

Engineering Statement  
In Support of an Application for  
Modification of Construction Permit  
K277BR ó Sterling, CO  
FID No. 141906  
BNPFT-20120319AAX

The Corporate Engineering Department of the Crawford Broadcasting Company, on behalf of its subsidiary, KLZ Radio, Inc. (óKLZö), has prepared this Engineering Statement and associated exhibits to accompany an Application for Construction Permit to change the location, frequency and power of translator station K277BR (BNPFT-20120319AAX, FID No. 141906).

In a Public Notice, óMedia Bureau Announces Filing Dates and Procedures for AM Station Filing Window for FM Translator Modifications and Availability of FM Translator Technical Tools,ö DA-1491, Released December 23, 2015, the Commission outlined the eligibility for certain AM stations to modify and/or relocate FM translator stations. KLZ is licensee of Class D AM station KLDC, Denver, Colorado (FID No. 12364). This station meets the eligibility requirements for the first Modification Window (January 29 ó July 28, 2016).

KLZ has entered into an agreement to purchase translator station K277BR, Sterling, Colorado from licensee Cedar Cove Broadcasting, Inc. (óCCBö). In connection with this agreement, CCB has granted KLZ permission to file an application for modification of construction permit to relocate K277BR from its presently authorized site to a tower at the Lookout Mountain antenna farm west of Denver, which is at a site owned by Mauna Towers, LLC and at which KLZ has secured permission to locate K277BR. This tower is located at N39-43-46/ W105-14-08. The tower is 50 feet in height and as such does not have an Antenna Structure Registration. This site is located 131 miles from the presently authorized site of K277BR and as such is within the 250-mile relocation radius specified in the Notice.

KLZ proposes to move K277BR to channel 237D, change the maximum Effective Radiated Power to 50 watts horizontal only and employ a Scala HDCA-10H Yagi-type directional antenna with a main lobe oriented 80-degrees True. The antenna will be mounted at an elevation of 2251 meters above mean sea level (AMSL) and 9 meters above ground level (AGL), which corresponds to a height above average terrain (HAAT) of 230 meters.

Table 1 below shows a channel spacing study from the proposed site for K277BR on channel 237D. This study shows that an application for K268CK (237D) in Golden, CO is co-channel to the proposed facility. This application was dismissed on November 6, 2015 and is no factor.

The spacing study shows that KPTT (239C0) in Denver and KRKS-FM (234C) in Lafayette, CO are second-adjacent to the proposed facility. KPTT produces a field strength of 133.9 dBu at the proposed site. There are no dwellings within the +40 dB 173.9 dBu contour of the proposed facility and as such the contour has zero population. Similarly, KRKS-FM produces

a field strength of 77.96 dBu at the proposed site. There are no dwellings within the +40 dB 117.96 dBu contour of the proposed facility as such the contour has zero population.

The maximum free-space contour distance for the 118 dBu contour is 62.4 meters from the antenna. Figure 1 is an aerial view showing the free-space 118 dBu contour of the proposed facility. This view clearly shows that there are no dwellings within the contour, which on many azimuths does not reach the ground; the only building within the footprint of the contour is the radio equipment shelter at the site.

Based on the fact of zero population within the 118 dBu contour (and inclusively within the 174 dBu contour), 47 C.F.R. §74.1204(d) of the Commission's Rules applies with respect to KPTT and KRKS-FM.

The spacing study identifies KALC (290C) in Denver as a 10.6/10.8 MHz IF short spacing to the proposed facility. Because the proposed facility will operate with less than 100 watts ERP, in accordance with 47 C.F.R. §74.1204(g) it will not be subject to intermediate frequency separation requirements.

The study shows that KATC-FM (236C) in Colorado Springs, CO is first-adjacent channel to the proposed facility. Figure 2 shows that the proposed facility will not produce any prohibited overlap to the KATC-FM protected 60 dBu contour.

A construction permit for a new LPFM (237L1) in Louisville, CO is identified in the study as co-channel to the proposed facility. Figure 3 shows that the proposed facility will not produce any prohibited contour overlap to the new 237L1 facility.

Figure 4 and Table 2 show the proposed directional antenna pattern for use by K277BR on channel 237D at the proposed site.

Table 3 is a tabulation of the distances to pertinent contours used in the study for the proposed operation of K277BR on channel 237D at the proposed site.

Figure 5 shows the proposed 60 dBu contour of K277BR will be completely contained within the licensed 2 mV/m daytime contour and 25-mile radius of station KLDC(AM).

It was concluded that the new proposed operation of K277BR on channel 237D at the proposed new site will not cause any harmful interference to any existing stations and will be in full compliance with the Commission's rules.

Respectfully submitted,



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W.C. Alexander, CPBE, AMD, DRB  
Director of Engineering  
Crawford Broadcasting Company

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FM Study for: K277BR      FCC Database Date: 1/15/2016      39-43-46  
 Location: Denver, CO      Channel Class:      105-14-08  
 [\*] by HAAT indicates calculated as missing in database.

Call Status	City, State	Proponent	Chan File Number	Cl.	Freq	kW HAAT	Latitude Longitude	Dist. Azm.	Required Clear (km)	Site
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>>>>>> Study For Channel 237 95.3 MHz <<<<<<<<										
KPTT LIC	DENVER, CO	Fac. No. 48967	239 BLH-20071003ACN	C0	95.7	100.+ 346	39-43-59 105-14-10	0.4 353.2	93 -92.6	SHORT
KRKFSM LIC	LAFAYETTE, CO	Fac. No. 58631	234 BMLH-19981009KC To Channel 234C Lafayette CO per D96-64	C	94.7	100.+ 300	40-04-19 105-21-14	39.4 345.1	93 -53.6	SHORT
K268CK APP	GOLDEN, CO	Fac. No. 147935	237 BPFT-20150901AAW	D	95.3	.075+ 230	39-43-46 105-14-08	0.0 0.0	44 -44.0	SHORT
KALC LIC	DENVER, CO	Fac. No. 59601	290 BLH-20050602ABO	C	105.9	96.0 524	39-43-58 105-14-08	0.4 0.0	29 -28.6	SHORT
KALC-A LIC	DENVER, CO	Fac. No. 59601	290 BXLH-20101020AAI	C	105.9	25.0+ 487	39-43-59 105-14-10	0.4 353.2	29 -28.6	SHORT
KATCFM LIC	COLORADO SPRINGS, CO	Fac. No. 66249	236 BLH-20060622ABT	C	95.1	58.0 695	38-44-43 104-51-39	113.9 163.4	111 2.9	CLOSE
NEW CP	LOUISVILLE, CO	Fac. No. 195390	237 BNPL-20131114AQP	L1	95.3	.100 -4	39-58-58 105-07-31	29.7 18.5	24 5.7	CLOSE
NEW CP	BOULDER, CO	Fac. No. 195699	236 BNPL-20131114ABS	L1	95.1	.100 -266	40-01-07 105-16-47	32.3 353.3	14 18.3	CLEAR
K237BI LIC	BRECKENRIDGE, ET, CO	Fac. No. 44009	237 BLFT-19860130TC TRANSLATOR FOR KQMT EAGLE CO.	D	95.3	.054+ 393	39-27-50 105-58-56	70.6 245.5	44 26.6	CLEAR
K237CY LIC	FT. COLLINS, CO	Fac. No. 140267	237 BLFT-20061016ADT	D	95.3	.010+ 332	40-29-36 105-10-52	84.9 3.1	44 40.9	CLEAR
K238BP CP	LAKE GEORGE, CO	Fac. No. 139420	238 BNPFT-20130821ACS	D	95.5	.010 683	39-02-55 105-30-44	79.3 197.6	32 47.3	CLEAR
K237BL LIC	VAIL, ETC., CO	Fac. No. 44016	237 BLFT-19880816TA TRANSLATOR FOR KQMT EAGLE CO.	D	95.3	.054+ -217	39-36-56 106-26-57	104.9 263.5	44 60.9	CLEAR
KSIKLP LIC	GREELEY, CO	Fac. No. 196062	237 BLL-20150722ADI	L1	95.3	.061 38	40-23-24 104-42-58	85.7 31.0	24 61.7	CLEAR
KCGY LIC	LARAMIE, WY	Fac. No. 14753	236 BLH-20150902AAR	C	95.1	100. 332	41-18-37 105-27-14	176.5 354.1	111 65.5	CLEAR
K235BT LIC	FORT COLLINS, CO	Fac. No. 155948	235 BLFT-20121105ANJ	D	94.9	.099+ 334	40-29-38 105-10-53	85.0 3.1	14 71.0	CLEAR



Figure 1- Aerial View Showing K277BR-P 118 dBu Contour

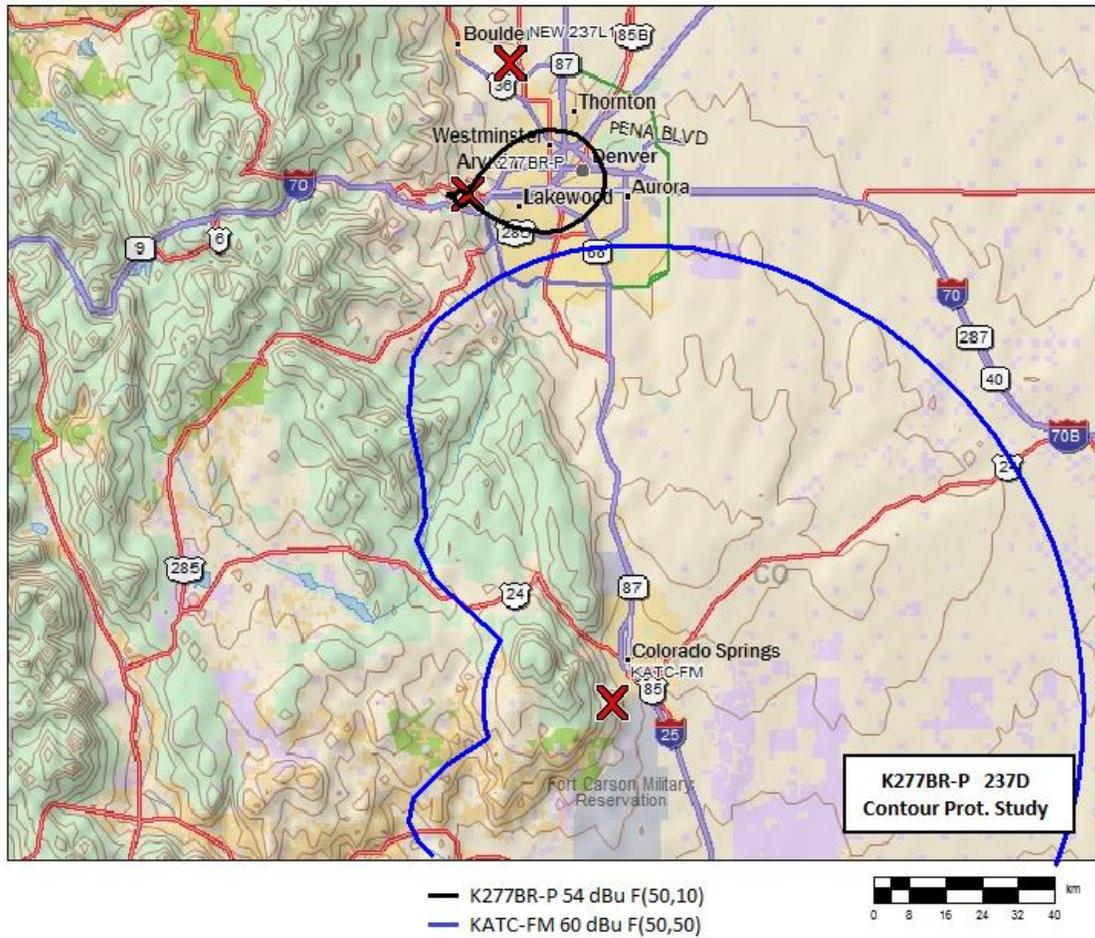


Figure 2 – K277BR-P Contour Protection Study to KATC-FM

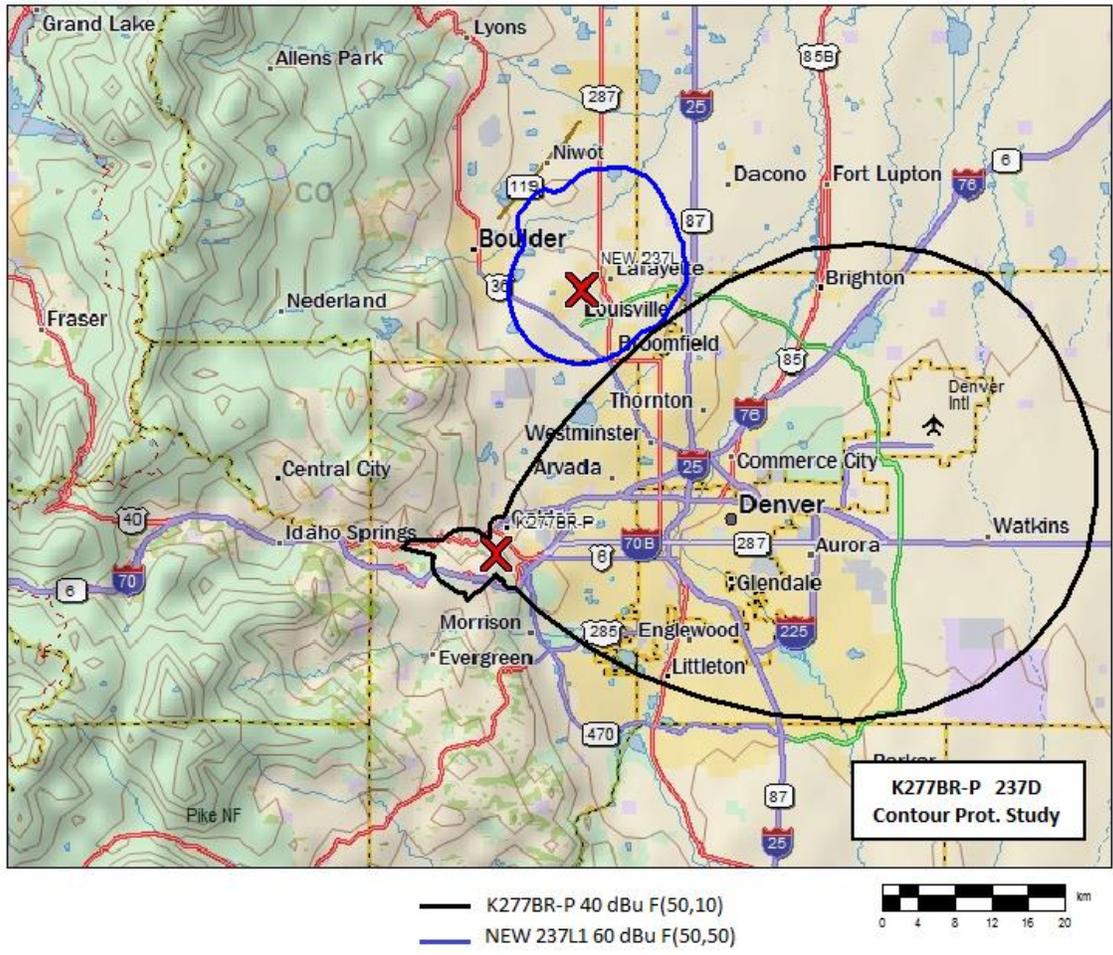


Figure 3 - K277BR-P Contour Protection Study to NEW 237DLP1 in Louisville, CO

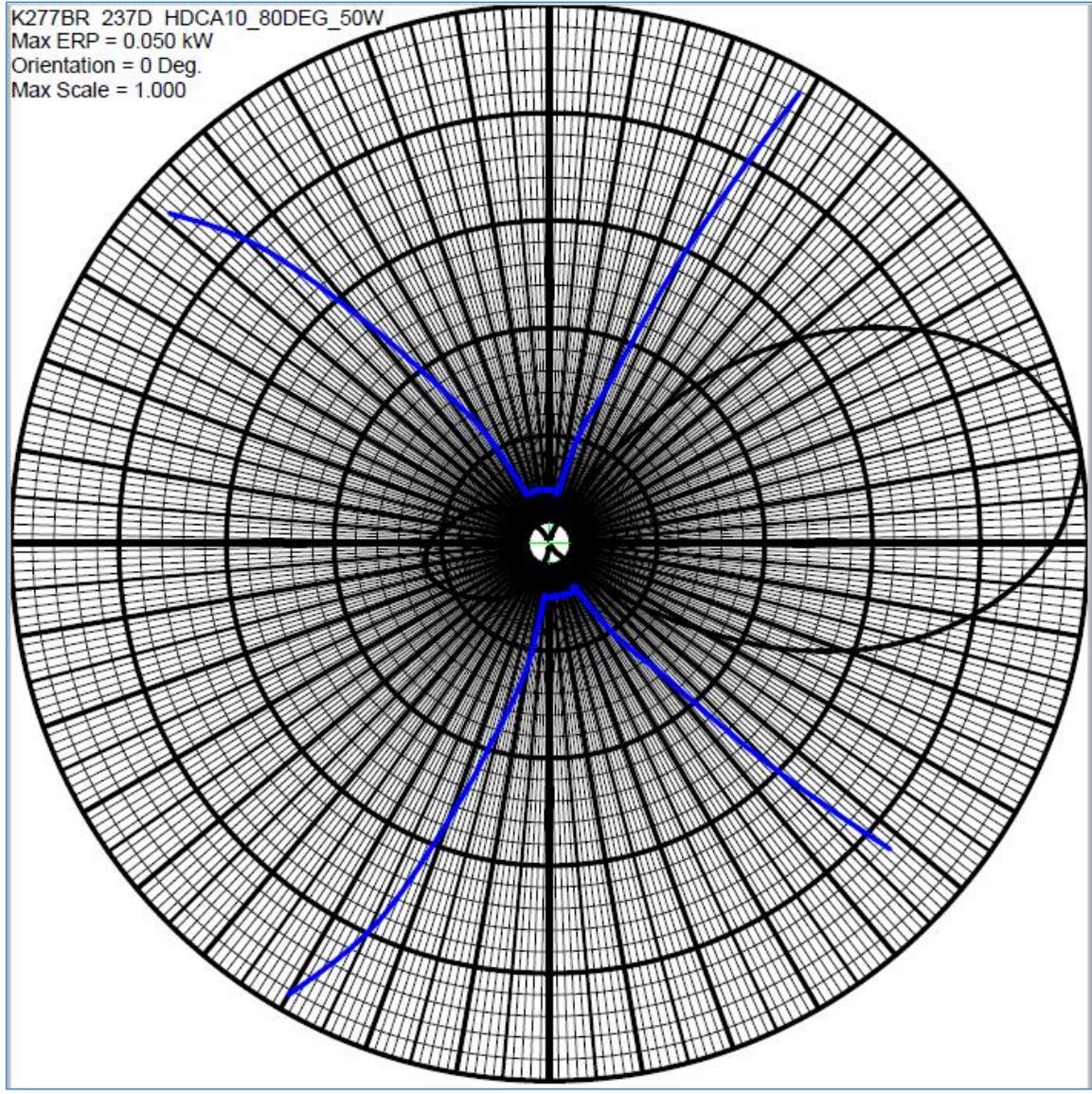


Figure 4 –Directional Antenna Pattern

Table 2  
 K277BR\_237D\_HDCA-10H\_80DEG\_50W Pattern  
 Horizontal Plane Pattern  
 Pattern RMS: .3825 Field

Azimuth	Field	dBk	ERP (kW)	Azimuth	Field	dBk	ERP (kW)
0	0.010	-53.01	0.00	180	0.010	-53.01	0.00
5	0.010	-53.01	0.00	185	0.010	-53.01	0.00
10	0.010	-53.01	0.00	190	0.023	-45.78	0.00
15	0.020	-46.99	0.00	195	0.035	-42.13	0.00
20	0.030	-43.47	0.00	200	0.055	-38.20	0.00
25	0.060	-37.45	0.00	205	0.080	-34.95	0.00
30	0.108	-32.34	0.00	210	0.097	-33.27	0.00
35	0.200	-26.99	0.00	215	0.115	-31.80	0.00
40	0.320	-22.91	0.01	220	0.133	-30.53	0.00
45	0.460	-19.76	0.01	225	0.148	-29.61	0.00
50	0.585	-17.67	0.02	230	0.162	-28.82	0.00
55	0.696	-16.16	0.02	235	0.177	-28.05	0.00
60	0.792	-15.04	0.03	240	0.192	-27.34	0.00
65	0.873	-14.19	0.04	245	0.209	-26.61	0.00
70	0.937	-13.58	0.04	250	0.222	-26.08	0.00
75	0.975	-13.23	0.05	255	0.231	-25.74	0.00
80	1.000	-13.01	0.05	260	0.233	-25.66	0.00
85	0.975	-13.23	0.05	265	0.231	-25.74	0.00
90	0.937	-13.58	0.04	270	0.222	-26.08	0.00
95	0.873	-14.19	0.04	275	0.209	-26.61	0.00
100	0.792	-15.04	0.03	280	0.192	-27.34	0.00
105	0.696	-16.16	0.02	285	0.177	-28.05	0.00
110	0.585	-17.67	0.02	290	0.162	-28.82	0.00
115	0.460	-19.76	0.01	295	0.148	-29.61	0.00
120	0.320	-22.91	0.01	300	0.133	-30.53	0.00
125	0.200	-26.99	0.00	305	0.115	-31.80	0.00
130	0.108	-32.34	0.00	310	0.097	-33.27	0.00
135	0.060	-37.45	0.00	315	0.080	-34.95	0.00
140	0.030	-43.47	0.00	320	0.055	-38.20	0.00
145	0.020	-46.99	0.00	325	0.035	-42.13	0.00
150	0.010	-53.01	0.00	330	0.023	-45.78	0.00
155	0.010	-53.01	0.00	335	0.010	-53.01	0.00
160	0.010	-53.01	0.00	340	0.010	-53.01	0.00
165	0.010	-53.01	0.00	345	0.010	-53.01	0.00
170	0.010	-53.01	0.00	350	0.010	-53.01	0.00
175	0.010	-53.01	0.00	355	0.010	-53.01	0.00

Table 3  
 FM Contour Distances  
 K277BR-P 264D

Azi. Deg.	ERP kW	HAAT m	70	60	54	40
			dBu (50,50) km	dBu (50,50) km	dBu (50,10) km	dBu (50,10) km
0	0.000	407	0.2	0.5	1.0	4.18
5	0.000	431	0.1	0.5	0.9	4.25
10	0.000	440	0.1	0.4	0.9	4.27
15	0.000	445	0.3	0.9	1.9	7.17
20	0.000	449	0.4	1.4	2.7	9.63
25	0.000	476	0.9	2.7	5.0	14.65
30	0.001	504	1.6	4.6	7.9	21.45
35	0.002	520	2.9	7.5	12.0	30.21
40	0.005	528	4.4	10.5	16.1	39.36
45	0.011	535	5.9	13.1	20.3	47.70
50	0.017	539	7.2	15.2	23.2	53.60
55	0.024	548	8.2	16.9	25.7	58.31
60	0.031	556	9.1	18.4	27.8	62.00
65	0.038	553	9.7	19.3	29.1	64.34
70	0.044	543	10.1	19.8	29.9	65.58
75	0.048	540	10.3	20.1	30.5	66.44
80	0.050	539	10.5	20.4	30.9	67.02
85	0.048	538	10.3	20.1	30.4	66.32
90	0.044	534	10.0	19.6	29.6	65.04
95	0.038	525	9.5	18.7	28.2	62.72
100	0.031	511	8.8	17.4	26.4	59.47
105	0.024	494	8.0	15.9	24.2	55.21
110	0.017	471	6.9	14.2	21.6	49.73
115	0.011	449	5.7	12.2	18.4	43.03
120	0.005	437	4.3	9.9	14.5	35.15
125	0.002	438	2.9	7.1	11.2	27.51
130	0.001	451	1.6	4.6	7.6	20.37
135	0.000	460	0.9	2.7	5.0	14.42
140	0.000	458	0.5	1.4	2.7	9.68
145	0.000	444	0.3	0.9	1.9	7.16
150	0.000	413	0.2	0.5	1.0	4.20
155	0.000	357	0.2	0.5	1.0	4.03
160	0.000	318	0.2	0.5	1.0	3.90
165	0.000	207	0.2	0.6	1.0	3.46
170	0.000	106	0.3	0.7	1.0	2.66
175	0.000	116	0.3	0.6	1.0	2.75

Table 3  
FM Contour Distances  
K277BR-P 264D

Azi. Deg.	ERP kW	HAAT m	70	60	54	40
			dBu (50,50) km	dBu (50,50) km	dBu (50,10) km	dBu (50,10) km
180	0.000	78	0.3	0.6	0.9	2.36
185	0.000	53	0.4	0.7	0.9	2.05
190	0.000	30	0.5	0.8	1.1	2.30
195	0.000	30	0.6	1.0	1.3	2.80
200	0.000	30	0.7	1.2	1.6	3.48
205	0.000	30	0.8	1.4	1.9	4.20
210	0.000	30	0.9	1.5	2.1	4.64
215	0.001	42	1.1	1.9	2.7	5.97
220	0.001	30	1.0	1.7	2.5	5.45
225	0.001	30	1.1	1.8	2.6	5.76
230	0.001	30	1.1	1.9	2.7	6.03
235	0.002	30	1.2	2.0	2.8	6.30
240	0.002	30	1.2	2.1	2.9	6.56
245	0.002	30	1.3	2.2	3.0	6.85
250	0.002	30	1.3	2.3	3.1	7.06
255	0.003	30	1.3	2.3	3.2	7.21
260	0.003	30	1.3	2.3	3.2	7.24
265	0.003	30	1.3	2.3	3.2	7.21
270	0.002	30	1.3	2.3	3.1	7.06
275	0.002	72	1.8	3.3	4.8	10.70
280	0.002	65	1.7	3.0	4.3	9.77
285	0.002	30	1.2	2.0	2.8	6.30
290	0.001	30	1.1	1.9	2.7	6.03
295	0.001	30	1.1	1.8	2.6	5.76
300	0.001	30	1.0	1.7	2.5	5.45
305	0.001	30	1.0	1.6	2.3	5.06
310	0.000	30	0.9	1.5	2.1	4.64
315	0.000	30	0.8	1.4	1.9	4.20
320	0.000	30	0.7	1.2	1.6	3.48
325	0.000	30	0.6	1.0	1.3	2.80
330	0.000	30	0.5	0.8	1.1	2.30
335	0.000	53	0.4	0.7	0.9	2.05
340	0.000	114	0.3	0.6	1.0	2.73
345	0.000	195	0.2	0.5	0.9	3.38
350	0.000	283	0.2	0.6	1.0	3.77
355	0.000	368	0.2	0.5	1.0	4.06

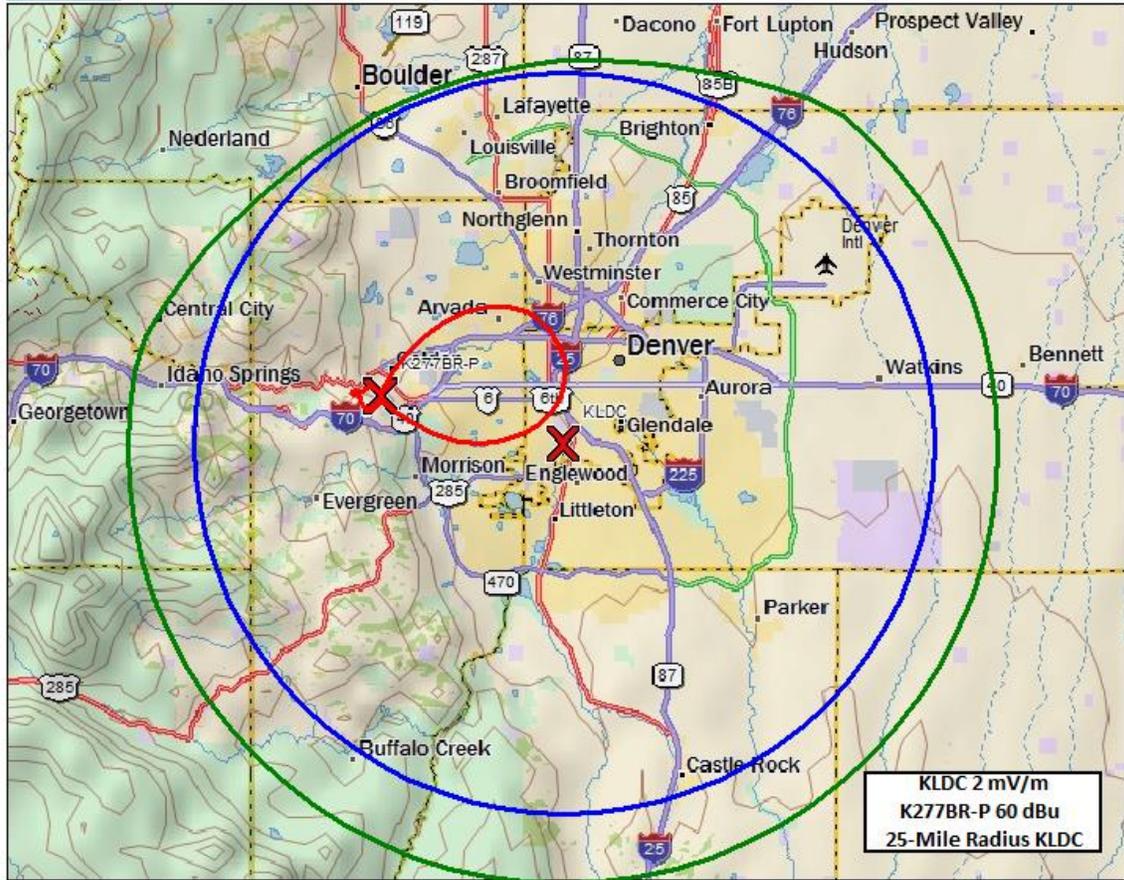


Figure 5 - K277BR-P 60 dBu, KLDC 2 mV/m daytime contour and 25-mile radius.