

[Exhibit 12]

Non-Interference Compliance

Regarding FCC File Number: BNPFT-20030317FEX

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 19 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 0.019kW at 70 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 104.4dBu 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 12.7 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: 19 watts

Antenna Model Number: 2FM1-0.5

CORAGL: 70m

F(50,10) Contour: 104.4dBu

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	0.987	18.51	181.8	181.1	54.2
10	0.95	17.15	175.0	172.4	39.6
15	0.89	15.05	164.0	158.4	27.6
20	0.812	12.53	149.6	140.6	18.8
25	0.721	9.88	132.8	120.4	13.9
30	0.622	7.35	114.6	99.2	12.7
35	0.52	5.14	95.8	78.5	15.0
40	0.42	3.35	77.4	59.3	20.3
45	0.327	2.03	60.2	42.6	27.4
50	0.244	1.13	45.0	28.9	35.6
55	0.173	0.57	31.9	18.3	43.9
60	0.115	0.25	21.2	10.6	51.7
65	0.07	0.09	12.9	5.5	58.3
70	0.039	0.03	7.2	2.5	63.2
75	0.018	0.01	3.3	0.9	66.8
80	0.006	0.00	1.1	0.2	68.9
85	0.001	0.00	0.2	0.0	69.8
90	0.001	0.00	0.2	0.0	69.8

Minimum F(50,10) Clearance above TGL **12.7 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
BLH19800129AA	KSD	64.7dBu	64.4dBu
Minimum F(50,50) Protected Contour of Adjacent Station Within Proposed Translator's standard F(50,10) Contour:			64.4dBu

Frequency Finder

Callsign	State	City	Channel	ERP_w	Licensee	ARN	Class	Status	Distance_km	Clr	Facility_id
KSD	MO	ST. LOUIS	229	100000	CITICASTERS LICENSES, L.P.	BLH19800129AA	C1	LIC	58.39	-4.92 dB	20360
NEW	IL	ALTON	226	100	LIBERTY CHRISTIAN BROADCASTING	BNPL20000831ABL	LP100	APP	17.19	2.91 dB	126351
NEW	IL	WHITE HALL	227	13	RADIO ASSIST MINISTRY INC.	BNPFT20030317FKY	D	APP	47.4	9.84 dB	145253
WMLL	IL	JERSEYVILLE	281	39000	EMMIS RADIO LICENSE CORPORATION	BLH19880414KC	C2	LIC	27.79	12.8	74578
WMLL*	IL	JERSEYVILLE	281	0		FM ALLOTMENT	C2	USE	27.79	12.8	95777
WQLZ	IL	TAYLORVILLE	224	11500	LONG NINE, INC.	BLH19930528KE	B1	LIC	83.32	17.39 dB	38346
NEW	MO	FLORISSANT	226	100	GATEWAY COLLEGE OF EVANGELISM	BNPL20010116ADK	LP100	APP	35.86	18.71 dB	129131
WTRH	IL	RAMSEY	227	3000	COUNTRYSIDE BROADCASTING, INC.	BLED19990405KC	A	LIC	90.24	19.94 dB	14071
NEW	MO	HAZELWOOD	226	100	BELIEVERS BIBLE FELLOWSHIP	BNPL20010122AKA	LP100	APP	37.8	19.72 dB	132176
NEW	IL	NASHVILLE	227	170	COVENANT NETWORK	BNPFT20030317AMA	D	APP	106.65	20.79 dB	151616
NEW	IL	CENTRALIA	227	250	COUNTRYSIDE BROADCASTING, INC.	BNPFT20030317MIZ	D	APP	115.75	20.36 dB	157749
NEW	IL	NASHVILLE	227	170	COVENANT NETWORK INC.	BNPFT20030314AXI	D	APP	106.65	20.79 dB	144427
NEW	IL	PITTSFIELD	227	13	RADIO ASSIST MINISTRY INC.	BNPFT20030317FIY	D	APP	83.61	21.93 dB	145248
KNSX	MO	STEELVILLE	227	8500	TWENTY-ONE SOUND COMMUNICATIO	BLH19961002KF	C2	LIC	133.06	22.72 dB	68579
KNSX	MO	STEELVILLE	227	10250	TWENTY-ONE SOUND COMMUNICATIO	BPH20030605AEF	C2	APP	133.06	22.80 dB	68579
NEW	IL	COLLINSVILLE,	226	100	SON-LIFE FELLOWSHIP INCORPORATE	BNPL20000830AAE	LP100	APP	45.52	23.04 dB	126170
NEW	MO	HANNIBAL	227	62	RADIO ASSIST MINISTRY INC.	BNPFT20030317JDG	D	APP	124.05	24.76 dB	145418
NEW	MO	CREVE COEUR	226	100	UNIVERSITY CITY BIBLE CHAPEL	BNPL20010122AMA	LP100	APP	48.53	24.88 dB	132097
KGRC	MO	HANNIBAL	225	100000	STARADIO CORPORATION	BLH20001218AAF	C1	LIC	131.14	25.52 dB	62332
NEW	MO	SAINT LOUIS	226	100	SAINT LOUIS UNIVERSITY HIGH SCHO	BNPL20010118ABX	LP100	APP	49.76	25.64 dB	131952
NEW	IL	VIRDEN	228	120	COMMUNITY BROADCASTING, INC.	BNPFT20030312AYH	D	APP	55.13	25.96 dB	140376
WPBG	IL	PEORIA	227	40000	MONTEREY LICENSES, LLC	BLH19810206AI	B	LIC	181.02	26.19 dB	42114
WMHX	IL	LINCOLN	230	15000	SAGA COMMUNICATIONS OF ILLINOIS,	BLH19941020KB	B1	LIC	115.33	27.77 dB	9964
WMHX	IL	SHERMAN	230	15000	SAGA COMMUNICATIONS OF ILLINOIS,	BPH20020802ABA	B1	CP	115.33	27.77 dB	9964
NEW	MO	MEXICO	227	115	RADIO ASSIST MINISTRY INC.	BNPFT20030317JFI	D	APP	148.05	27.71 dB	145425
NEW	IL	FAIRVIEW HEIGHTS	224	115	EDUCATIONAL MEDIA FOUNDATION	BNPFT20030317IMB	D	APP	54.09	27.27 dB	155450
WTRH	IL	RAMSEY	227	0	COUNTRYSIDE BROADCASTING, INC.		A	USE	90.24	27.23 dB	14071
NEW	IL	MATTOON	227	250	WHQQ, INC.	BNPFT20030312BAK	D	APP	158.84	29.58 dB	138373
NEW	IL	CARLYLE	226	250	COVENANT NETWORK	BNPFT20030317ACY	D	APP	83.55	29.06 dB	144072
W228BB	IL	JACKSONVILLE	228	120	CORNERSTONE COMMUNITY RADIO, II	BLFT19980430TB	D	LIC	73.87	30.38 dB	79202
NEW	IL	TRENTON	226	100	SUGAR CREEK AMBULANCE SERVICE	BNPL20000831AAX	LP100	APP	65.95	31.36 dB	126412
WSEI	IL	OLNEY	225	50000	V.L.N. BROADCASTING, INC.	BMLH19820720AD	B	LIC	183.49	33.77 dB	69634
NEW	MO	MONTGOMERY C	226	250	COVENANT NETWORK	BNPFT20030317BIX	D	APP	118.21	33.18 dB	153983
NEW	MO	MONTGOMERY C	226	250	COVENANT NETWORK INC.	BNPFT20030314BSF	D	APP	118.21	33.18 dB	143538
	MO	STEELVILLE	227	0		RMAR-1*	C1	APP	132.91	34.47 dB	0
NEW	IL	TAYLORVILLE	228	38	ILLINOIS BIBLE INSTITUTE, INC.	BNPFT20030314CHR	D	APP	91.19	36.32 dB	148859
NEW	MO	MACON	227	250	FM 105, INC.	BNPFT20030317KPI	D	APP	212.28	37.99 dB	157111
NEW	IL	MT VERNON	226	250	COUNTRYSIDE BROADCASTING, INC.	BNPFT20030317MHP	D	APP	127.14	37.98 dB	158057
NEW	MO	OAKVILLE	225	250	RADIO ASSIST MINISTRY INC.	BNPFT20030317JFT	D	APP	69.16	37.66 dB	144477
WYDS	IL	DECATUR	226	4600	WEJT, INC.	BMLH20020503AAQ	A	LIC	126.8	37.64 dB	71440
WPBG	IL	PEORIA	227	0	MONTEREY LICENSES, LLC		B	USE	181.02	37.61 dB	42114
WVZA	IL	HERRIN	224	25000	CLEAR CHANNEL BROADCASTING LIC	BLH19961002KB	B1	LIC	170.46	37.49 dB	124

Frequency Finder

NEW	MO	KAHOKA	227	115 RADIO ASSIST MINISTRY INC.	BNPFT20030317JDP	D	APP	208.58 38.17 dB	145420
NEW	MO	MEXICO	228	250 COVENANT NETWORK	BNPFT20030317BJF	D	APP	152.51 39.54 dB	153989
NEW	MO	MEXICO	228	250 COVENANT NETWORK INC.	BNPFT20030314BSI	D	APP	152.51 39.54 dB	143541

