

[Exhibit 12]

Non-Interference Compliance

Regarding FCC File Number: BNPFT-20030317FGN

Channel: 227

Description of Exhibit 12 Contents

This exhibit demonstrates that the proposed facility complies with contour overlap and interference protection provisions in all the applicable rule sections and that this application for a construction permit is in full compliance with 47 CFR 74.1204.

Page 2 of this exhibit is an explanation of the tabulated data, which is included as evidence on page 5 of this exhibit.

Pages 3 and 4 of this exhibit contain an explanation of the method used to demonstrate compliance with contour overlap and interference protection provisions based on 47 CFR 74.1204(d), which states:

"an application otherwise precluded by this section will be accepted if it can be demonstrated that no actual interference will occur due to intervening terrain, lack of population or such other factors as may be applicable."

In addition, page 4 includes a tabulation of the second and third adjacent stations which this application is required to protect and the field strengths of those stations in the vicinity of the proposed translator. The field strengths given were based on contours predicted using FCC contour algorithms and 3 arc second terrain data.

Let it be noted that should any actual real world interference occur, the applicant certifies that it will promptly suspend operation of this translator in accordance with 47 CFR 74.1203.

Page 5 of this exhibit is the tabulated data from the interference analysis, which shows all stations that this application had to consider for contour protection. These tabulated values were generated using high resolution 3 arc second terrain data for the best possible accuracy.

Page 6 of this exhibit is a portion of a USGS 1:24,000 scale 7.5 min quadrangle at full scale with the calculated area of interference overlayed. The sheet includes the quadrangle name and measurement scale at the bottom-left corner (note: "Mt" refers to meters). The area of interference was calculated using a free-space calculation (see FCC 98-117, Appendix A, pg. 41 for reference to the equation used).

Explanation of Frequency Finder Results

The interference analysis for this application was performed using the "Frequency Finder" module in RadioSoft's Comstudy, version 2.2.

Frequency Finder analyzes data taken directly from the FCC's FM database and looks for prohibited overlap with contours of adjacent stations and prohibited proximity to stations 53 or 54 channels from the proposed station (IF) using 3 arc second terrain data and the FCC's contour algorithms. The results tabulated are the stations returned from that analysis. (Note: Because Comstudy was looking at the FCC's FM database, it took into account the proposed translator when doing the analysis and returned it in the tabulated results. For the sake of simplicity, that record has been deleted from all tabulated results.)

The first several columns of the table are self-explanatory. They give various data on the stations in question. The column labeled "Clr" gives the proposed translator's "clearance" with respect to the tabulated station, either in dB or km. The values listed with no units are given in km and are for stations located on an IF to the proposed site's channel.

A negative value in the "Clr" column does NOT necessarily represent prohibited contour overlap, as explained below.

A negative value listed in the "Clr" column would indicate either overlap of interference and protected contours or prohibited proximity to an IF station except in the following situations:

- Since the proposed station's Effective Radiated Power (ERP) is 5 watts, a negative value in km (no units listed in the table) does not represent a violation of the CFR, according to 47 CFR 1204(g), which states that "FM translator stations and booster stations operating with less than 100 watts ERP will be treated as class D stations and will not be subject to intermediate frequency separation requirements."

- A second or third adjacent LP100 station cannot represent a violation of the CFR, as 47 CFR 74.1204(a)(4) requires protection of only co-channel and first adjacent LP100 stations.

- 47 CFR 74.1204(a) requires only the protection of "AUTHORIZED commercial or noncommercial educational FM broadcast stations, FM translators, ..." Any entry with a status listed as "RSV," "USE" or "APP" does not represent an authorized station and therefore is not protected under 47 CFR 74.1204. The one exception is the case of LP100 applications. The note to 47 CFR 74.1204(a)(4) states that "LPFM applications and permits that have not yet been licensed must be considered as operating with the maximum permitted facilities." Therefore, any first adjacent or co-channel LP100 station, no matter the status, is protected.

- Entries highlighted in red are those stations where there is overlap of predicted contours and lack of population has been demonstrated within the area of interference.

Compliance with 47 CFR 74.1204(d)

The proposed translator's Maximum Effective Radiated Power (ERP) is 0.005kW at 71 meters above ground level. According to 47 CFR, 74.1204(a), the desired to undesired ratio between 2nd/3rd adjacent stations is 40dB, making the proposed translator's interfering contour 95.7dBu F(50,10). (See the next page for more discussion on the determination of the signal strength of the proposed translator's area of interference.)

Using a free-space calculation (equation referenced in FCC 98-117, Appendix A, pg. 41), the proposed translator's F(50,10) interference contour was calculated and the maximum horizontal plane was plotted on the pertinent portion of a USGS quadrangle (page 6 of this exhibit). However, the field strength of the proposed translator's antenna varies with angle of depression from horizontal. The antenna relative fields are tabulated below at 5 degree increments, starting at 5 degrees below horizontal. Antenna relative field strength data was provided and certified by the manufacturer of the proposed antenna. Using a free space calculation that neglects any loss due to reflection (equation referenced in FCC 98-117, Appendix A, pg. 41), the vertical ground clearance of the proposed application's F(50,10) interference contour at each angle has been tabulated. As shown below, the area of interference clears the ground by 16.9 meters at the lowest point. The applicant has taken into account USGS quadrangles and relevant aerial photography in stating that no structures, except possibly tower support structures, puncture the proposed area of interference. Hence, in accordance with 47 CFR 74.1204(d) and the clarification provided by the FCC in the decision Re: Living Way Ministries (FCC 02-244), there is a lack of population within the proposed area of interference and therefore this application is in full compliance with 47 CFR 74.1204.

Antenna Manufacturer: SWR

Maximum ERP: 5 watts

Antenna Model Number: 3FM1-0.5

CORAGL: 71 m

F(50,10) Contour: 95.7 dBu

Depression Angle (from COR)	Antenna Relative Field	ERP (watts)	Distance to F(50,10) Interfering Contour from Antenna (m)	Horizontal Distance of F(50,10) Interfering Contour from Tower (m)	Vert. Clearance of F(50,10) Interfering Contour above TGL (m)
5	0.972	4.72	250.1	249.2	49.2
10	0.891	3.97	229.3	225.8	31.2
15	0.767	2.94	197.4	190.6	19.9
20	0.615	1.89	158.3	148.7	16.9
25	0.452	1.02	116.3	105.4	21.8
30	0.293	0.43	75.4	65.3	33.3
35	0.151	0.11	38.9	31.8	48.7
40	0.035	0.01	9.0	6.9	65.2
45	0.052	0.01	13.4	9.5	61.5
50	0.109	0.06	28.0	18.0	49.5
55	0.141	0.10	36.3	20.8	41.3
60	0.151	0.11	38.9	19.4	37.3
65	0.146	0.11	37.6	15.9	37.0
70	0.131	0.09	33.7	11.5	39.3
75	0.11	0.06	28.3	7.3	43.7
80	0.085	0.04	21.9	3.8	49.5
85	0.059	0.02	15.2	1.3	55.9
90	0.033	0.01	8.5	0.0	62.5

Minimum F(50,10) Clearance above TGL **16.9 m**

The F(50,50) signal strength of all relevant second and third adjacent stations have been examined, and are tabulated below. Column three shows the station's signal level at the proposed translator's tower site, and column four gives the minimum value within the entire proposed translator's standard F(50,10) contour (100 dBu for most classes, 94 dBu for class B's, 97 dBu for class B1's). For signal levels too great to determine, 999 was entered. The minimum F(50,50) contour within the proposed translator's standard F(50,10) contour was used to calculate the proposed translator's interference contour, thereby assuring a minimum undesired-to-desired ratio of 40dB for all relevant adjacent stations, as required in 47 CFR, 74.1204(a).

FCC File Number	Call Sign	F(50,50) Contour at Tower	Min. F(50,50) Contour
BLH19820809AH	WEKZ-FM	55.9dBu	55.7dBu
BLH20030130ACU	KATF	85.8dBu	85.4dBu
Minimum F(50,50) Protected Contour of Adjacent Station Within Proposed Translator's standard F(50,10) Contour:			55.7dBu

Frequency Finder Results

Callsign	State	City	Channel	ERP_w	Licensee	ARN	Class	Status	Distance_km	Clr	Facility_id
KATF	IA	DUBUQUE	225	89700	RADIO DUBUQUE, INC.	BLH20030130ACU	C1	LIC	22.88	-26.05 dB	73661
WEKZ-FM	WI	MONROE	229	36000	RONALD M.SPIELMAN & SCOTT THOMPSON	BLH19820809AH	B	LIC	61.2	-2.40 dB	25132
NEW	IA	ANAMOSA	227	250	RADIO ASSIST MINISTRY INC.	BNPFT20030317DRE	D	APP	65.91	12.21 dB	145166
NEW	IL	FREEPOR	227	13	RADIO ASSIST MINISTRY INC.	BNPFT20030317FGH	D	APP	67.06	18.95 dB	145225
NEW	IL	POLO	227	13	RADIO ASSIST MINISTRY INC.	BNPFT20030317FJD	D	APP	77.61	22.29 dB	145251
KATF	IA	DUBUQUE	225	0	RADIO DUBUQUE, INC.		C1	USE	22.83	23.38 dB	73661
NEW	IL	WINNEBAGO	227	10	RADIO ASSIST MINISTRY INC.	BNPFT20030317FLF	D	APP	96.15	24.80 dB	145262
KORB	IA	BETTENDORF	228	6000	CUMULUS LICENSING CORP.	BLH19970408KB	A	LIC	88.49	24.92 dB	19791
WIZM-FM	WI	LA CROSSE	227	100000	FAMILY RADIO, INC.	BLH19830527AE	C	LIC	174.98	28.01 dB	20665
NEW	IA	SPRINGVILLE	227	100	SPRINGVILLE COMMUNITY SCHOOL DISTRICT	BNPL20010615APT	LP100	APP	94.49	28.87 dB	135448
NEW	IL	OREGON	227	10	RADIO ASSIST MINISTRY INC.	BNPFT20030317FIK	D	APP	98.09	29.14 dB	145245
W227AG	IL	DE KALB	227	170	CORNERSTONE COMMUNITY RADIO, INC.	BMPFT19970129TA	D	CP MOD	145.72	29.43 dB	13937
WPBG	IL	PEORIA	227	40000	MONTEREY LICENSES, LLC	BLH19810206AI	B	LIC	208.78	32.92 dB	42114
WIZM-FM	WI	LA CROSSE	227	100000	FAMILY RADIO, INC.	BLH19830527AD	C	LIC	169.85	32.07 dB	20665
NEW	IL	STERLING	226	120	STARBOARD MEDIA FOUNDATION, INC.	BNPFT20030311ALY	D	APP	86.89	33.15 dB	142476
NEW	IA	CEDAR RAPIDS	227	100	IOWA DEPARTMENT OF TRANSPORTATION	BNPL20010615AIY	LP100	APP	117.3	34.20 dB	133905
NEW	IA	DUBUQUE	281	62	EDGEWATER BROADCASTING INC.	BNPFT20030317DEZ	D	APP	35.93	35.9	151550
NEW	IL	GALESBURG	227	55	AMERICAN FAMILY ASSOCIATION	BNPFT20030312AFN	D	APP	161.12	36.16 dB	143029
NEW	IA	IOWA CITY	228	250	UNIVERSITY OF NORTHERN IOWA	BNPFT20030314CDL	D	APP	130.36	37.33 dB	144444
WHJG-LP	IL	ROCKFORD	227	100	PELLEY ROAD CHRISTIAN FELLOWSHIP	BNPL20000901AGW	LP100	CP	118.08	37.24 dB	126983
NEW	IA	CORALVILLE	228	140	EDUCATIONAL MEDIA FOUNDATION	BNPFT20030314BET	D	APP	120.27	37.11 dB	143267
WEKZ-FM	WI	MONROE	229	0	RONALD M.SPIELMAN & SCOTT THOMPSON		B	USE	61.2	37.33 dB	25132
WHIT-FM	WI	DE FOREST	226	6000	MID-WEST MANAGEMENT, INC.	BMPH20020926ABL	A	CP MOD	128.38	38.24 dB	78226
WJZI	WI	MILWAUKEE	227	12500	MILWAUKEE RADIO ALLIANCE, LLC	BLH19840515CB	B	LIC	218.09	38.18 dB	59974
NEW	IL	GARDEN PRAIRE	228	250	CATHOLIC DIOCESE OF ROCKFORD	BNPFT20030317BIH	D	APP	140.37	39.89 dB	153339
NEW	IA	CLINTON	229	250	AMERICAN FAMILY ASSOCIATION	BNPFT20030311AKV	D	APP	63.39	39.35 dB	142421

