

[Exhibit 12]

## **Non-Interference Compliance**

Regarding FCC File Number: BNPFT-20030317LLR

### **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).

## **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 0.17kW at 116 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 115.9dBu 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: 116m

Antenna Manufacturer: SWR

Maximum ERP: 0.17kW

Antenna Model: FM1

F(50,10) Interfering Contour: 115.9dBu

F(50,10) Max Distance: 146.6m

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
BLH19890627KB	KKCK	76.4dBu	75.9dBu
Minimum F(50,50) Protected Contour of Adjacent Station Within Proposed Application's 100dBu F(50,10) Contour:			<b>75.9dBu</b>

Frequency Finder

Callsign	State	City	Channel	ERP_w	Licensee	ARN	Class	Status	Distance_km	Clr	Facility_id
KKCK	MN	MARSHALL	259	100000	KMHL BROADCASTING COMPANY	BLH19890627KB	C1	LIC	36.31	-16.99 dB	35127
NEW	SD	WATERTOWN	261	170	EDGEWATER BROADCASTING INC.	BNPFT20030317LVM	D	APP	65.06	3.58 dB	149667
K261CI	SD	SIOUX FALLS	261	100	SOUTHERN MINNESOTA B/CNG COMP	BLFT19961202TH	D	LIC	87.53	12.53 dB	61326
	SD	BRANDON	261	0		RM10188	A	APP	85.07	14.30 dB	0
	SD	BRANDON	261	0		RM10188	C3	APP	84.46	14.13 dB	0
	SD	BRANDON	261	0		RM8729	A	APP	84.43	14.12 dB	0
KIKN-FM	SD	SALEM	263	100000	SOUTHERN MINNESOTA B/CNG. COMP	BLH19931019KD	C1	LIC	109.08	15.24 dB	61328
KOLV	MN	OLIVIA	261	50000	BOLD RADIO, INC.	BLH19990122KA	C2	LIC	139.23	16.01 dB	50285
K261CH	SD	CARPENTER	261	250	CHRISTIAN HERITAGE BROADCASTING	BLFT19950417TA	D	LIC	109.86	18.42 dB	72909
NEW	SD	WATERTOWN	262	75	EDGEWATER BROADCASTING INC.	BNPFT20030317LVB	D	APP	65.96	19.75 dB	154832
NEW	SD	MITCHELL	261	62	EDGEWATER BROADCASTING INC.	BNPFT20030317LPS	D	APP	122.91	20.29 dB	149611
NEW	SD	REDFIELD	261	205	EDGEWATER BROADCASTING INC.	BNPFT20030317LQX	D	APP	153.9	25.73 dB	149629
KOLV	MN	OLIVIA	261	0	BOLD RADIO, INC.		C2	USE	139.23	26.74 dB	50285
NEW	SD	SISSETON	261	19	EDGEWATER BROADCASTING INC.	BNPFT20030317LRX	D	APP	150.57	26.66 dB	149643
KDWD	IA	EMMETSBURG	261	16000	JIM DANDY BROADCASTING, INC.	BPH20021113AAS	C3	CP	204.69	30.67 dB	29724
KDWD	IA	EMMETSBURG	261	16000	JIM DANDY BROADCASTING, INC.	BPH20021113AAS	C3	CP	204.69	30.67 dB	29724
NEW	SD	ABERDEEN	261	115	EDGEWATER BROADCASTING INC.	BNPFT20030317LIX	D	APP	183.47	31.37 dB	149574
KDWD	IA	EMMETSBURG	261	3900	JIM DANDY BROADCASTING, INC.	BLH19980917KC	A	LIC	204.67	32.58 dB	29724
NEW	SD	HURON	260	250	EDGEWATER BROADCASTING INC.	BNPFT20030317LOF	D	APP	117.83	32.48 dB	154768
KDWD	IA	EMMETSBURG	261	3900	JIM DANDY BROADCASTING, INC.	BLH19980917KC	A	LIC	204.67	32.58 dB	29724
NEW	SD	MITCHELL	260	62	EDGEWATER BROADCASTING INC.	BNPFT20030317LPO	D	APP	122.91	34.29 dB	154782
KIKV-FM	MN	ALEXANDRIA	264	100000	BDI BROADCASTING, INC.	BLH7358	C1	LIC	197.03	34.60 dB	4336
NEW	MN	WORTHINGTON	262	250	REFUGE MEDIA GROUP	BNPFT20030717ABY	D	APP	123.9	35.44 dB	144983
NEW	MN	WORTHINGTON	262	250	REFUGE MEDIA GROUP	BNPFT20030313ARI	D	APP	123.9	35.44 dB	144983
KIKV-FM	MN	SAUK CENTRE	264	100000	BDI BROADCASTING, INC.	BPH20010913AAO	C1	CP	197.35	35.76 dB	4336
NEW	SD	CHAMBERLAIN	261	115	EDGEWATER BROADCASTING INC.	BNPFT20030317LMN	D	APP	210.87	36.68 dB	149593
NEW	IA	PERKINS	260	100	IOWA DEPARTMENT OF TRANSPORTA	BNPL20010615AID	LP100	APP	135.49	37.92 dB	133826
	IA	EMMETSBURG	261	0		RM10078	C3	APP	204.67	37.39 dB	0
	IA	EMMETSBURG	261	0		RM10078	A	APP	204.67	37.39 dB	0
NEW	IA	ROCK VALLEY	260	100	CALVIN CHRISTIAN REFORMED CHURC	BNPL20010613AFN	LP100	APP	131.2	37.31 dB	134682
DKAJQ	IA	SIBLEY	262	0	21ST CENTURY RADIO VENTURES, INC.		A	APP	132.56	38.61 dB	108
KDWD	IA	EMMETSBURG	261	0	JIM DANDY BROADCASTING, INC.		A	USE	211.4	38.47 dB	29724
KDWD	IA	EMMETSBURG	261	0	JIM DANDY BROADCASTING, INC.		A	USE	211.4	38.47 dB	29724
KKMA	IA	LE MARS	258	100000	POWELL BROADCASTING COMPANY, I	BLH19781206AE	C1	LIC	210.4	38.23 dB	35055

