

Engineering Statement  
In Support of an Application to  
Augment the  
Daytime Directional Pattern of  
KLDC, Brighton, Colorado  
810 kHz, 2.2 kW-D/0.430 kW-N, DA-2

The Corporate Engineering Department of the Crawford Broadcasting Company, on behalf of its subsidiary, KLZ Radio, Inc., has prepared this Engineering Statement and associated exhibits to accompany an Application for Construction Permit to augment the daytime directional antenna pattern of KLDC, Brighton, Colorado.

KLDC is currently authorized as a class B AM station operating on 810 kHz with 2.2 kW directional daytime and 0.430 kW directional nighttime (DA-2), with daytime and nighttime operations located at separate sites (BL-20051125ADA).

Recently, some instability was noticed in the field strength of the daytime facility monitoring points. The power was immediately reduced to maintain monitor point field strengths below the authorized limits. An investigation was made into the cause of the monitor point field strength instability and it was discovered that a number of construction cranes had been erected approximately 0.8 miles from the site and in the main lobe. These cranes, each 75 to 100 feet in height with a 75- to 100-foot horizontal boom, are producing a constantly varying and significant amount of reradiation. The site where the cranes are located is a business that manufactures and sells cranes. The business has expanded its line from small, portable hydraulic cranes to larger construction cranes. The business owner advises that there will always be two or three such cranes on the site. Because these cranes are constantly being put up and taken down, there is no practical means of detuning the structures.

An unsuccessful attempt was made to adjust the directional parameters of the KLDC daytime facility to compensate for the reradiation from the cranes. As the crane booms swing around and the load lines are run up and down, the nature and magnitude of the reradiation is constantly changing, making it impossible to stabilize the monitor point field strengths. As such, augmentation is the only practical means of dealing with the reradiation.

Four augmentations were calculated and applied, one on each of the monitored radials (15°, 65°, 99.5° and 340.5°) in accordance with 47 C.F.R. §73.152. A modified standard pattern was then calculated and plotted; the plot and tabulation are included herein.

The primary daytime protection for KLDC is KBHB in Sturgis, SD (810 kHz, 25 kW-D, ND, BL-20010214ABF). The licensed KLDC daytime directional pattern was designed to

prevent prohibited overlap between the KBHB and KLDC contours. Because the direct path between the KBHB and KLDC sites runs through the granite-filled Black Hills of South Dakota, it was suspected that conductivities along that radial path were considerably below those shown on M3. Conductivity measurements were thus made along the 195-degree radial from KBHB, and the conductivity was shown to be 1.5 mS/m out to 98.5 km. This measured conductivity was applied over the 20-degree span ( $\pm 10^\circ$ ) from 185 to 205 degrees True according to FCC policy and the KBHB 0.5 mV/m and 0.025 mV/m contours were calculated and plotted. The attached Daytime Allocation Study (Exhibit E-15) shows that there is no prohibited overlap between the KBHB licensed contours and the augmented KLDC daytime contours.

The only main lobe daytime protection is to KSWV in Santa Fe, NM. There is no change in the main lobe of the licensed standard pattern, so the KLDC main lobe contours and the KSWV contours are not shown on the Daytime Allocation study; they are irrelevant to the instant application.

No other changes are proposed herein, including ground system, sample system and theoretical parameters. The changes in the calculated 1 V/m and 25 mV/m contour locations are minor and do not impact the population ratio. The entire technical operation will continue to be in compliance with all applicable FCC Rules.

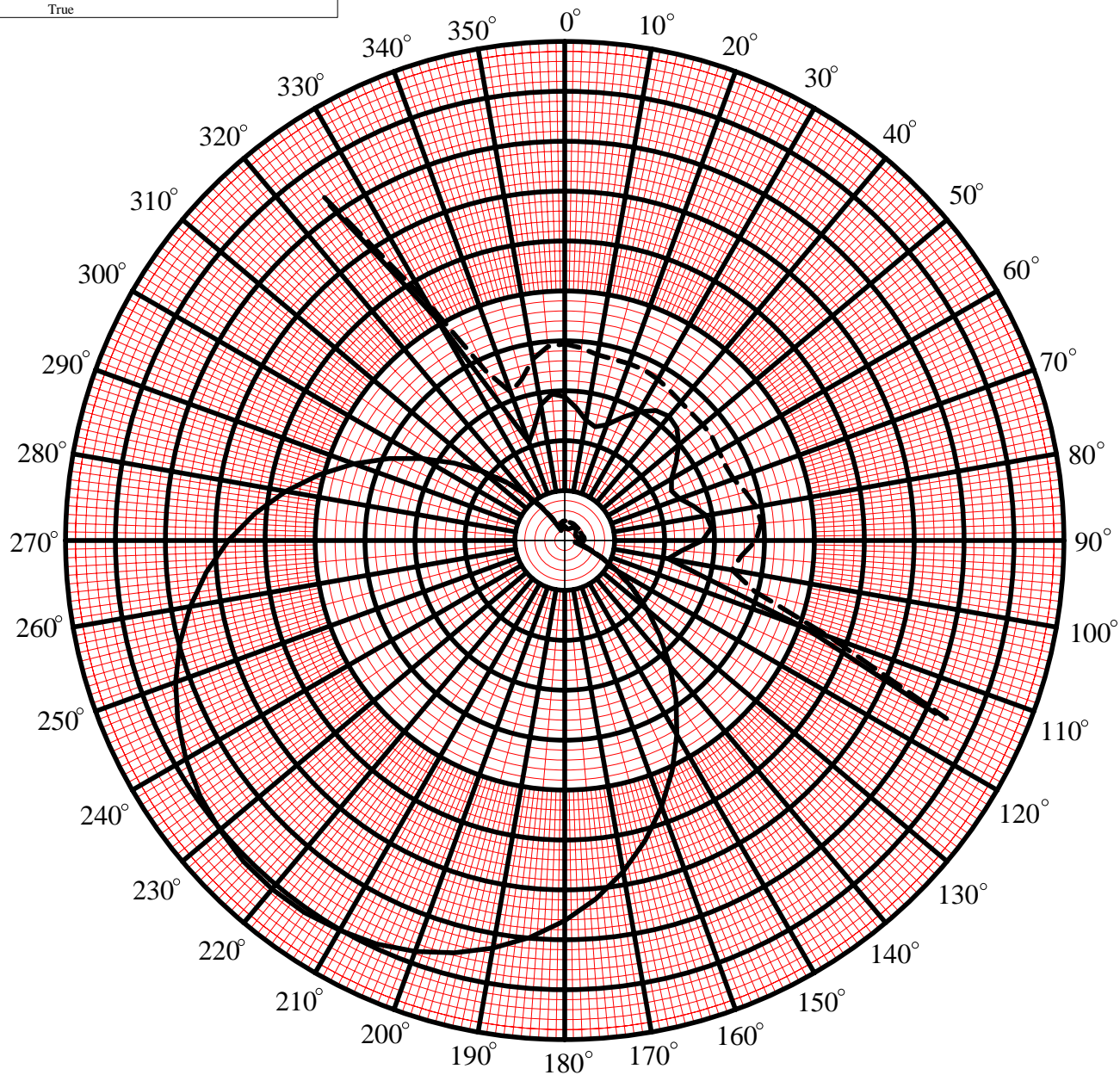
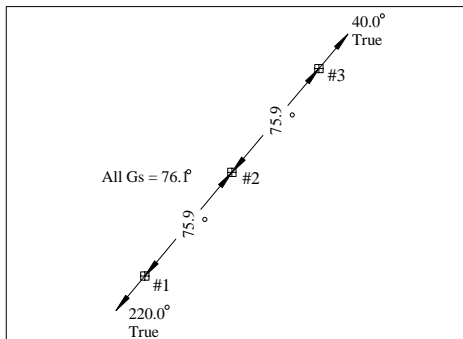
An FCC Form 302-AM is being concurrently filed in accordance with the requirements of 47 C.F.R. §73.152.

Respectfully submitted,



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W.C. Alexander  
Director of Engineering  
Crawford Broadcasting Company



Twr.	Field	Phasing
1	0.525	-127.5
2	1.000	0.0
3	0.510	+124.5

RMS(TH) = 471.72  
 RMS(STD) = 495.87  
 RSS(TH) = 646.90  
 Q = 16.17

Azi.	Span	E(Aug)
15.0	68.0	37.56
65.0	68.0	35.52
99.5	68.0	33.96
340.5	68.0	31.56

— Std.  
 - - - Aug.

PROJECT TITLE	Proposed Daytime Modified Standard Horizontal Pattern	PROJECT NO.	WCA
DATE	05/14/2007	PROJECT NO.	WCA
PROJECT	KLDC - Brighton, Colorado 810 kHz, 2.2 kW-D/0.43 kW-N, DA-2	PROJECT NO.	WCA
PROJECT	Crawford Broadcasting Company Corporate Engineering 2150 W. 29th Ave., Suite 300, Denver, Co 80211 (303) 433-0104	PROJECT NO.	WCA
PROJECT		PROJECT NO.	WCA

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KLDC-D                      40-01-41 N   104-49-21 W       2.200 kW  
                                  Crawford Broadcasting  
 Twr.No.    Field    Phasing    Spacing    Azimuth    Height  
      1       0.525    -127.5      75.9       220.0       77.0  
      2       1.000      +0.0       0.0       0.0       77.0  
      3       0.510    +124.5      75.9       40.0       77.0  
 Theo. RMS= 471.72 mV/m/km    RSS= 646.86    Q= 16.17

Azi.	Span	E <sub>AUG</sub>	A
15.0	68.0	37.56	+851.7
65.0	68.0	35.52	+702.6
99.5	68.0	33.96	+715.9
340.5	68.0	31.56	+558.6

## Standard Horizontal Plane Radiation Pattern

Azi.	mV/m	Azi.	mV/m
0	39.4	180	761.9
5	38.7	185	798.3
10	37.8	190	829.4
15	37.6	195	855.3
20	37.7	200	876.1
25	37.7	205	891.9
30	37.3	210	903.1
35	36.7	215	909.8
40	36.2	220	911.9
45	36.0	225	909.8
50	36.1	230	903.1
55	36.1	235	891.9
60	35.7	240	876.1
65	35.5	245	855.3
70	36.0	250	829.4
75	37.5	255	798.3
80	39.0	260	761.9
85	39.5	265	720.3
90	38.3	270	673.7
95	35.5	275	622.5
100	34.0	280	567.5
105	39.4	285	509.4
110	56.5	290	449.4
115	84.4	295	388.6
120	121.2	300	328.4
125	165.2	305	270.2
130	215.3	310	215.3
135	270.2	315	165.1
140	328.4	320	120.9
145	388.6	325	83.9
150	449.4	330	55.4
155	509.4	335	37.5
160	567.5	340	31.6
165	622.5	345	33.4
170	673.7	350	36.9
175	720.3	355	39.0