secretary.

Appendix A

I. The following parties, arranged into three groups for convenience, filed comments in response to the Further Notice of Proposed Rule Making in Docket No. 21505:

A. Broadcast Interests

American Broadcasting Companies, Inc. (ABC)
CBS Inc. (CBS)
National Association of Broadcasters (NAB)
National Broadcasting Company, Inc. (NBC)
B. Cable Interests
Gabriel Electronics Incorporated
Joint comments—24 parties—(Respondents)
Microflex
National Cable Television Association (NCTA)
Teleprompter Corporation (TPT)
Viacom International Inc.
II. Reply comments in the proceeding were filed by: American Broadcasting Companies, Inc.

Appendix B

Parts 74 and 78 of Chapter I of Title 47 of the Code of Federal Regulations are amended as follows:

PART 74—EXPERIMENTAL, AUXILIARY, AND SPECIAL BROADCAST, AND OTHER PROGRAM DISTRIBUTIONAL SERVICES

1. Section 74.604 (a) is revised as follows:

§ 74.604 Frequency selection to avoid interference.

(a) Applicants for new television pickup, television STL, television intercity relay and television translator relay stations shall endeavor to select frequency assignments which will be least likely to result in mutual interference with other licensees in the same area since the FCC itself does not undertake frequency coordination. Consideration should be given to the relative locations of receiving points, normal transmission paths, and the nature of the contemplated operation.

2. Section 74.636 is revised to read as follows:

§ 74.636 Power limitations.

Transmitter peak output power shall not be greater than necessary, and in any event, shall not exceed the power listed in the table below;

Band	Power limit	Class of station
A.....	20 Watts.....	Fixed
	12 Watts.....	Mobile
B.....	20 Watts.....	Fixed
	12 Watts.....	Mobile
D.....	5 Watts.....	Fixed
	1.5 Watts.....	Mobile

3. Section 74.637 headnote and text are revised to read as follows:

§ 74.637 Emissions and emission limitations

(a) TV auxiliary broadcast stations operating on frequencies above 1,000 MHz may be authorized to employ any

type of emission suitable for the transmission of the visual and aural and operational signals as may be permitted under the rules of this subpart.

Continuous radiation of the carrier without modulation is permitted provided harmful interference is not caused to other authorized stations.

(b) The channels assigned to TV auxiliary broadcast stations are designated by upper and lower frequency limits. Emissions outside of these frequency limits shall be attenuated as follows:

(1) Any emission appearing on a frequency above the upper channel limit or below the channel limit by between zero and 50% of the assigned channel width shall be attenuated at least 25 dB below the mean power of the emission.

(2) Any emission appearing on a frequency above the upper channel limit or below the channel limit by between 50% and 150% of the assigned channel width shall be attenuated at least 35 dB below the mean power of the emission.

(3) Any emission appearing on a frequency above the upper channel limit

or below the lower channel limit by more than 150% of the assigned channel width shall be attenuated at least $43 + 10 \log_{10}$ (power in watts) dB below the mean power of the emission.

(c) In the event that interference to other stations is caused by emissions outside the authorized channel, the FCC may require greater attenuation than that specified in paragraph (b) of this section.

4. A new § 74.641 is added to read as follows:

§ 74.641 Antenna Systems

(a) For fixed stations operating in Band D the following rules apply:

(1) Fixed TV auxiliary broadcast stations shall use directional antennas that meet the performance standards indicated in the following table. Upon adequate showing of need to serve a larger sector, or more than a single sector, greater beamwidth or multiple antennas may be authorized. Applicants shall request, and authorization for stations in this service will specify the polarization of each transmitted signal.

Antenna Standards

Frequency (in megahertz)	Category	Maximum beamwidth to 3 dB (included angle in degrees)	Minimum radiation suppression at angle in degrees from centerline of main beam in decibels—						
			5° to 10°	10° to 15°	15° to 20°	20° to 30°	30° to 100°	100° to 140°	140° to 180°
12,700 to 13,200	A	1.0	23	28	35	39	41	42	50
	B	2.0	20	25	28	30	32	37	47

NOTE.—Stations in this service must employ an antenna that meets the performance standards for category A, except that, in areas not subject to frequency congestion antennas meeting standards for category B may be employed. Note, however, that the Commission may require the use of a high performance antenna where interference problems can be resolved by the use of such antennas.

(2) New periscope antenna systems will be authorized upon a certification that the radiation, in a horizontal plane, from an illuminating antenna and reflector combination meets or exceeds the antenna standards of this section. This provision similarly applies to passive repeaters employed to redirect or repeat the signal from a station's directional antenna system.

(3) The choice of receiving antennas is left to the discretion of the licensee. However, licensees will not be protected from interference which results from the use of antennas with poorer performance than identified in the table of this section.

(4) The transmitting antenna system of stations employing maximum equivalent isotropically radiated power exceeding +45 dBW in the frequency band between 12.70 and 12.75 GHz shall be

orientated so that the direction of maximum radiation of any antenna shall be at least 1.5° away from the geostationary satellite orbit taking into account the effect of atmospheric refraction.¹

(5) Pickup stations are not subject to the performance standards herein stated. The provisions of this paragraph are effective for all new applications accepted for filing after October 1, 1981.

(b) Any fixed station licensed pursuant to applications accepted for

¹ See Chapter I, Article 1, Section III of the (International) Radio Regulations (Geneva, 1959), as amended, for Technical Characteristics Term and Definitions. Additional information and methods for calculating azimuths to be avoided may be found in the following: Report 393, International Radio Consultative Committee (C.C.I.R.); "Geostationary Orbit Avoidance Computer Program," Report CC-7202, Federal Communications Commission, available from the National Technical Information Service, Springfield, VA 22151, in printed form (PB-211 500) or source card deck (PB-211 501).

filing prior to October 1, 1981, may continue to use its existing antenna system, subject to periodic renewal until October 1, 1991. After October 1, 1991, all licensees are to use antenna systems in conformance to the standards of this section. TV auxiliary broadcast stations located in areas subject to frequency congestion are to employ a category A antenna when:

(1) a showing by an applicant of a new TV auxiliary broadcast station or Cable Television Relay Service (CARS) station, which shares the 12.7-13.20 GHz band with TV auxiliary broadcast, indicates that use of a category B antenna limits a proposed project because of interference, and

(2) that use of a category A antenna will remedy the interference thus allowing the project to be realized.

(c) As an exception to the provisions of this Section, the FCC may approve requests for use of periscope antenna systems where a persuasive showing is made that no frequency conflicts exist in the area of proposed use. Such approvals shall be conditioned to a standard antenna as required in paragraph (a) of this section when an applicant of a new TV auxiliary broadcast or Cable Television Relay station indicates that the use of the existing antenna system will cause interference and the use of a category A or B antenna will remedy the interference.

(d) As a further exception to the provision of paragraph (a) of this section, the Commission may approve antenna systems not conforming to the technical standards where a persuasive showing is made that:

(1) indicates in detail why an antenna system complying with the requirements of paragraph (a) of this section cannot be installed, and

(2) includes a statement indicating that frequency coordination as required in § 74.604 (a) was accomplished.

5. A new § 74.655 is added to read as follows:

§ 74.655 Type acceptance.

(a) Type acceptance is *not* required for transmitters used in conjunction with TV pickup stations operating with a peak output power not greater than 250 mW. Pickup stations operating in excess of 250 mW licensed pursuant to applications accepted for filing prior to October 1, 1980, may continue operation subject to periodic renewal. If operation of such equipment causes harmful interference the FCC may, at its

discretion, require the licensee to take such corrective action as is necessary to eliminate the interference.

(b) The licensee of a TV auxiliary station may replace transmitting equipment with type accepted equipment, without prior FCC approval, provided the proposed changes will not depart from any of the terms of the station or system authorization or the Commission's technical rules governing this service, and also provided that any changes made to type accepted transmitting equipment is in compliance with the provisions of Part 2 of the FCC rules concerning modification to type accepted equipment.

(c) Any manufacturer of a transmitter to be used in this service may apply for type acceptance following the procedure set forth in Part 2 of the FCC Rules.

(d) An applicant for a TV auxiliary broadcast station may also apply for type acceptance for an individual transmitter by following the type acceptance procedure set forth in Part 2 of the FCC Rules and Regulations. Individual transmitters which are type accepted will not normally be included in the FCC's Radio Equipment List.

(e) Type acceptance by the FCC is required for all transmitters first licensed, or marketed as specified in § 2.803 of the FCC Rules, except as provided for in paragraph (a) (Refer to subpart I of Part 2 of the Commission's Rules and Regulation). This paragraph is effective October 1, 1981.

(f) All transmitters marketed for use under this Subpart must be type accepted by the Federal Communications Commission. TV auxiliary broadcast station transmitting equipment authorized to be used pursuant to an application accepted for filing prior to October 1, 1985, may continue to be used by the licensee or its successors or assignees, provided, that if operation of such equipment causes harmful interference due to its failure to comply with the technical standards set forth in this subpart, the FCC may, at its discretion require the licensee to take such corrective action as is necessary to eliminate the interference. However, such equipment may not be further marketed for reuse under Parts 74 or 78. This paragraph is effective October 1, 1985.

(g) Each instrument of authority which permits operation of a TV auxiliary broadcast station or system using equipment which has not been type accepted will specify the particular transmitting equipment which the licensee is authorized to use.

6. Section 74.661, paragraph (a) is revised to read as follows:

§ 74.661 Frequency tolerance

(a) The licensee of a TV auxiliary broadcast station shall maintain the operating frequency of its station so that 99% of the sideband energy shall fall within the assigned channel.

7. Section 74.663, headnote and text are revised to read as follows:

§ 74.663 Modulation limits.

If amplitude modulation is employed, negative modulation peaks shall not exceed 100%.

8. In § 74.665 paragraphs (d)(1) and (d)(2) are revised to read as follows:

§ 74.665 Operator requirements.

(d) TV pickup stations may be operated in accordance with the following:

(1) Stations operating on frequencies in Bands A, B, or D with less than 250 mW, may be operated by any person whom the licensee shall designate. Pursuant to this provision, the designated person shall perform as the licensee's agent and proper operation of the station shall remain the licensee's responsibility.

(2) Television pickup stations operating in Band A, B, or D with nominal transmitter power in excess of 250 mW, may be operated by any person whom the licensee shall designate, provided a person holding a valid radio-telephone first-class or radiotelephone second-class license is on duty at the receiving end of the circuit to supervise operation and immediately institute measures sufficient to assure prompt correction of any condition of improper operation that is observed.

9. A new § 74.669 is added to read as follows:

§ 74.669 Station inspection.

The licensee of each TV auxiliary broadcast station shall make the station available for inspection by representatives of the Commission at any reasonable hour.

PART 78—CABLE TELEVISION RELAY SERVICE

1. Section 78.19(a) is revised to read as follows:

§ 78.19 Interference.

(a) Applications for CARS stations shall endeavor to select an assignable frequency or frequencies which will be least likely to result in interference to other licensees in the same area since the FCC itself does not undertake frequency coordination.

2. In § 78.101, paragraphs (a) and (b) are revised to read as follows and paragraph (c) is removed.

§ 78.101 Power limitations.

(a) With the exception of pickup stations, transmitter peak output power shall not be greater than necessary, and in no event, shall exceed 5 watts on any channel. For CARS pickup stations, the transmitter peak output power shall not exceed 1.5 watts.

(b) LDS stations shall use for the visual signal-vestigial sideband AM transmission. When vestigial sideband AM transmission is used the peak power of the visual signal on all channels shall be maintained within 2 dB of equality. The mean power of the aural signal on each channel shall not exceed a level of 7 dB below the peak power of the visual signal.

3. In § 78.104, paragraph (b)(1) is revised to read as follows and paragraph (b)(2) is removed and reserved.

§ 78.104 Authorized bandwidth and emission designator.

(b) ***
(1) The frequency stability of the transmitting equipment to be used will permit compliance with § 78.103(b)(1) and, additionally, will permit 99 percent of the total radiated power to be kept within the frequency limits of the assigned channel.

(2) [Reserved.]

(c) ***

4. Section 78.105, headnote and text are revised to read as follows:

§ 78.105 Antenna systems.

(a) For fixed stations the following rules apply:

(1) Fixed CARS stations shall use directional antennas that meet performance standards indicated in the following table. Upon adequate showing of need to serve a larger sector, or more than a single sector, greater beamwidth or multiple antennas may be authorized. Applicants shall request and authorization for the stations in this service will specify the polarization of each transmitted signal.

Antenna Standards

Frequency (in megahertz)	Category	Maximum beam-width to 3 dB (included angle in degrees)	Minimum radiation suppression to angle in degrees from centerline of main beam in decibels—						
			5° to 10°	10° to 15°	15° to 20°	20° to 30°	30° to 100°	100° to 140°	140° to 180°
12,700 to 13,200	A	1.0	23	28	35	39	41	42	50
	B	2.0	20	25	28	30	32	37	47

NOTE.—Stations in this service must employ an antenna that meets the performance standards for category A, except that, in areas not subject to frequency congestion antennas meeting standards for category B may be employed. Note, however, that the Commission may require the use of a high performance antenna where interference problems can be resolved by the use of such antennas.

(2) New periscope antenna systems will be authorized upon a certification that the radiation, in a horizontal plane, from an illuminating antenna and reflector combination meets or exceeds the antenna standards of this section. This provision similarly applies to passive repeaters employed to redirect or repeat the signal from a station's directional antenna system.

(3) The choice of receiving antennas is left to the discretion of the licensee. However, licensees will not be protected from interference which results from the use of antennas with poorer performance than defined in paragraph (a) of this section.

(4) The transmitting antenna system of stations employing maximum equivalent isotropically radiated power exceeding +45 dBW in the frequency band between 12.70 and 12.75 GHz shall be oriented so that the direction of maximum radiation of any antenna shall be at least 1.5° away from the geostationary satellite orbit, taking into account the effect of atmospheric refractions.¹

(5) Pickup stations are not subject to the performance standards herein stated. The provisions of this paragraph are effective for all new applications accepted for filing after October 1, 1981.

(b) Any fixed station licensed pursuant to applications accepted for filing prior to October 1, 1981, may continue to use its existing antenna system, subject to periodic renewal until October 1, 1991. After October 1, 1991, all licensees are to use antenna systems in conformance to the standards of this Section. CARS stations located in areas subject to frequency congestion are to

¹ See Chapter I, Article 1, Section III of the (International) Radio Regulations (Geneva, 1959), as amended, for Technical Characteristics Terms and Definitions. Additional information and methods for calculating azimuths to be avoided may be found in the following: Report 393, International Radio Consultative Committee (C.C.I.R.); "Geostationary Orbit Avoidance Computer Program," Reort CC-7220, Federal Communications Commission, available from the National Technical Information Service, Springfield, VA 22151, in printed form (PB-211 500) or source card deck (PB-211 501).

employ a category A antenna when:

(1) A showing by an applicant of a new CAR service or TV auxiliary broadcast, which shares the 12.7-13.20 GHz band with CARS, indicates that use of a category B antenna limits a proposed project because of interference, and

(2) That use of a category A antenna will remedy the interference thus allowing the project to be realized.

(c) As an exception to the provisions of this Section, the FCC may approve requests for use of periscope antenna systems where a persuasive showing is made that no frequency conflicts exist in the area of proposed use. Such approvals shall be conditioned to require conversion to a standard antenna as required in paragraph (a) of this section when an applicant of a new TV auxiliary broadcast or Cable Television Relay station indicates that the use of the existing antenna system will cause interference and the use of a category A or B antenna will remedy the interference.

(d) As a further exception to the provision of paragraph (a) of this section the Commission may approve antenna systems not conforming to the technical standards where a persuasive showing is made that:

(1) Indicates in detail why an antenna system complying with the requirements of paragraph (a) of this section cannot be installed, and

(2) Includes a statement indicating that frequency coordination as required in § 78.18a was accomplished.

5. In § 78.107, paragraphs (b), (c) and (d) are revised and a new paragraph (e) is added, to read as follows:

§ 78.107 Equipment and installation.

(a) * * *

(b) Applications for new cable television relay stations will not be accepted unless the equipment specified therein has been type accepted for use pursuant to the provisions of this subpart.

(1) All transmitters first licensed or marketed shall comply with technical

standards of this subpart. This paragraph (b)(1) is effective October 1, 1981.

(2) Type acceptance is not required for transmitters which have an output power not greater than 250 mW used in a CARS pickup station operating in the 12.7-13.20 GHz band and for transmitters used under a developmental authorization.

(c) Cable television relay station transmitting equipment authorized to be used pursuant to an application accepted for filing prior to October 1, 1981, may continue to be used, provided, that if operation of such equipment causes harmful interference due to its failure to comply with the technical standards set forth in this subpart the Commission may, at its discretion, require the licensee to take such corrective action as is necessary to eliminate the interference.

(d) The installation of a CARS station shall be made by or under the immediate supervision of a qualified engineer. Any tests or adjustments requiring the radiation of signals and which could result in improper operation shall be conducted by or under the immediate supervision of an operator holding a valid first- or second-class radio-telephone operator license.

(e) Simple repairs such as the replacement of tubes, fuses, or other plug-in components which require no particular skill may be made by an unskilled person. Repairs requiring replacement of attached components or the adjustment of critical circuits or corroborative measurements shall be made only by a person with required knowledge and skill to perform such tasks.

6. In § 78.111 the table is removed and the text is revised to read as follows:

§ 78.111 Frequency tolerance.

(a) Cable television relay stations shall maintain the operating frequency so that 99% of the sideband energy shall fall within the assigned channels.

(b) Cable television relay stations shall maintain the carrier frequency of each authorized transmitter within 0.005% of the operating frequency.

(c) Cable television relay stations that employ vestigial sideband AM transmission shall maintain their operating frequency within 0.0005% of the visual carrier, and the aural carrier shall be 4.5 MHz ± 1 kHz above the visual carrier frequency.

§ 78.115 [Amended]

7. In § 78.115 paragraph (b) is removed.

[FR Doc. 80-36781 Filed 11-25-80; 8:45 am]

BILLING CODE 6712-01-M

47 CFR Part 2

[FCC 80-547]

Frequency Allocations and Radio Treaty Matters; Convenient Method for Handling Frequency Assignments for Space Research Earth Stations in a Certain Frequency Band

AGENCY: Federal Communications Commission.

ACTION: Final rule and order.

SUMMARY: Footnote US 111 to the Table of Frequency Allocations allows Government use of a certain frequency band on a secondary basis. It lists nine locations utilized by the National Aeronautics and Space Administration (NASA) space research earth stations for tracking, ranging and telecommand purposes. In addition, it specifies eleven frequencies as being authorized at these locations.

This area of research is a dynamically changing one, resulting in rapid outdated of specific frequencies and locations. New frequencies and locations require constant changes to US 111 through the rule making process. This is time consuming and cumbersome to administer. To achieve a greater measure of Administrative economy, NASA has requested, and the FCC has agreed to, a revision of US 111 to delete the listing of specific frequencies and locations.

EFFECTIVE DATE: November 13, 1980.

ADDRESS: Federal Communications Commission, 1919 M Street, NW., Washington, D.C. 20554.

FOR FURTHER INFORMATION CONTACT: Eugene J. Cea, Office of Science and Technology, 2025 M Street NW., Washington, D.C. 20554, (202) 653-8177, Room 7328.

Order

Adopted: September 25, 1980.

Released: October 31, 1980.

In the matter of Amendment of Footnote US 111 in Part 2 of the Commission's Rules and Regulations to provide a more convenient method for handling frequency assignments for space research earth stations in the band 1990-2120 MHz.

By the Commission:

1. Footnote US 111 to the Table of Frequency Allocations allows Government use of the band 1990-2120

MHz on a secondary basis. It lists nine locations utilized by the National Aeronautics and Space Administration (NASA) space research earth stations for tracking, ranging and telecommand purposes. In addition, it specifies eleven frequencies in the band 1990-2120 MHz, as well as the band segment 2110-2120 MHz as being authorized at these locations.

2. This area of research is a dynamically changing one, resulting in rapid outdated of specific frequencies and locations. New frequencies and locations require constant changes to US 111 through the rule making process. This is time-consuming and cumbersome to administer. To achieve a greater measure of administrative economy, NASA has requested a revision of US 111 to delete the listing of specific frequencies and locations.

3. NASA concurs that authorizations for specific frequencies and locations will continue to be coordinated with the FCC through the Government's Frequency Assignment Subcommittee mechanism on a case-by-case basis with appropriate conditions applied as necessary. Further, such authorizations shall be secondary to present and future non-Government use of this band and NASA will, if necessary, discontinue transmissions causing interference to licensees.

4. Under the conditions imposed, there should be no adverse present or future impact on non-Government licensees. We, therefore, anticipate no comments in this matter. For these reasons, prior notice and effective date provisions of the Administrative Procedures Act, 5 U.S.C. 533 are found to be unnecessary. Accordingly, pursuant to authority contained in Sections 4(i) and 303(r) of the Communications Act of 1934, as amended, IT IS Ordered that, effective November 13, 1980, Footnote US 111 to the Table of Frequency Allocations, § 2.106 of the Commission's Rules, IS Amended as set forth in the Appendix.

(Secs. 4, 303, 307, 48 Stat., as amended, 1066, 1082, 1083; 47 U.S.C. 154, 303, 307)

Federal Communications Commission.

William J. Tricarico,

Secretary.

Appendix

Part 2 of Chapter I of Title 47 of Code of Federal Regulations is amended as follows:

In § 2.106, Footnote US 111 is revised to read as follows:

§ 2.106 [Amended]

* * * * *
US 111 In the band 1990-2120 MHz, Government space research earth

stations may be authorized to use specific frequencies at specific locations for earth-to-space transmissions. Such authorizations shall be secondary to non-Government use of this band and subject to such other conditions as may be applied on a case-by-case basis.

[FR Doc. 80-36942 Filed 11-25-80; 8:45 am]

BILLING CODE 6712-01-M

47 CFR Part 73

[BC Docket No. 80-73; RM-3263]

FM Broadcast Stations in Central City, Nebr., and Yankton, S. Dak.; Changes Made in Table of Assignments

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: Action taken herein assigns a Class C FM channel to Central City, Nebraska, and substitutes one Class C channel for another at Yankton, South Dakota, in response to a petition filed by Nebraska Rural Radio Association. The station could render significant first and second service to the rural areas in addition to providing Central City with its first fulltime local aural broadcast service.

EFFECTIVE DATE: December 26, 1980.

ADDRESS: Federal Communications Commission, Washington, D.C. 20554.

FOR FURTHER INFORMATION CONTACT: Montrose H. Tyree, Broadcast Bureau, (202) 632-9660.

SUPPLEMENTARY INFORMATION:

In the matter of amendment of § 73.202(b), *Table of Assignments*, FM Broadcast Stations. (Central City, Nebr., and Yankton, S. Dak.), BC Docket No. 80-73, RM-3263.

Report and Order—Proceeding Terminated

Adopted: November 10, 1980.

Released: November 24, 1980.

1. The Commission has under consideration a *Notice of Proposed Rule Making*, 45 FR 13147, published February 28, 1980, proposing the reassignment of Channel 262 from Yankton, South Dakota, to Central City, Nebraska, and the substitution of Class C FM Channel 226 for Channel 262 at Yankton, in response to a petition filed by Nebraska Rural Radio Association ("petitioner"), licensee of Stations KRVN(AM) and KRVN-FM, Lexington, Nebraska. Petitioner submitted supporting comments reaffirming its intent to apply for the channel, if assigned. Sorenson Broadcasting Corp.,

permittee for a new station on Channel 262 at Yankton, filed comments.

2. Central City (pop. 2,803),¹ seat of Merrick County (pop. 8,751), is located in the east central portion of Nebraska, approximately 168 kilometers (105 miles) west of Omaha. It has no local aural broadcast service.

3. Petitioner asserts that Central City, the county's largest community, showed a population increase of 16.5% from 1960 to 1970, with a projection of continuing growth. It further states that the proposed station would bring first FM service to 8,330 persons, a second FM service to 10,890 persons, a first nighttime aural service to 1,570 persons, and a second nighttime aural service to 7,040 persons.

4. Sorenson Broadcasting Corp. has raised no objection to the proposal provided its permit for Channel 262 is modified to specify Channel 226.

5. We have given careful consideration to the proposal and believe that Channel 262 should be assigned to Central City, and Channel 226 substituted for Channel 262 at Yankton. The Yankton site is restricted 16 kilometers (10 miles) to the south. Although a community the size of Central City is not normally assigned a Class C channel, the proposed assignment would provide substantial first and second service. As stated in the *Notice*, Stanton, Nebraska would be precluded as a result of the assignment of Channel 226 to Yankton. However, since there has been no interest in a station at Stanton, and it receives service from two stations in Norfolk, Nebraska, we believe that that fact should not foreclose a needed first local service to Central City.

6. Accordingly, pursuant to authority found in Sections 4(i), 5(d)(1), 303(g) and (r), and 307(b) of the Communications Act of 1934, as amended, and § 0.281 of the Commission's rules, it is ordered, that effective December 26, 1980, the FM Table of Assignments (§ 73.202(b) of the Commission's Rules) is amended with respect to the communities listed below:

City	Channel No.
Central City, Nebr.	262
Yankton, S. Dak.	226,281

7. It is further ordered, that effective December 26, 1980, pursuant to Section

¹ Population figures are taken from the 1970 U.S. Census.

316(a) of the Communications Act of 1934, as amended, the outstanding permit held by Sorenson Broadcasting Corp. for Channel 262, Yankton, South Dakota, is modified to specify operation on Channel 226 subject to the following:

(a) The permittee shall inform the Commission in writing by no later than December 26, 1980, of its acceptance of this modification;

(b) At least 30 days before operation on Channel 226, the permittee shall submit to the Commission the technical information normally required of an applicant for a construction permit on Channel 226;

(c) At least 10 days prior to commencing operation on Channel 226, the permittee shall submit the measurement data required of an applicant for an FM broadcast station license; and

(d) The permittee shall not commence operation on Channel 226 without prior Commission authorization.

8. It is further ordered, that this proceeding is terminated.

9. For further information concerning this proceeding, contact Montrose H. Tyree, Broadcast Bureau, (202) 632-9660. (Secs. 4, 303, 307, 48 Stat., as amended, 1066, 1082, 1083 (47 U.S.C. 154, 303, 307)) Federal Communications Commission.

Henry L. Baumann,
Chief, Policy and Rules Division, Broadcast Bureau.

[FR Doc. 80-36887 Filed 11-25-80; 8:45 am]

BILLING CODE 6712-01-M

47 CFR Part 73

[BC Docket No. 80-147; RM-3424]

FM Broadcast Station in Manchester, Vt.; Changes Made in Table of Assignments

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: Action taken herein assigns FM Channel 274 to Manchester, Vermont, in response to a petition filed by Northshire Communications, Inc. The station would provide a first local aural broadcast service to Manchester and a first and second FM service to the surrounding area.

EFFECTIVE DATE: December 26, 1980.

ADDRESS: Federal Communications Commission, Washington, D.C. 20554.

FOR FURTHER INFORMATION CONTACT: Montrose H. Tyree, Broadcast Bureau, (202) 632-9660.

SUPPLEMENTARY INFORMATION: In the matter of amendment of § 73.202(b) *Table of Assignments*, FM Broadcast Stations (Manchester, Vermont), BC Docket No. 80-147, RM-3424.

Report and Order—Proceeding Terminated

Adopted: November 10, 1980.

Released: November 20, 1980.

1. On April 7, 1980, the Commission adopted a *Notice of Proposed Rule Making*, 45 FR 28774, published April 30, 1980, in response to a petition filed by Northshire Communications, Inc. ("petitioner"), which proposed the assignment of FM Class B Channel 274 to Manchester, Vermont, as that community's first FM assignment. Supporting comments were filed by North County Communications, Inc., in which it stated its intent to apply for the channel, if assigned.

2. Manchester (pop. 2,919)¹ in Bennington County (pop. 29,282), is located approximately 149 kilometers (93 miles) south of Burlington, Vermont. It has no local aural broadcast service.

3. As stated in the *Notice*, a wide area coverage Class B facility would permit expanded FM service to unserved areas by providing a first FM service to 9,235 persons, a second FM service to 50,448 persons and a second nighttime aural service to 9,235 persons.

4. Although a community of this size is not normally assigned a Class B channel, the proposed assignment would provide significant first and second services to a substantial population. Therefore, we believe it would be in the public interest to assign Channel 274 to Manchester, Vermont, as its first FM channel assignment. Although petitioner has not replied to our *Notice*, we do have an expression of interest in the channel from another party.

5. This assignment has been agreed to by Canada as a specially negotiated short-spaced allocation.

6. Accordingly, pursuant to authority contained in Sections 4(i), 5(d)(1), 303 (g) and (r) and 307(b) of the Communications Act of 1934, as amended, and § 0.281 of the

¹ Population figures are taken from the 1970 U.S. Census.