

TECHNICAL STATEMENT  
K231BQ ESTES PARK, COLORADO 284D  
CEDAR COVE BROADCASTING, INC.  
FCC FORM 349  
APRIL 2013

This Technical Statement is in support of FCC form 349 filed by Cedar Cove Broadcasting, Inc. for a modification of Construction Permit, BPFT-20130220ADB for K231BQ, facility ID 142150, CP call sign K284BR. It is proposing to make some minor technical changes to this Construction Permit. The K231BQ currently licensed tower site is located at N. 39°- 40'- 31", W. 105°- 29 ' - 02", NAD 27, no change in its transmitter site location is proposed from the original License or Construction Permit. An increase in Effective Radiated Power to 220 Watts (0.22 KW) and a change in directional antenna systems to a Scala CL series composite directional type antenna with vertical and horizontal polarization is proposed. The antenna will be mounted at the 25 meter level on a 43 meter overall, unregistered, existing tower, with a Center of Radiation at 3244 meters Above Mean Sea Level.

This translator is not located within any Arbitron Metro area and thus can be processed without effect to a future LPFM window.

Figure 1 shows a channel interference study conducted from the proposed site for K231BQ. It shows that the proposed operation of K231BQ on channel 284D, will not cause any prohibited outgoing interference to any licensed or proposed FM services, with the exception of KXKL-FM Denver, Colorado operating on channel 286C, facility ID 59959, and KKFN Longmont, Colorado operating on channel 282C1, facility ID 71767. Both of these station are second adjacent to the proposed operation of K231BQ on

channel 284D. Figure 2 shows the coverage area for the worse case 100 dBμ interference contour F(50-10) and shows that there is no population in the area of interference. The applicant, Cedar Cove Broadcasting, Inc., respectfully requests a waiver of C.F.R. 74.1204(d) of the Commission's rules based on the fact that there is no population within the area of predicted interference. There are no homes nearby the proposed existing tower site, which is a privately owned 10 acre wooded area, with private access. The transmitter building is uninhabited and does not have indoor plumbing.

Figure 3 shows the antenna polar plot of the proposed directional antenna system.

Figure 4 is a tabulation of distance to contours for the pertinent contours proposed by K231BQ.

It was concluded that the new proposed operation of K231BQ Estes Park, Colorado on channel 284D will not cause any harmful interference to any existing stations, and will be in full compliance with the commission's rules.

FIGURE 1 - DETAILED INTERFERENCE STUDY  
K231BQ ESTES PARK, CO, CH. 284D  
Average Protected F(50-50)= 6.87 km  
Standard Directional

REFERENCE		CH#		284D - 104.7 MHz, Pwr= 0.22 kW DA, HAAT= 0.0 M, COR= 3244 M				DISPLAY DATES			
39 40 31.0 N.				Average Protected F(50-50)= 6.87 km				DATA 04-27-13			
105 29 02.0 W.				Standard Directional				SEARCH 04-28-13			
CH	CALL	TYPE	ANT	AZI	DIST	LAT	PWR(kw)	INT(km)	PRO(km)	*IN*	*OUT*
CITY		STATE		<--	FILE #	LNG	HAAT(M)	COR(M)	LICENSEE	(Overlap in km)	
284D	K231BQ *	CP	DV_	0.0	0.00	39 40 31.0	0.100	74.3	23.3	-94.2	-89.2 *
Estes Park		CO		0.0	BPFT20130220ADB	105 29 02.0		3244	Cedar Cove Broadcasting, I		
284C1	KKVM	LIC	_C_	267.2	82.72	39 38 05.0	100.000	170.7	68.7	-90.0	0.3
Vail		CO		86.6	BMLH20031119AII	106 26 47.0	102	3015	Vail Radio Partners, LLC		
286C	KXKL-FM **	LIC	_CN	109.5	24.97	39 36 00.0	100.000	6.8	56.7	-9.4	-32.3 **
Denver		CO		289.7	BLH19901023KB	105 12 35.0	356	2448	Wilks License Company-denv		
282C1	KKFN **	LIC	NC_	85.1	27.45	39 41 45.0	100.000	3.2	31.0	-8.4	-4.4 **
Longmont		CO		265.3	BLH19991214ABH	105 09 54.0	206	2081	Lincoln Financial Media Co		
284L1	KELS-LP	LIC	___	38.7	101.37	40 23 05.0	0.061	21.4	6.6	44.1	1.4
Greeley		CO		219.1	BLL20100524ACP	104 44 11.0	38	1489	Plymouth Gathering Inc.		
286D	KXKL-FM1	LIC	DC_	36.1	39.24	39 57 37.0	1.500	0.1	2.0	6.6	33.3
Boulder		CO		216.2	BLFTB20030502ABA	105 12 46.0		1762	Wilks License Company-denv		
284L1	KREV-LP	LIC	___	355.0	80.50	40 23 51.0	0.100	18.6	5.6	38.9	12.3
Estes Park		CO		174.9	BLL20120713ADJ	105 34 02.0		2429	United Methodist Church Of		
284D	641070	APP	DV_	7.2	105.46	40 37 03.0	0.010	22.7	1.8	57.6	21.6
Masonville		CO		187.3	BNPFT20030314BSM	105 19 40.0	387	2549	Mary Medicus		
284A	KKCS	LIC	NCX	126.4	125.79	38 59 57.0	1.550	75.2	22.3	28.0	27.2
Calhan		CO		307.1	BMLED20121019AAH	104 18 47.0	198	2192	Educational Media Foundati		
231D	K231AA«	LIC	_CN	33.4	38.59	39 57 54.0	0.205	0.0	0.0	10.0R	29.1M
Boulder		CO		213.5	BLFT19960111TK	105 14 05.0	-133	1719	Citicasters Licenses, Inc.		
284C1	KNNG	LIC	_CN	63.4	231.98	40 34 57.0	100.000	162.5	64.2	30.5	64.5
Sterling		CO		245.0	BLH19810402AB	103 01 56.0	198	1508	Arnold Broadcasting, Inc.		
284D	KKVM-FM3	LIC	DV_	264.3	48.52	39 37 51.0	0.175	15.4	4.8	30.7	39.4
Dillon		CO		84.0	BLFTB20090115AFD	106 02 47.0		2786	Vail Radio Partners, LLC		
284D	1547475	APP	DC_	145.0	67.63	39 10 33.0	0.010	9.7	2.5	37.7	45.3
Westcreek		CO		325.3	BNPFT20030310BGE	105 02 03.1		2823	Way Media , Inc.		
230A	KYSL«	LIC	_CN	256.4	55.76	39 33 22.0	0.560	0.0	0.0	10.0R	46.3M
Frisco		CO		76.0	BLH19940808KA	106 06 53.0	324	3549	Krystal Broadcasting, Inco		
283C3	KSTY	LIC	_CX	171.1	152.84	38 18 54.0	8.600	83.7	55.2	56.2	92.1
Canon City		CO		351.2	BLH20071003ABD	105 12 40.0	14	2138	Royal Gorge Broadcasting,		
283C2	KYAP	RSV-A	___	343.7	186.34	41 17 02.0	50.000	97.8	68.3	68.2	105.6
Centennial		WY		163.3		106 06 36.0	150	2778	White Park Broadcasting, I		
281C3	KBVC	LIC	NCN	211.0	120.24	38 44 45.0	0.600	1.7	46.6	115.9	73.3
Buena Vista		CO		30.6	BLH19961127KB	106 11 55.0	362	3335	Three Eagles Communication		
281D	K281AM	LIC	_C_	265.8	83.11	39 36 58.0	0.050	0.5	4.7	80.2	78.4
Vail		CO		85.1	BLFT201111003ASF	106 26 57.0		2727	Nrc Broadcasting Mountain		
283D	KSTY-FM1	LIC	_C_	152.4	116.42	38 44 43.0	0.003	17.4	9.3	80.1	101.4
Colorado Springs		CO		332.8	BLFTB20050815ABU	104 51 39.0		2957	Royal Gorge Broadcasting L		
230A	KCWA«	LIC	ZCX	15.7	94.45	40 29 37.0	0.580	0.0	0.0	10.0R	85.0M
Loveland		CO		195.9	BLH20101214ACL	105 10 53.0	319	2098	Way Media, Inc.		
285C3	KRYE	LIC	_CX	167.5	196.70	37 56 40.0	25.000	90.6	53.2	92.3	127.7
Rye		CO		347.8	BLH20080307ADA	104 59 56.0	55	2597	United States Cp, LLC		
283C2	KYAP	APP	NCX	1.0	178.77	41 17 06.0	13.500	56.2	36.5	97.6	106.4
Centennial		WY		181.1	BPH20130124ACV	105 26 41.0	284	2702	White Park Broadcasting, I		
281C3	KFMU-FM	LIC	NCN	298.2	134.19	40 14 10.0	1.400	2.1	29.7	123.6	103.3
Oak Creek		CO		117.3	BLH19940111KC	106 52 30.0	327	2831	Nrc Broadcasting Mountain		
285C2	KRRR	LIC	NCX	22.2	175.41	41 08 04.0	25.500	35.8	22.8	108.3	110.1
Cheyenne		WY		202.7	BLH20031125AIV	104 41 32.0	35	1859	Brahmin Broadcasting Corpo		
231C2	KEZZ«	LIC	NCX	307.2	128.56	40 22 03.0	1.750	0.0	0.0	15.0R	114.1M
Phippsburg		CO		126.4	BLH20090522ACV	106 41 28.0	380	3107	Youngers Colorado Broadcas		

CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	Page # 2 *IN* (Overlap in km)		*OUT*
282D Aspen	647603	APP DC_	CO	247.1 66.2	126.42 BNPFT20030317BQR	39 13 33.0 106 50 00.0	0.011 19	0.0 2877	1.6 Educational	124.3		124.8 Communications
285C1 Olney	KRYE Springs	CP NCX	CO	142.1 323.1	226.75 BPH20100125AIM	38 03 18.0 103 53 35.0	100.000 79	76.2 1417	46.4 United States	127.9		168.1 Cp, LLC
287C Rifle	KZKS	LIC _HN	CO	264.1 82.4	228.97 BLH19940928KB	39 25 57.0 108 07 46.0	60.000 743	13.5 2690	97.4 Western Slope	213.1		130.8 Communicatio
287D Carbondale	KZKS-FM2	LIC DVN	CO	260.9 79.7	165.28 BLFTB19951204TB	39 25 30.0 107 22 46.0	0.060 798	0.5 3248	29.6 Western Slope	162.4		135.2 Communicatio
287D Glenwood Springs	KZKS-FM3	LIC _C_	CO	266.0 84.8	157.86 BLFTB20000918AKW	39 33 40.0 107 18 59.0	0.250	1.1 2219	7.1 Western Slope	154.3		150.7 Communicatio
283A Centennial	KYAP	LIC _CX	WY	343.1 162.7	188.46 BLH20121126ACD	41 17 49.0 106 08 23.0	0.500 33	12.0 2455	8.5 White Park Broadcasting, I	155.7		164.7
285C1 Norwood	KRYD	LIC _C_	CO	238.1 56.4	279.40 BLH20080519AAS	38 18 59.0 108 11 55.0	24.000 512	105.2 3074	71.3 Rocky Iii Investments, Inc	171.9		203.8
287A Pine Bluffs	KREO	LIC _CX	WY	34.4 215.4	218.58 BLH20031125AJQ	41 17 17.0 104 00 21.0	6.000 76	2.5 1650	25.4 Chisholm Trail Broadcastin	180.6		192.2
282C0 Grand Junction	KMXV	LIC _CX	CO	257.5 75.4	289.29 BLH20110209ADG	39 03 56.0 108 44 52.0	100.000 446	16.2 2245	99.0 Townsquare Media Grand Jun	270.8		189.7
284C1 Casper	KTRS-FM	LIC _CX	WY	348.9 168.3	347.67 BLH20060927ANT	42 44 37.0 106 18 24.0	18.000 554	122.4 2524	49.0 Townsquare Media Casper Li	202.9		242.7
231C Montrose	KKXK«	LIC _CY	CO	232.1 50.7	238.57 BLH19961009KC	38 20 16.0 107 38 23.0	100.000 574	0.0 3094	0.0 Ccr-montrose Iv, LLC	29.0R		210.1M
287D Grand Junction	KZKS-FM1	LIC DCN	CO	257.5 75.4	289.12 BLFTB19980514TE	39 03 57.0 108 44 45.0	20.000 354	7.8 2150	77.9 Western Slope Communicatio	279.0		210.9
281C1 Burlington	KNAB-FM	LIC _CN	CO	97.7 279.7	280.54 BLH19900222KD	39 17 41.0 102 15 37.0	51.000 110	4.6 1367	42.3 Knab, Inc.	243.4		237.1
286A Wheatland	AU9412036	VAC _	WY	9.4 189.8	270.23 RM11407	42 04 28.0 104 56 51.0	6.000 100	1.8 1547	17.4 Appaloosa Broadcasting Com	240.6		246.7
281C2 Guernsey	KANT	LIC _CX	WY	7.1 187.4	299.02 BLH20080304AAR	42 20 46.6 105 02 03.9	36.000 172	6.2 1675	53.4 Peak Radio LLC	265.7		244.8
231C1 Scottsbluff	KNEB-FM«	LIC _CN	NE	33.4 214.6	271.75 BLH19810904AB	41 42 04.0 103 40 49.0	100.000 207	0.0 1512	0.0 Nebraska Rural Radio Assoc	22.0R		250.3M
281C2 Guernsey	KANT	CP _CX	WY	7.1 187.4	299.02 BPH20110211ACB	42 20 46.6 105 02 03.9	18.000 172	5.1 1675	47.2 Peak Radio LLC	266.8		251.0
287C Des Moines	R13666	ADD _	NM	154.9 336.0	342.25	36 52 21.0 103 51 13.0	100.000 600	13.3 2576	89.8 Caroline Smith	309.9		251.5
281C3 Silverton	NEW	CP _CX	CO	223.0 41.6	281.48 BNPH20110630AEB	37 48 12.0 107 40 04.0	25.000 -604	2.3 2859	22.7 Mt Communications	276.7		258.7
287C Des Moines	R13666	DEL _	NM	155.5 336.5	353.94	36 45 48.0 103 50 12.0	100.000 600	14.3 2626	93.5 Caroline Smith	320.9		260.1
287C Des Moines	AU6249403	VAC _	NM	155.5 336.5	353.94 RM9842	36 45 48.0 103 50 12.0	100.000 600	14.3 2626	93.5 Caroline Smithe	320.9		260.1
231A Idalia	KWDI«	LIC _CX	CO	88.3 270.4	273.80 BMLH20080806ABJ	39 42 10.0 102 17 32.0	0.100 58	0.0 1216	0.0 Conundrum Communications I	10.0R		264.3M

Terrain database is 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.  
« = Station meets FCC minimum distance spacing for its class.

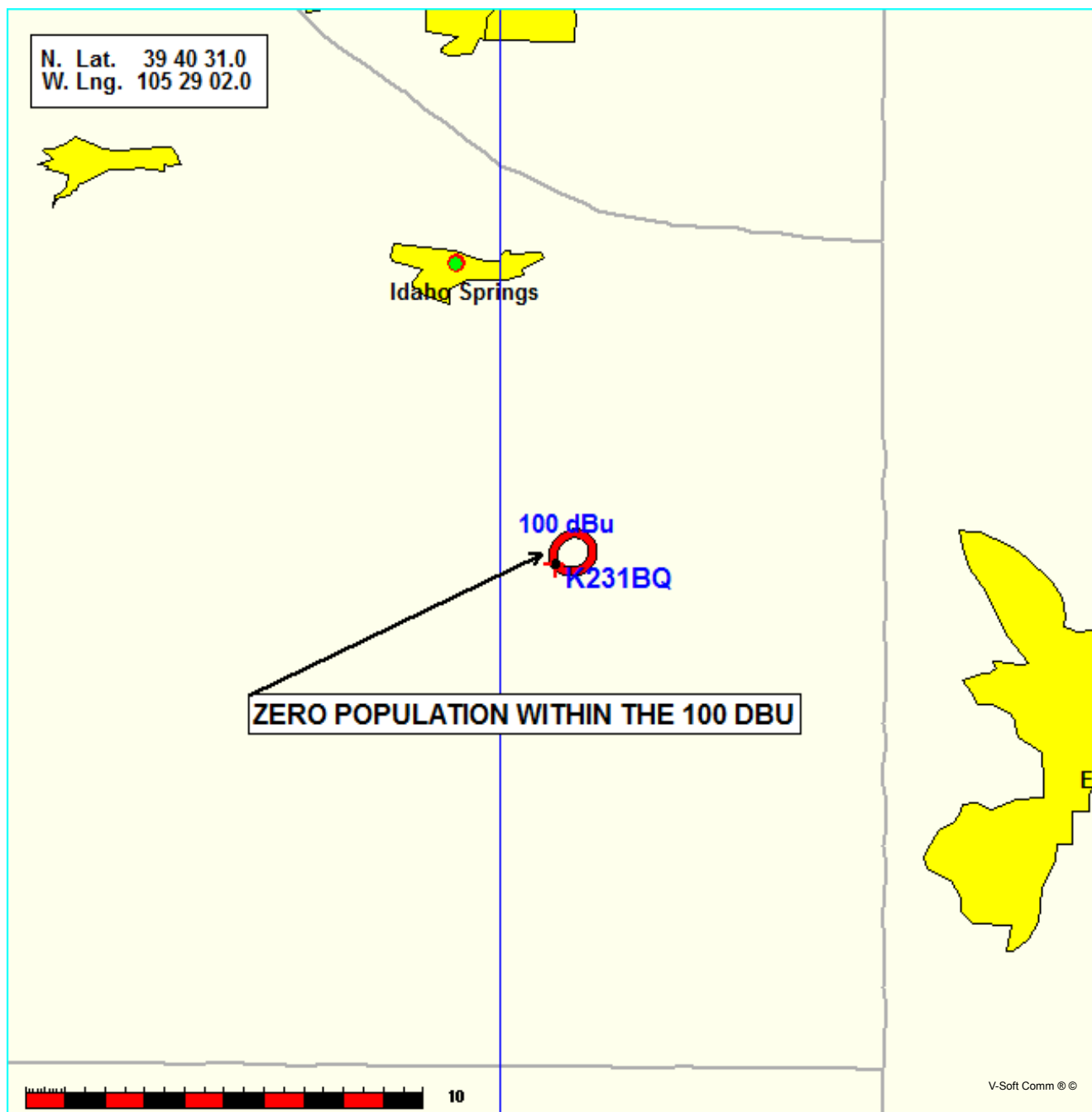
\* Translator CP being modified by this application.

\*\* No actual interference will be caused to either KXKL-FM Denver or KKFN Longmont since the proposed 100 dBu interference contour will not cover any population. See the Technical Statement for more details.

FIGURE 2 - PROPOSED 100 DBU INTEFERENCE CONTOUR  
K231BQ ESTES PARK, CO, CH. 284D

Coverage Study - NGDC 30 SEC  
04-28-2013

K231BQ CH284 D , 0.22 kW, 0.0M HAAT, 3244.0M COR AMSL  
Interference Contour = 100 dBu. Population = 0



# FIGURE 3 - Directional antenna data

K231BQ.C

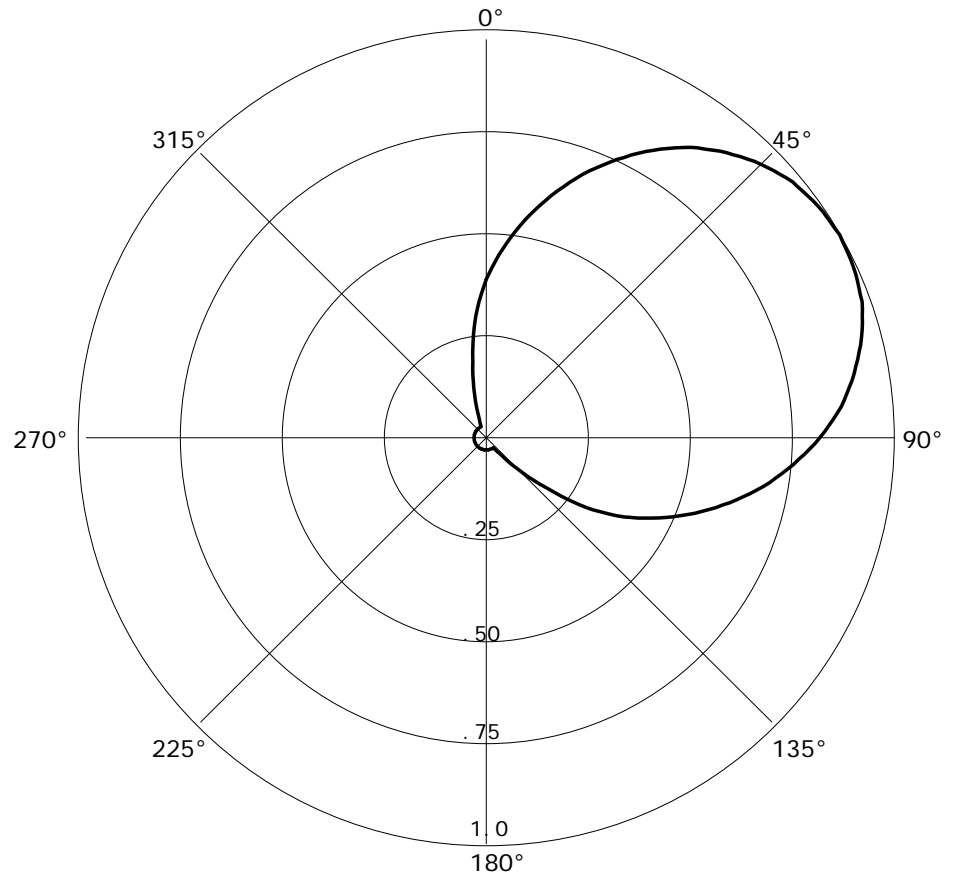
04-28-2013

RMS(V) = .467

Scala CL series composite

Graph is Relative Field

Azi	Field	dBk	kW
000	0.390	-14.754	0.033
010	0.544	-11.864	0.065
020	0.690	-9.799	0.105
030	0.817	-8.331	0.147
040	0.916	-7.338	0.185
050	0.980	-6.751	0.211
060	1.000	-6.576	0.220
070	0.980	-6.751	0.211
080	0.916	-7.338	0.185
090	0.817	-8.331	0.147
100	0.690	-9.799	0.105
110	0.544	-11.864	0.065
120	0.390	-14.754	0.033
130	0.190	-21.001	0.008
140	0.050	-32.596	0.001
150	0.030	-37.033	0.000
160	0.030	-37.033	0.000
170	0.030	-37.033	0.000
180	0.030	-37.033	0.000
190	0.030	-37.033	0.000
200	0.030	-37.033	0.000
210	0.030	-37.033	0.000
220	0.030	-37.033	0.000
230	0.030	-37.033	0.000
240	0.030	-37.033	0.000
250	0.030	-37.033	0.000
260	0.030	-37.033	0.000
270	0.030	-37.033	0.000
280	0.030	-37.033	0.000
290	0.030	-37.033	0.000
300	0.030	-37.033	0.000
310	0.030	-37.033	0.000
320	0.030	-37.033	0.000
330	0.030	-37.033	0.000
340	0.050	-32.596	0.001
350	0.190	-21.001	0.008



Antenna oriented at 60 degrees

Contour.out

N. Lat. = 394031.0 W. Lng. = 1052902.0  
 HAAT and Distance to Contour,  
 FCC, FM 2-10 Mi, 51 pts Method - NGDC 30 SEC

FIGURE 4, TABULATION OF DISTANCES TO CONTOURS

Azi.	AV EL	HAAT	dBk	60-F5	40-F1	100-F1
000	2629.8	614.2	-14.75	19.91	65.92	0.41
010	2624.8	619.2	-11.86	23.64	75.10	0.57
020	2645.6	598.4	-9.80	26.03	80.49	0.72
030	2596.3	647.7	-8.33	29.35	87.65	0.85
040	2523.1	720.9	-7.34	33.10	94.33	0.95
050	2461.6	782.4	-6.75	36.00	99.03	1.02
060	2356.4	887.6	-6.58	38.99	103.58	1.04
070	2406.6	837.4	-6.75	37.43	101.21	1.02
080	2487.4	756.6	-7.34	34.08	95.94	0.95
090	2518.1	725.9	-8.33	31.24	91.34	0.85
100	2500.5	743.5	-9.80	29.04	87.48	0.72
110	2394.3	849.7	-11.86	27.59	85.06	0.57
120	2446.8	797.2	-14.75	22.58	73.71	0.41
130	2517.8	726.2	-21.00	13.86	52.24	0.20
140	2539.8	704.3	-32.60	4.73	25.76	0.05
150	2596.8	647.2	-37.03	2.93	18.29	0.03
160	2727.9	516.1	-37.03	2.89	15.75	0.03
170	2765.1	478.9	-37.03	2.88	15.13	0.03
180	2822.6	421.4	-37.03	2.85	14.06	0.03
190	2811.2	432.8	-37.03	2.86	14.24	0.03
200	2968.6	275.4	-37.03	2.65	11.51	0.03
210	3028.1	215.9	-37.03	2.55	10.21	0.03
220	3085.2	158.8	-37.03	2.32	8.72	0.03
230	3266.4	-22.4	-37.03	1.61	3.73	0.03
240	3377.0	-133.0	-37.03	1.61	3.73	0.03
250	3309.5	-65.5	-37.03	1.61	3.73	0.03
260	3221.1	22.9	-37.03	1.61	3.73	0.03
270	3182.6	61.4	-37.03	1.72	5.42	0.03
280	3045.5	198.5	-37.03	2.48	9.79	0.03
290	2953.9	290.1	-37.03	2.66	11.81	0.03
300	2916.4	327.6	-37.03	2.72	12.52	0.03
310	2706.4	537.6	-37.03	2.90	16.13	0.03
320	2599.5	644.5	-37.03	2.93	18.24	0.03
330	2610.9	633.1	-37.03	2.93	18.04	0.03
340	2693.7	550.3	-32.60	4.57	22.18	0.05
350	2646.5	597.5	-21.00	12.71	47.52	0.20

Ave EI = 2749.55 M HAAT= 494.45 M AMSL= 3244