

[Exhibit 12]

## **Non-Interference Compliance**

Regarding FCC File Number: BNPFT-20030317HMR

Channel: 243

### **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 4 of this exhibit.

Page 3 of this exhibit is 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 3 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 4 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 5 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).

Since the proposed translator is 215.2 km from the Canadian border, 47 CFR 74.1235(d) has been taken into account and this applicant certifies that in no direction does the 34 dBu F(50,10) extend beyond 60 km, and this application is therefore in full compliance with 47 CFR 74.1235(d)(3), which states that "the distance to the 34 dBu interfering contour may not exceed 60 km in any direction," and hence in compliance with 47 CFR 74.1204(h).

## 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 38 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 0.038kW at 63 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 100.7dBu F(50,10).

Using a free-space calculation (equation referenced in FCC 98-117, Appendix A, pg. 41), this proposed translator's F(50,10) interference contour was calculated and plotted on the pertinent portion of a USGS quadrangle (page 5 of this exhibit). As demonstrated on the quadrangle, there are no populated structures or highways within the calculated area of interference (Note: FCC 02-244, II, A, 6 states that USGS quadrangles are sufficient for demonstrating lack of population). 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), a lack of population has been demonstrated within the area of interference and therefore this application is in full compliance with 47 CFR 74.1204.

CORAGL: 63m

Maximum ERP: 0.038kW

F(50,10) Interfering Contour: 100.7dBu

F(50,10) Max Distance: 398.9m

Antenna Manufacturer: SCA

Antenna Model: 2CA5-FM/1

Antenna Rotation: 355

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
BLH19940822KC	WLAV-FM	61.2dBu	60.7dBu
BLH19850403KR	WVTI	78.9dBu	78dBu
Minimum F(50,50) Protected Contour of Adjacent Station Within Proposed Translator's standard F(50,10) Contour:			<b>60.7dBu</b>

Callsign	State	City	Channel	ERP_w	Licensee	ARN	Facility_id	Class	Status	Distance_km	Clr
WVTI	MI	HOLLAND	241	50000	CLEAR CHANNEL BROADCASTING LICENSES, INC.	BLH19850403KR	27471	B	LIC	20.37	-25.73 dB
WVTI	MI	HOLLAND	241	40000	CLEAR CHANNEL BROADCASTING LICENSES, INC.	BXP20000907ABL	27471	B	APP	20.34	-23.68 dB
WVTI	MI	HOLLAND	241	20000	CLEAR CHANNEL BROADCASTING LICENSES, INC.	BXP20000907ABL	27471	B	APP	20.34	-20.67 dB
WLAV-FM	MI	GRAND RAPIDS	245	50000	CITADEL BROADCASTING COMPANY	BLH19940822KC	41680	B	LIC	52.43	-7.47 dB
NEW	MI	KENTWOOD	243	10	CALVARY CHAPEL OF TWIN FALLS, INC.	BNPFT20030317CTX	155687	D	APP	38.52	4.39 dB
NEW	MI	GRAND RAPIDS	243	10	RADIO ASSIST MINISTRY INC.	BNPFT20030317HPY	146899	D	APP	35.54	4.00 dB
NEW	MI	MUSKEGON	243	27	RADIO ASSIST MINISTRY INC.	BNPFT20030317HRJ	146906	D	APP	40.58	6.67 dB
NEW	MI	EAST GRAND RAPIDS	243	10	CALVARY CHAPEL OF TWIN FALLS, INC.	BNPFT20030311ANT	142560	D	APP	42.73	7.51 dB
WVTI	MI	HOLLAND	241	0	CLEAR CHANNEL BROADCASTING LICENSES, INC.		27471	B	USE	20.37	14.80 dB
NEW	MI	CEDAR SPRINGS	243	10	RADIO ASSIST MINISTRY INC.	BNPFT20030317HNL	146890	D	APP	62.93	15.65 dB
WKLH	WI	MILWAUKEE	243	20000	LAKEFRONT COMMUNICATIONS, INC.	BLH19820914AI	36370	B	LIC	148.61	15.72 dB
WFAT	MI	PORTAGE	243	6000	MIDWEST COMMUNICATIONS, INC	BLH20030319ADZ	67775	A	LIC	82.02	16.40 dB
NEW	MI	FREMONT	243	19	RADIO ASSIST MINISTRY INC.	BNPFT20030317HPO	146894	D	APP	70.19	17.65 dB
WBHC-LP	MI	BENTON HARBOR	243	100	CITY OF BENTON HARBOR, MICHIGAN	BNPL20000831AEA	126885	LP100	CP	87.64	22.54 dB
WFAT	MI	PORTAGE	243	0	MIDWEST COMMUNICATIONS, INC		67775	A	USE	85.11	23.51 dB
WQHH	MI	DEWITT	243	6000	MID MICHIGAN FM, INC.	BLH20030331ALN	41819	A	LIC	118.22	24.79 dB
NEW	MI	BIG RAPIDS	242	250	MENTOR PARTNERS, INC.	BNPFT20030317JZH	144400	D	APP	72.93	25.94 dB
NEW	MI	BIG RAPIDS	243	10	RADIO ASSIST MINISTRY INC.	BNPFT20030317HMX	146888	D	APP	102.51	25.73 dB
WKLH	WI	MILWAUKEE	243	0	LAKEFRONT COMMUNICATIONS, INC.		36370	B	USE	148.61	29.48 dB
WLAV-FM	MI	GRAND RAPIDS	245	0	CITADEL BROADCASTING COMPANY		41680	B	USE	52.43	29.83 dB
NEW	MI	LUDINGTON	243	19	RADIO ASSIST MINISTRY INC.	BNPFT20030317HQX	146903	D	APP	119.41	29.39 dB
WWDV	IL	ZION	245	50000	BONNEVILLE HOLDING COMPANY	BLH19870127KB	49547	B	LIC	150.17	29.23 dB
WBBM-FM	IL	CHICAGO	242	4200	INFINITY BROADCASTING OPERATIONS, INC.	BMLH20011026AAG	9613	B	LIC	165.56	30.37 dB
W243AJ	IN	MISHAWAKA	243	42	PROGRESSIVE BROADCASTING SYSTEM, INC.	BLFT19980422TE	78392	D	LIC	128.31	31.08 dB
WDRV	IL	CHICAGO	246	7900	BONNEVILLE HOLDING COMPANY	BPH20010702AAQ	49552	B	CP	164.25	32.62 dB
NEW	MI	LAWRENCE	244	38	FAMILY LIFE BROADCASTING SYSTEM	BNPFT20030314AWZ	142078	D	APP	73.19	32.51 dB
870914MC	MI	DEWITT	243	0	AMERICAN INDIAN BROADCAST GROUP, INC		1744	A	USE	126.09	32.05 dB
WBBM-FM	IL	CHICAGO	242	1400	INFINITY BROADCASTING OPERATIONS, INC.	BLH19920218KB	9613	B	LIC	165.59	35.76 dB
NEW	MI	PENTWATER	242	100	GREAT LAKES COMMUNITY BROADCASTING, INC.	BNPFT20030314ADN	146518	D	APP	105.06	37.01 dB
NEW	MI	ALMA	244	250	RUSSELL ALLEN WIGHT	BNPFT20030313ARY	144639	D	APP	131.49	37.98 dB
WLKM-FM	MI	THREE RIVERS	240	3000	IMPACT RADIO, LLC	BLH6731	70461	A	LIC	109.93	38.56 dB
NEW	IN	AUBURN	244	120	PUBLIC BROADCASTING OF NORTHEAST INDIANA, INC.	BNPFT20030310AOK	141278	D	APP	187.43	39.73 dB

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(PORT SHELDON)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

