

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

B
FCC 65-575
69550

In the Matter of)
)
Amendment of Section 73.207,)
concerning minimum required) Docket No. 15934
spacings between FM Broadcast)
Stations to provide for IF)
interference protection.)

REPORT AND ORDER

By the Commission: Commissioner Cox dissenting.

1. The Commission has before it for consideration its Notice of Proposed Rule Making, FCC 65-275, issued in this proceeding on April 2, 1965 and published in the Federal Register on April 7, 1965 (30 FR 4495), inviting comments on a proposal to substitute a mileage table for the Note appended to Section 73.207 of the Rules and Regulations.

2. The Note appended to Section 73.207 is intended to prevent interference between FM broadcast stations that are separated in frequency by 10.6 or 10.8 Mc/s (53 or 54 channels) and reads as follows:

"Note: Intermediate frequency amplifiers of most FM broadcast receivers are designed to operate on 10.7 megacycles. For this reason the assignment of two stations in the same area, one on a frequency of 10.6 or 10.8 megacycles removed from that of the other, will be avoided if possible."

Thus, the present rule is inadequate in that it merely precludes such assignments in the same community or "same area" but does not spell out what the "taboo" distances should be for the various classes of stations.

3. It has been demonstrated that stations separated by the IF frequency difference cannot operate in the same community without destructive interference to reception. This is due to a spurious response in the receiver and will vary with the design of the receiver. The interference will vary with the strength of the desired and undesired signals. The worst type of interference is that resulting to the reception of a third station from two undesired stations separated by the IF difference. Since IF difference interference occurs over the entire reception band of the receiver, it does not lend itself readily to a cure by the insertion of "wave traps" or filters.

4. Based upon a recent study by the Commission's Laboratory of the

interference to typical FM receivers, a set of mileage separation "taboos" were proposed in the Notice ranging from 5 miles for two Class A stations to 30 miles for two Class C stations. These mileages represented the distances required to prevent overlap of the 20 mv/m contours rounded out to the nearest 5 miles, since the tests indicated that elimination of such overlap was necessary to avoid this type of interference. No comments or data were filed in the proceeding. In the absence of measurements indicating that closer spacings would be acceptable, we are of the view that the proposed table should be adopted. These spacings will of course apply to both commercial and non-commercial educational FM stations. We do not expect, however, that there will be the same problem with the 10 watt educational stations and are not proposing any mileage separation rules for these stations. The IF problem for such stations will be considered on a case-by-case basis. We do not propose to change any existing assignments which may not conform to the new table except on specific request of interested parties.

5. Authority for the adoption of the amendment contained herein is contained in Sections 4(i) and (j), 303, and 307(b) of the Communications Act of 1934, as amended.

6. In view of the foregoing, IT IS ORDERED, That Part 73 of the Commission's Rules and Regulations IS AMENDED, effective August 9, 1965, as follows:

a. In §73.207(a) the Note to the table is amended to read follows:

§73.207 Minimum mileage separations between co-channel and adjacent channel stations on commercial channels.

* * * * *

Note: Stations or assignments separated in frequency by 10.6 or 10.8 Mc/s (53 or 54 channels) will not be authorized unless they conform to the following separation table:

<u>Class of Stations</u>	<u>Required Spacing in Miles</u>
A to A	5
B to A	10
B to B	15
C to A	20
C to B	25
C to C	30

b. In §73.504, a new paragraph (g) is added as follows:

§73.504 Zones, classes of stations, use of channels, facilities, and minimum mileage separations between stations.

* * * * *

(g) Stations separated in frequency by 10.6 or 10.8 Mc/s (53 or 54 channels) from stations or assignments on commercial channels will not be authorized unless they conform to the following separation table:

<u>Class of Stations</u>	<u>Required Spacing in Miles</u>
A to A	5
B to A	10
B to B	15
C to A	20
C to B	25
C to C	30

7. IT IS FURTHER ORDERED, That this proceeding IS TERMINATED.

FEDERAL COMMUNICATIONS COMMISSION

Ben F. Waple
Secretary

Adopted: June 30, 1965

Released: July 2, 1965

NOTE: Rules changes herein will be covered by T.S. III(64)-9.