

[Exhibit 12]

Non-Interference Compliance

Regarding FCC File Number: BNPFT-20030317JXR

Channel: 291

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).

Page 7 of this exhibit is a high resolution aerial photo of the vicinity surrounding the proposed translator's tower site provided by the U.S. Geological Survey's National Aerial Photography Program. It has been included to provide clarification of the nature of the buildings in the vicinity.

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 25 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 0.025kW at 55 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 108.3dBu 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 13.1 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: 25 watts

Antenna Model Number: 2FM1-0.5

CORAGL: 55 m

F(50,10) Contour: 108.3 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	24.35	133.1	132.6	43.4
10	0.95	22.56	128.1	126.2	32.7
15	0.89	19.80	120.0	116.0	23.9
20	0.812	16.48	109.5	102.9	17.5
25	0.721	13.00	97.3	88.1	13.9
30	0.622	9.67	83.9	72.7	13.1
35	0.52	6.76	70.1	57.5	14.8
40	0.42	4.41	56.7	43.4	18.6
45	0.327	2.67	44.1	31.2	23.8
50	0.244	1.49	32.9	21.2	29.8
55	0.173	0.75	23.3	13.4	35.9
60	0.115	0.33	15.5	7.8	41.6
65	0.07	0.12	9.4	4.0	46.4
70	0.039	0.04	5.3	1.8	50.1
75	0.018	0.01	2.4	0.6	52.7
80	0.006	0.00	0.8	0.1	54.2
85	0.001	0.00	0.1	0.0	54.9
90	0.001	0.00	0.1	0.0	54.9

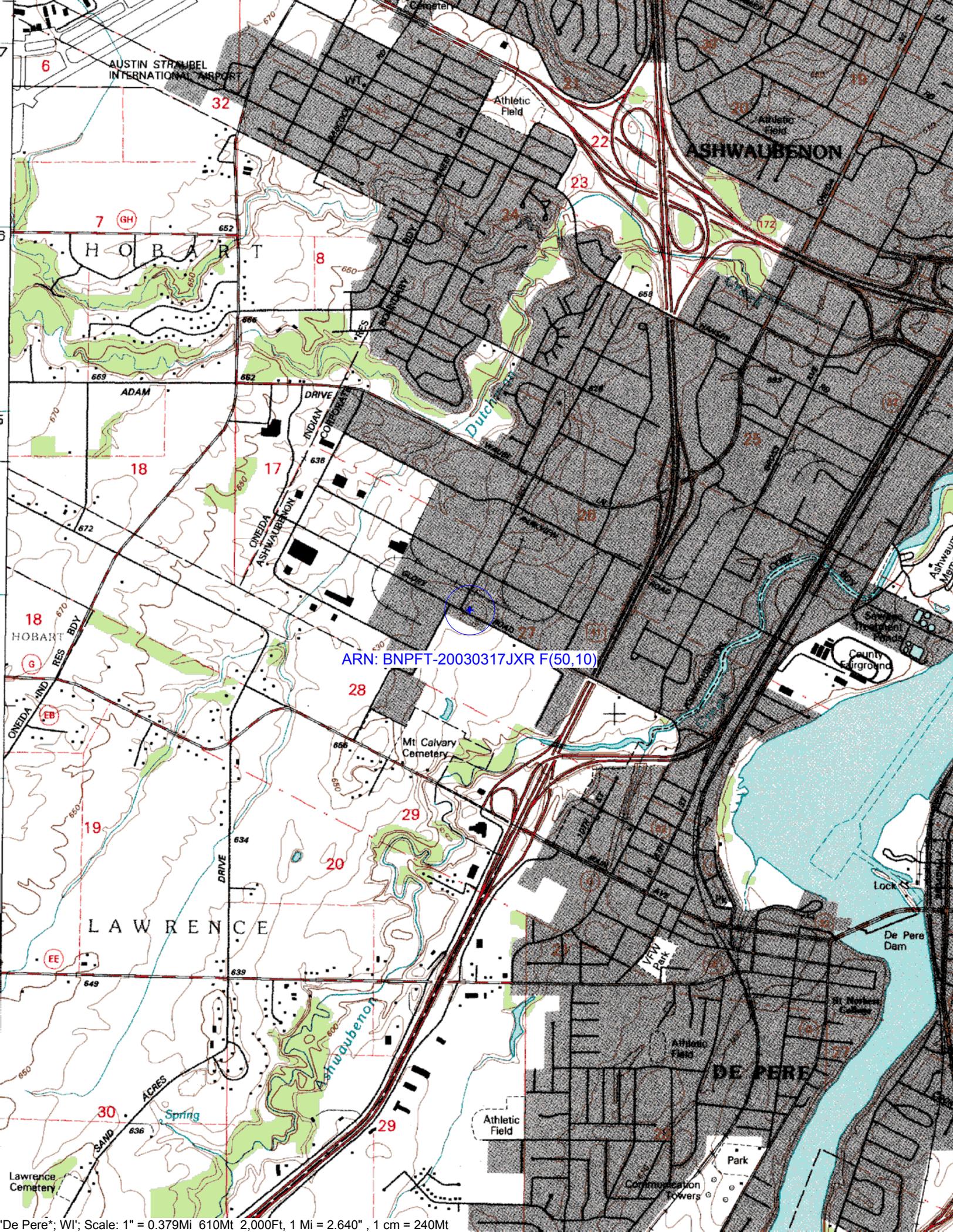
Minimum F(50,10) Clearance above TGL **13.1 m**

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
BLH19880408KB	WAPL-FM	95.9dBu	95dBu
BLH19970102KA	WJLW	82.4dBu	81.3dBu
BLH19980130KA		68.8dBu	68.3dBu
Minimum F(50,50) Protected Contour of Adjacent Station Within Proposed Translator's standard F(50,10) Contour:			68.3dBu

Frequency Finder

Callsign	State	City	Channel	ERP_w	Licensee	ARN	Class	Status	Distance_km	Clr	Facility_id
WAPL-FM	WI	APPLETON	289	100000	WOODWARD COMMUNICATIONS, INC.	BLH19880408KB	C	LIC	14.44	-36.70 dB	73659
WJLW	WI	ALLOUEZ	294	25000	CUMULUS LICENSING CORP	BLH19970102KA	C3	LIC	12.67	-23.27 dB	31912
WAPL-FM	WI	APPLETON	289	29000	WOODWARD COMMUNICATIONS, INC.	BLH19980130KA	C	LIC	31.37	-9.18 dB	73659
930707MF	WI	ALLOUEZ	294	0	BAYSIDE BROADCASTING CORP.		C3	USE	6.62	1.10 dB	4133
NEW	WI	APPLETON	291	13	RADIO ASSIST MINISTRY INC.	BNPFT20030317JYR	D	APP	35.91	5.72 dB	155872
WAPL-FM	WI	APPLETON	289	0	WOODWARD COMMUNICATIONS, INC.		C	USE	14.44	8.36 dB	73659
WMIL-FM	WI	WAUKESHA	291	13000	CLEAR CHANNEL BROADCASTING LICENSES, INC.	BLH19940516KA	B	LIC	153.62	20.61 dB	63919
WLJY	WI	MARSHFIELD	293	100000	NEWRADIO GROUP, LLC	BLH19800212AD	C1	LIC	141.29	25.78 dB	24444
WACD	WI	ANTIGO	291	10000	NEWRADIO GROUP, LLC	BLH19971022KD	C3	LIC	110.16	25.01 dB	49814
NEW	WI	APPLETON	293	250	SISTER GRACE, INC.	BNPFT20030317FPU	D	APP	40.2	28.36 dB	156054
WMXG	MI	STEPHENSON	292	50000	ESCANABA LICENSE CORP.	BLH19990721KD	C2	LIC	142.76	29.78 dB	51159
WHBZ	WI	SHEBOYGAN FALLS	293	6000	MIDWEST COMMUNICATIONS, INC.	BLH19970418KB	A	LIC	87.34	30.07 dB	41614
WACD	WI	ANTIGO	291	0	NEWRADIO GROUP, LLC		C3	USE	113.07	32.02 dB	49814
W237AA	WI	APPLETON & NEENAH	237	12	WRVM, INC.	BRFT20000504AAG	D	LIC	33.53		33.5 22193
WMIL-FM	WI	WAUKESHA	291	0	CLEAR CHANNEL BROADCASTING LICENSES, INC.		B	USE	153.53	33.63 dB	63919
W237AA	WI	APPLETON & NEENAH	237	12	WRVM, INC.	BRFT20000504AAG	D	LIC	33.53		33.5 22193
WDKM	WI	ADAMS	291	6000	ROCHE-A-CRI BROADCASTING	BLH19931020KB	A	LIC	149.63	33.99 dB	57267



ARN: BNPFT-20030317JXR F(50,10)

