

Daytime Groundwave Allocation Study
In Support of an Application to
Change Frequency,
Increase Daytime Power
And Add Nighttime Service
KLDC, Brighton, Colorado
810 kHz, 2.2 kW-D/0.227 kW-N, DA-2

To determine the relevant daytime protections and maximum inverse distance field (IDF) toward each protected station for the above-captioned application, a Daytime Groundwave Allocation Study was conducted on 810 kHz and the two first-adjacent channels. No second- or third-adjacent channel stations were identified as being a factor in the daytime groundwave study.

For each co-channel station studied, the 0.5 and 0.025 mV/m contours were calculated using the procedure specified in 47 C.F.R. §73.183. For each first-adjacent channel station studied, the 0.5 and 0.25 mV/m contours were calculated using the same procedure. Conductivity values were determined using 47 C.F.R. §73.190 Figure M3. Where measured conductivity data was found to be available, such measured conductivity data was applied across arcs in accordance with Commission policy.

Figure 1 herein shows the proposed, protected and interfering contours as calculated. From this exhibit, it can be clearly seen that there is no prohibited overlap between any of the proposed KLDC contours and any other protected or interfering contours. As such, the proposed facility is in compliance with 47 C.F.R. §73.37.

Proposed Daytime Operation
KLDC • Brighton, Colorado
810 kHz, 2.2 kW-D, 0.227 W-N, DA-2

The proposed KLDC daytime groundwave contours were calculated every five degrees from 0E to 355E True using the calculated standard pattern inverse distance field for each azimuth. Ground conductivity values for all azimuths were obtained from §73.190, Figure M3 of the FCC rules. Calculations were made at 10E, 40E, 70E, 110E, 170E, 200E, 220E, 250E, 280E and 330E True using ground conductivities from the August 1986 KLDC AM Directional Proof of Performance.

Proposed Nighttime Operation
KLDC • Brighton, Colorado
810 kHz, 2.2 kW-D, 0.227 W-N, DA-2

The proposed KLDC nighttime groundwave contours were calculated every five degrees from 0E to 355E True using the calculated standard pattern inverse distance field for each azimuth. Ground conductivity values for all azimuths were obtained from §73.190, Figure M3 of the FCC rules.

Calculations were made at 0E, 32E, 98E, 275E and 320E True using measured ground conductivities from the March 1974 KLZ AM Directional Proof of Performance. Calculations were made at 65E, 145E, 170E, 210E and 292E True using measured ground conductivities from the June 1962 AM Directional Proof of Performance.

KBHB • Sturgis, South Dakota
810 kHz, 25 kW-D, 0.060 kW-N, ND

The licensed daytime 0.5 mV/m and 0.025 mV/m groundwave contours for KBHB shown on Figure 1 herein were calculated every five degrees from 0E to 355E True using an inverse distance field of 1,529.0 mV/m for all azimuths. Ground conductivity values for all azimuths were obtained from §73.190, Figure M3 of the FCC rules.

KSWV • Santa Fe, New Mexico
810 kHz, 5 kW-D, 0.01 kW-N, ND

The licensed daytime 0.5 mV/m and 0.025 mV/m contours of KSWV shown on Figure 1 herein were calculated every five degrees from 0E to 355E True using an inverse distance field of 683.7 mV/m for all azimuths. Ground conductivity values for all azimuths were obtained from §73.190, Figure M3 of the FCC rules.

WHB • Kansas City, Missouri
810 kHz, 50 kW-D, 5 kW-N, DA-N

The licensed daytime 0.5 mV/m and 0.025 mV/m contours of WHB shown on Figure 1 herein were calculated every five degrees from 0E to 355E True using an inverse distance field of 2162.2 mV/m for all azimuths. Ground conductivity values for all azimuths were obtained from §73.190, Figure M3 of the FCC rules.

KUTR • Taylorsville, Utah
820 kHz, 50 kW-D, 10 kW-C, 2.5 kW-N, DA-3

The proposed (CP) daytime 0.5 mV/m and 0.25 mV/m contours of KUTR shown on Figure 1 herein were calculated every five degrees from 0E to 355E True using the calculated standard pattern inverse distance field on each azimuth. Ground conductivity values for all azimuths were obtained from §73.190, Figure M3 of the FCC rules.

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Crawford Broadcasting								
Station: KLDC-D 810 kHz 40-01-41 104-49-21								
Distances are from Site to Conductivity Breaks								
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
0	-30	33.4	8	277.2	15	420.7	8	450.0
5	-30	33.4	8	450.0				
10	-30	33.4	8	323.9	15	354.9	8	450.0
15	-30	33.4	8	319.0	15	372.4	8	450.0
20	-30	33.4	8	321.9	15	450.0		
25	8	333.3	15	371.6	8	450.0		
30	-40	31.8	4	373.1	8	450.0		
35	-40	31.8	8	289.6	4	418.1	8	450.0
40	-40	31.8	8	252.2	4	450.5	8	0.0
45	-40	31.8	8	240.0	4	450.0		
50	-40	31.8	8	249.8	4	450.0		
55	8	263.2	4	450.0				
60	-40	28.5	8	283.3	4	450.0		
65	-40	28.5	8	176.3	15	312.8	4	452.2
	30	0.0						
70	-40	28.5	8	147.3	15	358.9	30	450.0
75	-40	28.5	8	132.3	15	348.7	30	450.0
80	-40	28.5	8	117.8	15	344.8	30	450.0
85	8	102.4	15	343.5	30	450.0		
90	8	17.7	15	344.8	30	450.0		
95	8	12.2	15	348.8	30	450.0		
100	-40	35.5	15	355.6	30	450.0		
105	-40	35.5	15	365.5	30	450.0		
110	-40	35.5	15	380.4	30	450.0		
115	-40	35.5	15	412.1	30	450.0		
120	-40	35.5	15	450.0				
125	8	4.6	15	452.0				
130	8	4.3	15	441.4	30	450.0		
135	8	4.0	15	436.6	30	450.0		
140	8	3.8	15	442.2	30	450.0		
145	8	3.6	15	450.0				
150	8	3.5	15	450.0				
155	8	3.4	15	450.0				
160	-20	30.6	15	450.0				
165	-20	30.6	15	450.0				
170	-20	30.6	15	450.0				
175	-20	30.6	15	450.0				
180	-20	30.6	15	278.4	2	375.7	15	450.0
185	8	3.4	15	222.4	8	264.4	2	450.0
190	-20	32.3	15	192.5	8	259.0	2	307.4
	4	344.6	2	450.0				
195	-20	32.3	15	162.5	8	235.1	4	347.8
	2	399.5	4	450.0				
200	-20	32.3	15	132.4	8	220.5	4	330.3
	2	381.0	4	450.0				

Negative mS/m are MEASURED Conductivity Values

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Crawford Broadcasting								
Station: KLDC-D			810 kHz		40-01-41		104-49-21	
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
205	-20	32.3	15	114.5	8	209.8	4	308.6
	2	367.7	4	450.0				
210	-20	32.3	15	103.7	8	199.2	2	356.8
	4	450.0						
215	-30	32.8	15	98.2	8	188.6	2	357.9
	4	450.0						
220	-30	32.8	15	94.9	8	177.0	2	366.2
	4	450.0						
225	-30	32.8	15	93.4	8	162.8	2	356.3
	4	450.0						
230	-30	32.8	15	92.7	8	148.5	2	328.8
	4	450.0						
235	8	8.1	15	92.6	8	137.6	2	286.0
	8	301.3	15	342.6	4	450.0		
240	-40	33.2	15	89.6	8	130.8	2	251.9
	8	305.0	15	360.6	4	450.0		
245	-40	32.2	15	80.0	8	125.5	2	247.4
	8	300.5	15	380.0	4	450.0		
250	-40	32.2	2	247.5	8	307.2	15	450.0
255	-40	32.2	2	249.4	8	322.8	15	450.0
260	-40	32.2	8	116.8	2	250.3	8	409.3
	4	450.0						
265	8	115.8	2	245.7	8	410.8	4	450.0
270	-15	33.2	8	115.8	2	235.2	8	392.8
	15	436.6	4	450.0				
275	-15	33.2	2	225.0	8	374.6	15	450.0
280	-15	33.2	8	117.3	2	218.5	8	364.3
	2	450.0						
285	-15	33.2	8	119.4	2	215.4	8	272.6
	15	339.3	2	453.5	8	0.0		
290	-15	33.2	8	119.4	2	220.1	8	263.1
	15	369.9	8	450.0				
295	8	120.3	2	239.1	8	256.3	15	383.0
	8	447.5	15	450.0				
300	8	122.2	2	251.5	15	450.0		
305	8	124.9	2	248.6	15	450.0		
310	8	128.4	2	247.3	15	415.7	2	450.0
315	8	133.2	2	246.6	15	450.0		
320	-40	30.0	8	136.0	15	140.7	2	244.4
	15	450.0						
325	-40	30.0	8	128.5	15	160.7	2	236.8
	15	450.0						
330	-40	30.0	8	125.7	15	426.6	8	450.0
335	-40	30.0	8	130.1	15	413.4	8	450.0
340	-40	30.0	8	160.9	15	443.0	8	450.0
345	8	231.4	15	450.0				

Negative mS/m are MEASURED Conductivity Values

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Crawford Broadcasting								
Station: KLDC-D			810 kHz		40-01-41		104-49-21	
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
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350	8	275.9	15	487.2				
355	8	273.4	15	449.7	8	450.0		

Negative mS/m are MEASURED Conductivity Values

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Crawford Broadcasting								
Station: KLDC-N 810 kHz 39-50-36 104-57-14								
Distances are from Site to Conductivity Breaks								
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
0	-20	15.0	8	292.3	15	448.4	8	450.0
5	-20	15.0	15	15.3	8	329.4	15	419.2
	8	450.0						
10	-20	15.0	15	15.7	8	350.6	15	371.0
	8	450.0						
15	15	16.3	8	341.4	15	392.1	8	450.0
20	15	17.1	8	344.5	15	450.0		
25	-10	18.8	10	32.0	8	355.5	15	395.0
	8	450.0						
30	-10	18.8	10	32.0	8	387.1	4	398.2
	8	450.0						
35	-10	18.8	10	32.0	8	307.0	4	443.8
	8	450.0						
40	-10	18.8	10	32.0	8	269.5	4	450.0
45	15	26.2	8	265.3	4	450.0		
50	15	30.2	8	276.1	4	450.0		
55	-40	30.3	15	36.0	8	292.4	4	450.0
60	-40	30.3	15	42.0	8	299.3	15	315.6
	4	450.0						
65	-40	30.3	15	50.4	8	163.7	15	352.6
	4	415.5	30	450.0				
70	-40	30.3	15	63.7	8	142.1	15	369.4
	30	450.0						
75	-40	30.3	15	88.6	8	119.1	15	361.8
	30	450.0						
80	15	357.8	30	450.0				
85	15	356.4	30	450.0				
90	-30	20.4	15	357.8	30	450.0		
95	-30	20.4	15	362.0	30	450.0		
100	-30	20.4	15	369.1	30	450.0		
105	-30	20.4	15	379.5	30	450.0		
110	15	401.8	30	450.0				
115	15	441.5	30	450.0				
120	15	450.0						
125	15	441.3	30	450.0				
130	15	432.4	30	450.0				
135	-30	31.9	15	431.4	30	450.0		
140	-30	31.9	15	441.9	30	450.0		
145	-30	31.9	15	450.0				
150	-30	31.9	15	450.0				
155	-30	31.9	15	450.0				
160	-20	31.2	15	450.0				
165	-20	31.2	15	450.0				
170	-20	31.2	15	450.0				
175	-20	31.2	15	289.0	2	334.8	15	450.0

Negative mS/m are MEASURED Conductivity Values

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Crawford Broadcasting								
Station: KLDC-N			810 kHz		39-50-36		104-57-14	
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
180	-20	31.2	15	219.0	8	239.3	2	369.7
	15	450.0						
185	15	183.4	8	243.0	2	450.0		
190	15	156.0	8	227.7	4	231.5	2	268.4
	4	327.6	2	455.6				
195	15	123.8	8	207.2	4	322.7	2	371.3
	4	457.8						
200	-15	30.7	15	102.5	8	195.0	4	304.8
	2	356.5	4	446.2	15	450.0		
205	-15	30.7	15	88.7	8	185.6	4	283.6
	2	343.5	4	443.0	15	450.0		
210	-15	30.7	15	80.6	8	176.1	2	333.5
	4	438.3	15	450.0				
215	-15	30.7	15	76.3	8	167.0	2	334.0
	4	431.6	15	450.0				
220	-15	30.7	15	73.0	8	157.2	2	342.6
	4	435.4	15	450.0				
225	15	71.8	8	147.6	2	337.0	4	441.4
	15	450.0						
230	15	71.3	8	134.7	2	313.9	4	443.6
	15	450.0						
235	15	71.3	8	124.7	2	300.9	4	450.1
240	15	71.8	8	117.1	2	242.0	8	285.7
	15	334.2	4	450.0				
245	15	72.6	8	112.4	2	230.6	8	282.1
	15	352.7	4	469.1				
250	15	70.6	8	108.8	2	229.2	8	284.3
	15	373.1	4	413.6	15	450.0		
255	15	66.0	8	106.3	2	231.1	8	295.2
	15	450.0						
260	15	57.5	8	104.6	2	234.8	8	315.6
	15	391.8	8	397.6	4	450.6		
265	-40	15.6	15	47.3	8	103.8	2	236.7
	8	395.8	4	450.0				
270	-40	15.6	15	40.4	8	103.7	2	233.0
	8	405.9	4	450.0				
275	-40	15.6	15	33.7	8	104.5	2	225.2
	8	373.7	15	450.0				
280	-40	15.6	15	28.7	8	106.1	2	217.4
	8	363.5	15	450.0				
285	-10	29.8	15	25.2	8	108.2	2	212.6
	8	281.4	15	295.3	8	329.6	2	450.0
290	-10	29.8	15	22.6	8	111.1	2	211.2
	8	267.5	15	344.7	2	396.6	8	450.0
295	-10	29.8	15	20.6	8	115.0	2	215.9
	8	260.5	15	373.1	8	448.6	15	450.0

Negative mS/m are MEASURED Conductivity Values

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Crawford Broadcasting								
Station: KLDC-N			810 kHz		39-50-36		104-57-14	
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
300	-10	29.8	15	19.1	8	117.6	2	235.0
	8	256.0	15	385.5	8	441.0	15	450.0
305	15	17.9	8	120.4	2	253.2	15	450.0
310	-15	16.7	15	16.9	8	124.3	2	252.2
	15	450.0						
315	-15	16.7	8	129.3	2	252.9	15	417.2
	2	450.0						
320	-15	16.7	8	135.4	2	254.1	15	450.0
325	-15	16.7	8	143.2	2	253.8	15	450.0
330	-15	16.7	8	144.2	15	157.5	2	247.7
	15	456.7	8	0.0				
335	15	14.9	8	139.0	15	426.6	8	450.0
340	15	14.8	8	140.9	15	439.7	8	450.0
345	15	14.7	8	168.3	15	450.0		
350	15	14.7	8	283.3	15	519.2		
355	15	14.8	8	294.3	15	479.4		

Negative mS/m are MEASURED Conductivity Values

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Crawford Broadcasting								
Station: KBHB			810 kHz		44-25-24		103-25-37	
Distances are from Site to Conductivity Breaks								
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
0	15	72.5	8	382.0	30	450.0		
5	15	70.1	8	366.6	30	450.0		
10	15	68.6	8	348.1	30	450.0		
15	15	67.8	8	330.2	30	450.0		
20	15	67.5	8	315.4	30	450.0		
25	15	67.6	8	304.2	30	450.0		
30	15	68.4	8	295.9	30	450.0		
35	15	69.6	8	290.2	30	450.0		
40	15	71.5	8	286.8	30	450.0		
45	15	74.7	8	283.6	30	450.0		
50	15	80.4	8	281.8	30	450.0		
55	15	87.7	8	279.9	30	450.0		
60	15	97.4	8	230.0	15	273.6	30	450.0
65	15	110.4	8	188.2	15	265.3	30	447.2
	15	450.0						
70	15	128.7	8	175.8	15	257.9	30	436.2
	15	450.0						
75	15	249.7	30	434.7	15	450.0		
80	15	239.4	30	425.2	15	450.0		
85	15	234.8	30	419.7	15	450.0		
90	15	243.7	30	445.3	15	450.0		
95	15	330.1	30	483.5				
100	15	330.8	30	450.0				
105	15	340.2	30	450.0				
110	15	121.6	8	145.9	15	424.9	30	450.0
115	15	103.8	8	223.5	15	284.0	8	337.3
	15	396.3	8	450.0				
120	15	96.5	8	465.1				
125	15	92.9	8	347.0	4	450.0		
130	15	90.5	8	226.6	4	443.0	30	450.0
135	15	89.0	8	207.6	4	421.9	30	450.0
140	15	88.4	8	192.9	4	418.1	30	450.0
145	15	90.3	8	185.2	4	420.3	30	450.0
150	15	93.0	8	181.5	4	422.8	15	438.7
	30	450.0						
155	15	100.6	8	181.3	4	395.8	15	450.0
160	15	114.7	8	173.9	15	182.3	8	213.3
	4	370.2	8	384.4	15	450.0		
165	15	137.2	8	155.3	15	184.4	8	234.5
	4	347.2	8	395.6	15	450.0		
170	15	49.8	8	57.7	15	187.1	8	276.2
	4	325.6	8	403.9	15	450.0		
175	15	31.5	8	87.8	15	189.3	8	420.0
	15	450.0						
180	15	24.0	8	108.5	15	186.6	8	450.0

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Crawford Broadcasting								
Station: KBHB			810 kHz		44-25-24		103-25-37	
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
185	15	21.5	8	126.6	15	183.7	8	450.0
190	15	19.6	8	132.0	15	182.3	8	450.0
195	15	18.1	8	138.3	15	181.5	8	450.0
200	15	16.9	8	146.3	15	177.1	8	450.0
205	15	16.0	8	450.0				
210	15	15.4	8	169.7	15	246.5	8	343.8
	15	415.3	2	450.0				
215	15	14.8	8	143.0	15	260.1	8	308.2
	15	389.9	2	450.0				
220	15	14.4	8	130.7	15	381.0	2	450.0
225	15	14.2	8	124.5	15	450.0		
230	15	14.0	8	123.4	15	450.0		
235	15	14.0	8	125.7	15	450.0		
240	15	14.0	8	130.5	15	450.0		
245	15	14.2	8	136.2	15	450.0		
250	15	14.5	8	143.7	15	300.6	8	337.4
	15	450.0						
255	15	14.9	8	153.3	15	274.4	8	391.9
	15	450.0						
260	15	15.5	8	165.6	15	263.0	8	450.0
265	15	16.2	8	181.6	15	261.1	8	450.0
270	15	17.2	8	202.6	15	253.2	8	450.0
275	15	18.4	8	450.0				
280	15	20.0	8	450.0				
285	15	22.8	8	450.0				
290	15	27.3	8	115.4	15	148.5	8	450.0
295	15	34.4	8	108.0	15	151.6	8	450.0
300	15	46.9	8	103.0	15	153.0	8	450.0
305	15	82.3	8	95.0	15	154.6	8	450.0
310	15	156.3	8	450.0				
315	15	158.5	8	450.0				
320	15	160.5	8	450.0				
325	15	157.5	8	452.3				
330	15	124.4	8	439.6	15	450.0		
335	15	103.2	8	434.6	15	450.0		
340	15	93.6	8	428.6	15	450.0		
345	15	86.2	8	423.6	30	450.0		
350	15	80.5	8	418.1	30	450.0		
355	15	76.0	8	401.3	30	450.0		

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Crawford Broadcasting								
Station: KSWV			810 kHz		35-42-05		105-57-58	
Distances are from Site to Conductivity Breaks								
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
0	4	91.2	2	154.2	4	282.0	2	306.2
	8	450.0						
5	4	75.9	2	143.0	4	273.9	8	410.4
	15	456.6						
10	4	60.2	2	138.5	4	249.3	8	329.7
	15	450.0						
15	4	47.3	2	142.4	4	183.9	2	229.3
	8	284.0						
20	4	39.3	2	230.1	8	257.7	15	450.0
	4	32.9						
25	4	32.9	2	231.8	15	450.0		
30	4	26.7	2	215.6	15	450.0		
35	4	22.7	2	203.8	15	450.0		
40	4	19.8	2	191.5	15	450.0		
45	4	17.7	2	133.0	15	450.0		
50	4	16.1	2	106.1	15	450.0		
55	4	14.4	2	95.7	15	450.0		
60	4	13.0	2	87.7	15	450.0		
65	4	11.9	2	81.6	15	450.0		
70	4	11.1	2	76.8	15	406.7	30	450.0
75	4	10.4	2	73.0	15	377.5	30	450.0
80	4	9.9	2	70.2	15	361.6	30	450.0
85	4	9.5	2	68.0	15	349.0	30	450.0
90	4	9.2	2	66.4	15	338.4	30	450.0
95	4	9.0	2	65.4	15	330.0	30	450.0
100	4	8.9	2	65.0	15	322.3	30	450.0
105	4	8.8	2	64.8	15	317.3	30	450.0
110	4	8.8	2	64.7	15	317.7	30	450.0
115	4	8.9	2	65.1	15	321.6	30	385.9
	15	450.0						
120	4	9.0	2	66.0	15	450.0		
125	4	9.0	2	66.3	15	104.9	8	130.4
	15	450.0						
130	4	8.9	2	65.2	15	101.6	8	171.4
	15	450.0						
135	4	9.0	2	60.1	15	102.9	8	194.2
	15	450.0						
140	4	9.1	2	45.4	15	107.5	8	207.7
	15	485.9						
145	4	9.3	2	25.7	15	113.5	8	228.7
	15	388.6						
150	4	9.6	2	18.0	15	122.4	8	267.2
	15	338.4						
155	4	9.9	2	13.9	15	133.8	8	290.7
	15	303.8						
160	4	10.4	2	11.4	15	148.8	8	271.4
	4	308.5						

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Crawford Broadcasting								
Station: KSWV			810 kHz		35-42-05		105-57-58	
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
165	4	9.9	15	169.1	8	243.7	4	325.3
	8	450.0						
170	4	8.8	15	197.6	8	218.9	4	346.0
	8	450.0						
175	4	8.0	15	223.2	4	370.0	8	450.0
180	4	7.3	15	225.3	4	400.9	8	450.0
185	4	6.8	15	228.0	4	423.7	8	442.4
	4	450.0						
190	4	6.5	15	232.7	4	450.0		
195	4	6.2	15	239.1	4	450.0		
200	4	5.9	15	247.4	4	450.0		
205	4	5.8	15	258.3	4	450.0		
210	4	5.7	15	272.5	4	450.0		
215	4	5.6	15	269.4	8	309.4	4	383.8
	8	450.0						
220	4	5.6	15	235.3	8	332.6	4	419.7
	8	450.0						
225	4	5.6	15	210.8	8	327.4	4	417.7
	8	450.0						
230	4	5.6	15	193.2	8	285.2	4	413.6
	8	450.0						
235	4	5.7	15	180.6	8	295.4	4	413.9
	8	450.0						
240	4	5.9	15	170.8	8	303.5	4	414.6
	8	450.0						
245	4	6.1	15	163.5	8	310.6	4	311.1
	15	347.1	4	412.7	8	450.0		
250	4	6.4	15	160.0	8	312.3	15	398.9
	4	401.8	8	450.0				
255	4	6.7	15	157.8	8	314.6	15	431.3
	8	450.0						
260	4	7.2	15	158.3	8	318.6	15	450.0
265	4	7.8	15	164.5	8	324.1	15	367.9
	8	389.2	15	450.0				
270	4	8.6	15	187.3	8	334.4	15	352.0
	8	404.1	15	450.0				
275	4	9.6	15	221.0	8	420.3	15	450.0
280	4	10.9	15	243.9	8	441.5	15	450.0
285	4	12.9	15	268.5	8	465.9		
290	4	15.8	15	310.8	8	450.0		
295	4	20.7	15	450.0				
300	4	30.3	15	113.8	4	126.1	15	450.0
305	4	330.4	15	363.7	4	414.8	15	450.0
310	4	425.3	15	450.0				
315	4	432.2	15	450.0				
320	4	430.3	15	450.0				

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Crawford Broadcasting								
Station: KSWV			810 kHz		35-42-05		105-57-58	
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
325	4	248.8	2	254.1	4	354.1	15	450.0
330	4	213.6	2	303.6	4	326.1	15	450.0
335	4	188.9	2	335.7	8	450.0		
340	4	151.9	2	356.9	8	450.0		
345	4	128.8	2	450.0				
350	4	115.6	2	450.0				
355	4	105.5	2	173.1	4	252.6	2	450.0

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Crawford Broadcasting								
Station: WHB			810 kHz		39-18-21		94-34-30	
Distances are from Site to Conductivity Breaks								
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
0	15	386.9	30	530.1	8	602.4	4	800.0
5	15	406.7	30	511.8	15	539.6	8	552.2
	15	579.3	4	800.0				
10	15	602.9	4	749.1	8	800.0		
15	15	566.9	8	602.4	4	795.9	8	800.0
20	15	467.3	8	626.5	4	800.0		
25	15	396.9	8	553.2	4	800.0		
30	15	390.8	8	483.0	4	800.0		
35	15	380.3	8	461.7	4	800.0		
40	15	330.1	8	468.5	4	593.2	8	800.0
45	15	309.1	8	711.5	15	793.1	8	800.0
50	15	307.9	8	687.3	15	706.7	8	800.0
55	15	321.7	8	644.1	15	676.3	8	800.0
60	15	334.1	8	788.3	2	800.0		
65	15	341.3	8	558.8	15	631.6	8	710.4
	2	800.0						
70	15	341.2	8	467.5	15	586.0	8	800.0
75	15	309.6	8	405.7	15	550.5	8	782.7
	15	800.0						
80	15	245.5	8	379.0	15	528.9	8	701.9
	15	800.0						
85	15	233.7	8	358.4	15	510.7	8	800.0
90	15	223.6	8	344.8	15	492.4	8	800.0
95	15	212.9	8	334.6	15	471.6	8	736.9
	4	756.0	8	800.0				
100	15	202.5	8	330.4	15	451.5	8	709.1
	4	800.0						
105	15	192.4	8	339.9	15	432.6	8	701.7
	4	800.0						
110	15	183.7	8	684.4	4	800.0		
115	15	176.1	8	543.9	4	595.3	8	642.1
	4	800.0						
120	15	170.4	8	553.0	4	800.0		
125	15	166.2	8	576.9	4	800.0		
130	15	163.5	8	623.5	4	800.0		
135	15	162.0	8	722.6	4	760.2	2	800.0
140	15	161.9	8	769.3	2	800.0		
145	15	162.9	8	816.7				
150	15	166.6	8	800.0				
155	15	174.7	8	519.9	4	668.1	8	800.0
160	15	185.9	8	482.9	4	735.3	8	800.0
165	15	201.3	8	454.1	4	800.0		
170	15	221.1	8	431.9	15	493.0	4	698.6
	15	800.0						
175	15	226.0	8	429.6	15	542.0	4	678.5
	8	800.0						

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Crawford Broadcasting								
Station: WHB 810 kHz			39-18-21		94-34-30			
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
180	15	238.3	8	438.6	15	576.7	4	667.0
	8	800.0						
185	15	292.5	8	429.9	15	579.2	4	672.3
	8	800.0						
190	15	618.7	30	784.4	8	800.0		
195	15	650.1	30	800.0				
200	15	230.6	30	324.4	15	405.6	8	432.6
	15	647.9	30	685.4	15	800.0		
205	15	198.0	30	350.3	8	465.0	15	512.2
	30	706.5	15	800.0				
210	15	169.5	30	358.7	8	456.2	15	512.1
	30	767.2	15	800.0				
215	15	148.7	30	526.9	15	685.9	30	800.0
220	15	133.3	30	527.3	15	697.5	30	800.0
225	15	121.7	30	519.3	15	709.7	30	796.0
	15	800.0						
230	15	112.7	30	516.1	15	711.3	30	800.0
235	15	105.0	30	519.8	15	587.4	30	800.0
240	15	98.2	30	533.6	15	559.6	30	800.0
245	15	92.8	30	731.5	15	800.0		
250	15	88.3	30	650.0	15	800.0		
255	15	83.8	30	523.2	15	800.0		
260	15	80.3	30	526.1	15	800.0		
265	15	77.6	30	531.8	15	800.0		
270	15	75.7	30	243.4	15	301.7	30	531.1
	15	800.0						
275	15	74.4	30	203.7	15	337.4	30	531.9
	15	800.0						
280	15	73.5	30	178.6	15	341.8	30	536.8
	15	769.0	8	800.0				
285	15	73.1	30	160.0	15	344.8	30	546.0
	15	724.7	8	800.0				
290	15	73.3	30	147.5	15	350.5	30	559.7
	15	655.0	8	800.0				
295	15	74.0	30	140.4	15	359.8	30	553.3
	4	756.5	8	800.0				
300	15	75.3	30	136.0	15	296.9	30	339.5
	15	373.9	30	528.5	4	761.8	8	800.0
305	15	76.9	30	136.7	15	242.4	30	341.6
	15	393.3	30	497.7	4	764.4	8	800.0
310	15	79.3	30	140.1	15	230.0	30	335.0
	15	420.3	30	423.9	4	656.1	8	800.0
315	15	82.5	30	147.3	15	220.6	30	324.1
	15	416.6	4	469.0	8	644.4	15	800.0
320	15	86.6	30	156.7	15	216.5	30	300.5
	15	465.2	8	504.2	15	800.0		

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Crawford Broadcasting								
Station: WHB 810 kHz			39-18-21		94-34-30			
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
325	15	92.0	30	171.5	15	474.8	30	660.5
	15	661.5	30	791.9	15	800.0		
330	15	98.2	30	189.1	15	458.4	30	800.0
335	15	106.1	30	204.0	15	426.6	30	613.5
	15	673.2	30	800.0				
340	15	116.3	30	211.0	15	447.0	30	454.0
	15	805.8						
345	15	129.9	30	209.5	15	796.9	30	800.0
350	15	152.2	30	192.1	15	448.0	30	521.9
	15	712.0	30	800.0				
355	15	393.2	30	553.0	8	625.1	4	800.0

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Crawford Broadcasting								
Station: KUTR			820 kHz		40-19-46		112-04-11	
Distances are from Site to Conductivity Breaks								
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
0	15	129.0	8	453.2				
5	15	101.0	4	114.2	8	449.4	4	450.0
10	15	80.0	4	117.0	8	411.9	4	450.0
15	15	66.7	4	120.9	8	326.7	2	438.2
	4	450.0						
20	15	57.5	4	127.3	8	308.0	2	450.0
25	15	50.9	4	137.9	8	309.9	15	340.3
	2	450.0						
30	15	46.5	4	127.8	8	276.4	15	346.7
	2	458.7						
35	15	43.2	4	112.3	8	248.8	15	340.2
	2	414.9	15	419.6	8	450.0		
40	15	40.6	4	102.3	2	108.3	8	178.2
	15	336.7	2	393.8	15	454.9		
45	15	38.6	4	96.0	2	115.4	8	154.7
	15	336.5	2	388.8	15	450.0		
50	15	37.1	4	91.9	2	124.4	8	141.3
	15	360.9	2	379.4	15	450.0		
55	15	35.9	4	89.7	2	135.3	15	231.8
	8	273.1	15	450.0				
60	15	35.1	4	88.3	2	149.4	15	199.3
	8	293.8	15	450.0				
65	15	34.5	4	87.6	2	171.9	15	183.9
	8	283.5	15	450.0				
70	15	34.3	4	87.5	2	218.4	8	274.8
	15	450.0						
75	15	34.2	4	89.0	2	278.3	15	407.7
	2	450.0						
80	15	34.5	4	91.5	2	289.9	15	370.8
	8	402.2	2	450.0				
85	15	35.0	4	94.9	2	124.0	15	250.4
	8	312.8	15	341.6	8	406.6	2	450.0
90	15	35.9	4	87.8	15	244.3	8	395.1
	2	450.0						
95	15	37.1	4	72.7	15	237.0	8	381.1
	2	450.0						
100	15	39.0	4	68.6	15	229.1	8	379.3
	2	450.0						
105	15	41.4	4	70.7	15	97.4	4	201.4
	15	216.8	8	401.7	2	450.0		
110	15	44.5	4	225.3	8	289.6	15	323.7
	8	435.0	2	450.0				
115	15	48.6	4	241.1	8	268.3	15	399.1
	8	441.0	2	450.0				
120	15	53.8	4	256.8	8	261.0	15	436.3
	2	450.0						

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Crawford Broadcasting								
Station: KUTR			820 kHz		40-19-46		112-04-11	
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
125	15	59.4	4	122.5	15	178.8	4	253.7
	15	320.9	4	469.7				
130	15	66.6	4	110.6	8	119.1	15	211.0
	4	221.2	15	305.3	4	450.0		
135	15	76.5	4	102.4	8	129.1	15	311.9
	4	450.0						
140	15	88.5	4	96.1	8	137.5	15	321.6
	4	426.6	15	450.0				
145	15	91.6	8	146.8	15	450.0		
150	15	88.6	8	155.0	15	445.1	8	450.0
155	15	87.4	8	164.9	15	248.9	8	314.2
	15	390.8	8	450.0				
160	15	88.1	8	180.2	15	236.4	8	316.1
	15	374.4	8	450.0				
165	15	90.7	8	320.1	15	380.9	8	450.0
170	15	94.9	8	334.3	15	450.0		
175	15	101.3	8	307.9	30	355.8	15	450.0
180	15	114.4	8	281.4	30	347.7	8	450.0
185	15	132.5	8	259.4	30	362.7	8	450.0
190	15	158.9	8	236.2	15	250.2	30	379.7
	8	450.0						
195	15	276.7	30	360.9	8	450.0		
200	15	450.0						
205	15	450.0						
210	15	450.0						
215	15	450.0						
220	15	303.3	4	450.0				
225	15	274.0	4	450.0				
230	15	252.8	4	450.0				
235	15	235.8	4	450.0				
240	15	219.1	4	450.0				
245	15	198.8	4	450.0				
250	15	162.4	4	450.0				
255	15	130.8	4	450.0				
260	15	112.7	8	129.9	4	450.0		
265	15	101.8	8	140.8	4	450.0		
270	15	96.0	8	150.6	4	450.0		
275	15	93.1	8	162.4	4	450.0		
280	15	91.8	8	174.3	4	450.0		
285	15	91.3	8	188.8	4	432.5	8	450.0
290	15	92.6	8	205.8	4	458.7		
295	15	94.7	8	228.1	4	450.0		
300	15	97.7	8	257.4	4	450.0		
305	15	101.9	8	297.3	4	450.0		
310	15	108.8	8	340.9	4	450.0		
315	15	117.6	8	343.8	4	450.0		

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Crawford Broadcasting								
Station: KUTR			820 kHz		40-19-46		112-04-11	
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
320	15	130.3	8	348.0	4	425.7	8	450.0
325	15	147.8	8	450.0				
330	15	169.9	8	478.6				
335	15	170.0	8	440.6	4	450.0		
340	15	157.0	8	409.9	4	450.0		
345	15	147.1	8	389.3	4	450.0		
350	15	138.5	8	398.2	4	450.0		
355	15	132.7	8	425.1	4	450.0		

Exhibit E-14
Figure 1
Daytime Groundwave
Allocation Study

