

## **Exhibit 12**

### **Interference Analysis Overlap Requirements**

According to CFR 47 §74.1204(a), translators are required to protect all existing FM stations from interference due to overlap of the protected contours of the existing stations with the interfering contours of the new translators.

#### **US Stations**

In the attached tabular printout, only WNWC, WIBA and W270AU have outgoing contour overlaps from the proposed translator, so no interference to other stations is anticipated. Incoming overlap is not prohibited.

WNWC and WIBA are third and second adjacent to the proposed translator respectively, and, according to §74.1204(d),

**"The provisions of this section concerning prohibited overlap will not apply where the area of such overlap lies entirely over water. In addition, an application otherwise precluded by this section will be accepted if it can be demonstrated that no actual interference will occur due to ... lack of population ... ."**

The F(50,50) signal from WNWC and WIBA at the proposed site are 114.3 and 103.7 dBu respectively. Using the more restrictive value of 103.7 dBu provides assurance that the larger values work also. A 40 dB ratio of undesired to desired signal strength gives an allowable interfering F(50,10) field strength of 143.7 dBu. With 10 Watts ERP, the free-space equations give the distance to this contour of 1 meters from the antenna. The antenna is 107 meters from the ground, so this contour does not reach the ground. There are no habitable buildings in the area which reach up to intersect the contour. Hence §74.1204(d) applies, and the predicted area of interference is acceptable to the Commission.

W270AU is the current application, and need not be protected.

No other entries are sufficiently close to the proposed translator to require analysis.

Csn International											
WI Madison relocation of W270AU											
CH# 270D - 101.9 MHz, Pwr= 0.01 kW, HAAT=133.2 M, COR= 428 M											
Average Protected F(50-50)= 6.7 km											
DISPLAY DATES											
DATA 05-03-07											
SEARCH 05-17-07											
REFERENCE											
43 03 03.0 N.											
89 29 13.0 W.											
CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DI ST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	(Overlap	*OUT* in km)
273B Madi son	WNWC-FM	LIC	_CX	223.7 43.7	2.35 BLED20050913AAJ	43 02 08.0 89 30 25.0	50.000 150	6.5 451	68.4 Northwestern College		-66.46*<
268B Madi son	WI BA-FM	LIC	_CN	278.1 98.1	3.95 BLH19950824KC	43 03 21.0 89 32 06.0	12.000 309	5.5 609	66.9 Capstar Tx Limited Partner		-63.34*<
270D Madi son	W270AU	CP	_C_	278.1 98.1	3.95 BNPFT20030804AAP	43 03 21.0 89 32 06.0	0.010	24.8 443	7.3 Csn International		-21.84*
270C Waterloo	KNWS-FM	LIC	_CX	250.2 68.6	206.08 BLED20051102ABH	42 24 02.0 91 50 36.0	100.000 479	188.7 762	85.0 Northwestern College		100.86
270C Wausau	WDEZ	LIC	_C_	355.6 175.4	208.39 BLH20031021AFB	44 55 14.0 89 41 28.0	100.000 329	178.3 715	76.2 Wrig, Inc.		109.11
271A Lena	WQLF	LIC	NCX	198.4 18.2	82.97 BLH20020809ABK	42 20 31.0 89 48 21.0	5.200 107	46.3 378	30.2 Lena Radio Broadcasting		43.33
271D Janesville	W271AY	CP	_C_	151.1 331.4	69.92 BNPFT20030826AMU	42 29 58.0 89 04 30.0	0.250	10.1 262	7.1 Sister Grace, Inc.		54.03
270D Mayville	AP9068	APP	_C_	57.1 237.8	91.03 BNPFT20030317EBT	43 29 26.0 88 32 27.0	0.120	21.6 312	6.5 Sister Grace, Inc.		59.35

Terrain database is NGDC 30 SEC

ERP and HAAT are on direct line to and from reference station.

Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)

Incoming contour overlap is ignored.

\*\*\*affixed to 'IN' or 'OUT' values = site inside protected contour. "<" = Contour Overlap

## HOW TO READ THE FM COMPUTER PRINT-OUT

The computer print-out should be self-explanatory for the most part. The parameters of the station being checked, (reference station) are printed in the heading. The 60 dBu protected contour is predicted from the Commission's F(50-50) table, while the 40, 54, 80 and 100 dBu contours are interference contours derived from the Commission's F(50-10) table. Contour distances are in kilometers and are predicted using spline interpolation from data points identical to those published in Report No. RS 76-01 by Gary C. Kalagian. Critical contour distances are determined using the Commission's TVFMINT FORTRAN subroutine. When interference contour distances are less than 16 kilometers the F(50-50) tables are used. If signal contour distances are less than 1.6 km the free-space equation is used.

The column listed "\* IN \*" is the sum of the reference station's 60 dBu protected contour and the data file station's interference contour subtracted from the distance between the stations. (All distances are derived by the method detailed in Sec. 73.208 of the Rules and Regulations as amended in Docket 80-90.) Therefore, the column is a measure of incoming interference. Negative distances in this column indicate the presence of interference. Listed antenna heights are the average heights of eight standard radials as found in the Commission's records unless otherwise noted, in which case the specific antenna heights along the azimuths between the reference station and the database station are used and visa versa. The column labeled "\* OUT \*" shows the distance of kilometers of overlap or clearance between the reference station's interference contour and the database station's protected contour. Negative distance figures in this column indicate outgoing interference.

For I.F., commercial, international and other spacing based relationships, the "IN" and "OUT" columns change their significance. The letter "R" stands for the minimum required distance in kilometers, while the letter "M" in the next column follows the available clear space separation in kilometers or "Margin". Minimum commercial separation distances were taken from Sec 73.207 of the rules as amended. This procedure is also used for all Canadian and Mexican spacing. Canadian separation distances were derived from the "Canadian/American Working Agreement".

Under the "BEARING" column, the first row of numbers indicate the bearings from true north of the data base stations in relationship with the reference station, while the numbers in the second row indicate the reverse bearings from the database station to the reference station.

The columns labeled "INT" and "PRO" hold the distance in kilometers of the appropriate interference contour and the protected contour of a data base station.

The first three letters of the "TYPE" column identify the current F.C.C. status of the stations. The fourth letter will be a "D" or "Z" (Sec. 73.215) if the facility is directional. The fifth letter will be an E, H or V depending on the type of antenna polarization. The sixth letter will be a 'Y' if the antenna uses beam tilt.