

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

MM Docket No. 87-131

In the Matter of

Unlimited-time Operation by Existing AM
Daytime-Only Radio Broadcast Stations;
Discontinuance of Authorization of
Additional Daytime-Only Stations;
Minimum Power of Class III Stations

REPORT AND ORDER

Adopted: November 18, 1987; Released: December 1, 1987

By the Commission:

INTRODUCTION

1. The *Notice of Proposed Rule Making* in this proceeding¹ proposed to make several changes in the AM technical rules, most notably to allow qualifying daytime-only stations to operate on a full-time basis. In addition, it proposed to discontinue the authorization of new daytime-only stations and to reduce the minimum power for Class III AM stations from 500 watts to 250 watts. Both of these latter proposals are directly related to accomplishment of nighttime operation for affected daytime-only stations. A large number of parties filed in response to the *Notice*; they are listed in Appendix 1.²

2. The *Notice* was an outgrowth of the Mass Media Bureau's *Report on the Status of AM Broadcasting*, released on April 3, 1986, RM-5532, and the comments received in response to it. Broad support was expressed for actions to remove impediments to the ability of AM stations to compete effectively in the radio marketplace. In particular, the inability of daytime-only stations to operate at night was mentioned as a serious disability which should be removed to the maximum extent consistent with sound engineering practice. This approach had already been followed in the rule making proceeding dealing with the use of the 14 Class 1-A foreign clear channels,³ and the Commission desired to explore the possibility of applying a similar approach to other AM channels.

BACKGROUND

3. In order to put the current subject in perspective, it is necessary to provide some background regarding the special circumstances applicable to AM signal propagation and to set forth some of the related actions taken by the Commission in this area in recent years. In many ways, the current proposal can best be seen as a continuation of the process which began with the Commission's 1983 action first authorizing post-sunset operation by daytime-only stations.⁴ In the years since then, a number of other actions have been taken to provide additional relief.

4. The existence of daytime-only AM stations can be traced to the differences between AM signal propagation during daytime and nighttime hours. During all periods of the day, AM stations transmit signals that travel in two basic directions. The signals which travel parallel to the surface of the earth are referred to as "groundwaves". Those which travel upward, away from the station, are referred to as "skywaves". Although groundwave signals vary, depending on frequency and ground conductivity, they do not change from day to night, and are not subject to intermittent reception (sometimes called fading) that is characteristic of skywave service. Because of this continuity and the absence of "fading", groundwave signals are relied upon to provide "primary" service. Skywave signals behave quite differently. During the day, most are absorbed by the ionosphere and are not reflected back to earth. Except in limited circumstances, they do not need to be taken into account.⁵ At night, however, the ionosphere acts like a mirror and reflects the signals back to earth, hundreds or even thousands of miles away, where they have the potential for causing serious interference. At such distance, however, groundwave signal values would be too low to cause interference. As a result of this greater potential for interference at night, AM allocations decisions had to take these differences into account. Many stations that would be able to operate during the day without interference would cause widespread interference if they used the same facilities at night. Based on this fact and other non-technical application acceptance criteria utilized by the Commission, more and more applicants proposed daytime-only operation.

5. Over the years, the number of daytime-only stations increased. Eventually, it reached the point where the total number of AM stations was almost evenly divided between full-time and daytime-only stations. At the same time, other changes were taking place in the broadcasting marketplace. Originally, AM was the dominant aural medium, but FM continued growing to the point that it clearly has become the dominant aural medium. In addition, as listening at home decreased and listening in automobiles increased, more and more importance became attached to the periods referred to as "drive time".⁶ This produced problems for daytime-only stations, as during part of the year, the morning and evening "drive time" periods extended beyond the station's licensed daytime hours of operation. Although earlier actions allowing pre-sunrise operation for daytime-only stations alleviated some of the problems they faced, for many years there was no possibility of conducting post-sunset operation. Thus, during important parts of the year, daytime-only stations were not able to operate during some of the very hours when such service was most needed. This had a detrimental affect on the audience because those stations were off the air during these periods and because this limitation affected the stations' overall ability to compete in the marketplace.

6. Although the Commission had long recognized the problems faced by daytime-only stations, there was little that could be done until new international agreements could be negotiated. Once these new agreements had been or were being negotiated, the Commission enlarged the scope of pre-sunrise operation and authorized post-sunset operation for most daytime-only stations.⁷ The new rules permitted these stations to operate up to two hours after sunset with a power of up to 500 watts, reduced as necessary to avoid interference. Clearly, this provided a

major substantive change in the situation affecting these stations, enabling them to compete more effectively.⁸ This major step rested on two foundations: the new international agreements and the new software developed by the Commission which made it possible to do the highly complex calculations on which these authorizations were based.

7. Negotiation of new international agreements also made possible another type of relief for daytime-only stations. Under earlier agreements, certain channels were designated as Class I-A clear channels on which a particular country was given dominant use. Nighttime use by another country was severely restricted or even was prohibited altogether. In the case of the Mexican clear channels, this meant there could be no nighttime use of the channel anywhere in the United States. In the case of the Bahamian and Canadian clear channels, this meant no nighttime use within 650 miles of the other country. Since these limitations far exceeded that necessary to avoid interference, their removal meant that there would be greatly expanded opportunities to use these channels at night in the United States. With this in mind, the Commission conducted a rule making proceeding to determine how best to take advantage of these opportunities.⁹

8. In addition to seeking comments from interested parties, the Commission simultaneously conducted its own studies. These studies revealed that the large number of daytime-only stations already on these "foreign clear channels" meant there would be relatively few opportunities to establish new full-time stations on these channels. On the other hand, they showed that it would be possible to authorize nighttime operation for virtually all of the existing daytime-only stations on these channels without restricting opportunities for new stations. Based on newly developed software to make the necessary calculations, the Commission was able to authorize full-time operation for more than 500 stations, almost a quarter of the then total number of existing daytime-only stations. The new rules allowed a maximum of 500 watts, reduced as necessary to avoid interference. In addition, the Commission adopted provisions to encourage stations to increase their power during a five-year transitional period by offering protection to those able to increase to the 250 watt minimum power applicable to these channels.¹⁰ Implementation of these operations was made through the issuance of a Show Cause Order to each affected station proposing to modify its license to specify full-time operation unless it objected.¹¹ Finally, the Commission decided to terminate the licensing of new daytime-only stations on these 14 frequencies. We concluded that continuing to license such stations could only serve to perpetuate the very problem which the proceeding had been designed to correct and would disrupt the technical basis upon which the new rules rested.

9. Although there are differences between the Foreign Clear Channels and the Regional and Domestic Clear Channels at issue in this proceeding, the underlying premise for relief is the same as it had been in the foreign clear channel proceeding. Daytime-only stations are seriously restricted in their ability to compete in the marketplace and to serve their listeners. Accordingly, the Commission issued the subject *Notice* to explore the possible gains and losses that would attend similar relief for stations on these channels.

10. As the subject *Notice* explained, the Commission has to deal with far more than the simple question of whether it is desirable to provide daytime-only stations with the ability to operate at night. Clearly, it would be desirable to provide such nighttime operation if it could be done consistently with sound engineering practice and could be effectively implemented. In order to help provide a focus for commenting parties on whether this would be possible, the Commission outlined a specific proposal, indicating in what respects it differed from the approach taken in regard to authorizing nighttime operation on the foreign clear channels.

11. Specifically, the Commission proposed to permit all eligible daytime-only stations to operate at night with a power of up to 500 watts, reduced as necessary to avoid interference to: 1) existing full-time stations, 2) applications for such stations or modifications filed before the effective date of the new rules or 3) foreign stations, pursuant to international agreement.¹² In order to maximize the amount of new nighttime service, we proposed to exclude from its calculations the effect such new nighttime operation might have on another station receiving such authority. The minimum power for Class III stations would be reduced from 500 watts to 250 watts, and all stations authorized at 250 watts or more would be designated as a Class III station entitled to future protection. Those receiving a lower power would be designated as Class III-S and would not receive that protection. In addition, Class III-S stations would be exempted from the city coverage and minimum operating hour requirements of the rules. Also, we proposed to allow the filing of applications to increase power without delay where such action is consistent with applicable engineering criteria. Finally, the Commission drew attention to the question of the continued authorization of daytime-only stations. We proposed to discontinue daytime-only authorizations, a step already taken on the foreign clear channels, because of the impact they could have in blocking the establishment of new full-time stations or otherwise disrupting the most efficient use of the spectrum.

12. In assessing the feasibility of nighttime operation by daytime-only stations, we also sought comment on the impact that could be expected if such operations continued to be authorized. In particular, the Commission noted the fact that the rules do not take into account interfering signals that do not reach a certain threshold. Thus, these signals might be ignored even though they could lead to some amount of unrecognized interference. Thus, the question was whether the losses due to increased amounts of interference not barred by the rules would outweigh the gains of new nighttime service which could be provided throughout the country. Comment was sought on the appropriate ways to assess such interference potential from multiple sources, including from adjacent channels.

DISCUSSION

13. *Nighttime Operation on Regional Channels.* Most of the commenting parties favored our proposal to permit daytime-only stations on Regional Channels¹³ to operate at night with a power of 500 watts, reduced as necessary to avoid interference. Unlike the concerns expressed regarding nighttime authorizations for daytime-only stations on the Clear Channels, relatively few of the commenting parties voiced objections to our proposals for Regional Channels. Greater Media, Inc. opposed the proposal be-

cause of a concern that it could lead to an erosion of AM technical standards and could hurt AM's "image". Greater Media, Inc. also asserted that it would be premature to take such action until the subject was further reviewed in connection with the pending *AM Inquiry*.¹⁴ Several other parties agreed that the Commission should await the outcome of the AM NOI before proceeding here.

14. In evaluating the proposal to allow nighttime operation on the Regional Channels we are aware that it cannot be implemented without having an impact on existing operations. Inevitably, there would be some impact even though the full interference protection called for under the Commission's rules is being provided. This is the case because the root sum square (RSS) method for calculating interference from skywave signals does not take account of signals below a certain threshold. While the RSS method is designed to take multiple signals into account, the rules call for the use of the 50 percent exclusion method under which signals which would contribute interference less than 50 percent of the previous RSS limit would be excluded. This method is an imperfect one which we developed years ago when computers were not yet available to perform the complex calculations involved if consideration were to be given to an unlimited number of stations. The 50 percent exclusion method was developed as a practical way of taking significant signals into account without adding unnecessary complexity. It has been used for many years to evaluate the applications filed by the current full-time stations on these channels, and its continued use to authorize new nighttime operations by daytime-only stations is therefore appropriate.

15. While the Commission has raised the possibility of revising the RSS methodology,¹⁵ any change would not be in place for some time. In these circumstances, we believe it would be inappropriate to delay institution of substantial new service while awaiting possible rule changes that, if adopted, would have only minimal impact on the protection afforded stations on these regional channels. Rather, we believe these new nighttime operations should be judged under the same standards as any other proposals filed under the current rules.¹⁶

16. Although under the current rules the license rights of existing full-time stations would not be affected by the proposal, the Commission is obligated to determine the public interest implications of the proposal and to conduct an appropriate cost/benefit analysis. This means weighing the gains and losses to determine whether the public interest would be served by its adoption. We acknowledge that because our present methodology does not account for all interference contributors, adoption of our proposal would in varying degrees increase interference to existing nighttime operations. Typically, however, the resulting increase would be modest, affecting usually only a small portion of the stations' coverage areas.¹⁷ Any such effect would occur at the periphery of the coverage area at a point furthest removed from the station. In such circumstances, and with the availability of other service to affected listeners, this would not be expected to have a significant effect on the station or its listeners. On the other side of the equation, nighttime authorizations will result in substantial public interest gains. More than 1,200 stations will be able to provide a nighttime service for the first time. This can be expected to benefit local audiences throughout the country in terms of the availability of additional nighttime service. In addition, these nighttime authorizations may enhance the ability of these stations to

compete more effectively and thereby improve their ability to serve the public on an overall basis. In our view, such gains far outweigh the modest effects on existing stations.¹⁸

17. Under these circumstances, we believe it is appropriate to grant nighttime operating authority to all eligible stations on Regional Channels subject to their providing full interference protection as set forth in the Commission's rules or in applicable international agreements.¹⁹ In addition to the licensees on the Regional Channels, it is also possible to provide such relief to daytime-only stations on two other channels. These frequencies, 940 kHz and 1550 kHz, are denominated as Clear Channels, but there are no U.S. Class I stations on these channels. As a result, no U.S. station is entitled to protection of a skywave coverage area, thus creating a situation which is equivalent to that on the Regional Channels where RSS calculations are made to determine whether the station's nighttime limit would be raised. Since the special circumstances applicable to the use of the U.S. Clear Channels do not apply to either of these frequencies, they are being included in the group to benefit from the new rules being put into effect on the Regional Channels.

18. The comments advanced no objection to our proposal to establish permissible powers at levels that would provide interference protection not only to existing stations, but also to new and changed unlimited-time stations for which applications were tendered before the effective date of the rule revisions. Accordingly, we have made such provision in the rule amendments covering permissible powers for nighttime operations by daytime-only stations on the regional channels.

19. *Daytime-Only Stations That Are Co-Channel with Class I Stations.* In the *Notice*, we proposed to permit nighttime operations for daytime-only stations on the domestic clear channels, as well as on the regional channels. We have already noted that, since there are no U.S. Class I stations on two of the domestic clear channels—940 and 1550 kHz—daytime-only stations on those two channels may be treated in a fashion similar to those on regional channels, and the rules we adopt do so. Different considerations affect daytime-only stations on the remaining clear channels. In analyzing the subject, it is important to distinguish between the Class III stations which operate on the Regional channels and the Class I and Class II stations which operate on the clear channels. In the former case, protection has not been afforded to skywave service. In the latter, the Class I stations are entitled to protection of their 0.5 mV/m 50 percent skywave signals.²⁰ Because of the complexity of the clear channel situation, particularly regarding how to calculate interference protection, we are unable, without further rule making, to provide relief for daytime-only stations on the clear channels other than 940 and 1550 kHz. Further studies must be conducted to assess the important issues involving the cumulative effect of a large number of nighttime operations on the Clear Channels. The "single signal" interference protection approach on the Clear Channels is based on keeping each individual signal below that which would cause interference to the Class I station's 0.5 mV/m 50 percent skywave signal. This method fails to take into account the cumulative effect of such signals, a much more serious issue than it would be on the Regional Channels where it is possible to proceed as originally outlined. As for the Clear Chan-

nels, we intend to issue a *Further Notice of Proposed Rule Making* to examine the cumulative effect issue in the near future.

20. *Minimum and Maximum Power.* Having decided to make provision for nighttime operation by certain former daytime-only stations as set forth above, we find that there are several related matters, both substantive as well as procedural, that need to be resolved. The first involves the power limits to be used. No objection was made to the 500-watt maximum proposed in the *Notice*, the same maximum used for the nighttime authorizations on the foreign clear channels. For some stations, the 500-watt maximum may not represent a permanent ceiling. Even so, it would be inappropriate to allow greater power initially when the station would not have to protect other former daytime-only stations. If higher power is possible consistent with full interference protection, there is no reason not to allow a station to seek that power by an appropriate application. Authorizing it now, however, would disrupt the orderly implementation of nighttime operation on an equitable basis.

21. In addition to the issue of maximum power, the *Notice* sought comment on the use of a minimum power below which a nighttime authorization would not be issued. For this purpose, a one-watt minimum was suggested. No objection was made to this proposal, and it will be adopted. It is impracticable to take into account power fractions of less than one watt, and little benefit could be expected from operations at powers less than one watt. Several parties did make another suggestion, that the Commission authorize use of a minimum power of either 10 or 50 watts, regardless of its interference impact. We recognize the inherent limitations placed on stations that are granted low nighttime powers. Their desire for more power is understandable, but we do not believe that it provides a valid basis for departing from the non-interference premise of the authorization. We find no justification for authorizing powers that will deprive existing stations of the interference protection to which they are entitled under established Rules.²¹

22. *Rounding.* The *Notice* proposed to round fractional powers below 0.25 kW to the next lower integer, i.e., to the next lower watt. Entertainment Communications, Inc. objected to this approach, citing the example of a power on the order of 1.75 watt being thus reduced to 1 watt. While it is conceivable that this case could arise, it is not likely to occur frequently. Moreover, even in such cases, the low power involved would mean limited coverage whether the figure was one watt or 1.75 watts. Experience with the nighttime authorizations on the foreign clear channels has indicated that it is impractical to use powers listed in fractions of a watt because of its effect on the existing data base. Rounding upward is not possible because it would be inconsistent with applicable interference protection requirements, both foreign and domestic. Under such circumstances, we are constrained to adopt the proposal to round the powers to the next lower watt, a step unlikely to have any significant effect on most stations.

23. *Subsequent Increases in Nighttime Power.* No objection was received on our proposal to permit daytime-only stations to seek increases in power without delay. In the case of the foreign clear channels, we had made special provisions for a five-year transition period. That approach was premised on the special circumstances applicable to those frequencies, and neither we nor the commenting

parties sought to apply that approach here. Thus, once the new rules go into effect, it will be possible for the benefiting stations to seek an increase in nighttime power. These proposals will be subject to applicable interference protection requirements, as described below.

24. *Reclassification of Daytime Stations.* The comments supported our proposal for reclassification of daytime-only stations, with the new classification dependent on whether the nighttime powers authorized for them are high enough to enable their field strength at one kilometer to attain a level of at least 141 mV/m. Thus, daytime-only stations operating on regional channels²² will be designated as Class III (unlimited-time) if they attain the above-stated field strength level, or as Class III-S if they do not. Similarly, daytime-only stations on clear channels 940 kHz and 1550 kHz will be reclassified as Class II-B or Class II-S stations, respectively. The differing effects of these reclassifications as Class II-B, II-S, III, or III-S stations are noted in the following paragraphs.

25. *Entitlement to Protection.* The newly authorized nighttime operations of the former daytime-only stations reclassified as unlimited-time Class II-B or III stations will be entitled to the full interference protection provided in the rules to other stations of these classes. Thus, any application filed on or after the effective date of the new rules will have to provide this protection. This applies to increases proposed by other former daytime-only stations or to any other application for a new station or for modification in the facilities of an existing station. In our view, stations able to obtain full-fledged Class II-B or Class III facilities are entitled to be protected accordingly. However, a different situation exists for stations that are granted more limited nighttime facilities. For these stations, we will follow the approach applied to the foreign clear channels. Thus, stations not achieving the minimum facilities will be designated as Class II-S or III-S (the "S" denoting secondary, for purposes of nighttime operation). They will not receive interference protection unless and until they increase their facilities sufficiently to change their classification. This approach recognizes the inefficiency involved in trying to protect stations with sub-minimum facilities and provides an inducement for them to increase their radiation through directionalization or otherwise. The decision on whether to proceed in that regard remains with the station.²³

26. *Principal City Signal.* The *Notice* proposed to exempt the newly authorized nighttime operations of Class II-S and III-S stations from the requirement that they provide the prescribed minimum signal to the principal community. Because of the low power levels likely to be authorized, many of these stations would be unable to comply with this requirement. Our proposal was supported in the comments and will be adopted as a necessary ingredient in the authorization of nighttime operation for these stations. We also proposed, for reasons of administrative convenience, to exempt the newly designated unlimited-time Class II-B and III stations from this requirement, and none of the comments opposed the proposal. Accordingly, daytime-only stations newly reclassified as unlimited-time Class II-B, II-S, III or III-S stations will be exempt from the principal city signal requirement. However, this exemption will not be extended to former daytime-only stations that seek authorization to modify their facilities to use nighttime powers greater than their initial authorization. We see no reason to provide such stations with an automatic exemption from the minimum

principal city coverage requirement. The use of higher power has a preclusive effect on other possible uses of the station's assigned frequency elsewhere. Such preclusions are not justified, absent the minimum signal to the principal city. Increased power should make possible compliance with this requirement.

27. *Minimum Nighttime Operating Schedule.* Under section 73.1740(a)(1) of the rules, full-time AM stations are required to operate two-thirds of the hours between 6:00 p.m. and midnight each day of the week except Sunday.²⁴ The *Notice* proposed to exempt from this requirement stations not receiving interference protection. In view of the limitations on the power that they will be permitted to use during nighttime hours, the rule amendments we are now adopting will exempt Class II-S and Class III-S stations from the minimum operating schedule requirement during nighttime hours. We also proposed, for the sake of consistent treatment of stations in similar circumstances, to extend this exemption also to the former daytime-only stations on the 14 foreign clear channels that were reclassified Class II-S. Commenting parties did not object to the proposal with respect to either group of channels. We find it appropriate to apply the exemption to all former daytime-only stations that are in the "S" subclassifications. The appended rule amendments so provide.

28. *Minimum Power for Class III Stations.* The rules now specify a minimum power of 500 watts for Class III use during nighttime hours. This requirement was adopted at a much earlier stage of AM development when these frequencies played an important part in extending service to the many areas lacking it. Today, in most areas of the country, there are numerous AM and FM stations providing a wide range of choice to the listener. The exceptions tend to be in sparsely settled areas where economics, not engineering, is usually the determinative factor. In such a situation, there is little purpose in retaining the current 500-watt minimum. It can only serve to block otherwise beneficial proposals to use the remaining capacity on these channels. Where higher power is possible, applicants will propose it if that is consistent with the needs of their markets. Where it is not, the current rule only serves to prevent the establishment of a station in the area where it may be most needed. In fact, many current daytime-only stations could have obtained nighttime authority a long time ago had it not been for the 500-watt minimum. Under these circumstances and in the absence of objection from interested parties, we will delete the current minimum and substitute 250 watts, a more realistic level for current circumstances.²⁵

29. *Discontinuance of the Licensing of New Daytime-Only Stations.* Our proposal to discontinue the licensing of daytime-only AM radio broadcast stations met with widespread approval. Only two commenting parties (Evans Associates and Robert A. Jones, consulting engineers) opposed this step, asserting that demand for such facilities still exists. Our proposal was not based either on possible demand for new daytime-only stations or the fact that lack of nighttime operating authority prevents these stations from competing effectively in the marketplace. Rather, our concern was a technical one based on the preclusive effect that continued authorizations may have.

30. As we observed in the *Notice*, each additional daytime-only station assignment has a substantial preclusive effect on the potential assignment of unlimited-time stations on seven channels: the channel occupied by the daytime-only station, and the three adjacent channels

higher and lower in frequency. We stated that a 5 kW daytime transmitter could preclude the assignments of unlimited-time co-channel stations in an area with a diameter of 460 miles, or, in the case of first, second, and third adjacent channels, 156, 86 and 22 miles, respectively.²⁶ This observation was not that the effect would be exactly on this order; it is well recognized that preclusive effects are subject to considerable variation depending on power, ground conductivity and frequency. Rather, the point was and is that the effect would be substantial, a point not disputed by any commenting party.

31. Moreover, as we observed in the *Notice*, it is not only additional unlimited-time stations that would be precluded. New daytime-only stations also would block opportunities for existing stations to improve their nighttime services to the public. None of the costs of the resultant preclusions are borne by the licensees of the new daytime-only stations. Thus, the marketplace is not likely to correct this problem as there is no market incentive for the new daytime-only stations to select facilities that optimize the use of the channel. Finally, the continued authorization of daytime-only stations would only perpetuate, and worsen, the very problem this proceeding is designed to resolve. This is the case because providing nighttime operation for additional daytime-only stations would cause widespread additional nighttime interference to the very stations the current action is designed to benefit. Avoiding this would necessitate continuing the newly authorized stations indefinitely on a daytime-only basis. This would permanently subject the new daytime-only stations to operating restrictions that urgently call for remedial action. Yet such relief would be precluded for the new daytime-only stations. Under these circumstances, we have decided to terminate the authorization of new daytime-only stations on the Regional channels and, for similar reasons, on 940 kHz and 1550 kHz, as well.²⁷ Applications that are on file will continue to be processed, and any such applications will be authorized nighttime operation on the same basis as existing stations.

32. *Other Proposals.* Some parties submitted additional proposals, but we find them to be beyond the scope of this proceeding. Thus, for example, several parties, including Capital Cities/ABC and Great Southern Broadcasting advocated that the problem of restrictions on the operating schedules of daytime-only stations be met by permitting them to use FM facilities. That possibility is open to them if they are able to meet established requirements for the assignment of additional FM stations.²⁸ Radio New Jersey resubmitted a previously rejected proposal to allocate additional spectrum to FM broadcasting.²⁹ The Association for Broadcast Engineering Standards referred to a proposal it had previously submitted (jointly with the National Association of Broadcasters) to raise the maximum power of Class III stations on the regional channels in the continental U.S. to 50 kW. Further consideration of this possibility should await the outcome of the Inquiry pending in Docket 87-267 into the desirability of revising the AM technical rules, because questions related to power increases on regional channels mutually affect, and are not severable from, questions involved in examining possible revisions of the technical rules. Evans Associates, Inc. advocated providing a higher degree of protection to existing stations than the current rules (principally sections 73.37 and 73.282) provide. This, too, is beyond the scope of this proceeding, and should await the outcome of the Inquiry in Docket No. 87-267. The possible desirability of

a fundamental change in the Commission's approach to interference cannot be resolved here but requires a separate proceeding.

33. *Procedures and Effective Date.* As proposed in the Notice, the Commission will issue Show Cause Orders directed to daytime-only stations that qualify under the revised rules for nighttime operation. Those Orders will specify the powers to be used for nighttime operation, and it will be based on the facilities licensed for use at local sunrise. These Orders will direct the affected licensees to show cause why their licenses should not be modified to specify nighttime operation. We plan to issue the Show Cause Orders shortly after adoption of this document so that affected stations can take the necessary steps to prepare for nighttime operation.

34. We find that the general requirement in section 553(d) of the Administrative Procedure Act, 5 U.S.C. 553(d) that the publication of a substantive rule shall be made not less than 30 days before its effective date is subject to the exceptions set out in subsections (1) and (3) thereof. Subsection 553(d)(1) excepts a substantive rule that relieves a restriction. Subsection 554 (d)(3) excepts one that the agency for good cause finds should be permitted to enter into effect before the expiration of such 30-day period of public notice. We find that the amendments relieve a restriction within the meaning of section 553(d), and that there is need for the earliest possible relief from the burdens that restrictions on the hours of operation of daytime-only stations on the domestic clear channels place on both the listening public and the licensees of the daytime-only stations. We shall, accordingly make the appended rule amendments effective on December 1, 1987, by which date they will have been published in the Federal Register.

35. Additional steps will be necessary, however, before these nighttime operations can begin. International agreements with neighboring countries require that, before a signatory commences or modifies the operation of an AM radio broadcasting station, it notify other signatories and allow a designated period of time for their review and possible objection to the proposed new or changed operation. As soon as the pertinent international agreements permit, these nighttime operations can begin.³⁰ The dates for commencement of such operations will be stated on the Show Cause Orders that will be issued to qualifying daytime-only stations.

ADMINISTRATIVE MATTERS

36. The proposal contained herein has been analyzed with respect to the Paperwork Reduction Act of 1980 and found to contain no new or modified form, information collection and/or record keeping, labeling, disclosure, or record retention requirements and will not increase burden hours imposed on the public. The Regulatory Flexibility Act Final Analysis is set out in Appendix 2.

ORDER

37. For the foregoing reasons, and pursuant to authority found in sections 303 and 307 of the Communications Act of 1934, as amended, 47 U.S.C. 303 and 307, and section 553(d)(1) and (3) of the Administrative Procedure Act, 5 U.S.C. 553(d)(1) and (3), IT IS ORDERED, That, effective

on the day of their publication in the Federal Register, the rule amendments set out in Appendix 3 below, ARE ADOPTED.

38. For further information about this proceeding, please contact Louis C. Stephens (202) 254-3394 or Vicki Assevero (202) 632-7792 of the International Negotiation Staff of the Mass Media Bureau, at (202) 254-3394.

FEDERAL COMMUNICATIONS COMMISSION

William J. Tricarico
Secretary

APPENDIX 1

Parties who filed comments in MM Docket No. 87-131:

Andrews Broadcasting Company
Association for Broadcast Engineering Standards, Inc. (ABES)
Bonneville International Corporation
Capital Cities/ABC, Inc. (also filed reply comments)
Cessna Communications, Inc.
Clear Channel Broadcasting Service (also filed reply comments)
Comco, Inc.
Cox Enterprises, Inc.
CR Broadcasting, Inc.
CGS Communications of Lynchburg, Inc.
Entertainment Communications, Inc.
H & D Media, Inc.
Evans Associates, consulting engineers
Fisher Broadcasting, Inc.
Greater Media, Inc.
Great Southern Broadcasting Company, Inc. (reply comments only)
Group W (reply comments only)
GSM Media Corporation
The Hearst Corporation
Jefferson-Pilot Communications Company
Jules Cohen and Associates, P.C. (reply comments only)
Robert A. Jones, P.E.
Kent Broadcasting Corporation
The Lew Latto Group of Northland Radio Stations
London Bridge Broadcasting, Inc.
National Association of Broadcasters (NAB)
Nicholas Broadcasting Company
Nolte Communications, Inc.
Otter Tail Promotions
Palmer Communications Incorporated
Radio New Jersey
Reston Community Broadcasting, Inc.
Safe Broadcasting Corporation
Saga Communications Corporation
Southern Wisconsin Company, Inc.

Taft Television and Radio Company, Inc. (also filed reply comments)
 Ten Eighty Corporation
 3-D Communications Corporation
 Wath, Incorporated
 WGN Continental Broadcasting Company (also filed reply comments)
 WKDJ, Inc.

Note: Numerous additional submissions were made informally, in letters addressed to the Commission, and were considered in arriving at a decision.

APPENDIX 2

REGULATORY FLEXIBILITY ACT INITIAL ANALYSIS

I. Reason for Action:

The need for relief from the limitations imposed on daytime-only stations by the Commission's Rules, which preclude their operation during nighttime hours except, in some cases, between local sunrise and 6 a.m. and during the first two hours after sunset.

II. Objective:

To enable daytime-only stations on the regional AM channels to provide needed broadcast service and to compete more effectively with unlimited-time AM and FM radio broadcast stations.

III. Legal Basis:

Section 307(b) of the Communications Act of 1934, as amended, 47 U.S.C. 307(b)

IV. Description, Potential Impact and Number of Small Entities Affected:

The rule amendments are intended to permit as many as possible of the 1,200 daytime-only AM radio broadcast stations operating on regional channels, and on the two clear channels on which no U.S./ Class I station is assigned, to operate during nighttime hours. The level of power at which each would be permitted to operate during nighttime hours will depend upon the size of the power reduction found to be necessary for each station below levels authorized for daytime operation in order to provide interference protection to other stations, taking into account the fact that during nighttime hours, the interference potential of AM stations ranges considerably farther out from their transmitters than during the daytime.

V. Reporting, Record Keeping, and other Compliance Requirements: Stations desiring to operate nighttime at powers the FCC will specify as permissible during that period will so notify the Commission.

VI. Fed. Rules that Overlap, Duplicate or Conflict with These Rules: None.

VII. Any Significant Alternatives Minimizing Impact on Small Entities and Consistent with Stated Objectives: None. The impact is a favorable one.

APPENDIX 3

Part 73 of Title 47 of the Code of Federal Regulations is amended as follows.

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

AUTHORITY: 47 U.S.C. 154 and 303.

2. Section 73.21 is amended by adding a new sentence at the end of paragraphs (a)(2)(ii) and (a)(2)(iv); revising paragraph (a)(2)(v), the first sentence of paragraph (b), and paragraph (b)(1); adding new paragraph (b)(3); and revising the Table in Note 4, to read as follows:

Section 73.21 Classes of AM broadcast channels and stations.

(a) * * *

(2) * * *

(ii) * * * A former Class II-D station operating on 940 or 1550 kHz that is authorized to operate during nighttime hours will be reclassified as Class II-B notwithstanding the fact that its authorized nighttime power is less than 0.25 kW, if its RMS field strength at 1 kilometer is 141 mV/m or higher.

* * * * *

(iv) *Class II - D Stations.* * * * No application will be accepted for new Class II-D (daytime-only) stations on 940 kHz or 1550 kHz.

(v) *Class II - S Stations.* Class II-S stations are former Class II-D stations that have been authorized to operate nighttime on the 14 channels listed in section 73.25(c) or on 940 kHz or 1550 kHz, at powers that are less than 0.25 kW and insufficient to enable their RMS field strength at 1 kilometer to attain the level of 141 mV/m or higher. (Stations on 940 kHz or 1550 kHz whose nighttime power is 0.25 kW or higher, or whose RMS at 1 kilometer is 141 mV/m or higher, shall be classified as Class II-B stations.) Class II-S stations operate without protection from interference nighttime, but receive protection from interference during the daytime. No Class II-S station shall be authorized with nighttime power less than 0.001 kW (one watt).

* * * * *

(b) *Regional Channel.* A regional channel is one on which several stations may operate with powers set out in subparagraphs (1), (2), and (3) of this paragraph.

(1) *Class III stations.* A station designated as Class III operates on a regional channel, and is designed to render service primarily to a principal center of population and in the rural area contiguous thereto. Except as provided in paragraph (b)(2) and (b)(3), a Class III station operates with a power not more than 5 kW, and not less than 0.25 kW unless its RMS field strength at 1 kilometer attains the level of 141 mV/m or higher.

(2) *****

(3) *Class III-S Station.* A Class III-S station is a former daytime-only station that operates on a regional channel with a nighttime power that is less than 0.25 kW and insufficient to enable its RMS field strength at 1 kilometer to attain the level of 141 mV/m or higher. Class III-S stations operate without protection from interference nighttime, but receive protection from interference during the daytime. No Class III-S station shall be authorized with a nighttime power less than 0.001 kW (one watt).

Note 4: ***

INTERNATIONAL AND DOMESTIC CLASSIFICATIONS OF STATIONS AND CHANNELS

International classes of AM stations	Corresponding U.S. classes of AM stations	Classes of Channels available in U.S. for each class of station
Class A	I-A	Clear channels
	I-B	Do.
	I-N	Do.
Class B	II	Do.
	II-A	Do.
	II-B	Do.
	II-C	Do.
	II-D	Do.
	II-S	Do.
Class C	III	Regional channels
	III-S	Do.
Class C	IV	Local channels

3. Section 73.24 is amended by revising the second sentence of paragraph (j) of this section to read as follows:

Section 73.24 Broadcast facilities; showing required.

(j) *** The following categories of stations need not demonstrate the ability to provide such coverage during nighttime operation: (1) daytime-only AM stations; and (2) former daytime-only stations that were reclassified as Class II-B or II-S on 940 or 1550 kHz or as Class II-C or II-S on the 14 frequencies listed in section 74.25(c) or as unlimited-time Class III or III-S stations on regional channels, and have not since been authorized to increase nighttime power.

4. Section 73.25 is amended by removing the second sentence from paragraph (c).

5. Section 73.26 is amended by adding new words to the narrative portion of the text in paragraph (a), before the colon, and by adding a new paragraph (c), as follows:

Section 73.26. Regional channels; Class III stations.

(a) The following frequencies are designated as regional channels and are assigned for use by Class III and Class III-S stations: ***

(c) No application for new daytime-only stations will be accepted on the channels listed in paragraph (a) of this section.

6. Section 73.29 is revised to read as follows:

Section 73.29 Class IV stations on regional channels.

No license will be granted for the operation of a Class IV station on a regional channel.

7. Section 73.31 is amended by revising the table in paragraph (a) to read as follows:

73.31 Rounding of nominal power specified on applications.

(a) ***

Nominal power (kW)	Rounded down to nearest figure (kW)
Below 0.25	0.001
0.25 to 0.99	0.01
1 to 9.9	0.1
10 to 50	1

8. Section 73.99 is amended by adding a new paragraph (1), as follows:

Section 73.99 Presunrise service authorization (PSRA) and Postsunset service authorization (PSSA).

(1) The authorization of unlimited-time operation by daytime-only stations that are reclassified as Class II-S or Class III-S stations will not affect their right to operate during prescribed presunrise and postsunset hours in accordance with PSRA's and PSSA's issued pursuant to this section.

9. Section 73.182 is amended by changing the second sentence of paragraph (a)(3) up to the semicolon, and the table in paragraph 73.182(s), as follows:

Section 73.182 Engineering standards of allocation.

(a) ***

(3) * * * They operate with powers not less than 0.25 kW and not more 5 kW, and are normally protected to the 1500 uV/m groundwave contour nighttime and the 500 uV/m groundwave contour daytime; * * *

On the second last line of the table in paragraph 73.182(s), which starts with the entry "III" in the first column, change the entry in the third column that now reads "0.5 kW to 5 kW" to read "0.25 kW to 5 kW".

Immediately preceding the last line of the table in paragraph 73.182(s), add a new horizontal line consisting of the following seven entries under the seven columns of the table:

Under 1st col, headed "Class of Station" enter: III-S
 "2nd " " "Class of Channel . . ." enter: do
 "3rd " " "Permissible power" enter: 0.25 kW to 5 kW
 daytime less than 0.25 kw nighttime
 " 4th " " "Signal strength . . . Day" enter: 500 uV/m
 " 5th " " "Signal strength . . . Night" enter: Not
 prescribed
 " 6th " " "Permissible interfering . . . Day" enter: do
 " 7th " " "Permissible interfering . . . Night" enter: not
 prescribed

10. Section 73.1740(a)(1)(i) is revised to read as follows:

Section 73.1740 Minimum Operating Schedule.

(a) * * *

(1) * * *

(i) Daytime-only AM stations and former daytime-only AM stations that have been reclassified as Class II-S or III-S need comply only with the minimum requirements for operation between 6 a.m. and 6 p.m., local time.

11. Section 73.3571 is amended by adding a new paragraph (d)(5), to read as follows:

Section 73.3571 Processing of AM broadcast station applications.

* * * * *

(d)(5) The following special procedures will be followed in authorizing Class II-D daytime-only stations on 940 and 1550 kHz, and Class III daytime-only stations on the 41 regional channels listed in section 73.26(a), to operate unlimited-time:

(i) Each eligible daytime-only station in the foregoing categories will receive an Order to Show Cause why its license should not be modified to specify operation during nighttime hours with the facilities it is licensed to start using at local sunrise, using the power stated in the Order to Show Cause, that the Commission finds is the highest nighttime level—not exceeding 0.5 kW—at which the station could operate without causing prohibited interference to other domestic or foreign stations, or to

co-channel or adjacent channel stations for which pending applications were filed before December 1, 1987.

(ii) Stations accepting such modification shall be reclassified. Those authorized in such Show Cause Orders to operate during nighttime hours with a power of 0.25 kW or more, or with a power that, although less than 0.25 kW, is sufficient to enable them to attain RMS field strengths of 141 mV/m or more at 1 kilometer, shall be redesignated as Class II-B stations if they are assigned to 940 or 1550 kHz, and as unlimited-time Class III stations if they are assigned to regional channels.

(iii) Stations accepting such modification that are authorized to operate during nighttime hours at powers less than 0.25 kW, and that cannot with such powers attain RMS field strengths of 141 mV/m or more at 1 kilometer, shall be redesignated as Class II-S stations if they are assigned to 940 or 1550 kHz, and as Class III-S stations if they are assigned to regional channels.

(iv) Applications for new stations may be filed at any time on 940 and 1550 kHz and on the the regional channels. Also, stations assigned to 940 or 1550 kHz, or to the regional channels, may at any time, regardless of their classifications, apply for power increases up to the maximum generally permitted. Such applications for new or changed facilities will be granted without taking into account interference caused to Class II-S or Class III-S stations, but will be required to show interference protection to other classes of stations, including stations that were previously classified as Class II-S or Class III-S; but were later reclassified as Class II-B or Class III unlimited-time stations as a result of subsequent facilities modifications that permitted power increases qualifying them to discontinue their "S" subclassification.

FOOTNOTES

¹ The *Notice* was adopted April 29, 1987 and released May 26, 1987; 2 FCC Rcd 3145 (1987).

² In response to a request from Clear Channel Broadcasting Service, the Commission released an Order (DA 87-917) on July 15, 1987, extending the dates for the filing of comments and replies in this proceeding to July 31, 1987, and August 10, 1987, respectively.

³ See, in MM Docket No. 84-281, *Report and Order*, Nighttime Operations on Foreign Clear Channels, 50 Fed. Reg. 24515 (June 11, 1985).

⁴ *First Report and Order* in BC Docket No. 82-538, Hours of Operation of Daytime-Only Stations, 48 Fed. Reg. 42944, (September 20, 1983); 95 F.C.C. 2d 1032.

⁵ Some signals are reflected back to earth during the daytime hours immediately following sunrise and preceding sunset. In some circumstances, stations are required to restrict their radiation during these "critical hours" periods in order to avoid interference to Clear Channel stations.

⁶ The term "drive-time" refers to the peak listening period during the morning and evening when a large number of automobile radios are in use.

⁷ See footnote 4.

⁸ Although most of the focus of the proceeding was on post-sunset operations, similar calculations were performed on the Canadian Clear Channels which showed that pre-sunrise relief was possible, and more than 200 stations on these channels were authorized pre-sunrise operation for the first time.

⁹ Docket No. 84-281, inaugurated by *Notice of Proposed Rule Making* adopted March 15, 1984, 49 Fed. Reg. 18567 (May 1, 1984).

¹⁰ The five-year transitional period was designed to provide an opportunity for the former daytime-only stations to increase power without the need to consider possible interference to other former daytime-only stations, a step designed to promote the efficient use of the significant new spectrum that had become available. The situation is different with the channels now at issue, which have long been extensively used at night. As a result, there is relatively little open space and thus a lesser need to make special provisions to encourage its most efficient use.

¹¹ Because of special problems relating to the Bahamian clear channel, it has not yet been possible to implement fully nighttime use of 1540 kHz. See *Memorandum Opinion and Order* in MM Docket No. 84-281 (Nighttime Operation on Foreign Clear Channels) adopted October 9, 1987, FCC 87-320, 2 FCC Rcd.

¹² Calculations regarding the permissible power would be based on the station's daytime antenna system unless the station has a separate antenna for use during "critical hours", in which case, that system would be used for the calculations.

¹³ The following 41 frequencies (stated in kHz) are designated in the Commission's rules as Regional Channels:

550	590	630	930	980	1270	1310	1360	1410	1460	1600
560	600	790	950	1150	1280	1320	1370	1420	1470	
570	610	910	960	1250	1290	1330	1380	1430	1480	
580	620	920	970	1260	1300	1350	1390	1440	1590	

¹⁴ MM Docket 87-267, 2 FCC Rcd 5014, 52 Fed. Reg. 31795, (August 24, 1982.) This proceeding is designed to explore the full range of issues relating to AM technical assignment standards and was an outgrowth of the earlier *Mass Media Report on the Status of the AM Broadcast Rules*, RM-5532.

¹⁵ *AM Inquiry*, 2 FCC Rcd at 5023-24.

¹⁶ The new rules do not require consideration of the effects the new nighttime operations by the former daytime-only stations will have on one another. Nor will protection be required for stations that do not reach a minimum power of 250 watts, unless their RMS field strength at 1 km is at least 141 mV/m.

¹⁷ The filing from Taft Television and Radio Company suggested that the impact on its station, WDNE, could be considerable if the proposed rules were put into effect. It asserts that the station's current nighttime limit of 4.51 mV/m would be raised to 7.98 mV/m if the nighttime operations of 37 additional stations were taken into account. In some directions the asserted loss of service would be less than one mile and in other directions the distance to the interference-limited contour would be reduced by four miles. While it is true that the proposal could have such an impact on Taft, it is likely to be one of a handful of worst case situations. However, it should be noted that much of the impact on Taft could arise from the granting of applications for new nighttime operation that would be considered non-interfering" under current calculation methods. The impact would be more immediately noticeable where 37 new nighttime operations affecting Taft are simultaneously authorized. However, Taft must be balanced against the institution of those 37 new nighttime services. 47 U.S.C. 336(a). In either case, the Commission's 50 percent rule excludes consideration of these minor contributors.

¹⁸ Inasmuch as we find that adoption of our proposal authorizing nighttime operation on regional channels is in the public interest despite the shortcomings of the present methodology, we can find no reason for delaying action because this scheme might be improved in the future.

¹⁹ Greater Media has suggested that we perform "clipping studies" and thereby go beyond the normal site-to-site interference calculations by using radials to other points on the service contour of the station to be protected. Performing such "clipping studies" would significantly increase the complexity of nighttime interference studies in this instance where nearly 1200 stations would have to be assessed. Commission experience through the years has clearly demonstrated that "clipping" is a notable factor in only a small percentage of instances. In light of this experience and the characteristics of the nighttime operations of the daytime-only stations, the Commission has concluded that "clipping studies" are not justified as part of the calculation of nighttime power for the daytime-only stations. However, the procedures being adopted by the Commission in this proceeding leave open the opportunity for the Commission to adjust the nighttime power of any daytime-only station in the event that serious "clipping" is brought to the Commission's attention by an engineering showing provided by an affected station.

²⁰ See Section 73.182 of the Commission's Rules, 47 CFR 73.182.

²¹ The Commission, in the *Report and Order* adopted October 30, 1987, in MM Docket No. 87-3, 2 FCC Rcd, provided for pre-sunrise operation by certain daytime-only stations at a minimum power of 10 watts during part of the month of April, each year. However, this grew out of special circumstances. Congress had moved forward the beginning of daylight saving time, thereby having the effect of depriving these stations of a period of their early morning licensed operation. Not only was relief mandated by the Congress; the effect on other stations was limited. It occurs during a short part of the day and only during a brief period each year. Here, similar relief would have far greater effect and undermine the non-interference premise of our action. On that basis it must be rejected.

²² The regional channels are listed in Footnote 13.

²³ Capital Cities/ABC suggests that the Commission include daytime-only stations in sub-category "S" in RSS calculations involving new unlimited-timestations. Given the low power permitted for nighttime operation by Class III-S stations, and the fact that not all of them may operate during nighttime hours, it is inappropriate to treat them as if they all engaged in such operations.

²⁴ In the *Report on the Status of the AM Rules*, the staff proposed that the minimum-hours requirement be discontinued.

²⁵ As noted in paragraph 25 of the *Notice*, lowering the minimum power of Class III stations to 250 watts will make it possible to reclassify the few Class IV stations on the Regional Channels as Class III. The Commission will take this step, thereby providing these stations with nighttime protection.

²⁶ Robert A. Jones, P.E. questioned the figures included in the *Notice* illustrating the size of areas in which a new daytime-only station could preclude opportunities for new co-channel and adjacent channel stations. However, as noted above, these were simply examples of the preclusive effect.

²⁷ Pending a resolution in regard to nighttime operation for daytime-only stations on the remaining domestic clear channels, the current "freeze" on the acceptance of daytime-only proposals on these channels will remain in effect.

²⁸ See *Second Report and Order* adopted March 14, 1985 in MM Docket no. 84-231, (Nighttime Operation by Daytime-only Stations on Foreign Clear Channels) 101 F.C.C. 2d 638, *recon.*

granted in part, Memorandum Opinion and Order adopted February 10, 1986, 59 RR 2d 1221 (1086), *aff'd sub nom. NBMC v. FCC*, No. 86-4073, Slip Op. (2d Cir. June 24, 1987), providing for special consideration for applications for newly available FM channels filed by licensees of daytime-only AM stations.

²⁹ Petition by Radio New Jersey for Rule Making dated November 18, 1986. It was dismissed by letter dated March 17, 1987 from Thomas P. Stanley, Chief Engineer, for various reasons, including national security considerations.

³⁰ Because international considerations may require adjustment in the nighttime powers of these stations, the Show Cause Orders will contain an appropriate condition permitting such adjustment, as well as adjustments necessitated for other reasons, such as the circumstances noted in footnote 19.