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Contour-to-Contour Channel-Study Table
South Dakota Board Of Directors For Ed. Telecommunication
CH# 242D - 96.3 MHz, Pwr= 0.048 kW H DA, HAAT= 39.7 M, COR= 543.5 M
Average Protected F(50-50)= 5.38 km
Standard Directional

REFERENCE
44 22 58.0 N.
100 20 35.0 W.

DISPLAY DATES
DATA 05-17-12
SEARCH 05-17-12

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*
241D Pierre	K241AF	LIC DCN SD	254.9 74.8	5.07 BLFT19960909TH	44 22 15.0 100 24 17.0	0.027 83	8.0 590	5.7 South Dakota Board Of Dire	-5.0*	-3.2* <*
241C1 Crookston	KINI	LIC _CX NE	198.0 17.6	146.24 BMLH20020827AAJ	43 07 50.0 100 54 02.0	90.000 152	90.9 1025	61.2 St. Francis Mission	48.5	75.9
243C0 Bismarck	KBYZ	CP _CX ND	352.0 171.6	247.92 BPH20091030AHG	46 35 24.0 100 47 46.0	100.000 305	104.2 885	71.6 Cumulus Licensing Lic	140.7	172.7
245C Watertown	KDLO-FM	LIC _CN SD	72.5 254.4	227.13 BLH19790226AB	44 57 57.0 97 35 22.0	100.000 479	12.5 1030	85.9 Three Eagles Of Joliet, In	211.5	141.8
243C1 Bismarck	KBYZ	LIC _CX ND	352.0 171.6	247.92 BMLH20060913ACO	46 35 24.0 100 47 46.0	100.000 294	103.0 873	70.7 Cumulus Licensing Lic	141.9	173.7
241C1 Watertown	KIXX	LIC _CY SD	70.4 252.8	279.06 BLH19920413KD	45 10 31.0 96 59 15.0	100.000 298	104.3 858	71.7 Three Eagles Of Joliet, In	171.7	206.2
243C Sioux Falls	KNWC-FM	LIC _CN SD	106.2 288.8	319.57 BMLED20030304AAH	43 31 07.0 96 32 05.0	100.000 488	129.4 918	86.7 Northwestern College	185.3	229.6
240C Belle Fourche	KZZI	LIC _C_ SD	269.9 87.5	277.64 BLH20000112ABG	44 19 35.0 103 50 06.0	100.000 545	13.7 2262	91.9 Western South Dakota Broad	260.1	185.9

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= West Zone, Co to 3rd adjacent.
All separation margins (if shown) include rounding
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.
" <*" Applicant's Licensed facility

HOW TO READ THE FM COMPUTER PRINT-OUT

Translator Reference Station

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. The 60 dBu protected contour is predicted from the Commission's F(50-50) table. 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.

All distances are derived by the method detailed in Sec. 73.208 of the Rules and Regulations as amended in Docket 80-90. The column labeled "* OUT *" shows the greatest distance in kilometers of overlap (or smallest distance 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. Since translators are able to receive interference there is no "In" or incoming column in this report.

Listed antenna heights and power are the specific antenna heights and power from the FCC database.

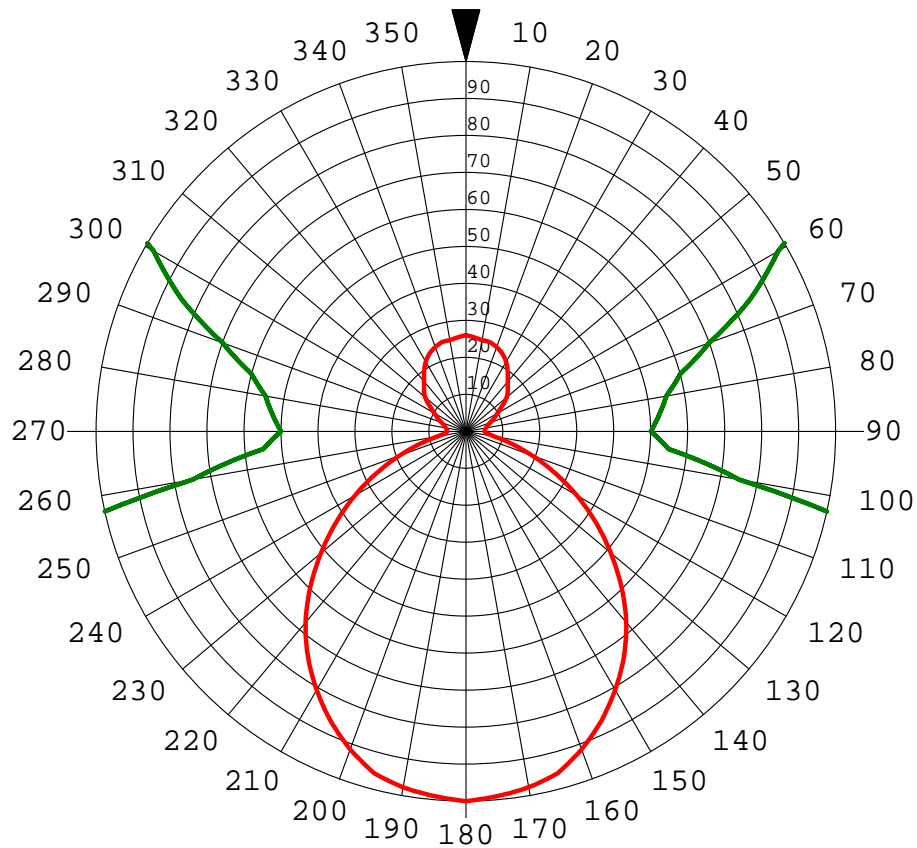
Under the "AZI" column, the first row of numbers indicate the True North azimuths from the reference station toward the database stations, while the numbers in the second row indicate the reverse bearings from the database stations to the reference station. Bearings are calculated using spherical trigonometry.

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 the minimum spacings 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. 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 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.

Dual CA2-FM Scala Antennas

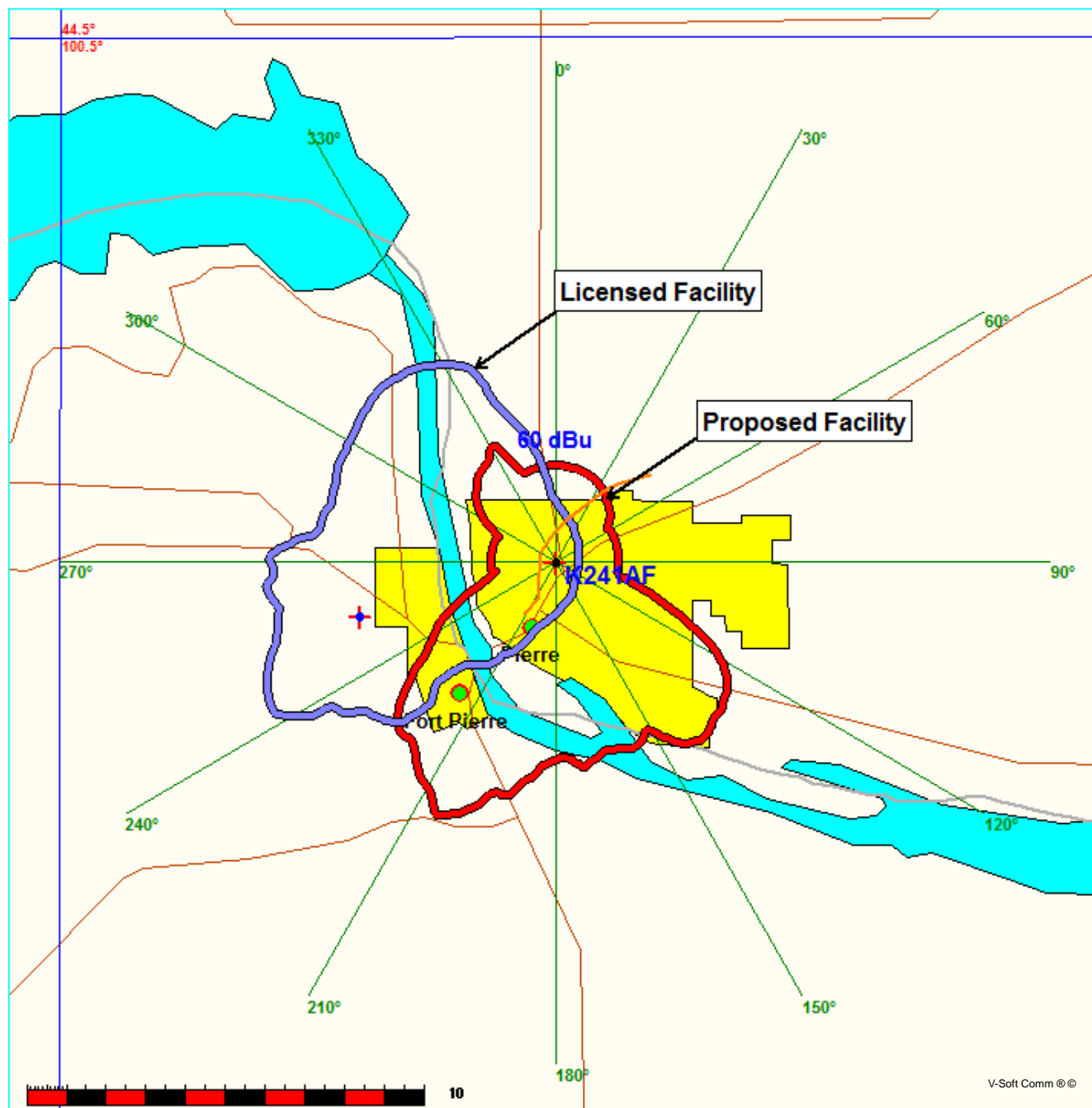


Azi	Rel	dBk	kW	dB	Azi	Rel	dBk	kW	dB
0	0.260	-24.89	0.003	-11.70	180	1.000	-13.19	0.048	0.00
10	0.250	-25.23	0.003	-12.04	190	0.978	-13.39	0.046	-0.20
20	0.242	-25.49	0.003	-12.31	200	0.915	-13.96	0.040	-0.77
30	0.217	-26.44	0.002	-13.25	210	0.807	-15.04	0.031	-1.86
40	0.175	-28.33	0.001	-15.14	220	0.675	-16.60	0.022	-3.41
50	0.145	-29.96	0.001	-16.77	230	0.510	-19.04	0.012	-5.85
60	0.098	-33.41	0.000	-20.22	240	0.345	-22.43	0.006	-9.24
70	0.070	-36.29	0.000	-23.10	250	0.190	-27.61	0.002	-14.42
80	0.055	-38.38	0.000	-25.19	260	0.075	-35.69	0.000	-22.50
90	0.050	-39.21	0.000	-26.02	270	0.050	-39.21	0.000	-26.02
100	0.075	-35.69	0.000	-22.50	280	0.055	-38.38	0.000	-25.19
110	0.190	-27.61	0.002	-14.42	290	0.070	-36.29	0.000	-23.10
120	0.345	-22.43	0.006	-9.24	300	0.098	-33.41	0.000	-20.22
130	0.510	-19.04	0.012	-5.85	310	0.145	-29.96	0.001	-16.77
140	0.675	-16.60	0.022	-3.41	320	0.175	-28.33	0.001	-15.14
150	0.807	-15.04	0.031	-1.86	330	0.217	-26.44	0.002	-13.25
160	0.915	-13.96	0.040	-0.77	340	0.242	-25.49	0.003	-12.31
170	0.978	-13.39	0.046	-0.20	350	0.250	-25.23	0.003	-12.04

Rotation Angle = 0

60 dBu Overlapping Contour Map
South Dakota Board Of Directors For Ed. Telecommunications

Coverage Study - FCC NGDC 30 Sec
05-18-2012



N. Lat. = 442258.0 W. Lng. = 1002035.0
 HAAT and Distance to Contour,
 FCC, FM 2-10 Mi, 51 pts Method - FCC 30 SEC

60 dBu Distance to Contour Table

Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	526.7	16.8	0.0032	-24.89	0.260	2.42
030	541.4	2.1	0.0023	-26.44	0.218	2.23
060	537.4	6.1	0.0005	-33.41	0.097	1.61
090	509.6	33.9	0.0001	-39.21	0.050	1.61
120	455.5	88.0	0.0057	-22.43	0.345	4.74
150	506.1	37.4	0.0313	-15.04	0.808	4.67
180	512.8	30.7	0.0480	-13.19	1.000	4.71
210	475.5	68.0	0.0313	-15.04	0.808	6.33
240	498.1	45.4	0.0057	-22.43	0.345	3.40
270	509.3	34.2	0.0001	-39.21	0.050	1.61
300	494.4	49.1	0.0005	-33.41	0.097	1.95
330	479.4	64.1	0.0023	-26.44	0.218	3.20

Ave EI = 503.85 M HAAT= 39.65 M AMSL= 543.5