

[Exhibit 12]

Non-Interference Compliance

Regarding FCC File Number: BNPFT-20030317FYX

Channel: 276

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 overlaid. 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:

- 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 0.115kW at 135 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 109.9dBu 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 60.2 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
Antenna Model Number: 2FM1-0.5

Maximum ERP: 115 watts
CORAGL: 135 m
F(50,10) Contour: 109.9 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	0.987	112.03	237.5	236.6	114.3
10	0.95	103.79	228.6	225.1	95.3
15	0.89	91.09	214.2	206.9	79.6
20	0.812	75.82	195.4	183.6	68.2
25	0.721	59.78	173.5	157.2	61.7
30	0.622	44.49	149.7	129.6	60.2
35	0.52	31.10	125.1	102.5	63.2
40	0.42	20.29	101.1	77.4	70.0
45	0.327	12.30	78.7	55.6	79.4
50	0.244	6.85	58.7	37.7	90.0
55	0.173	3.44	41.6	23.9	100.9
60	0.115	1.52	27.7	13.8	111.0
65	0.07	0.56	16.8	7.1	119.7
70	0.039	0.17	9.4	3.2	126.2
75	0.018	0.04	4.3	1.1	130.8
80	0.006	0.00	1.4	0.3	133.6
85	0.001	0.00	0.2	0.0	134.8
90	0.001	0.00	0.2	0.0	134.8

Minimum F(50,10) Clearance above TGL **60.2 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
BLH19940113KB	KWXD	999dBu	121dBu
BPH20020528AAR	KIXQ	77.8dBu	77.2dBu
BLH19830624AB	KIXQ	70.5dBu	69.9dBu
Minimum F(50,50) Protected Contour of Adjacent Station Within Proposed Translator's standard F(50,10) Contour:			69.9dBu

Frequency Finder

Callsign	State	City	Channel	ERP_w	Licensee	ARN	Class	Status	Distance_km	Clr	Facility_id
KWXD	MO	ASBURY	278	16000	INNOVATIVE BROADCASTING CORPOF	BLH19940113KB	C3	LIC	0.01	-78.96 dB	28689
KWXD	MO	ASBURY	278	0	INNOVATIVE BROADCASTING CORPORATION		C3	USE	0.01	-56.92 dB	28689
KIXQ	MO	JOPLIN	273	100000	BIG MACK BROADCASTING, INC.	BPH20020528AAR	C1	CP	34.41	-18.39 dB	5269
KIXQ	MO	JOPLIN	273	100000	BIG MACK BROADCASTING, INC.	BLH19830624AB	C1	LIC	37.23	-10.93 dB	5269
NEW	MO	EL DORADO SPRI	276	170	COMMUNITY BROADCASTING, INC.	BNPFT20030312AYI	D	APP	76.3	7.90 dB	140381
KSYN	MO	JOPLIN	223	100000	BIG MACK BROADCASTING, INC.	BPH20020528AAS	C0	CP	34.41	9.4	73244
KSYN	MO	JOPLIN	223	100000	BIG MACK BROADCASTING, INC.	BLH19990722KF	C1	LIC	38.02	16	73244
KIND-FM	KS	INDEPENDENCE	275	25000	CENTRAL BROADCASTING, INC.	BLH20001220ACJ	C3	LIC	97.57	18.28 dB	9793
KSYN	MO	JOPLIN	223	0	BIG MACK BROADCASTING, INC.		C0	USE	44.02	19	73244
NEW	MO	MOUNT VERNON	277	250	COMMUNITY BROADCASTING, INC.	BNPFT20030312ARU	D	APP	81.71	22.63 dB	138435
KJSR	OK	TULSA	277	100000	CXR HOLDINGS, INC.	BLH19810730AI	C	LIC	175.95	25.47 dB	9801
KHOZ-FM	AR	HARRISON	275	100000	HARRISON BROADCASTING CORPORA	BLH19911223KI	C1	LIC	166.24	25.70 dB	26235
K276CO	AR	FAYETTEVILLE	276	56	FRED H. BAKER, JR.	BLFT19870804TB	D	LIC	158.3	28.18 dB	22406
KJEL	MO	LEBANON	279	100000	OZARK BROADCASTING, INC.	BPH20030401ABZ	C	APP	176.87	28.24 dB	51094
KPRS	MO	KANSAS CITY	277	100000	CARTER BROADCAST GROUP, INC.	BLH19870522KA	C	LIC	180.48	28.68 dB	35495
KIXQ	MO	JOPLIN	273	0	BIG MACK BROADCASTING, INC.		C1	USE	37.23	29.82 dB	5269
	KS	OLPE	276	0		RM9852	A	APP	160.29	30.98 dB	0
KJEL	MO	LEBANON	279	100000	OZARK BROADCASTING, INC.	BLH19881115KC	C	LIC	176.87	30.99 dB	51094
NEW	MO	LEBANON	276	62	RADIO ASSIST MINISTRY INC.	BNPFT20030317JEU	D	APP	177.27	31.56 dB	149180
NEW	MO	OSCEOLA	277	250	COMMUNITY BROADCASTING, INC.	BNPFT20030312BAJ	D	APP	113.26	31.45 dB	140398
KIND-FM	KS	INDEPENDENCE	275	0	CENTRAL BROADCASTING, INC.		C3	USE	97.57	33.00 dB	9793
K279AD	MO	NEOSHO	279	72	BOARD OF GOVERNORS FOR SOUTHV	BLFT19980225TR	D	LIC	74.34	36.95 dB	77030
NEW	AR	GENTRY	275	100	GENTRY COMMUNICATIONS NETWORKI	BNPL20010615ASE	LP100	CP	126.36	37.20 dB	135278
KMMO-FM	MO	MARSHALL	275	76000	MISSOURI VALLEY BROADCASTING, IN	BMPH20020925ABQ	C1	CP MOI	226.15	38.22 dB	43226

