

[Exhibit 12]

## **Non-Interference Compliance**

Regarding FCC File Number: BNPFT-20030317IXQ

### **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:

- Since the proposed station's Effective Radiated Power (ERP) is 50 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 application's Maximum Effective Radiated Power (ERP) is 0.05kW at 122 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 application's interfering contour 106.8dBu 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: 122m

Antenna Manufacturer: SWR

Maximum ERP: 0.05kW

Antenna Model: FM1

F(50,10) Interfering Contour: 106.8dBu

F(50,10) Max Distance: 226.7m

The F(50,50) signal strength of all relevant second and third adjacent stations have been examined, and are tabulated below. The levels of signal recorded are that at the proposed translator's tower site and 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 |
|--|-----------|---------------------------|-----------------------|
| BLH19861216KB  | KGLI      | 68dBu                     | 66.8dBu               |
| BMLH19891211KC   | KGLI      | 93.6dBu                   | 92.7dBu               |
| Minimum F(50,50) Protected Contour of Adjacent Station<br>Within Proposed Application's 100dBu F(50,10) Contour: |           |                           | <b>66.8dBu</b>        |

# Frequency Finder

| Callsign | State | City        | Channel | ERP_w  | Licensee                            | ARN              | Class | Status | Distance_km | Clr       | Facility_id |
|----------|-------|-------------|---------|--------|-------------------------------------|------------------|-------|--------|-------------|-----------|-------------|
| KGLI     | IA    | SIOUX CITY  | 238     | 100000 | CLEVELAND RADIO LICENSES, LLC       | BMLH19891211KC   | C1    | LIC    | 13.59       | -34.64 dB | 8771        |
| KGLI     | IA    | SIOUX CITY  | 238     | 6000   | CLEVELAND RADIO LICENSES, LLC       | BLH19861216KB    | C1    | LIC    | 10.02       | -9.86 dB  | 8771        |
| KGLI     | IA    | SIOUX CITY  | 238     | 0      | CLEVELAND RADIO LICENSES, LLC       |                  | C1    | USE    | 9.75        | 7.92 dB   | 8771        |
| KNWC-FM  | SD    | SIOUX FALLS | 243     | 100000 | NORTHWESTERN COLLEGE                | BMLED20030304AAH | C     | LIC    | 104.3       | 7.03 dB   | 49776       |
| NEW      | IA    | STORM LAKE  | 240     | 92     | RADIO ASSIST MINISTRY, INC          | BNPFT20030317IXS | D     | APP    | 105.04      | 19.23 dB  | 146703      |
| KEFM     | NE    | OMAHA       | 241     | 100000 | WEBSTER COMMUNICATIONS CO.          | BLH19980227KZ    | C     | LIC    | 168.85      | 23.92 dB  | 71411       |
| KILR-FM  | IA    | ESTHERVILLE | 240     | 10000  | JACOBSON BROADCASTING COMPANY       | BLH19970606KA    | C3    | LIC    | 162.08      | 29.04 dB  | 29725       |
| KNWC-FM  | SD    | SIOUX FALLS | 243     | 16500  | NORTHWESTERN COLLEGE                | BLH19820518AL    | C     | LIC    | 104.51      | 29.69 dB  | 49776       |
| KSQB-FM  | SD    | DELL RAPIDS | 239     | 25000  | L A RADIO, INC.                     | BLH19981028KE    | C3    | LIC    | 134.55      | 30.99 dB  | 76903       |
| KILR-FM  | IA    | ESTHERVILLE | 240     | 0      | JACOBSON BROADCASTING COMPANY, INC. |                  | C3    | USE    | 157.11      | 33.15 dB  | 29725       |
| KSOM     | IA    | AUDUBON     | 243     | 100000 | MEREDITH COMMUNICATIONS L.C.        | BLH19950817KB    | C1    | LIC    | 184.34      | 35.15 dB  | 63296       |





ARN: BNPFT-20030317IXQ F(50,10);