

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of)	
)	
Amendment of Part 74 of the Commission's)	MB Docket No. 18-119
Rules Regarding FM Translator Interference)	

To: The Commission

Comments of Fred W. Volken

Introduction

These Comments have been prepared by Fred W. Volken to be submitted in the Federal Communications Commission's rulemaking proceeding in MB Docket No. 18-119. The Notice of Proposed Rulemaking includes initiation of a review of Section 74.1204(f) of the Commission's Rules.

The Comments are the writer's own, and are based on principles of good engineering practice, with the goal of making the provisions of Section 74.1204(f) more equitable for FM translator applicants.

Since 1990, when the present version of Section 74.1204(f) of the Rules became effective, the writer has prepared numerous engineering reports that successfully supported legal pleadings involving predicted interference from FM translators to FM stations. In some of the cases the reports demonstrated that a new or modified FM translator would result in predicted interference to an FM station; in other cases the reports showed that an FM station's claim of predicted interference from a new or modified FM translator was not valid.

Recommended Changes in Section 74.1204(f) of Commission's Rules

The writer believes that Section 74.1204(f) of the Rules should be amended to make it more equitable for FM translator applicants, by limiting the provisions of the rule to co-channel predicted interference; and that the opportunity provided by Section 74.1204(f) for the Commission to dismiss an FM translator application on the basis of predicted first-adjacent-channel interference (and also predicted second- and third-adjacent-channel interference) constitutes an unnecessary and unjustifiable restraint upon the translator applicant.

Under Section 74.1204(f), an application for new or modified FM translator facilities is subject to dismissal if it can be properly demonstrated there would be predicted co-channel, or first-, second-, or third-adjacent-channel, interference to identified listeners to an FM station, FM translator, or LPFM station at locations beyond the station's protected contour.

This rule section serves a very useful purpose by protecting FM stations from co-channel predicted interference from a proposed FM translator that, if it led to actual interference, could obliterate parts of the FM station's coverage. Some listeners may then simply stop listening to the FM station without ever understanding or exploring the cause of the interference so they can complain about it. Predicted co-channel interference provides a realistic alert that there may be actual interference when the translator facilities are placed into operation.

In an FM receiver, distinctly separate portions of the receiver circuitry primarily determine susceptibility to co-channel interference and to adjacent-channel interference. For co-channel interference rejection, the performance of the receiver depends on the FM detector circuitry; for adjacent-channel interference rejection the bandwidth of the intermediate frequency amplifier becomes important. The resulting differences between receiver susceptibility to co-channel and first-adjacent-channel interference need to be recognized.

It has been the writer's experience that where the proposed FM translator would already provide proper contour protection to an FM station, modern FM receiver design makes it quite unlikely there will be actual first-adjacent-channel interference to listeners of the FM station outside the FM station's protected contour. The writer believes it is not appropriate to simply dismiss the translator application on the basis of such hypothetical first-adjacent-channel interference, and that the FM translator applicant should be given the opportunity to construct the translator facilities and then address whatever challenges might appear in the way of actual interference.

Practical Remedies Available for Actual Interference

A brief review of some practical remedies available for mitigating or eliminating actual interference from an FM translator to an FM station is worthwhile.

For actual co-channel interference, there are ways that might succeed in some cases.

At a fixed FM receiver, some of these ways would be to re-orient the FM receiver, change the location of the receiver, and install a directional receiving antenna. Additionally, for either a fixed or automobile receiver, acceptable reception might be obtained with a different receiver design, having FM detector circuitry that provides good audio signal quality at a lower carrier-to-interference ratio. However, for co-channel interference, if the carrier-to-interference ratio at the receiver input is too low, it simply will not be possible to receive the FM station.

For actual first-adjacent-channel interference, there are practical ways of correcting such interference. For a fixed FM receiver these include re-orienting the receiver, changing the location of the receiver, and installing a directional receiving antenna. Also, for both fixed and automobile receivers, good results may be expected from replacing the receiver with one having a more selective intermediate frequency amplifier section.

Protection of FM Station Service Beyond Normally Protected Contour

The FM translator service, notwithstanding its secondary classification, has risen significantly in importance with fill-in service for AM stations. The writer believes that limiting protection of FM station service from predicted interference from new or modified FM translator facilities under Section 74.1204(f) to the FM station's predicted 54 dBu F(50,50) contour, as proposed in the Notice of Proposed Rulemaking, is generous, reasonable, and appropriate.

Conclusions

In its present form, Section 74.1204(f) of the Rules allows for even minute predicted first-adjacent-channel interference to result in the dismissal of an FM translator application, without giving the applicant an opportunity to learn whether there will be actual interference to the FM station, and if so, if it can be corrected.

The writer recommends that Section 74.1204(f) be amended as shown in the Appendix to these Comments, to eliminate consideration of first-adjacent-channel interference in showings of predicted interference from a proposed new or modified FM translator to an FM station at locations outside the FM station's protected contour.

The recommended rule change would recognize that it is unlikely such first-adjacent-channel interference will occur in a modern FM receiver; and that if it should, there are practical ways of correcting such interference.

Additionally, the writer finds no justification for providing protection to any FM station's service area beyond the FM station's predicted 54 dBu F(50,50) contour.

The writer is a graduate physicist holding the degree Bachelor of Arts from Occidental College in Los Angeles, California. His qualifications as an engineering consultant are a matter of record with the Federal Communications Commission, and he has been providing consulting services for broadcasting stations since 1957.

Respectfully submitted,

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APPENDIX

Recommended changes in portion of Section 74.1204(f) of Commission's Rules as proposed in Appendix B to Notice of Proposed Rulemaking in MB Docket No. 18-119:

Section 74.1204 Protection of FM broadcast, FM Translator and LP100 stations.

(f) ...regularly used, off-the-air signal of any authorized **co-channel broadcast station**, including previously authorized secondary service stations, within the **predicted 54 dBu** field strength contour...