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

MM
FCC 84-333
34749

In the Matter of	)	
	)	
Amendment of §73.52 of the Commission's Rules and Regulations with respect to relative phase tolerances for directional AM stations.	)	BC Docket No. 78-28
Amendment of §73.68 of the Rules to expand the use of toroidal transformers as a method of deriving current samples in directional (AM) antenna systems; and	)	MM Docket No. 83-16 RM-3103
to provide for the use of radio frequency relays in sampling element transmission lines.	)	RM-3740

MEMORANDUM OPINION AND ORDER

Adopted: July 12, 1984 Released: July 19, 1984

By the Commission: Commissioner Rivera absent.

Introduction

1. The Commission has under consideration requests for reconsideration of its Report and Order in the above entitled proceedings adopted December 1, 1983 (49 Fed. Reg. 1368; published January 11, 1984). With regard to BC Docket No. 78-28, the Commission formalized a long-standing policy that required the relative phases of directional AM station antenna currents to be maintained within ±3° of the licensed values for non-critical AM antenna arrays. 1/ In MM Docket No. 83-16, the Commission amended the rules to provide for greater flexibility in the use of toroidal current transformers as a means of deriving directional AM station antenna sample currents. The Commission also adopted a change in §73.68 (a)(1) of the rules to permit AM broadcasters to use a remotely controlled switch or a radio frequency relay to feed the sample currents to the antenna monitor. Petitions for reconsideration were filed by Hatfield and Dawson Consulting Engineers, Inc. and Doug C. McDonell Engineering Consultant.

1/ Critical arrays have a license specified phase tolerance more stringent than ±3° for reasons of interference protection.

Discussion

2. Hatfield and Dawson Consulting Engineers, Inc. requested the Commission to editorilly amend the provisions of §73.68 as adopted to provide for the use of impedance matched relays or switches to allow the selection of individual sampling elements at a given tower to accommodate different modes of operation. The petitioner also stated that the revised rule does not make clear whether it allows the use of a relay to switch the input to a single sample line from more than one current transformer or sample loop at a given tower. The petitioner further states that this mode of operation is highly desirable where the difference between daytime and nighttime antennas configuration and power requires the use of sampling devices of greatly different sensitivity. We believe that the petitioner's request is analogus to and consistent with our previous action relative to the use of RF relays or switches. Therefore, the petitioner's request to amend §73.68 is being granted as set forth in the attached appendix.

3. Doug C. McDonell, Engineering Consultant, believes that the 130 electrical degree value should have been retained as a maximum height for the use of current transformers. However, since the Commission decided not to prohibit the use of toroidal current transformers in cases where the antenna tower exceeds 130° in electrical height, the petitioner requests that the limitation on operating potentials of sampling system loops should also be removed. 2/ This request is denied. In this proceeding the Commission did not seek to modify the method of decoupling sampling lines from antenna towers or the installation of sampling current loops to operate accurately, but allowed the use of toroidal transformers where the antenna towers are above 130° in electrical height. Thus, the issue raised by McDonell is essentially unrelated to those issues in this proceeding.

4. Accordingly, IT IS ORDERED, that the "Petition for Reconsideration" filed in this proceeding by Hatfield and Dawson, Consulting Engineers, Inc. IS GRANTED.

5. Additionally, IT IS ORDERED, that the "Petition for Reconsideration" filed in this proceeding by Doug C. McDonell Engineering Consultant IS DENIED.

6. Consistent with the foregoing decisions, IT IS ORDERED, that Part 73 of the Commission's Rules, 47 C.F.R. 73 IS AMENDED, as set forth in the attached Appendix, effective upon publication on the Federal Register.

7. IT IS FURTHER ORDERED that this Proceeding is TERMINATED.

2/ Sampling current loops must be installed to operate at tower potential, provided that for towers less than 130° in electrical height, loops operating at ground potential may be used. See §73.68 (a)(2).

8. Authority for this action is contained in Section 4(i), 303(g) and 303(r) of the Communications Act of 1934, as amended.

9. For further information on this proceeding, contact John A. Karousos, Mass Media Bureau, (202) 632-9660.

FEDERAL COMMUNICATIONS COMMISSION

William J. Tricarico
Secretary

Attachment

A P P E N D I X

I. 47 C.F.R. Part 73 is amended as follows:

Section 73.68 is amended by revising paragraph (a)(1) beginning with the sentence "The provisions of this subparagraph...." to read as follows:

§73.68 Sampling systems for antenna monitors.

(a) * * *

(1) * * *

The provisions of this subparagraph do not preclude the use of a centrally located impedance-matched radio frequency relay or a remotely controlled switch to provide relative sampling currents to the antenna monitor over a single transmission line. However, the reference sampling line and the relative sampling line from the switching point to the antenna monitor must be identical in type and electrical length, and must be exposed to the same environment. The sampling line from each sampling element to the relay must conform to all relevant requirements indicated in this subparagraph. Alternatively, when such a relay is used to select signal samples from any of two or more sampling devices installed either on the tower or at its base and feed the sample to the antenna monitor through a single sampling line, the length of cable from each device to the relay shall be equal. Additionally, a licensee may install the antenna monitor at a centrally located or otherwise convenient location provided that the temperature and humidity of the operating environment are maintained within the tolerances specified by the antenna monitor manufacturer. When such an antenna monitor is to be remotely controlled and read, installation shall conform to the requirements of §73.67 of this part.

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