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July 25, 1996

DOCKET FILE COPY ORIGINAL

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, NW
Washington, D.C. 20554

RECEIVED
JUL 25 1996
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

Re: Grandfathered Short-Spaced FM Stations
(MM Docket No. 96-120, RM-7651)

Dear Mr. Caton:

Submitted herewith for filing, on behalf of our client, Compass Radio of San Diego, Inc., licensee of Radio Station KXST(FM), Oceanside, California, are an original and nine (9) copies of its Supplement To Comments in the above-referenced rulemaking proceeding.

Please direct any inquiries concerning this submission to the undersigned.

Respectfully submitted,

KAYE, SCHOLER, FIERMAN, HAYS & HANDLER, LLP

By: Irving Gastfreund
Irving Gastfreund

Enclosures

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BEFORE THE

Federal Communications Commission

WASHINGTON, D.C. 20554

In the Matter of	)	
	)	
Grandfathered Short-Spaced FM	)	MM Docket No. 96-120
Stations	)	RM-765[illegible]

To: The Commission:

SUPPLEMENT TO COMMENTS OF COMPASS RADIO OF SAN DIEGO, INC.

COMPASS RADIO OF SAN DIEGO, INC. ("Compass"), by its attorneys, pursuant to Section 1.415 of the Commission's Rules, hereby submits its instant Supplement to its Comments, filed in this proceeding on July 22, 1996.

Annexed hereto as Exhibit 1 to Compass' Comments in this proceeding was the Technical Statement of Louis R. du Treil, Sr., of the consulting firm of de Treil, Lundin & Rackley, Inc. The text of the Technical Statement that was submitted with the original of Compass' Comments was in facsimile form. Annexed hereto as Exhibit 1 is the original, executed version of Mr. du Treil's Technical Statement (minus Exhibit A thereto). It is respectfully requested that the instant original, executed Technical Statement be accepted to supplement Compass' Comments.

Annexed hereto as Exhibit 2 is a facsimile Statement from Mr. Eddy Arnold, Chief Engineer for Radio Station WUMR(FM), Memphis, Tennessee. Mr. Arnold therein states that in 1989 WUMR(FM) received an experimental authorization from the Commission for operation of

the station and noncommercial educational Radio Station WKNO-FM, Memphis, Tennessee, to operate at transmitter sites located only 3.3 km apart from one another, even though the two stations operate on third adjacent channels from one another. Mr. Arnold affirms in his annexed Statement that, after testing with the experimental facilities, the results demonstrated that no objectionable interference occurred. On January 10, 1994, WUMR(FM) was granted a license by the Commission to operate with the technical facilities which had been utilized in the experimental operation. Mr. Arnold confirms in his annexed Statement that since the time that WUMR(FM) began operating with those technical facilities, there have been no reports to WUMR-FM of interference either by WUMR(FM) to WKNO-FM, or by WKNO-FM to WUMR(FM), to the best of Mr. Arnold's knowledge

Thus, Mr. Arnold's annexed Statement provides confirmation for the empirical data set forth on pages 32-33 of Compass' Comments, and it is therefore respectfully requested that Mr. Arnold's Statement be accepted as a supplement to Compass' Comments in this proceeding..

Respectfully submitted,

COMPASS RADIO OF SAN DIEGO, INC.

By:_____
Irving Gastfreund

Kaye, Scholer, Fierman, Hays & Handler, LLP
901 15th Street, NW, Suite 1100
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Its Attorneys

July 25, 1996

TECHNICAL STATEMENT
IN SUPPORT OF COMMENTS OF
COMPASS RADIO, INC.
MM DOCKET NO. 96-120

This technical statement has been prepared on behalf of Compass Radio, Inc. ("Compass"), licensee of FM broadcast station KXST (formerly KIOZ) Oceanside, California. Prior to April 1996, station KXST was licensed to Par Broadcasting Company, a California General Partnership.

Compass supports the Commission's proposal in the Notice of Proposed Rule Making ("NPRM"), in the matter of *Grandfathered Short-Spaced FM Stations,* MM Docket No. 96-120, RM-7651. The Commission outlines three proposals in the NPRM in paragraph 8 of the document. Compass supports Proposals 2 and 3, which relate to the elimination the second and third adjacent channel spacing requirements for pre-1964 grandfathered short-spaced stations and the need to obtain agreements by the short-spaced stations.

Throughout these comments, "grandfathered station" refers only to those FM stations at locations

authorized prior to November 16, 1964, that did not meet the separation distances required by the later adopted Section 73.207 of the FCC rules, and have remained short-spaced since that time.

Separation Requirements For Stations Separated By 2 Or 3 Channels.

The Commissions rules require distance separation between stations operating on channels which are second or third adjacent to one another. The separation varies by station class as tabulated in 73.207(b)(1) of the rules. These separations were established with the advent of FM broadcasting and have remained essentially unchanged since then. For the commercial channels (Channels 221 through 300) the desired to undesired signal ratio is 40 dB for both second and third adjacent channels. (The non-commercial educational band employs a 20 dB ratio for second adjacent channel stations). In terms of signal strength contours, the protected contour, (54 dBu for Class B stations, 57 dBu for Class B1 stations and 60 dBu for any other class of station) must not be overlapped by an interfering signal strength contour which is 40 dB higher. In establishing this D/U ratio, it was assumed that the interfering station was located outside of the protected contour.

Because of the way the FM band developed, with channels initially allotted based on a table, then allotted on the basis of contour protection and finally, back to the initial allottment method of a table, some stations on second and third adjacent channels have transmitter sites within the protected contour of the second or third adjacent channel station.

The predicted interfering area between second and third adjacent channel stations, based on the 40 dB ratio, is confined to an area in the immediate vicinity of the interfering station, and the area decreases in size as the separation between short-spaced stations decreases. For example, class B stations having a third adjacent channel relationship are required by 73.207 to be separated by 74 kilometers. If the undesired station, "Station U", is located 59 kilometers from the desired station, the theoretical signal level from the desired station at Station U's site is approximately 57 dBu and theoretical interference occurs where Station U's signal is 40 dB higher than the desired signal, 97 dBu* . The 97 dBu contour of the Station U is predicted to extend to a distance of 7 kilometers, therefore, the theoretical interference area encloses approximately 154 square

* The interference area is assumed to be circular, a good approximation of the actual interference area.

kilometers. If Station U further reduces the separation to 44 kilometers, the desired signal at Station U's site is approximately 64 dBu and the signal required to cause interference is 104 dBu. The distance to the 104 dBu contour is 4.8 kilometers, resulting in an interference area enclosing 72 square kilometers. If the separation is reduced further to 30 kilometers the theoretical interfering contour, 112 dBu, extends to 2.8 kilometers and the area of interference is approximately 25 square kilometers. Taken to the extreme when second or third adjacent channel stations are collocated, no interference results.

While this situation might be viewed as counterintuitive that decreasing distance separation results in decreased interference among two station, this phenomenon is a well recognized occurrence. In point of fact, the phenomenon is actually not counterintuitive, when one considers that the interference ratio at the location of the edge of the desired station's protected signal contour consists of a relatively weak signal from the desired station being received in the presence of a substantially stronger potentially interfering signal. As the transmitter site of the station producing the undesired signal (Station U) is moved closer toward the transmitter site of the desired station, the desired

station's signal near the transmitter site of the undesired station correspondingly becomes much stronger and is receivable in the vicinity of the transmitter site of the undesired station, even in the presence of the strong interfering signal from that station.

Even though the existing allocation scheme predicts interference between second and third adjacent channel stations, substantial industry experience has shown that such interference is actually non-existent. A receiver in the presence of strong signals may exhibit interference which may be characterized as "blanketing" or receiver overload, which is a different phenomenon from second or third adjacent channel interference, and may be caused by stations at any frequency in the FM band. As described below, there has been testing and observation of potential interference between stations closely spaced on second and third adjacent channels and the results demonstrate no interference.

Empirical Data Regarding Grandfathered Second And Third Adjacent Channel Stations.

MEMPHIS, TN. Two noncommercial educational FM stations, WUMR (formerly WSMS) on channel 219C2 and WKNO-FM on channel 216C1 received an experimental authorization

in 1989 to operate at transmitter site only 3.3 kilometers apart (File Numbers BPEX-881128ME - MF). Station WUMR operates with effective radiated power (ERP) of 25 kilowatts with antenna height above average terrain (HAAT) of 120 meters. WKNO-FM utilized ERP of 100 kilowatts and HAAT of 174 meters. Under 73.207 of the commercial FM rules, the required separation between these stations operating on third adjacent channel is 79 kilometers. After testing with the experimental facilities, which demonstrated that no interference occurred, the stations were granted licenses to so operate, and have continued such operation to the present time. The chief engineer of WUMR, Eddy Arnold, in a telephone conversation on July 18, 1996, advised that since the beginning of the closely spaced operation of these stations, to his knowledge, there has been no complaint of interference.

MIAMI, FL. Since May 1994, the State of Florida has operated an experimental FM broadcast station in Dade County (File Number BPEX-930513MA). The station was assigned call letters WAEM, and operates on channel 272 with ERP of 25 watts with HAAT of 100 meters. The transmitter site for WAEM is 21.4 kilometers from second upper adjacent channel station WMXJ Pompano Beach, FL, which operates on channel 274C with ERP of 100 kilowatts and HAAT of 307 meters. Tests performed by Kessler and

Gehman Associates, Inc., demonstrate that no interference results to the operation of WMXJ by the WAEM. A copy of the Kessler and Gehman report is annexed as Exhibit A.

GREENVILLE, SC. Another example of close spaced second adjacent channel stations which coexist peacefully without mutual interference are WFBC Greenville, SC and WFNQ Forest City, NC. These stations are separated by 38.3 kilometers where 105 kilometers is the required separation. Station WFBC operates on channel 229C with ERP of 100 kilowatts and HAAT of 564 meters. WFNQ operates with ERP of 93 kilowatts and antenna height of 619 meters. There are no known complaints of interference with respect to these maximum or near maximum facility Class C stations.

WASHINGTON, DC. Station WHFS Annapolis, MD operates on channel 256B, and is 25.3 kilometers short spaced with WMZQ-FM Washington, DC on channel 254B and is also 35.0 kilometers short spaced with WGAY Washington, DC on 258B. The required separation for Class B stations operating two channels apart is 74 kilometers. There have been no complaints of interference regarding any of these short-spaced stations.

TIJUANA, MX. In Tijuana, Mexico, two stations, XETRA on channel 216C and XHTIM on channel 219B are but 4.3 kilometers apart, whereas FCC rules would require separation of 105 kilometers if they were domestic stations. Station XHRBN on channel 252A and XHMORE on 255B are 5.2 kilometers apart, where FCC rules would require separation of 69 kilometers for domestic stations Station XHMORE on channel 255B is also short-spaced with XHKY on channel 257B1 at 3.8 kilometers. FCC rules would require such domestic stations to be 71 kilometers apart. Station XHKY on channel 257B1 is additionally only 30.9 kilometers from second upper adjacent channel station XHBCN on channel 259B1. U.S. stations with that frequency relationship would be required to be separated by 50 kilometers. All of these Mexican stations apparently operate in peaceful coexistence.

Finally, the FCC recognizes that interference between second and third adjacent channels is non existent. In paragraph 24 of the NPRM the Commission states, "A limited number of grandfathered stations existed between 1964 and 1987 with complete flexibility on second-adjacent-channel and third-adjacent-channel short-spacing and we did not receive complaints of second-adjacent-channel or third-adjacent-channel interference during that time."

Conclusion

Based on available evidence, no interference exists between short-spaced second and third adjacent channel stations. Accordingly those grandfathered second and third adjacent channel stations which are currently short spaced, and which have remained so since 1964, should be given the opportunity to improve their facilities without regard to second or third adjacent channel short-spacing.

Louis R. du Treil, Sr.
du Treil, Lundin & Rackley, Inc.
240 N Washington Boulevard
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Sarasota, Florida 34236

July 19, 1996

FACSIMILIE COVER SHEET

University of Memphis
Department of Communication
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USA
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SEND TO:	[redacted]
Kaye, Scholer, Fierman, Hayes & Handler, LLP	From: Eddy Arnold, WUMR-FM
Attention: Mr. Irv Gastfreund	Date: 7/23/96
Fax Number: FAX #202-682-3580, Phone #202-682-3826	Phone Number: 901-678-2872

☐ Urgent ☐ Reply ASAP ☐ Please Comment ☐ Please Review ☒ For your information

Total pages, including cover s 1

COMMENTS: [redacted]

Mr. Irv Gastfreund:

In response to your request for a declaration concerning the operations of radio station WUMR, the following is provided for your information.

I serve as the Chief Engineer for radio station WUMR- FM, Memphis, Tennessee. WUMR-FM (formerly WSMS-FM) operates on FM Channel 219. In 1989, WUMR-FM received experimental authorization from the Federal Communications Commission (FCC) (File Nos. BPEX-881128ME-MF) for operation of WUMR-FM and non-commercial educational Station WKNO-FM, Channel 218 Memphis, Tennessee, to operate at transmitter sites located 3.3 kilometers apart from one another. WUMR-FM operates with an effective radiated power of 25 kW with an antenna height above average terrain of 120 meters.

After testing with the experimental facilities described above, the results demonstrated that no objectionable interference occurred. On 1/10/94, WUMR-FM was granted a license by the FCC to operate with the facilities described above. Since the time that WUMR-FM began operating with the facilities described above, there have been no reports to WUMR of interference by either of the stations to the other, to the best of my knowledge.

Sincerely,

Eddy Arnold

Eddy Arnold