

[Exhibit 12]

Non-Interference Compliance

Regarding FCC File Number: BNPFT-20030317ICW

Channel: 251

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 88 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 100.2dBu 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 25.2 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

Maximum ERP: 19 watts

Antenna Model Number: 3FM1-0.5

CORAGL: 88 m

F(50,10) Contour: 100.2 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	17.95	290.4	289.3	62.7
10	0.891	15.08	266.2	262.2	41.8
15	0.767	11.18	229.2	221.4	28.7
20	0.615	7.19	183.8	172.7	25.2
25	0.452	3.88	135.1	122.4	30.9
30	0.293	1.63	87.5	75.8	44.2
35	0.151	0.43	45.1	37.0	62.1
40	0.035	0.02	10.5	8.0	81.3
45	0.052	0.05	15.5	11.0	77.0
50	0.109	0.23	32.6	20.9	63.1
55	0.141	0.38	42.1	24.2	53.5
60	0.151	0.43	45.1	22.6	48.9
65	0.146	0.41	43.6	18.4	48.5
70	0.131	0.33	39.1	13.4	51.2
75	0.11	0.23	32.9	8.5	56.3
80	0.085	0.14	25.4	4.4	63.0
85	0.059	0.07	17.6	1.5	70.4
90	0.033	0.02	9.9	0.0	78.1

Minimum F(50,10) Clearance above TGL **25.2 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
BMLH452	WACF	60.6dBu	60.2dBu
BLH19911022KB	WHMS-FM	64.1dBu	63.6dBu
Minimum F(50,50) Protected Contour of Adjacent Station Within Proposed Translator's standard F(50,10) Contour:			60.2dBu

Frequency Finder Results

Callsign	State	City	Channel	ERP_w	Licensee	ARN	Class	Status	Distance_km	Clr	Facility_id
WHMS-FM	IL	CHAMPAIGN	248	50000	D.W.S., INC.	BLH19911022KB	B	LIC	38.44	-10.54 dB	14962
WACF	IL	PARIS	253	50000	P.R.S. BROADCASTING, INC.	BMLH452	B	LIC	51.55	-7.01 dB	51153
WWHP	IL	FARMER CITY	252	3000	WMS1, INC.	BLH19831222AA	A	LIC	63.25	17.43 dB	53122
WIBN	IN	EARL PARK	251	25000	BROTHERS BROADCASTING CORPORATION	BLH19910524KD	B1	LIC	117.29	18.69 dB	28200
WXEF	IL	EFFINGHAM	250	6000	PREMIER BROADCASTING, INC.	BLH19940908KB	A	LIC	74.49	19.50 dB	53399
WWHP	IL	FARMER CITY	252	3000	WMS1, INC.	BPH20020314AAW	A	CP	75.62	19.14 dB	53122
WRAN	IL	TOWER HILL	252	3700	KASKASKIA BROADCASTING, INC.	BLH20011120ABI	A	LIC	77.14	19.77 dB	78691
NEW	IL	MONTICELLO	250	19	RADIO ASSIST MINISTRY, INC.	BNPFT20030317ICA	D	APP	41.35	21.93 dB	152539
NEW	IL	ATLANTA	251	120	CORNERSTONE COMMUNITY RADIO, INC.	BNPFT20030310AAL	D	APP	99.44	21.19 dB	138424
WNNS	IL	SPRINGFIELD	254	50000	LONG NINE, INC.	BMLH19890813KB	B	LIC	127.03	21.70 dB	38347
WRAY-FM	IN	PRINCETON	251	50000	PRINCETON BROADCASTING CO., INC.	BLH19990528KC	B	LIC	165.48	23.23 dB	53568
WHMS-FM	IL	CHAMPAIGN	248	0	D.W.S., INC.		B	USE	38.62	26.34 dB	14962
NEW	IL	LINCOLN	251	38	RADIO ASSIST MINISTRY, INC.	BNPFT20030317IBN	D	APP	105.53	26.93 dB	152529
NEW	IL	DELAN	251	120	COVENANT NETWORK INC.	BNPFT20030314AVD	D	APP	127.13	27.16 dB	144525
NEW	IL	DELAN	251	120	COVENANT NETWORK	BNPFT20030317ANX	D	APP	127.13	27.16 dB	151660
W252AR	IL	DECATUR	252	100	WEJT, INC.	BLFT19950829TA	D	LIC	57.07	28.06 dB	71441
WIBN	IN	EARL PARK	251	0	BROTHERS BROADCASTING CORPORATION		B1	USE	117.29	29.34 dB	28200
W251AG	IN	BLOOMINGTON	251	250	BLOOMINGTON COMMUNITY RADIO	BLFT19960205TA	D	LIC	164.98	32.68 dB	5879
WWHP	IL	FARMER CITY	252	0	WMS1, INC.		A	USE	63.25	33.33 dB	53122
WSDM-FM	IN	BRAZIL	249	6000	CROSSROADS INVESTMENTS, LLC	BMLH19960207KD	A	LIC	103.01	33.25 dB	19670
WACF	IL	PARIS	253	0	P.R.S. BROADCASTING, INC.		B	USE	51.55	33.76 dB	51153
NEW	IL	PETERSBURG	251	13	RADIO ASSIST MINISTRY, INC.	BNPFT20030317ICQ	D	APP	138.76	34.99 dB	152560
WRAY-FM	IN	PRINCETON	251	0	PRINCETON BROADCASTING CO., INC.		B	USE	165.48	35.10 dB	53568
KYKY	MO	ST. LOUIS	251	90000	INFINITY RADIO SUBSIDIARY OPERATIONS INC.	BLH19890112KA	C1	LIC	217.69	35.05 dB	20358
951206MH	IL	TOWER HILL	252	0	COLE C. STUDSTILL		A	USE	76.25	36.80 dB	78688
WXEF	IL	EFFINGHAM	250	0	PREMIER BROADCASTING, INC.		A	USE	74.49	36.30 dB	53399
WGMR-FM	IN	ANDERSON	250	50000	THE MOODY BIBLE INSTITUTE OF CHICAGO	BMLD19971229KC	B	LIC	224.51	36.97 dB	2215
NEW	IL	SALEM	250	250	COUNTRYSIDE BROADCASTING, INC.	BNPFT20030317MMA	D	APP	135.76	37.98 dB	145451
WYVR	IL	PETERSBURG	249	6000	LONG NINE, INC.	BMPH20010214ACJ	A	CP MOD	122.64	37.86 dB	56229
NEW	IL	HAVANA	251	27	RADIO ASSIST MINISTRY, INC.	BNPFT20030317IBB	D	APP	160.77	37.84 dB	152512
NEW	IL	PEKIN	251	10	RADIO ASSIST MINISTRY, INC.	BNPFT20030317ICK	D	APP	150.64	37.29 dB	152549
NEW	IN	MORGANTOWN	251	100	COVENANT NETWORK	BNPFT20030317KTJ	D	APP	179.98	37.22 dB	157236

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