

(b) An application for an FM translator station will not be accepted for filing if it specifies a location within 320 kilometers (approximately 199 miles) of either the Canadian or Mexican borders and it does not comply with § 74.1205(d) of this part.

(1) FM booster stations shall be subject to the requirement that the signal of any first adjacent channel station must exceed the signal of the booster station by 6 dB at all points within the protected contour of any first adjacent channel station, except that in the case of FM stations on adjacent channels at spacings that do not meet the minimum distance separations specified in § 73.207 of this chapter, the signal of any first adjacent channel station must exceed the signal of the booster by 6 dB at any point within the predicted interference free contour of the adjacent channel station.

(3) FM translator stations authorized prior to June 1, 1991 with facilities that do not comply with the provisions of this section, may continue to operate, provided that operation is in conformance with § 74.1203 regarding actual interference. Applications for major changes in FM translator stations must specify facilities that comply with provisions of this section.

(56 FR 5094, Dec. 10, 1990, as amended at 54 FR 56170, Nov. 1, 1991; 55 FR 42025, Aug. 9, 1993)

**§ 74.1206 Protection of channel 6 TV broadcast stations.**

The provisions of this section apply to all applications for construction permits for new or modified facilities for a noncommercial educational FM translator station on Channels 201-220, unless the application is accompanied by a written agreement between the NCE-FM translator applicant and each affected TV Channel 6 broadcast station licensee or permittee concurring with the proposed NCE-FM translator facility.

(a) An application for a construction permit for new or modified facilities for a noncommercial educational FM translator station operating on Channels 201-220 must include a showing that demonstrates compliance with paragraph (b), (c) or (d) of this section

(d) The provisions of this section concerning prohibited overlap will not apply where the area of such overlap lies entirely over water. In addition, an application otherwise precluded by this section will be accepted if it can be demonstrated that no actual interference will occur due to intervening terrain, lack of population or such other factors as may be applicable.

(e) The provisions of this section will not apply to overlap between a proposed fill-in FM translator station and its primary station operating on a first, second or third adjacent channel, provided that such operation may not result in interference to the primary station within its principal community.

(f) An application for an FM translator station will not be accepted for filing even though the proposed operation would not involve overlap of field strength contours with any other station, as set forth in paragraph (a) of this section, if the predicted 1 mV/m field strength contour of the FM translator station will overlap a populated area already receiving a regularly used, off-the-air signal of any authorized channel, first, second or third adjacent channel broadcast station, including Class D (secondary) noncommercial educational FM stations and grant of the authorization will result in interference to the reception of such signal.

(g) An application for an FM translator or an FM booster station that is 53 or 64 channels removed from an FM radio broadcast station will not be accepted for filing if it fails to meet the required separation distances set out in § 73.207 of this chapter. For purposes of determining compliance with § 73.207 of this chapter, translator stations and booster stations will be treated the same as their FM radio broadcast station equivalents. FM radio broadcast station equivalents will be determined in accordance with §§ 73.210 and 73.211 of this chapter, based on the booster station's ERP and HAAT. Provided, however, that FM translator stations and booster stations operating with less than 100 watts ERP will be treated as class D stations and will not be subject to intermediate frequency separation requirements.

**47 CFR Ch. I (10-1-97 Edition)**

Frequency separation	Interference contour of proposed translator station	Protected contour of any other station
Co-channel	0.1 mV/m (40 dBu)	1 mV/m (60 dBu)
200 kHz	0.5 mV/m (54 dBu)	1 mV/m (60 dBu)
400 kHz	1.0 mV/m (60 dBu)	1 mV/m (60 dBu)
600 kHz	10.0 mV/m (100 dBu)	1 mV/m (60 dBu)

(b) The following standards must be used to compute the distances to the pertinent contours:

(1) The distances to the protected contours are computed using Figure 1 of § 73.353 (F(50,50) curves) of this chapter.

(2) The distances to the interference contours are computed using Figure 1a of § 73.353 (F(50,10) curves) of this chapter. In the event that the distance to the contour is below 16 kilometers (approximately 10 miles), and therefore not covered by Figure 1a, curves in Figure 1 must be used.

(3) The effective radiated power (ERP) to be used is the maximum ERP of the main radiated lobe in the pertinent azimuthal direction. If the transmitting antenna is not horizontally polarized only, either the vertical component or the horizontal component of the ERP should be used, whichever is greater in the pertinent azimuthal direction.

(4) The antenna height to be used is the height of the radiation center above the average terrain along each pertinent radial, determined in accordance with § 73.313(d) of this chapter.

(c) An application for a change (other than a change in channel) in the authorized facilities of an FM translator station will be accepted even though overlap of field strength contours would occur with another station in an area where such overlap does not already exist, if:

- (1) The total area of overlap with that station would not be increased;
- (2) The area of overlap with any other station would not increase;
- (3) The area of overlap does not move significantly closer to the station receiving the overlap; and,
- (4) No area of overlap would be created with any station with which the overlap does not now exist.

**§ 74.1204**

by the Commission to the station licensed, that such interference is being caused, the operation of the FM translator or FM booster station shall be suspended within three minutes and shall not be resumed until the interference has been eliminated or it can be demonstrated that the interference is not due to spurious emissions by the FM translator or FM booster station; provided, however, that short test transmissions may be made during the period of suspended operation to check the efficacy of remedial measures.

(55 FR 50693, Dec. 10, 1990, as amended at 60 FR 55494, Nov. 1, 1995)

**§ 74.1204 Protection of FM broadcast stations and FM translators.**

(a) An application for an FM translator station will not be accepted for filing if the proposed operation would involve overlap of predicted field strength contours with any other authorized station, including commercial and noncommercial educational FM broadcast stations, FM translators and Class D (secondary) noncommercial educational FM stations, as set forth below:

(1) Commercial Class B FM Stations (Protected Contour: 0.5 mV/m)

Frequency separation	Interference contour of proposed translator station	Protected contour of commercial Class B station
Co-channel	0.05 mV/m (34 dBu)	0.5 mV/m (54 dBu)
200 kHz	0.25 mV/m (48 dBu)	0.5 mV/m (54 dBu)
400 kHz	5.00 mV/m (74 dBu)	0.5 mV/m (54 dBu)
600 kHz	50.0 mV/m (94 dBu)	0.5 mV/m (54 dBu)

(2) Commercial Class B1 FM Stations (Protected Contour: 0.7 mV/m)

Frequency separation	Interference contour of proposed translator station	Protected contour of commercial Class B1 station
Co-channel	0.07 mV/m (37 dBu)	0.7 mV/m (57 dBu)
200 kHz	0.35 mV/m (51 dBu)	0.7 mV/m (57 dBu)
400 kHz	7.00 mV/m (77 dBu)	0.7 mV/m (57 dBu)
600 kHz	70.0 mV/m (97 dBu)	0.7 mV/m (57 dBu)

(3) All Other Classes of FM Stations (Protected Contour: 1 mV/m)

(Protected Contour: 1 mV/m)

**CRTC - Broadcast**

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Ottawa, 5 September 1997

**Decision CRTC 97-539**Radio 1540 Limited Toronto, Ontario - 199616348

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**Licence amendment**

1. Following Public Notice CRTC 1997-52 dated 2 May 1997, the Commission approves the application to amend the broadcasting licence for CHIN Toronto, by adding a low-power FM transmitter (LPFM) at Toronto, operating on a frequency of 101.3 MHz (channel 267LP), with an effective radiated power of 22 watts.
2. The applicant requested the addition of the proposed transmitter to improve the night-time coverage of CHIN's signal to certain areas of Woodbridge, East Mississauga and Etobicoke.
3. Dufferin Communications Inc., licensee of CIDC-FM Orangeville, and CKMW Radio Ltd., licensee of CIAO Brampton, jointly submitted an intervention which, while supporting the application, requested that the Commission impose a condition of licence regarding the potential use of the station's SCMO channel for ethnic programming.
4. The Commission notes that the applicant did not indicate in its application that it intends to use SCMO channels to broadcast ethnic programming. Should the applicant wish to do so, it would be required to submit an application to the Commission requesting authorization. Once complete, the application would be announced by public notice and these interveners' comments could be resubmitted at that time.
5. CHRY Community Radio Incorporated (CHRY), licensee of CHRY-FM Downsview/Toronto, and The Mohawk College Radio Corporation (Mohawk College), licensee of the new campus/instructional FM radio station at Hamilton, submitted interventions opposing this application. Both argued that the Commission should issue a call for applications for LPFM undertakings in accordance with Public Notice CRTC 1993-95, which sets out the Commission's licensing policy for low-power radio broadcasting.
6. In response, the applicant stated that it is proposing to operate an LPFM on channel 267, the upper third adjacent channel to the CHIN-FM assignment, and within that station's protected contour. The applicant further stated that Industry Canada does not permit the operation of a third adjacent channel, inside the protected contour of another station, without that station's consent. For this reason, the applicant argued that it alone can use channel 267 and, as a consequence, this frequency is not an unconstrained drop-in LPFM that could be licensed to any applicant, as indicated in Public Notice CRTC 1993-95.
7. In addition, the Commission notes that, in Public Notice CRTC 1996-73 dated 5 June 1996, it did issue a call for applications for a new radio station to serve Toronto. CHRY and Mohawk College had an opportunity, at that time, to apply for the frequency in question, because the call did not specify the frequency that could be used by a prospective applicant.
8. Having considered all the evidence before it, the Commission is satisfied that approval of this application will correct CHIN's technical deficiencies in its AM night-time signal coverage without having an undue impact on other radio stations operating in the area.
9. The Commission acknowledges the intervention submitted by CIRC Radio Inc., licensee of CIRV-FM Toronto, in support of this application.  
*This decision is to be appended to the licence.*

Laura M. Talbot-Allan  
Secretary General

*This document is available in alternative format upon request.*

Doc. #: DEC97-539\_0

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## CRTC - Broadcast

Ottawa, 28 June 1993

**Public Notice CRTC 1993-95****A LICENSING POLICY FOR LOW-POWER RADIO BROADCASTING****A. Introduction**

In Public Notice CRTC 1992-21, the Commission issued for public comment a series of questions related to the establishment of a priority system for the licensing of low-power radio stations. The questions were designed to elicit comment that would assist the Commission in developing a policy to ensure that low-power frequencies be used for purposes that best fulfil the objectives of the Broadcasting Act.

Nine submissions were received in response to the public notice. While most of the submissions addressed the general questions concerning the establishment of a priority system for licensing low-power radio stations, only the Canadian Association of Broadcasters (CAB) and the National Campus and Community Radio Association (NCRA), responded to all or most of the questions, and suggested modifications to the Commission's proposed policy.

This notice summarizes the responses received to the various questions set out in the public notice, and sets out the Commission's licensing policy for low-power radio broadcasting.

The Commission emphasizes that this policy does not apply to those persons operating low-power radio operations that were specifically exempted from licensing in Public Notices CRTC 1993-44 (Temporary Resource Development Distribution Undertakings), 1993-45 (Limited Duration Special Event Facilitating Undertakings) 1993-46 (Ultra Low-Power Announcement Service Undertakings), 1993-47 (Carrier Current Undertakings Whose Services are not Carried on Cable Systems), or to those persons operating any other low-power radio undertakings that the Commission may exempt in the future.

**B. Questions and Responses**

In its public notice, the Commission asked three general questions:

Should a system of priorities be devised as part of a licensing policy for low-power radio?

What should be its elements?

In what order of importance should those elements be ranked?

The public notice then called for comments on five elements that might be included in a priority system. These elements are:

a)availability of frequencies,b)content of programming,c)correlation between power and potential audience,d)duration of service, and e)availability of alternate means of delivery.

Finally, the Commission posed subsidiary questions relating to the implementation of a priority system, in particular, when to apply such a priority system, whether to issue calls for competing applications, the need for market studies, the use of rebroadcasters, and the need for a Promise of Performance. **1. The Need For a Priority System**

Seven of the nine briefs received by the Commission addressed the general issue of whether the Commission should establish a priority system for the licensing of low-power radio stations. All considered that a priority system should form part of the policy for low-power radio, with priority given to conventional stations, including not-for-profit stations, over non-conventional or one-dimensional services, such as tourist information services.

**2. The Five Elements:**

a)Availability of Frequencies

In the public notice, the Commission asked:

What should be the relative importance in a priority hierarchy of the availability of low-power frequencies in any area?

Six submissions addressed this question. All considered that the availability of frequencies should be the primary consideration in such a system. Two of those argued that the availability of frequencies must be considered to ensure that sufficient spectrum is available for the establishment of not-for-profit campus, community or native stations.

b)Content

With respect to content, the Commission posed the following questions:

What should be the relative importance of content among the elements in a priority

hierarchy?

Should the various types of services (conventional, safety, traffic information, etc.) be ranked in order of public necessity and, if so, how? Which of the various types of undertakings should be allowed to provide commercial content? What types of commercial activity (conventional or sponsorship) should be permitted, and how much? Should there be a provision with respect to certain undertakings to ensure equitable opportunity for advertisers to have their messages broadcast?

Six parties expressed the view, in general, that conventional stations should have priority over one-dimensional services.

The NCRA stated that not-for-profit stations should be accorded top priority and that commercial broadcasters should be excluded from using low-power frequencies. The NCRA added that, even if the Commission were to decide to continue to license low-power conventional commercial stations, it should not licence for-profit, one-dimensional services.

The CBC considered that originating and rebroadcasting stations with programming aimed at a general audience should be given priority over one-dimensional services.

According to the CAB, the best way of resolving the question of priorities would be to establish two broad categories of undertakings. **Priority A** would encompass all conventional stations, while one-dimensional services would fall into **Priority B**. Priority B stations could be divided further into two sub-categories, one for not-for-profit public services and the other for profit-oriented services.

With respect to the permitted levels of advertising, the CAB argued that the status quo should be maintained for not-for-profit stations and that private, profit-oriented services be the only ones in the **Priority B** category permitted to broadcast advertising. The CAB also considered that government-sponsored services should be financed entirely from public funds, and special events stations should be funded entirely by the sponsoring organization. For its part, the NCRA recommended that only conventional stations be permitted to have commercial content in their programming.

#### c) Correlation Between Power and Coverage

The Commission sought answers to the following questions:

What should be the relative importance among the elements in a priority hierarchy of transmitter power or coverage area?

What should be the appropriate power and coverage combination for each type of low-power undertaking?

Four briefs addressed these questions. There was a consensus among them for giving priority status to conventional stations and for limiting commercial one-dimensional services to very low-power operation.

One submission considered that, in remote areas, conventional commercial broadcasters should be allowed to use Low-Power AM (LPAM) or Low-Power FM (LPFM) frequencies because there would be no need to use more power to reach the potential audience.

#### d) Duration of Service

The Commission asked:

What should be the relative importance among the elements in a priority hierarchy of duration of service?

Two briefs addressed the issue. The NCRA considered that not-for-profit broadcasters should not be penalized if they offered less than full-time service. The CAB, however, maintained that duration of service should be considered on a case-by-case basis in areas where channels are scarce.

#### e) Availability of Alternate Means of Delivery:

The Commission asked:

What should be the relative importance in a priority hierarchy of the availability of alternative means of delivery?

The briefs that addressed this issue argued that one-dimensional, profit-oriented services should be required to demonstrate that low-power AM and FM radio frequencies are the only possible means of providing the type of service they propose.

### C. The Commission's Policy -- Introduction of a Priority System for Licensing Low-Power Radio

The submissions revealed a consensus on the need to establish a priority system as part of a licensing policy. Such a system would give priority to conventional broadcasting services over one-dimensional services, such as those providing tourist information services, and would apply in areas where there is a scarcity of frequencies. The Commission also considers that not-for-profit

stations should reasonably be accorded precedence.

The Commission therefore establishes the following priority system for the licensing of low-power radio undertakings. **The priority system will generally be applied in areas that the Commission has previously identified as those where available frequencies are scarce on the basis of the projected FM frequency requirements of the CBC, private commercial, educational, community and campus broadcasters. These areas are Vancouver/Victoria, Montreal and surrounding area and Southern Ontario.** When considering competing applications for the use of low-power frequencies in these areas where such frequencies are scarce, the Commission will generally give priority to conventional broadcasting services (Priority A) over one-dimensional services (Priority B). Moreover, the Commission will generally attach to the various types of services falling within the two priority groupings a priority that corresponds to their relative ranking within each, as set out below:

**Priority A Services:**

- 1) Originating conventional not-for-profit radio services (e.g. community, campus and native);
- 2) Originating conventional for-profit radio services (private commercial broadcasters, including ethnic);
- 3) Rebroadcasting transmitters of local stations rebroadcasting within the station's contour;
- 4) Rebroadcasting transmitters of distant signals (the CBC will have priority within this sub-group of Priority A services).

**Priority B Services:**

- 1) Not-for-profit public information services (e.g. traffic or weather information services);
- 2) Commercial announcement services.

The following three factors may also be considered by the Commission in its evaluation of competing applications of the same type for the same low-power frequency. The Commission realizes, however, that the relative importance of each of these factors may vary depending on the type of service proposed. Such importance will be assessed on a case-by-case basis. The correlation between power and potential audience: Generally speaking the Commission will consider that the larger the audience served by the undertaking, the higher the priority it should be accorded.

**The duration of service:** the longer a proposed service is to be on the air (whether on a daily, weekly, monthly or yearly basis), the more valuable it generally will be deemed to be.

**The availability of alternate means of delivery:** non-conventional services that can be delivered effectively only through use of a broadcasting frequency will generally be considered to have a higher priority than those that can be provided by alternate means, such as through the use of roadside signs or newspapers.

**Subsidiary Issues**

**1. Application of the Priority System**

In its public notice, the Commission asked:

Should a priority system be applied at the time of the licensing decision, at the time of renewal, or at the time the undertaking with the higher priority goes on air?

Only the CAB responded to this question. It considered that it would be neither practicable nor desirable for the Commission to alter the priority status of operations that have already been licensed. It therefore recommended that, once licensed, a station should not have to change frequency or be obliged to cease operation because of the licensing of another undertaking that, under Commission policy, might have had a higher priority.

The Commission agrees. **It will therefore apply the priority system only in assessing new applications competing for use of the same frequency.**

**2. Calls and Market Criteria**

The Commission asked the following questions:  
Should the Commission issue a call for competing applications in the case of applications for low-power undertakings, and, if not generally, under what circumstances?  
Should [the] process and criteria [in Public Notice CRTC 1991-74] be applied to low-power undertakings?  
The CAB and the NCRA addressed these issues and expressed differing views.

On the question of whether there should be calls for competing applications, the NCRA considered that there is no need to issue a call for a drop-in frequency unless two or more applications proposing not-for-profit services, and seeking use of the same frequency, are filed with the Commission. Further, it recommended that commercial broadcasters and non-conventional services should be excluded from competing for an identified drop-in frequency with

applicants proposing not-for-profit operations.

The CAB, for its part, however, considered that whenever any application is received for a LPFM in a geographic area where frequencies are scarce, the Commission should issue a call for competing applications.

With respect to the **Radio Market Criteria**, the NCRA considered the criteria should not be applied in assessing applications by those proposing new low-power undertakings because the criteria are not relevant to not-for-profit broadcasters. The NCRA added, however, that if the Commission wished to establish criteria for low-power community radio undertakings, a limit based on population should be considered (e.g. no more than one such undertaking should be licensed for each 100,000 residents of an area). The CAB argued that those seeking licences for ethnic undertakings, or for undertakings that would be not-for-profit, should be subject to the Radio Market Criteria because they are allowed to broadcast advertising.

In light of its policy determination to apply a priority system in assessing competing applications proposing new, low-power radio services, and only in relationship to each other, it will be necessary for the Commission to issue a call upon receipt of any completed application. It further considers that its decision to grant the highest priority to not-for-profit undertakings should alleviate concerns expressed by the NCRA that those seeking licences to operate such undertakings would otherwise face a disadvantage in competing with commercial broadcasters for low-power frequencies.

**The Commission will therefore issue calls for competing applications upon receipt of any and all complete applications for licences to carry on low-power undertakings in areas where frequencies are scarce (as identified above). The receipt of applications proposing a service in areas where frequencies are not scarce will not trigger such a call.**

The Commission recognizes the concerns expressed by the CAB about the impact of new low-power stations on the revenues of commercial radio stations. It notes, however, that the radio market criteria have not been applied to not-for-profit stations in the past, and it does not wish to implement a policy that would unnecessarily inhibit the development of this sector of radio broadcasting. The Commission is also satisfied that the impact of any new not-for-profit, low-power stations on the revenues of commercial radio stations would be limited. **The Commission will therefore apply the radio market criteria only to new commercial (for-profit) low-power radio undertakings; non-conventional services will be excluded from application of the market criteria.**

### **3. Rebroadcasters**

The Commission asked:

Should the Commission continue to consider applications for the use of low-power transmitters to rebroadcast the programming of existing undertakings? Under what circumstances should it do so, for instance, in cases where technical problems limit coverage within an undertaking's licensed service area?

Three submissions addressed the issue.

Both the CBC and the CAB considered that the Commission should continue to authorize the licensees of existing stations to establish rebroadcasting transmitters, and that a lower priority should be given to rebroadcasters of distant signals than to rebroadcasters of local stations proposed for the purpose of solving coverage problems.

The NCRA considered that, as a rule, new rebroadcaster transmitters of existing commercial services should not be permitted, other than in mountainous areas where the applicant is licensed to serve a region or a number of small communities. In such cases, the applicant should have to demonstrate that there is no alternative but to install a rebroadcasting transmitter to provide its service and that there are other frequencies available for use in the area to allow the establishment of future not-for-profit stations.

The Commission supports the view that rebroadcasters of local services designed to alleviate coverage difficulties should have a higher priority than rebroadcasting transmitters for non-local services, and this has been incorporated into the priority system set out earlier in this document.

### **4. Applications for Multiple Low-Power Frequencies for Non-Conventional Use**

In its policy proposal, the Commission described a situation where one or more applicants might propose to employ several low-power frequencies for non-conventional use, thereby exhausting the frequencies available in a particular area. It then posed the following question:

How could the relative merits of the types of proposals described above be assessed in a priority system?

The CAB addressed this matter and suggested that there should not be a separate process developed for such a situation.

The Commission agrees, and will deal with such applications using the priority system set out earlier. To the extent that the applications have features not contemplated in this notice, the Commission will proceed on a case-by-case basis.

#### **5. Competitive Non-Conventional Services**

In its public notice, the Commission asked:

Should the Commission's licensing policy for low-power radio preclude the licensing of competitive, non-conventional services?

Three submissions addressed the issue.

The NCRA and the licensee of a campus radio station considered that the Commission should not grant licences to competitive, non-conventional services, while the CAB indicated that such licensing should be permitted if the applicant can demonstrate both a need and commercial viability.

The Commission appreciates that over-licensing of competitive non-conventional services in areas where frequencies are scarce could lead to congestion of the radio band and hinder the future development of conventional low-power radio services. However, in areas where there is a relative abundance of frequencies, there would seem to be little reason to exclude, out of hand, the possibility of competitive non-conventional services. The Commission further notes that non-conventional services will be given a lower priority than conventional services under the system outlined earlier in this document.

**The Commission will therefore consider the licensing of competitive non-conventional commercial services on a case-by-case basis. In areas where there is a scarcity of frequencies, the priority system outlined earlier in this document will be applied.**

#### **6. Use of the Extended AM band**

The Commission asked:

To what extent might some of the services currently being contemplated for low-power undertakings be accommodated on the newly extended upper portion of the AM band?

The NCRA, the CBC and the CAB agreed that some non-conventional public announcement services, such as those that provide information to tourists and motorists, should be accommodated on the extended AM band.

While noting the position expressed in these submissions, the Commission considers that it is too early to gauge the eventual demand for use of the extended portion of the AM band. It is possible that the extended AM band will represent a better alternative for a conventional broadcaster than use of LPAM or LPFM facilities. **The Commission therefore considers it premature to support the move of some non-conventional services to the extended AM band. It will delay announcement of any determination on this question until an evaluation of the potential impact of such a move is completed.**

#### **7. Application of the Radio Regulations, 1986 (the regulations) and/or Promises of Performance**

The Commission asked the following questions:

To what extent should the provisions of the regulations be applicable to the various types of low-power programming undertakings?

To what extent should such low-power undertakings be required to comply with a Promise of Performance?

Five submissions addressed these questions.

The NCRA considered that basic licensing requirements create legitimacy for not-for-profit operations and should thus be maintained, but with enough flexibility for programming to develop.

The NCRA also stated that, should the Commission decide to licence commercial broadcasting undertakings in the LPFM band, they should be subject to all regulations and requirements governing full-power commercial broadcasting.

The CBC recommended that low-power stations broadcasting travel and traffic information announcements as a public service should be relieved of the requirement to maintain logs and recordings of material that is broadcast.

The CAB considered there to be no need to change the requirements for campus/community, instructional and ethnic stations, but that the Commission should allow more flexibility in the case of non-conventional programming undertakings.

One campus radio station licensee urged the Commission to maintain the Promise of Performance and other requirements in the case of competing low-power undertakings.

The Canadian Independent Record Production Association considered that the regulations, especially their requirements for Canadian content, should also apply to low-power undertakings that provide conventional programming services.

The Commission considers that the regulations should apply to the licensees of conventional low-power undertakings since they offer programming that is similar to that of higher-power

conventional stations. It further considers that it is appropriate to require licensees of conventional low-power FM stations to submit Promises of Performance. In the case of non-conventional services, it might not be appropriate to apply all of the regulations or require Promises of Performance. However, the Commission considers that a condition of licence should be attached to the licences of non-conventional stations to ensure that they do not change their programming and begin to offer services identical or similar to those of conventional licensees, without prior Commission approval.

**The Commission will therefore generally require licensees of conventional low-power radio stations to adhere to the regulations, unless otherwise specified by condition of licence, and will require the licensees of conventional low-power FM stations to file Promises of Performance. The question of whether to require adherence to the regulations by the licensees of non-conventional services will be considered on a case-by-case basis. In addition, licensees of non-conventional low-power undertakings will be subject to a condition of licence that defines their programming in such a way as to ensure that they do not change their programming and begin to offer the same services as conventional licensees without Commission approval.**

Allan J. Darling  
Secretary General

Doc. #: AV193-95

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Search Form  
***French Version***

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The coverage and interference of seven Los Angeles area FM broadcast stations are analyzed. The area and population coverages predicted by the FCC methods described in the rules are compared with a method that considers the intervening terrain in some detail. We also show that the criteria for deciding second-adjacent-channel interference threshold of -50 dB (rather than the present -20 dB) adequately protects modern receivers, based on data available in FCC filings and on the performance of these stations. We believe the techniques used in this analysis could be widely applied, and would result in more efficient spectrum use.

INTRODUCTION

The FCC Rules and Regulations require FM broadcast stations which operate on second-adjacent-channels (400 kHz frequency separation) to have their transmitters separated from each other by at least a minimum distance. For example, the rules require second-adjacent-channel Class A and Class B stations to be separated by 40 mi (64.4 km). In developing the rules, the FCC assumed:

- 1) full facility stations for all assignments,
- 2) average terrain conditions to compute coverage and interference, and
- 3) existence of interference to receivers when the second adjacent channel field strength exceeds the desired signal field strength by 20 dB (i.e., a signal-to-interference ratio (S/I) = -20 dB).

In reality, these assumptions are not always true. We believe that:

- 1) most stations have operating characteristics that differ from the FCC's definition of a "full facility" station (see Table 1),
- 2) actual terrain features affect both signal coverage and interference, and
- 3) modern good-quality FM broadcast receivers can maintain a 30 dB audio signal-to-interference ratio even when second-adjacent (i.e. alternate) channel interference is 50 dB or more above the desired signal.

Table 1. Full Facility or Maximum Facility Parameters for FM Broadcast Stations

	Effective radiated power (ERP), kW	Height above average terrain (HAAT), ft (meters)
Class A	3	300 (91.4)
Class B	50	1000 (304.8)
Class C	100	2000 (609.6)

The Los Angeles basin FM broadcast market provides an important example of an area where second-adjacent-channel stations currently operate with mileage separations less than those specified by the FCC rules. We will consider an area within 40 mi (64.4 km) of Mount Wilson, the site of many Los Angeles Class B transmitters. Within this area, we have identified 46 Class A and Class B stations that are in the FCC's 1979 FM broadcast data base. Of these 46 stations, there are 28 that currently have transmitters operating on a second-adjacent channel of another station and within the minimum separation distance of the FCC rules.\* If both the FCC's current interference criterion and the FCC's methods for computing coverage and interference are correct, then there should be a considerable amount of interference among these 28 stations. We talked to several of the station managers whose stations should be experiencing interference, according to the FCC rules. However, none of the station managers we contacted knew of any interference problems nor had they received any complaints from home listeners within their coverage areas. We realize that the consumers' interpretation of interference is subjective. It is possible that consumers:

1. do not recognize the interference as coming from a second-adjacent-channel station, but have learned to tolerate it, or
2. can neither recognize the interference nor tolerate it, so they have moved to a different part of the FM band, or
3. have receivers that sufficiently reject the second-adjacent-channel interference.

Because of a lack of reported interference, we believe the third situation to be more likely than the first two.

COVERAGE COMPARISONS

In this paper, we will demonstrate two different methods for computing signal coverage and interference; in addition, we will use two different thresholds for receiver interference. From the 28 second-adjacent-channel Los Angeles basin FM assignments we will consider seven whose antenna locations are shown in Figure 1 and whose station operating characteristics are given in Table 2. FM radio stations KNXFM and KMET are Class B stations with their antennas located on or near Mount Wilson whose height is about 5600 ft (1706.9 m) above mean sea level (AMSL). Radio station KZLA is also a Class B station with its antenna located near Flint Peak whose height is about 1600 ft (487.7 m) AMSL. Station KNTF is a Class A station serving Ontario;

\*These stations were evidently in operation (grandfathered) when the rules were implemented.

Table 2. Characteristics of Stations on Channels 226 through 234

Channel	Call Sign	Class	Principal City	ERP (kw)	HAAT (ft)	Distance to Closest Second-Adjacent-Channel Transmitter (mi)
226	KNXF	B	Los Angeles	54	3040	28.8 (KNTF)
228	KNTF	A	Ontario	3	-165	28.8 (KNXF)
228	KFOX	A	Redondo Beach	3	175	21.7 (KZLA)
230	KZLA	B	Los Angeles	49	720	10.8 (KGIL)
232	KGIL	A	San Fernando	3	-180	18.0 (KZLA)
232	KORJ	A	Garden Grove	3	245	26.5 (KZLA)
234	KMET	B	Los Angeles	58	2830	22.0 (KGIL)

its antenna is located at about 800 ft (243.8 m) AMSL in the foothills to the north of Ontario. Station KFOX, a Class A station serving Redondo Beach has its antenna located near the ocean on the side of a 450 ft (137.2 m) AMSL hill south east of Redondo Beach. Station KGIL-FM, Class A, serves San Fernando and has its antenna located almost in the center of the San Fernando valley. Finally, KORJ, another Class A station, serves Garden Grove; its antenna is located in Garden Grove at about 100 ft (30.5 m) AMSL. None of these stations uses a directional antenna in the horizontal plane to modify their coverage.

In the comparisons that follow, we will compute the station's field strength contours by:

- 1) using the traditional FCC methods<sup>1</sup>, and
- 2) using an improved method that includes terrain effects.<sup>3</sup>

Also, we will compute the receiver's interference by:

- 1) using the present second-adjacent-channel interference threshold of  $S/I = -20$  dB, and
- 2) using a more realistic second-adjacent-channel interference threshold of  $S/I = -50$  dB for a good-quality receiver.

The minimum field strengths to be protected from interference have been defined by the FCC as the field strengths available at 40 mi (64.4 km) from a full facility Class B station operating over average terrain and at 15 mi (24.1 km) from a full-facility Class A station<sup>1</sup>. The FCC has propagation charts for the FM broadcast band that are used to compute field strengths from desired and interfering FM stations. The charts give field strengths calculated for:

1. desired stations at 50 percent of the locations and 50 percent of the time, and
2. interfering stations at 50 percent of the locations and 10 percent of the time.

From the FCC propagation charts, the field strengths at the specified distances are equal to 55 dB $\mu$ V/m from full-facility Class B stations and 59 dB $\mu$ V/m from full-facility Class A stations.

The field strength from a second-adjacent-channel station is not to exceed the desired field strength anywhere within the protected contour by more than 20 dB; i.e., the second-adjacent-channel interference threshold is a signal-to-interference (S/I) ratio equal to -20 dB. Thus, whenever the signal from the undesired second-adjacent-channel station is 20 dB more than that of the desired station, interference is supposed to occur in the receiver. However, recent receiver data<sup>2</sup> have become available that indicate a -50 dB S/I to be a more reasonable threshold.

Figure 2 compares the different methods of predicting the coverage of station KNXF and the interference from second-adjacent-channel assignments KFOX and KNTF. In the plots, V is the location of the desired or victim station and I is the location of an interfering station operating on the second-adjacent channel. Figure 2a shows the 55 dB $\mu$ V/m coverage (solid contour line) of KNXF and a shaded region of interference within the contour predicted using the regulation FCC methods and an interference threshold of  $S/I = -20$  dB. The total computed area and population within the coverage contour and interference region are given on the plots. Figure 2b shows the effect of changing the interference threshold to  $S/I = -50$  dB. This is closer to the level that we believe most receivers in use today can tolerate without experiencing significant degradation beyond that implied by the 1962 rules.

In Figure 2c, the coverage of KNXF has been plotted using propagation prediction methods that take into account the terrain in different directions around the station, but the interference threshold is kept at  $S/I = -20$  dB. In Figure 2d, the coverage using the improved method is plotted along with the area of interference assuming a  $S/I = -50$  dB threshold. As can be seen from this figure, the terrain contours affect the coverage of the station, and the  $S/I = -50$  dB threshold more closely agrees with the lack of reports of poor quality service from the area stations.

In Figure 3, we have plotted the comparisons of the 55 dB $\mu$ V/m coverage of KZLA and interference from stations near it. Station KZLA is located in a region of low elevation relative to KNXF of the previous plots. Consequently, its coverage area is affected more by the hills and mountains that surround it. In (a) of Figure 3 the coverage is determined by the FCC propagation curves. Station KZLA has 4 stations within 40 mi (64.4 km) of it

operating on second adjacent channels. These stations are shown in the plots (as I's) and create predicted interference shown as shaded areas. In (b) of Figure 3, the interference threshold was changed to S/I = -50 dB which reduced the area of interference and the predicted number of people affected from close to four million to around 150,000.

Figure 3c shows the effects of intervening terrain on the coverage and interference. Finally, in Figure 3d, terrain-dependent prediction methods are combined with a lower interference threshold to present what we believe to be more accurate plot of coverage and interference for KZLA.

As an example of a low power station, we have plotted coverage of KGIL, which is located in the San Fernando Valley. This station has two second-adjacent-channel stations (KZLA and KMET) operating within 40 mi (64.4 km) of its antenna. Figure 4 shows KGIL coverage and interference regions. In (c) and (d) of Figure 4, it is evident that KGIL covers the valley region quite well. This was determined by comparing the coverage contour with a topographic map of the area. Because of the reduced coverage due to the combination of power, antenna height, and terrain shielding, there is little interference with the two second-adjacent-channel stations predicted.

#### CONCLUSIONS AND RECOMMENDATIONS

This paper has two conclusions:

- 1) current FCC second-adjacent-channel separation requirements for FM broadcast stations are overly protective, and

- 2) terrain-dependent algorithms more accurately predict the coverage of FM broadcast signals and interference than present FCC methods. We have demonstrated the effects on the predicted areas and populations receiving coverage and interference when a) the second-adjacent-channel interference thresholds are changed to more realistic values, and b) the propagation algorithms are changed to include terrain effects.

We recommend that measurements be made on a wide variety of FM receivers to substantiate suitable receiver interference thresholds. We also recommend that a terrain-dependent method be developed as a replacement for the present FCC method for computing the areas and populations covered by stations.

The adoption of these recommendations may lead to revised planning criteria for FM that would allow more FM stations in major markets with no sacrifice in quality of FM performance.

#### REFERENCES

1. Federal Communications Commission, Revision of FM Broadcast Rules, Docket No. 14185, First Report and Order, 1962.
2. Quadracast Systems Inc., Comments to the FCC Further Notice of Inquiry on Quadraphonic Broadcasting, FCC Docket 21310, 1979.
3. G.A. Hufford, "Techniques for the Evaluation of Proposed TV Drop-Ins", Department of Commerce, OT Report 77-112, 1977. (Available from Department of Commerce, NTIS Access. No. PB271212-AS)

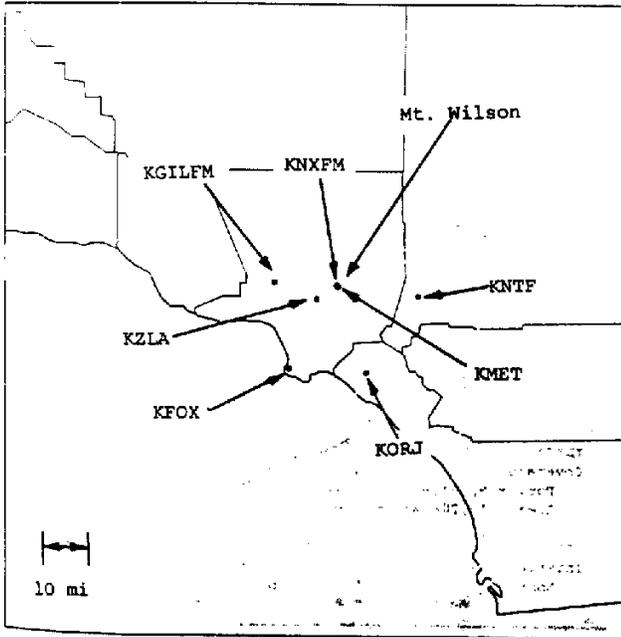
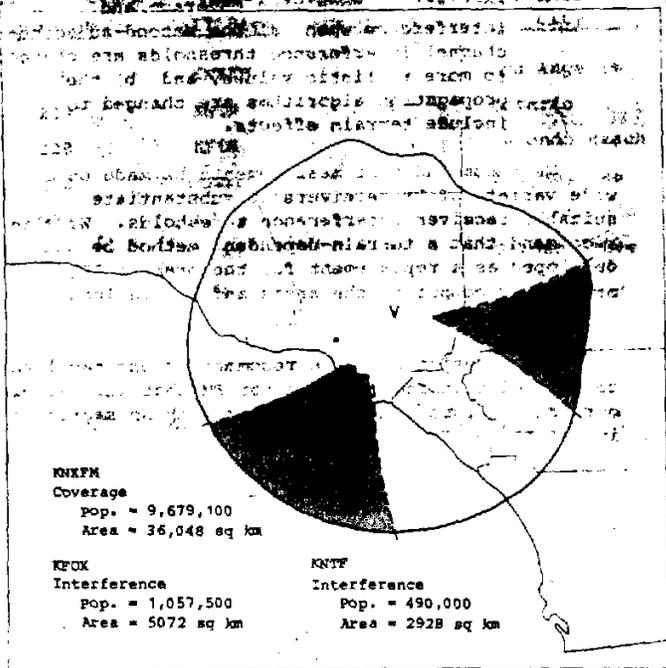
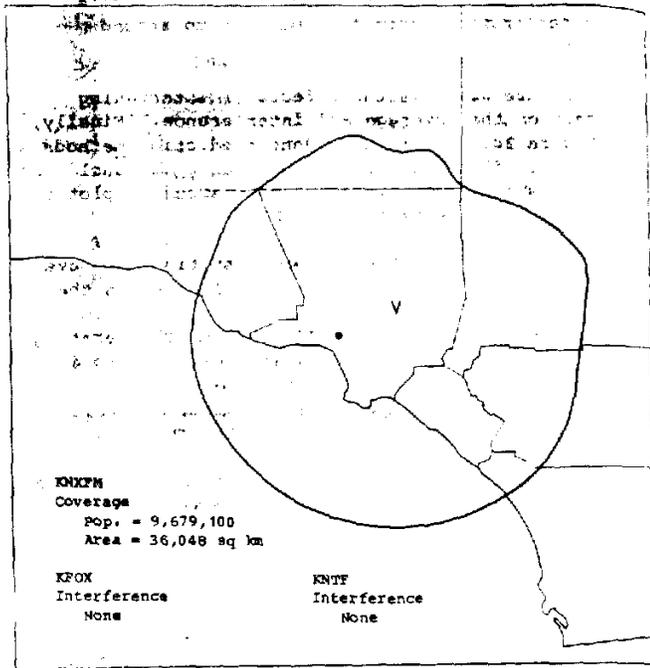


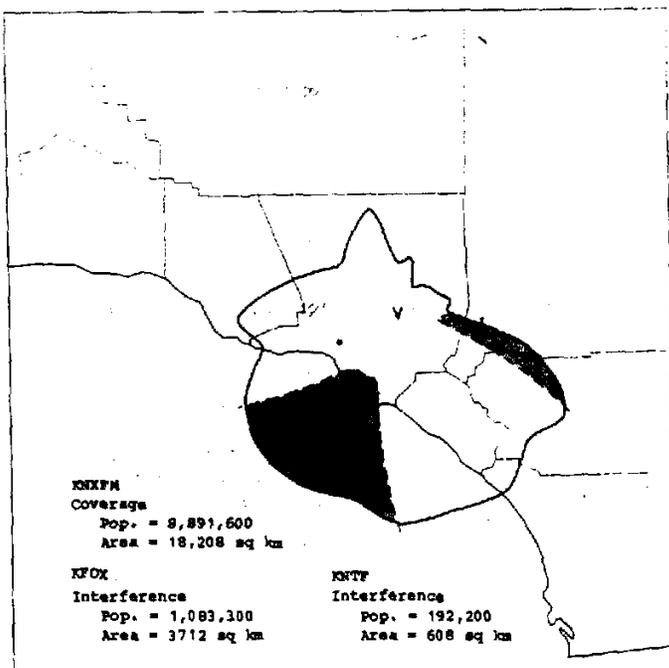
Figure 1. Los Angeles basin FM broadcast assignments on channels 226 to 234.



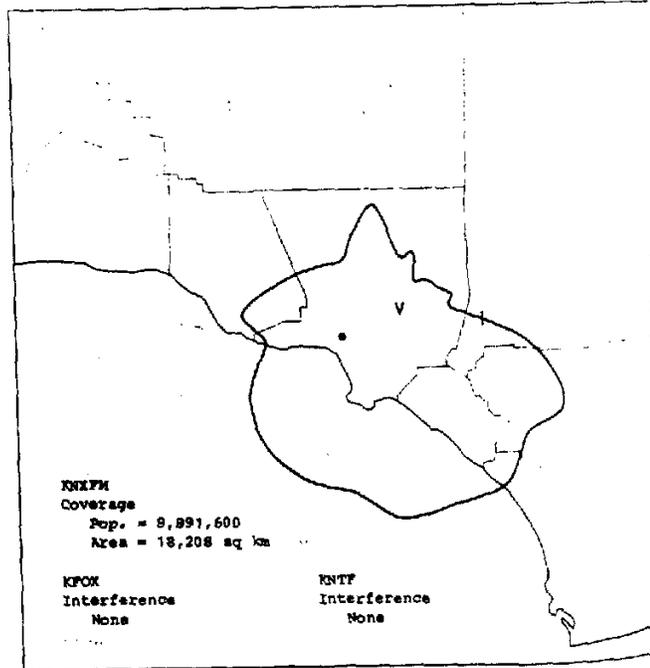
(a)



(b)



(c)



(d)

Figure 2. 55 dBuV/m coverage of station KNXFM (solid contour) showing interference areas (shaded). The plots in (a) and (b) were determined using the FCC propagation curves for predicting interference and coverage while (c) and (d) were determined using the terrain sensitive ITS propagation model. The plots in (a) and (c) use a S/I = -20 dB interference threshold while (b) and (d) use a S/I = -50 dB threshold.

# NOTICE

MISSION

FCC 97-275

Internet: <http://www.fcc.gov> [ftp.fcc.gov](http://ftp.fcc.gov)

Released: August 5, 1997

## ON SEPARATIONS TO HOLD OPEN MEETING ON FRIDAY, AUGUST 8, 1997

Docket No. 80-286

Separations will hold an open meeting on Friday in Room 856 at 1919 M Street, N.W., Washington, DC. In two panels of experts who will discuss approaches for telecommunications environment. The panel topics will

Separations Still Legally Required, in Light of the Changes Since *Smith v. Illinois Bell*?

Separations of Changes in Access Charges and

August 4, 1997, Chairman Hundt and Commissioner's Quillo,

Chapman, 202-418-0885, or Debbie Byrd, 202-

-FCC-

FCC 97-276

Federal Communications Commission

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

In the Matter of )  
Grandfathered Short-Spaced )  
FM Stations )  
MM Docket No. 96-120  
RM-7651

### REPORT AND ORDER

Released: August 8, 1997

Adopted: August 4, 1997

By the Commission:

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the proposed rules should be granted. Modification applications are all given file numbers, entered into our databases, and released on public notice indicating the receipt of the application. This provides our sufficient notice of the filing of an application. Generally, there will be sufficient time between the date of public notice and the grant of the application to permit the filing of informal objections. Therefore, we will not require stations to provide notification to a potentially affected station.

14. *Population considerations.* Mullaney suggests that less emphasis should be placed on areas of interference and more emphasis placed on the population affected by the interference. He asserts that in many instances, the areas of concern may include swamps, marshes, or national forest. In opposition to this view, AFCE does not favor including a population consideration into the rule. AFCE states that the present rule does not require any such consideration, and believes its inclusion in any adopted rule would be an "additional complication." However, as stated above, our primary concern in the proceeding is providing flexibility while maintaining the technical integrity of the FM band. Failure to consider the effect of proposals on area and population would be imprudent. Each year, we receive numerous applications proposing transmitter site changes by stations adjusting to population migrations in areas around their service contours. By maintaining or reducing areas and populations receiving interference, we can continue to promote an efficient broadcast service. Therefore, we will require applicants under Proposal 1 to include exhibits based on interference areas and the associated populations.

15. CTT recommends that we suggest a specific methodology to be followed when calculating the population affected by interference. We will continue to accept the widely used uniform distribution methodology set forth in 47 C.F.R. § 73.525(e) for calculating population.<sup>14</sup> In addition, because the Census Bureau recognizes the Block Centroid Method as a more accurate calculation method, we will also accept this method.<sup>15</sup> In resolving disputes, we will rely on the most accurate method presented.

16. *Additional suggestions.* CTT suggests that any grandfathered applicant proposing to modify its facilities or change transmitter site within 500 feet of its authorized site, should not be required to submit an interference analysis, assuming the average contour distance does not exceed that of its licensed facility. CTT believes that this would provide latitude for site corrections anticipated from the new tower registration procedures. We do not believe that such a rule would be appropriate. First, CTT's proposal would contradict our conclusion in Appendix C of the *Report and Order*. In the *Matter of Streamlining the Commission's Antenna Structure Clearance Procedure*, 11 FCC Red 4272 (1996), 61 FR 4359 (1996). Appendix C stated that any modification of coordinates necessary as a result of the antenna structure registration procedures would require the filing of a construction permit application, regardless of the minimal nature of the change. The appendix also noted that situations requiring a change in operating parameters will be handled on a case-by-case basis. We did not make special exceptions for any group of stations correcting authorized parameters. Additionally, our experience in dealing with grandfathered applicants shows that modifications usually entail changes in several technical parameters and seldom

<sup>14</sup> Section 73.525(e) specifically states that "the number of persons contained within the predicted interference area will be based on data contained in the most recently published U.S. Census of Population and will be determined by plotting the predicted interference area on a County Subdivision Map of the state published for the Census, and totalling the number of persons in each County Subdivision ... contained within the predicted interference area."

<sup>15</sup> Section 73.525(e)(2)(iv) states that "[a] the option of either the NCE-FM applicant or an affected TV Channel station which provides the appropriate analysis, more detailed population data may be used." We note that the U.S. Census Bureau has verified that the block centroid retrieval methodology is a more accurate means of determining population within a given area than the uniform distribution method. See the October 9, 1992 *Letter from Chief, Audio Services Division to Larry H. Will*, reference No. 180083-ESR.

involve only a relocation within 500 ft. of the previously licensed rule CTT proposes would cause confusion and unduly complicate We will, however, routinely grant requests for waiver of the interference in Sections 73.213(a)(1) and 73.213(a)(2) on a case-by-case basis 500 ft (152 meters) of the previously licensed site where no unwarranted

17. Z Spanish generally supports Proposal 1, adding that the standard contour prediction methods should be available when evaluation. We do not characterize alternative contour prediction we agree that alternative contour prediction methods proposed by the Commission allows the use of alternate prediction methods to demonstrate adequate coverage of the community contour (70 dBu). However, would be within the principal community contour (70 dBu). However, from full-service stations for the purpose of demonstrating a prediction method calculations is resource-intensive and requires supplemental studies often leads to disputes involving the use of with significant processing delays. Therefore, we will not permit for interference showings.

18. Finally, several commenters suggest that one or more extended to other groups of short-spaced stations, such as stations of Section 73.207 in Docket 80-90 (1983), or stations short-spaced or stations short-spaced pursuant to Section 73.215,<sup>12</sup> or even "stations." However, these comments are clearly beyond the developing the proposals set forth in the *Notice*, we identified were defective and difficult to administer. The *Notice* was specifically narrowly defined group of grandfathered stations. We did not short-spacing circumstances. Therefore, we decline to enlarge pre-1964 grandfathered short-spaced stations.

19. *Conclusion.* We believe that the current rules flexibility when co-channel and first-adjacent channel grandfather providing this flexibility should not jeopardize another station we will adopt Proposal 1 as set forth in the *Notice*. All grandfather transmitter location and increase or decrease facilities, such maximum power and height requirements set forth in 47 C

<sup>12</sup> Stations covered under rule Sections 73.213(b) & (c) became changes after 1964.

<sup>13</sup> Stations that are authorized as "contour protection stations" after October 2, 1989, and did so of their own volition. These overlap would be created with the short-spaced station. See *After Permit Short-Spaced FM Station Assignments by Using Direct* Section 73.509 does not set forth required spacings for educational stations. Rather, it prohibits the overlap of certain parameters sometimes refer to stations in violation of this rule as "short-spaced

proposing modifications under the Section 73.213(a) rules adopted herein must document its pre-1964 grandfathered status.

Proposal 2.

20. *Eliminate both the second- and third-adjacent channel spacing requirements for grandfathered short-spaced stations.* The Notice proposed to revise Section 73.213(a) to remove all spacing requirements for grandfathered second- and third-adjacent channel stations. This proposal would restore the previous Section 73.213 rule used between 1964 and 1987, and would permit second and third-adjacent channel grandfathered stations to implement maximum class facilities, and/or change transmitter site with complete flexibility on second-adjacent channel and third-adjacent channel short-spacings.<sup>14</sup> The Notice also proposed, as an alternative, a more restrictive standard that allowed limited flexibility for second and third-adjacent grandfathered short-spaced stations proposing a new transmitter site. The more restrictive standard would not permit prohibited contour overlap if prohibited contour overlap did not already exist.

Comments & Discussion:

21. *General support.* Of the parties providing initial and reply comments on this proposal, most agree that we should completely eliminate second- and third-adjacent spacing requirements for grandfathered stations. The Joint Petitioners fully support the original Proposal 2, and specifically reject the alternative proposal put forth in Paragraph 26 of the Notice. AFCEE supports the original Proposal 2, and states that it is "the most essential part of the simplified procedure." Mailman supports the original Proposal 2. CTI fully supports Proposal 2, stating that today's receivers are seldom affected by second- and third-adjacent channel interference.

22. *Media-Com, Inc. and Group M Communications, Inc.* both support Proposal 2 and state that current second- and third-adjacent channel restrictions have prevented grandfathered stations from improving, or even maintaining existing service areas. Compass Radio of San Diego, Inc. ("Compass") fully supports Proposal 2, stating that adoption would facilitate improvement of station facilities, along with eliminating a significant amount of unnecessary workload on the Commission's staff. Compass comments include specific examples of stations that have operated with second- or third-adjacent overlap without receiving interference complaints. NAB submitted comments supporting new requirements that would allow for the relaxation, but not elimination, of second and third-adjacent channel spacing requirements for grandfathered stations. NAB states that "[w]ith full recognition of the generally negative position taken by NAB in our 1991 comments... and in light of the historical, technical foundation of these earlier comments, NAB believes there may be ways that some grandfathered FM stations could be allowed to modify facilities in a fashion that would not result in significant new interference nor would be at odds with related FCC policies applicable to such changes."

23. *Scope.* The scope of this item is specifically limited to FM stations at locations authorized prior to November 16, 1964, that did not meet the separation distances required by Section 73.207 and have remained continuously short-spaced since that time. The Notice specifically invited any parties to assist the Commission in identifying how many grandfathered stations exist so that they could be classified in the Commission's engineering database. NAB performed an analysis and submitted extensive

253 CW

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NAB

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documentation with regard to the number of second- and third-adjacent stations is 312, out of a total of 5,429 authorized FM stations (5.5%). NAB's comments state that the number of possible grandfathered stations is too high, since many of these stations became short-spaced as BC Docket 80-90, MM Docket 88-375, the contour protection waiver grants. The number of grandfathered second and third-adjacent sites will be further limited as a result of other co-channel short-spacings. Therefore, the number of grandfathered stations and third-adjacent channel station is extremely limited.

24. One of NAB's primary concerns is that the proposed group of stations. NAB contracted engineering consultant TRG general potential impact that second-adjacent channel short-spaced stations' study included test results of two automatic receiver Keller's study included test results of two automatic receiver stations' operation, and one portable "boom box" receiver. Keller's study tested did not meet the "...interference-rejection stations' operation." NAB states that "...these current FM separation requirements of second and third-adjacent channel in some cases, better rejection might form the basis for granting here. These developments might form the basis for granting short-spaced stations. However, and this must be emphasized, NAB characteristics should be limited only to the possibility of grandfathered, short-spaced FM stations, not to the FM media

25. As stated in the Notice, we have "no intention of adjacent channel spacing requirements as allomnt and applying returning to the exact standard that was used between 1964 stations. Thus, our proposal remains aimed exclusively at the

26. *Additional Criteria.* NAB agrees that second-adjacent stations are in need of relief from the current Section 73.213 technical integrity of the broadcast media must be preserved Corp. ("Eleven-Fifty") believe that second- and third-adjacent should be required to submit supplemental documentation approved by the Commission. NAB proposed four criteria modification applications would be required to satisfy:

- (1) the modification would result in a net decrease interference caused by the applicant to other FM stations;
- (2) the modification would result in a net decrease applicable to other FM stations;
- (3) any site change would not be to a location that
- (4) any site change would be within a "buffer zone" These criteria are designed to provide "tailored relief to grandfathered stations that would not adversely affect the station. assure that any proposal would qualify an applicant for a "waiver that these requirements would shift the burden onto the potentially affected be provided," shifting the burden onto the potentially affected should not be granted, thereby preserving the technical

<sup>14</sup> See Fourth Report and Order in Revision of FM Broadcast Rules, Particularly as to Allocation and Technical Standards, FCC 868 (1964).



CONCLUSION

35. We believe that the modified procedures and related rule revisions adopted herein will provide this group of grandfathered stations with significantly greater flexibility in making transmitter site changes and other facility modifications, while preserving or improving the overall technical integrity of the FM band. Our experience working with the current rule guides us to adopt these changes in our grandfathered short-spacing rules. Co-channel and first-adjacent channel grandfathered stations will be able to make modifications and improvements using straight-forward interference calculations. This will enable us to more accurately predict and control interference. Eligible grandfathered second- and third-adjacent to propose facility modifications without regard to existing grandfathered second- and third-adjacent channel short-spacings. Finally, grandfathered stations will no longer need to obtain agreements from other grandfathered stations before proposing modifications.

36. Accordingly, to the extent provided herein, we amend Section 73.213(a) of our Rules and delete Section 73.4235. As set forth in the Notice, the Commission will process any such waiver requests which remain pending as of the effective date of this Order in accordance with the revised rule.<sup>16</sup>

ORDERING CLAUSES

37. Accordingly, IT IS ORDERED that pursuant to the authority contained in Sections 4(i), 303(r), and 307(c) of the Communications Act of 1934, as amended, 47 C.F.R. Part 73 IS AMENDED as set forth in Appendix A below.

38. IT IS FURTHER ORDERED that the requirements and regulations established in this Report and Order WILL BECOME EFFECTIVE 60 days from the date of publication in the Federal Register, or upon receipt by Congress of a report in compliance with the Contract with America Advancement Act of 1996, Pub. L. No. 104-121, whichever date is later.

39. For further information contact Jim Bradshaw of the Audio Services Division, Mass Media Bureau at (202)-418-2740, or by e-mail at [jbradshw@fcc.gov](mailto:jbradshw@fcc.gov).

FEDERAL COMMUNICATIONS COMMISSION

William F. Caton  
Secretary

<sup>16</sup> The Mass Media Bureau has identified several pending applications which seek waivers of the current rule but which may comply with Section 73.213(a) as modified in this Order. We direct the staff to reconsider these applications under the revised standards adopted herein and delegate to the Chief of the Mass Media Bureau authority to waive Section 73.213 prior to the effective date of this Order where the public interest would be served. Any Section 73.213 waiver granted by staff prior to the effective date of the Order shall be subject to the final outcome in this proceeding. We also are aware that there is now one application before the Commission which requests a Section 73.213 waiver and remand this application to the Mass Media Bureau for reconsideration consistent with this delegation. See File No. BPH-9106121D, Occasville, CA. We remind all parties that all contested applications remain their restricted status following adoption of the Order.

APPENDIX A

47 C.F.R. Part 73 is revised as follows:

PART 73 - RADIO BROADCAST SERVICES

1. The authority citation for Part 73 continues to read as follows:  
Authority: 47 U.S.C. 154, 303

2. Section 73.213 is revised to read as follows:

§73.213 Grandfathered short-spaced stations.

(a) Stations at locations authorized prior to November 16, 1964 that required by §73.207 and have remained continuously short-spaced relocated with respect to such short-spaced stations, provided interference-free service would receive co-channel or first-adjacent accordance with paragraph (a)(1) of this section, or that (ii) a station (a)(2) of this section that demonstrates that the public interest would

(1) The F(50,50) curves in Figure 1 of §73.333 of this part proposed effective radiated power and antenna height above to §73.313(c), (d)(2) and (d)(3), using data for as many location of the desired (service) field strength. The F(50,50) location of the desired (service) field strength with the proposed this part are to be used in conjunction with the proposed height above average terrain, as calculated pursuant to for as many radials as necessary, to determine the local strength. Predicted interference is defined to exist only field strength exceeds 0.5 mV/m (54 dBu) for a Class B1 station, and 1 mV/m (60 dBu) for any other class

(i) Co-channel interference is predicted to exist locations where the undesired (interfering station) field strength is 20 dB below the desired (service) F(50,50) field strength (e.g., where the protected field strength is 60 dBu or more for predicted interference to

(ii) First-adjacent channel interference is predicted at all locations where the undesired (interfering station) field strength is a value 6 dB below the desired (service) F(50,50) field strength (e.g., where the protected field strength must be 54 dBu or more for predicted interference to

(2) For co-channel and first-adjacent channel stations served by the changes proposed in an application that is not served by the changes proposed in an application or first-adjacent area and population subject to co-channel or first-adjacent

received, would be maintained or decreased. In addition, the showing must include exhibits demonstrating that the area and the population subject to co-channel or first-adjacent channel interference caused by the proposed facility to each short-spaced station individually is not increased. In all cases, the applicant must also show that any area predicted to lose service as a result of new co-channel or first-adjacent-channel interference has adequate aural service remaining. For the purpose of this Section, adequate service is defined as 5 or more aural services (AM or FM).

(3) For co-channel and first-adjacent-channel stations, a copy of any application proposing interference caused in any areas where interference is not currently caused must be served upon the licensee(s) of the affected short-spaced station(s).

(4) For stations covered by this rule, there are no distance separation or interference protection requirements with respect to second-adjacent and third-adjacent channel short-spacings that have existed continuously since November 16, 1964.

\* \* \* \* \*

3. Section 73.4235 is deleted.

APPENDIX B

List of Commenters

Initial Comments

- Association of Federal Communications Consulting Engineers
- Barnstable Broadcasting, Inc.
- Brown Broadcasting Service, Inc.
- Chagal Communications
- Communications Technologies, Inc.
- Compass Radio of San Diego, Inc.
- John J. Davis
- Eleven-Fifty Corp.
- Gallagher & Associates
- Group M Communications, Inc.
- Harvard Radio Broadcasting Co., Inc.
- Harfield & Dawson; duffrell, Lundin & Rackley; Cohen, Dippell & Everist
- Jarad Broadcasting
- KALIFM, Inc.
- Kelsho Radio Group, Inc.
- Libertan Broadcasting, Inc.
- Livingston Radio Company
- Media-Corn, Inc.
- Mullarey Engineering, Inc.
- E. Harold Munn, Jr.
- National Association of Broadcasters
- Odyssey Communications, Inc.
- Renard Communications Corp.
- Taxi Productions, Inc.
- WPNT, Inc.
- WTBO-WKGO Corporation
- WTUC, Richard L. Harvey
- WYCC, Inc.
- Z Spanish Radio Network, Inc.



commenters favored the rule changes proposed, with minor changes, some of which have been incorporated into the rules specified in Appendix A of this Report and Order.

C. Description and Estimate of the Number of Small Entities To Which the Rule Will Apply:

The RFA generally defines "small entity" as having the same meaning as the terms "small business," "small or organization," and "small governmental jurisdiction," and the same meaning as the term "small business concern" under the Small Business Act unless the Commission has developed one or more definitions that are appropriate for its activities.<sup>20</sup> A small business concern is one which: (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).<sup>21</sup> According to the SBA's regulations, entities engaged in radio broadcasting (Standard Industrial Classification ("SIC") Code 4832 for radio) may have a maximum of \$10.5 million in annual receipts in order to qualify as a small business concern. 13 C.F.R. §§ 121.201. This standard also applies in determining whether an entity is a small business for purposes of the Regulatory Flexibility Act.

Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency after consultation with the Office of Advocacy of the SBA 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."<sup>22</sup> While we tentatively believe that the foregoing definition of "small business" greatly overstates the number of radio broadcast

<sup>20</sup> 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), 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.

<sup>21</sup> Small Business Act, 15 U.S.C. § 632 (1996).

<sup>22</sup> We tentatively conclude that the SBA's definition of "small business" greatly overstates the number of radio and television broadcast stations that are small businesses and is not suitable for purposes of determining the impact of the proposals on small radio and television stations. However, for purposes of this Report and Order, we utilize the SBA's definition in determining the number of small businesses to which the proposed rules would apply, but we reserve the right to adopt a more suitable definition of "small business" as applied to radio and television broadcast stations or other entities subject to the rules adopted in this Report and Order and to consider further the issue of the number of small entities that are radio and television broadcasters or other small media entities in the future. See Report and Order in MM Docket 93-48 (Children's Television Programming), 11 FCC Rcd 10660, 10737-38 (1996), citing 5 U.S.C. 601 (3). In our Notice of Inquiry in GN Docket No. 96-113B, In the matter of 10737-38 (1996), citing 5 U.S.C. 601 (3). In our Notice of Inquiry in GN Docket No. 96-113B, In the matter of Section 257 Proceeding to Identify and Eliminate Market Entry Barriers for Small Businesses, 11 FCC Rcd 6280 (1996), we requested commenters to provide profile data about small telecommunications businesses in particular services, including television and radio, and the market entry barriers they encounter, and we also sought comment as to how to define small businesses for purposes of implementing Section 257 of the Telecommunications Act of 1996, which requires us to identify market entry barriers and to prescribe regulations to eliminate those barriers. Additionally, in our Order and Notice of Proposed Rulemaking in MM Docket 96-16, In the Matter of Streamlining Broadcast EEO Rules and Policies, Vacating the EEO Forfeiture Policy, Statement and Amending Section 1.80 of the Commission's Rules to Include EEO Forfeiture Guidelines, 11 FCC Rcd 5154 (1996), we invited comment as to whether relief should be afforded to stations: (1) based on small staff and what size staff would be considered sufficient for relief, e.g., 10 or fewer full-time employees; (2) based on operation in a small market; or (3) based on operation in a market with a small minority work force.

stations that are small businesses and is not suitable for purposes rules on small business, we did not propose an alternative definition. Analysis. Accordingly, for purposes of this Report and Order, we determining the number of small businesses to which the rules a more suitable definition of "small business" as applied to radio further the issue of the number of small entities that are radio b this FRFA, we will identify the different classes of small radio rules adopted in this Report and Order.

Commercial Radio Services:

The rules and policies adopted in this Order will apply potential licenses. The SBA defines a radio broadcasting station annual receipts as a small business.<sup>23</sup> A radio broadcasting station engaged in broadcasting aural programs by radio to the public<sup>24</sup> commercial religious, educational, and other radio stations.<sup>25</sup> R primarily are engaged in radio broadcasting and which produce included.<sup>26</sup> However, radio stations which are separate establishments producing radio program material are classified under another indicates that 96 percent (5,861 of 6,127) radio station establishments revenue in 1992.<sup>28</sup> Official Commission records indicate that operating in 1992.<sup>29</sup> As of March, 1997, official Commission stations were operating.<sup>30</sup>

It is estimated that the proposed rules will affect about of which are small businesses.<sup>31</sup> These estimates are based on and may overstate the number of small entities since the reverse not include aggregate revenues from non-radio affiliated comp

<sup>23</sup> 13 C.F.R. § 121.201, SIC 4832.

<sup>24</sup> Economics and Statistics Administration, Bureau of Census, U Appendix A-9.

<sup>25</sup> *Id.*

<sup>26</sup> *Id.*

<sup>27</sup> *Id.*

<sup>28</sup> The Census Bureau counts radio stations located at the same co-located AM/FM combination counts as one establishment.

<sup>29</sup> FCC News Release No. 31327, Jan. 13, 1993.

<sup>30</sup> FCC News Release No. 64958, Sept. 6, 1996.

<sup>31</sup> We use the 96% figure of radio station establishments with less and apply it to the 12,088 individual station count to arrive at 11,6



ADDENDUM 18

MOST RECENT FM CHANNEL RULEMAKINGS AND SITE RESTRICTION CONSIDERATIONS

Location	Docket number	channel	site restriction	considerations
Wellington, TX	MM 97-104	278C3	4.5 km s.w.	266C
Plattsmouth and Papillion, NE Osceola, IA	MM 96-95	295A	11.5 km n.e.	297C1, 294C, 241C
Fredonia, KY	MM 97-66	221A	6.2 km n.e.	222C, 223C, 274A
Patterson, IA	MM 97-187	290A	none	none
Colchester, IL	MM 97-218	244A	13.2 km s.w.	242C2, 244A
Ashdown and DeQueen, AK	MM 97-223	227C3 221C2		channel 6-TV

This is presented to show that the Commission has not done away with taboos in allocations. Many more cases can be presented to show further compliance with the interference prevention.

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

NOTICE

Released July 29, 1988

ANTIC, PACIFIC BELL,  
NORTHWESTERN BELL,  
COST MANUALS

Established

3 FCC Rcd 1298 (1987), the telephone companies to file manuals containing the methods of providing regulated telecommunications services. The Commission in 1987, and the Commission approved the manuals of the carriers to periodically update. Carriers must submit manuals at least 60 days prior to change the cost categories, or change the way that the Bureau stated that the opportunity to comment on

companies filed proposed manuals that describe the mechanisms (U S West filed the notice requirement.) Companies propose to revise technologies. The Bell Atlantic and add cost pools in certain areas. The Commission proposes a change in its time, and revisions to its mechanisms. Pacific Bell and terminology (which they are to submit to the Commission) and the proposed revisions to August 15, 1988. Replies

may be obtained from the Commission, Inc., 2100 M Street, N.W., Washington, D.C. 20541. Copies are available from the Accounting and Information Systems Department, Room 812, 3000 L Street, N.W., Washington, D.C. 20541.

Contact: Alicia Dunnigan, (202) 418-2100

FEDERAL COMMUNICATIONS COMMISSION

Ramapo failed to demonstrate that its proposal was the most technically feasible method to improve its facilities. Letter to Bud Van Gunderson from Larry D. Eads, Chief, Audio Services Division.

4. Ramapo petitioned on December 20, 1984, for reconsideration of this action, repeating its claim of de minimis interference and arguing for the first time that it was "a bona fide mutually exclusive applicant with the renewal applications of WBGO and WFUD" since it was "on file and accepted at the time that the licenses of WBGO and WFUD expired on June 1, 1984." *Recons. Application*, at page 3. Therefore, Ramapo claimed that it was entitled to consolidation with these renewal proceedings. In its opposition to Ramapo's petition, Fairleigh Dickinson University, licensee of FM station WFUD, described the affected interference area as "among the most densely populated regions in New Jersey" and claimed that "thousands of people would suffer serious interference as a result of implementation of Ramapo's proposal." (*Opposition*, at paragraph 5. Fairleigh Dickinson also suggested that a move of Ramapo's transmitting facility to its second studio site at Indian Hills High School in Oakland Township could result in interference-free operations. *Opposition*, at paragraph 4. The Mass Media Bureau denied Ramapo's request for reconsideration, again emphasizing that Ramapo's waiver request failed to quantify the population which would be adversely affected by the proposed upgrade and noting that the applicant expressly stated in Section 1, item 5 of its application (presently Section 1, item 3) that its application was not mutually exclusive with the renewal application of any existing station. *Letter to Donald E. Martin, P. C. from Larry D. Eads, Chief, Audio Services Division*, dated July 14, 1986. The Bureau further stated that Ramapo failed to exercise either its pre-grant right to claim mutual exclusivity with the WBGO and WFUD renewal applications (BRED-840201BG and BRED-840201DK, respectively) or its post-grant right (pursuant to Section 1.106) to request reconsideration of the May 17, 1984 grants of these renewal applications. Having denied Ramapo's request for reconsideration, the Bureau granted William Paterson's application to serve Wayne, New Jersey.

5. In its *Application for Review*, Ramapo fails to challenge the Bureau's denial of its request for waiver of § 73.509 and concentrates entirely on its alleged procedural right to a comparative hearing with the WBGO and WFUD renewal applications. Specifically, Ramapo alleges that its application "was dismissed without a hearing in violation of Section 309 of the Communications Act, the *Airbacker* decision, and the line of cases following it" and that the denial of its waiver request did not defeat the application's acceptability against a renewal application. *Application for Review*, at page 6. In opposition, Fairleigh Dickinson University and Newark Public Radio, licensee of WBGO(FM), argue that Ramapo's application and waiver request clearly indicate that it wished to avoid mutual exclusivity with WBGO and WFUD and that Ramapo cannot now claim the rights of a mutually exclusive applicant through a *post-hoc* rationalization as to why its application should be given further consideration by the Commission. *Joint Opposition to Application for Review*, at page 4. WBGO and WFUD further argue that no Commission policy favors the retention of a defective application in pending status so that "years later, it can be considered on a mutually exclusive basis with a renewal application." *Id.*, at page 5.

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

In re Application of

RAMAPO INDIAN HILLS File No. BRED-821013AD  
REGIONAL HIGH  
SCHOOL DISTRICT

For Modification of Noncommercial  
Educational Station WRRH (FM)  
Franklin Lakes, New Jersey

MEMORANDUM OPINION AND ORDER

Adopted: July 26, 1988. Released: August 12, 1988

By the Commission:

1. The Commission has before it for consideration an application for review filed by Ramapo Indian Hills Regional High School District (Ramapo), licensee of Station WRRH (FM), Franklin Lakes, New Jersey, arising out of the July 14, 1986 denial of the applicant's petition for reconsideration of the dismissal and return of its above-captioned application for modification of facilities.

2. Ramapo has been licensed since 1963 to operate WRRH as a Class D (10-watt) noncommercial educational FM station on Channel 204 (88.7 MHz) from its George Street transmitting antenna location in Franklin Lakes, New Jersey. In response to the Commission's Public Notice A-52 (Mimeo No. 6396, released September 15, 1982) notifying potential applicants of the October 21, 1982 "cut-off" date for the filing of applications to be considered mutually exclusive with an application filed by William Paterson State College Student Cooperative Association (File No. BRED-820330AM) to serve Wayne, New Jersey, Ramapo filed an application to upgrade its facilities to minimum Class A (100-watt) status. While this proposal would have increased WRRH's coverage area by approximately 100%, it would also have violated Section 73.509 of the Commission's Rules by creating prohibited overlap of its signal with the signals of the licensed second-adjacent channel facilities of noncommercial educational stations WFUD (Towaco, New Jersey) and WBGO (Newark, New Jersey). Although patently not in accordance with the Commission's Rules, Ramapo's application was accompanied by *non appropriate* request for waiver" and was therefore found acceptable for filing pursuant to Section 73.556(a) of the Commission's Rules.

3. In its waiver request, Ramapo claimed that the power increase would cause small amounts of interference to the protected service contours of WBGO and WFUD, but that the increase was necessary to continue interference-free service to the area served by the Ramapo Indian Hills High School District. *Ramapo Application*, at page 2-9 of Engineering Exhibit. On November 6, 1984, the Mass Media Bureau denied Ramapo's waiver request, ruling that Ramapo failed to substantiate its *de minimis* interference claim because no data on the population in the *interference* areas was provided and because

WRRH

2 ADS  
WFUD  
WBGO