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Contour to Contour Tabulation, Channel Study  
South Dakota Board Of Directors For Ed. Telecommunication

REFERENCE CH# 220C1 - 91.9 MHz, Pwr= 100 kW, HAAT= 269.7 M, COR= 874 M DISPLAY DATES  
45 16 34.0 N. DATA 06-16-14  
99 59 03.0 W. Average Protected F(50-50)= 69.89 km SEARCH 06-16-14  
Omni-directional

CH CITY	CALL	TYPE STATE	ANT --	AZI FILE #	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT* (km)
220C1 Lowry	KQSD-FM	LIC _CN SD	0.0 0.0	0.00 BLED19880621KA	45 16 34.0 99 59 03.0	100.000 221	162.8 833	64.6	-231.0*	-231.9*	
221A Huron	KZKK«	CP _CX SD	124.5 305.8	176.92 BPH20140530AMU	44 21 44.0 98 09 09.0	2.000 45	23.5 433	15.6	133.0R	43.9M Dakota Communications, Ltd	
220C Fargo	KDSU	LIC _CN ND	47.1 229.1	288.94 BLED19820621AB	47 00 48.0 97 11 37.0	100.000 302	172.2 593	72.6	46.5	46.9 North Dakota State Univers	
219A Bismarck	KBFR	LIC _CX ND	340.8 160.2	182.91 BMLED20130827AAB	46 49 38.0 100 46 28.0	0.780 106	28.3 642	19.3	85.5	61.4 Family Stations Inc	
217C3 Mandan	KPHA	LIC _C_ ND	337.1 156.5	158.90 BLED20101110AEB	46 35 23.0 100 47 38.5	4.200 195	3.0 777	32.8	86.5	115.7 Real Presence Radio	
222C1 Medina	NEW«	CP _CX ND	19.8 200.4	191.62 BNPH20120518AAE	46 53 39.0 99 07 45.0	60.000 98	5.0 654	45.2	82.0R	109.6M Falletti, Christopher	
220A Spearfish	KYSD	LIC NCX SD	255.4 72.7	320.10 BLED20101221ACB	44 29 05.5 103 53 29.2	6.000 -29	85.7 1265	27.0	164.7	118.3 South Dakota Board Of Dire	
218B1 Jamestown	KPRJ	LIC _CN ND	33.6 214.6	201.40 BLED19930617KB	46 46 36.0 98 31 20.0	18.500 108	4.0 549	39.1	128.1	152.7 Prairie Public Broadcastin	
221C3 Dickinson	KZRX«	LIC _CX ND	312.0 130.1	281.37 BLH20110909AAT	46 56 09.0 102 43 55.0	17.000 122	59.6 876	39.5	144.0R	137.4M Cc Licenses, Llc	
221C3 Madison	KLQP«	LIC _CN MN	94.0 276.7	299.85 BLH19980706KB	45 01 37.0 96 11 15.0	25.000 91	58.5 415	37.6	144.0R	155.9M Lac Qui Parle Broadcasting	
222C Medina	1488772«	APP ____ ND	14.0 194.6	261.82 BSFH20120112AFV	47 33 28.0 99 08 20.0	100.000 600	13.5 1069	91.3	105.0R	156.8M Two Rivers Broadcasting, I	
219C2 Devils Lake	KPPD	LIC _CX ND	8.8 189.3	313.79 BLED20090720ACM	48 03 47.8 99 20 08.7	24.000 214	75.9 686	51.4	169.8	162.4 Prairie Public Broadcastin	
219C1 Worthington-marshal	KNSW	LIC _CN MN	114.3 297.2	356.45 BMLED19931019KC	43 53 01.0 95 55 44.0	99.000 243	98.6 758	67.0	187.3	186.5 Minnesota Public Radio	
273C1 Martin	KZSD-FM«	LIC _CN SD	211.9 30.8	239.82 BLED19910715KA	43 26 06.0 101 33 14.0	100.000 230	21.0 1095	5.9	34.0R	205.8M South Dakota Board Of Dire	
217C1 Hartford	KSTJ	LIC DCX SD	133.6 315.4	283.24 BLED20131022AMW	43 29 22.0 97 26 33.0	41.000 221	7.0 656	58.2	205.9	215.2 Catholic Chancery Office	

Terrain database is FCC NGDC 30 Sec , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM  
In & Out distances between contours are shown at closest points. Reference zone= - Zone 2, Co to 3rd adjacent.  
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
\*\*\*affixed to 'IN' or 'OUT' values = site inside protected contour.  
« = Station meets FCC minimum distance spacing for its class.

## HOW TO READ THE FM COMPUTER PRINT-OUT

The computer printout should be self-explanatory for the most part. The parameters of the station being checked, (reference station) are printed in the heading. Contour distances are in kilometers and are predicted 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 difference in kilometers between of the reference station's protected contour and the data file station's interference contour at the closest point between the contours. (All distances are derived by the method detailed in Sec. 73.208 of the Rules and Regulations as amended in Docket 80-90.) Therefore, "IN" column is a measure of incoming interference. Negative distances in this column indicate the presence of contour overlap. Listed antenna heights and power are those given in the FCC database. The column labeled "OUT " shows the greatest distance in kilometers of overlap or smallest of clearance between the reference station's interference contour and the database station's protected contour. Negative distance figures in this column indicate outgoing contour overlap.

Under the "AZI" column, the first row of numbers indicate the True North bearings from the reference station toward the database stations, while the numbers in the second row indicate the reverse bearings from the database stations to the reference station.

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

For I.F. relationships, some channel-six TV relationships and relationships with commercial channel stations providing clearance the minimum spacings values the "IN" and "OUT" columns can 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** (or lack of it) in kilometers. Minimum separation distances when displayed are taken from Sec 73.207 of the rules as amended. Canadian and Mexican separation distances, U/D ratios and protected contour values are from the US/Mexican Working Agreement and the US/Canada Working Agreement".

The call letters of stations meeting the minimum separation distances under the rules will be flagged by the characters "<<" appended to the right-hand side of the call sign. The "^" character appended to the call sign means the station has been "max-classed" according to the provisions of section 73.525 of the Rules.

The first three letters of the "TYPE" column identify the current FCC status of the stations. The fourth letter will be a "D" if the facility is directional. "Z" indicates a 73.215 directional. An "N" indicates it is a 73.215 station that operates with an omni-directional antenna. 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 or an "X" if the commission is not sure, otherwise it will be an "N" or left blank.

Translator relationships with LPTV/Translators is calculated using the 62 dBu protected and the F(50-10) interference contour, as defined in section 74.1205 of the Rules.