

Critical Hours 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 critical hours protections and maximum inverse distance fields (IDF) toward each protected co-channel Class A station for the above-captioned application, a critical hours study was conducted in accordance with 47 C.F.R. §73.187. The interpolation factors were taken from §73.187(c)(2) as shown. The Eo() fields were taken from §73.190, Figures 9, 10 and 11. The distances to the Class A 0.1 mV/m were calculated in accordance with §73.183 and §73.184(f) with M3 as the basis. The results of this study showed that the proposed daytime operation fully complies with 47 C.F.R. §73.187 with regard to critical hours interference to the KGO and WGY 0.1 mV/m groundwave contours.

EO(1) Figure 9, 500 kHz, Eo(2) Figure 10, 1000 kHz
Factor(1) 500 kHz= 0.380 Factor(2) 1000 kHz= 0.620
$$\text{Eo(mile)} = \text{Eo}(1) \times \text{Factor}(1) + \text{Eo}(2) \times \text{Factor}(2)$$

Class A Station KGO on 810 kHz 37-31-35N 122-06-02W
Proposed KLDC with 2200 Watts 40-01-41N 104-49-21W

Class-A AZM	Prop. AZM	Dist. Miles	Eo 500	Eo 1000	Eo Mile	Eo km	Prop. IDF	Vert Ang.
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0	283	913	1959	707	1182	1903	342	0
5	284	887	1882	675	1134	1825	338	0
10	283	864	1802	644	1084	1744	349	0
15	282	842	1734	616	1041	1675	355	0
20	281	820	1670	592	1002	1612	361	0
25	280	800	1611	570	966	1554	367	0
30	279	786	1572	557	943	1517	379	0
35	277	777	1547	548	927	1492	392	0
40	275	775	1534	543	920	1480	406	0
45	273	776	1531	542	918	1477	419	0
50	270	803	1587	563	952	1532	437	0
55	269	811	1607	572	966	1554	446	0
60	268	809	1607	572	965	1553	452	0
65	267	808	1606	571	964	1552	457	0
70	266	802	1597	566	958	1542	462	0
75	265	798	1591	563	954	1535	467	0
80	264	796	1588	562	952	1532	473	0
85	263	794	1586	562	951	1530	478	0
90	262	793	1586	562	951	1531	484	0
95	261	788	1580	559	947	1525	491	0
100	259	781	1571	554	941	1514	499	0
105	257	775	1572	552	939	1512	507	0
110	256	784	1604	561	957	1540	513	0
115	255	792	1635	568	974	1567	519	0
120	253	801	1672	577	993	1599	526	0
125	252	816	1721	596	1023	1647	530	0

Exhibit E-16
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Class-A AZM	Prop. AZM	Dist. Miles	Eo 500	Eo 1000	Eo Mile	Eo km	Prop. IDF	Vert Ang.
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130	251	832	1775	617	1057	1701	534	0
135	250	852	1835	643	1096	1764	537	0
140	250	874	1899	672	1139	1832	537	0
145	250	895	1964	703	1182	1902	538	0
150	247	917	2082	747	1254	2019	547	0
155	244	952	2293	823	1382	2223	559	0
160	238	1018	2781	998	1675	2696	573	0
165	233	1117	3704	1278	2200	3541	582	0
170	233	1178	4272	1277	2415	3887	582	0
175	233	1250	5004	1593	2889	4650	582	0
355	282	936	2028	732	1225	1971	351	0

Exhibit E-16
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Class A Station WGY on 810 kHz 42-47-37N 74-00-36W
Proposed KLDC with 2200 Watts 40-01-41N 104-49-21W

Class-A AZM	Prop. AZM	Dist. Miles	Eo 500	Eo 1000	Eo Mile	Eo km	Prop. IDF	Vert Ang.
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0	67	1611	7922	2904	4811	7742	19	0
165	79	1674	7977	3012	4899	7884	21	0
170	79	1660	7828	2951	4804	7731	22	0
175	81	1656	7742	2913	4748	7642	22	0
180	80	1635	7532	2832	4618	7432	22	0
185	80	1616	7370	2766	4515	7267	22	0
190	79	1600	7234	2709	4429	7127	22	0
195	79	1586	7095	2647	4337	6980	22	0
200	79	1569	6927	2574	4228	6804	22	0
205	79	1555	6812	2521	4152	6682	22	0
210	79	1541	6693	2468	4073	6555	21	0
215	79	1526	6569	2413	3992	6425	21	0
220	78	1512	6446	2359	3912	6296	21	0
225	78	1499	6339	2313	3843	6184	21	0
230	78	1486	6218	2271	3771	6069	21	0
235	77	1475	6109	2234	3707	5965	21	0
240	77	1465	6020	2204	3655	5881	21	0
245	76	1456	5949	2181	3613	5814	21	0
250	76	1449	5893	2162	3580	5761	21	0
255	75	1443	5852	2150	3556	5724	21	0
260	75	1439	5826	2142	3542	5701	20	0
265	74	1436	5816	2140	3537	5692	20	0
270	73	1434	5821	2143	3541	5698	20	0
275	73	1434	5841	2151	3553	5718	20	0
280	72	1436	5876	2164	3574	5752	20	0
285	71	1435	5888	2169	3582	5765	20	0
290	71	1436	5919	2181	3601	5796	20	0
295	70	1438	5956	2195	3624	5832	19	0
300	70	1449	6089	2238	3701	5956	19	0
305	69	1462	6243	2287	3790	6100	19	0
310	69	1477	6419	2344	3892	6264	19	0
315	69	1489	6562	2389	3975	6397	19	0
320	68	1500	6709	2437	4060	6535	19	0
325	68	1513	6851	2490	4147	6674	19	0
330	68	1526	6999	2546	4238	6820	19	0
335	67	1540	7152	2603	4332	6971	19	0
340	67	1554	7308	2662	4428	7126	19	0
345	67	1568	7466	2722	4525	7282	19	0