

# North-Central Christian Broadcasting (NCCB) / WNCB 89.5FM

425 West Superior Street, Suite 300  
Duluth, MN 55802



Great Music, Encouraging Your Heart

Phone: 218-722-3017

Fax: 218-722-1650

## Exhibit 12, Page 1 Allocation Study for channel 216FT (Brookings, SD Proposal) 12/10/2002

Channel: 218 (91.5 MHz)

North Lat: 44° 18' 27"

Antenna: Cablewave ECFM 2 2-bay (non-directional)

West Lon: 96° 48' 4"

ERP: 0.250 kW (H & V)

HAAT (Max of 12 evenly spaced radials:) 66 m\* (180° radial)

**Note:** Only stations within 140 km of co-channel, 114 km for 1<sup>st</sup> adj, 95 km for 2<sup>nd</sup>&3<sup>rd</sup> adj., and 29 km for IF separations are listed. These distances were calculated,pursuant to §74.1204(a)(3) for a maximum translator (250 watts at 107 m HAAT) and a maximum Class C station (100,000 watts@ 600 m HAAT) as follows:

Co-Channel: sum of distance to Max translator 40dBu F(50,10) contour and dist. to Max Class C 60 dBu F(50,50) contour:  
45.581 km + 91.818 km = 137.399 km

1<sup>st</sup> Adjacent: sum of distance to Max translator 54dBu F(50,10) contour and dist. to Max Class C 60 dBu F(50,50) contour:  
19.961 km + 91.818 km = 111.779 km

2<sup>nd</sup> & 3<sup>rd</sup> Adjacent: sum of dist. to Max translator 100 dBu F(50,10) contour and dist. to Max Class C 60 dBu F(50,50) contour:  
1.109 km + 91.818 km = 92.927 km

I.F. separation requirements: Pursuant to §74.1204(g), translators with over 100 watts are treated as Class A stations. The maximum distance is determined by §73.207 comparing a class A station with a class C station which is 29 km.

**Call Sign/City Channel/Freq. ERP (kW) HAAT Lat./Lon. Distance Req. Dist. Clear by**

### Co channel Stations within 140 km:

-none-

### 1<sup>st</sup> Adjacent Stations within 114 km:

Call Sign/City	Channel/Freq.	ERP (kW)	HAAT	Lat./Lon.	Distance	Req. Dist.	Clear by
KNSW	219C1 (lic)	99 H	243 m	43° 53' 1" NL	84.2 km	82.3 km	1.9 km
Worthington-Marshall, MN	91.7MHz	99 V	243 m	95° 55' 44" WL			

### 2<sup>nd</sup> Adjacent Stations Within 95 km:

### 3<sup>rd</sup> Adjacent Stations Within 95 km:

KCSD	215A (lic)	2.35 H	58.0m	43° 31' 57"NL	86.3 km	18.6 km	67.7 km
Sioux Falls, SD	90.9 MHz	2.35 V	58.0m	96° 44' 20"WL			

KLQP	221C3 (lic)	25 H	91 m	45° 01' 37"NL	93.6 km	38.6 km	55.0 km
Madison, MN	92.1 MHz	25 V	91 m	96° 11' 15"WL			

### IF Station Within 29 km:

KKQQ	272C3 (lic)	25 H	74 m	44° 15' 1"NL	13.9 km	12.0 km	1.9 km
Volga, SD	102.3 MHz	25 V	74 m	96° 57' 22"WL			

\*HAAT calculated in accordance to §73.313 (d).

**Exhibit 12, Page 2**  
**Further Study showing lack of contour overlap**  
**With station KNSW's Licensed Facility**

**KNSW- [file #: BMLED -19931019KC (lic)]**

N. Lat: 43° 53' 1"; W. Lon: 95° 55' 44"  
 Channel 219D (91.7 MHz)  
 ERP: 99 kW (H & V)  
 RCAMSL: 758 m  
 Bearing toward K218DK: 304.4°  
 Distance to K218DK: 84.2 km

**K288EV Proposal**

N. Lat: 44° 18' 27"; W. Lon: 96° 48' 4"  
 Channel: 218FT (91.5 MHz)  
 ERP: 0.250 kW (H & V)  
 RCAMSL: 549 m  
 Bearing toward KNSW: 123.8°  
 Distance to WMCN: 84.2 km  
 HAAT toward KNSW: 50.7 m  
 Max. HAAT in 12 evenly spaced azimuths: 66 m  
 Dist to 54 dBu F(50,10) Cont. (0.25 kW @ 66m): 14.8 km

**Service Contour: 60 dBu**

<b>Azimuth (degrees)</b>	<b>ERP (kW)</b>	<b>HAAT (m)</b>	<b>Dist (km)</b>
300	99	228.8	66.4
302	99	226.8	66.2
304	99	224.9	66.0
305	99	224.4	66.0
307	99	222.7	65.8

**Max Allowed Int. Contour: 54 dBu**

<b>Azimuth (degrees)</b>	<b>ERP (kW)</b>	<b>HAAT (m)</b>	<b>Dist (km)</b>	<b>Signal (dBu)</b>
139.6	0.250	66.0*	18.7	50.8
132.5	0.250	66.0	18.2	51.2
125.3	0.250	66.0	18.1	51.3
121.5	0.250	66.0	18.2	51.2
114.5	0.250	66.0	18.7	50.8

\*Maximum of 12 evenly spaced Radials. Actual HAAT in azimuths indicated is lower.

Terrain averages Source: Dataworld