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Contour-to-contour channel Study KQSD-FM

South Dakota Board Of Directors For Ed. Telecommunication  
CH# 220C1 - 91.9 MHz, Pwr= 100 kW, HAAT= 269.7 M, COR= 874 M  
Average Protected F(50-50)= 69.89 km  
Omni-directional

DISPLAY DATES  
DATA 07-22-14  
SEARCH 07-22-14

REFERENCE  
45 16 38.0 N.  
99 59 09.6 W.

CH CITY	CALL	TYPE ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
220C1 Lowry	KQSD-FM	LIC_CN SD	130.7 310.7	0.18 BLED19880621KA	45 16 34.0 99 59 03.0	100.000 221	167.5 833	68.5 South Dakota Board Of Dire	-237.7*	-237.9*
221A Huron	KZKK«	CP_CX SD	124.5 305.8	177.11 BPH20140530AMU	44 21 44.0 98 09 09.0	2.000 45	23.5 433	15.6 Dakota Communications, Ltd	133.0R	44.1M
220C Fargo	KDSU	LIC_CN ND	47.1 229.1	288.96 BLED19820621AB	47 00 48.0 97 11 37.0	100.000 302	172.2 593	72.6 North Dakota State Univers	46.6	47.0
219A Bismarck	KBFR	LIC_CX ND	340.8 160.3	182.74 BMLED20130827AAB	46 49 38.0 100 46 28.0	0.780 106	28.4 642	19.3 Family Stations Inc	85.3	61.2
217C3 Mandan	KPHA	LIC_C_ ND	337.1 156.5	158.73 BLED20101110AEB	46 35 23.0 100 47 38.5	4.200 195	3.0 777	32.8 Real Presence Radio	86.4	115.6
222C1 Medina	NEW«	CP_CX ND	19.9 200.5	191.55 BNPH20120518AAE	46 53 39.0 99 07 45.0	60.000 98	5.0 654	45.2 Falletti, Christopher	82.0R	109.6M
220A Spearfish	KYSD	LIC_NCX SD	255.4 72.6	319.99 BLED20101221ACB	44 29 05.5 103 53 29.2	6.000 -29	85.7 1265	27.0 South Dakota Board Of Dire	164.5	118.1
218B1 Jamestown	KPRJ	LIC_CN ND	33.6 214.7	201.38 BLED19930617KB	46 46 36.0 98 31 20.0	18.500 108	4.0 549	39.1 Prairie Public Broadcastin	128.2	152.7
221C3 Dickinson	KZRK«	LIC_CX ND	312.0 130.1	281.18 BLH20110909AAT	46 56 09.0 102 43 55.0	17.000 122	59.6 876	39.5 Cc Licenses, Lic	144.0R	137.2M
221C3 Madison	KLQP«	LIC_CN MN	94.0 276.7	300.00 BLH19980706KB	45 01 37.0 96 11 15.0	25.000 91	58.5 415	37.6 Lac Qui Parle Broadcasting	144.0R	156.0M
222C Medina	1488772«	APP_ ND	14.1 194.7	261.73 BSFH20120112AFV	47 33 28.0 99 08 20.0	100.000 600	13.5 1069	91.3 Two Rivers Broadcasting, I	105.0R	156.7M
273L1 Bismarck	KDAK-LP«	CP_ ND	340.4 159.8	181.04 BNPL20131113AQK	46 48 28.5 100 47 07.4	0.100 -2	527	20.0R Dakota Media Access		161.0M
219C2 Devils Lake	KPPD	LIC_CX ND	8.9 189.3	313.69 BLED20090720ACM	48 03 47.8 99 20 08.7	24.000 214	75.9 686	51.4 Prairie Public Broadcastin	169.7	162.4

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

### Full Service Stations

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.