

TECHNICAL EXHIBIT
FURTHER AMENDMENT TO
APPLICATION FOR CONSTRUCTION PERMIT
WAY BROADCASTING LICENSEE, LLC
RADIO STATION KATD
PITTSBURG, CALIFORNIA

FACILITY ID: 52256

April 28, 2004

990 KHZ 10 KW-D, 5.0 KW-N U DA-2

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Technical Narrative

The technical exhibit of which this narrative is part has been prepared on behalf Way Broadcasting Licensee, LLC, licensee of AM broadcast station KATD at Pittsburg, California. KATD is licensed for full time operation on 990 kilohertz with daytime and nighttime power of 5.0 kilowatts, operating with different directional antenna patterns during daytime and nighttime hours. KATD has an application pending with the Commission requesting a change in transmitter location and increase in daytime power to 10 kW, File No. BP-20010201AEJ. By means of this present application, KATD supplies information requested in a deficiency letter issued by the Commission dated November 13, 2003.

With respect to the contingent application of KIQI, and in accordance with the requirements of 47 CFR

73.3517(c) and as outlined in the Commission letter, the following information is provided.

The currently licensed operations of KATD and KIQI violate the provisions of 47 CFR 73.37 as the 5 mV/m contour of each station overlaps the 5 mV/m contour of the other both daytime and nighttime. This contour overlap prevents both stations from achieving any facility improvement. Grant of the KATD application frees both stations of this allocation impediment and permits an increase in power and coverage for both stations.

The KATD daytime proposal provides service to a land area of 64,748 square kilometers while the licensed daytime operation covers 55,004 square kilometers, an 18 percent increase. During nighttime hours, the coverage increases from 6,337 square kilometers for the licensed operation to 9,507 square kilometers for the proposed operation, a gain of 50 percent.

The proposed operation of KATD will continue to provide a premium principal community signal to Pittsburg as required by the rules. In any gain or loss coverage area, there are five or more other aural services available.

Currently KATD operates with different directional antenna patterns during daytime and nighttime hours. During daytime hours, the major lobe is directed to the east, while during nighttime hours the major lobe is directed to the west. The existing operation therefore has substantially different audience during daytime and nighttime hours, which is a severe operational and programming disadvantage. Grant of the KATD proposal will

rectify this coverage anomaly by providing coverage of essentially the same area daytime and nighttime.

In response to the three points addressed in the Commission's letter:

1. The towers will be registered with the Commission upon receiving a Determination of No Hazard from the FAA, the results of which are still pending.
2. Site photographs are included as Figure 15B.
3. The interference has been eliminated with co-channel Mexican station XECL, Mexicali, BN, Mexico with a very slight modification in the operating parameters. As a result, the overall pattern remains essentially unchanged. The amended directional antenna specifications, horizontal plane pattern and tabulation appear in Figures 2B, 5B and 6B respectively.

All other aspects of the application remain unchanged.

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990 KHz 10 KW-D, 5.0 KW-N U DA-2

Specification for Daytime and
Nighttime Directional Antenna Systems

Frequency: 990 kHz
Hours of Operation: Unlimited
Power: 10 kW (Day), 5.0 kW (Night)
Number of Towers: 4
Type of Tower: Guyed, Uniform Cross-section,
base-insulated
All Towers - height above
base insulator 72.0 m (236 ft)
All Towers - overall height 73.8 m (242 ft)

Tower Registration Numbers:

Tower No.	ASRN
1 (E)	Pending
2 (C)	Pending
3 (W)	Pending
4 (N)	Pending

Tower Arrangement:

Tower No.	Spacing (deg.) / (m)	Orientation (deg. True)
1 (E)	0/0	0
2 (C)	90.0/75.8	251.0
3 (W)	169.0/142.3	255.9
4 (N)	138.9/116.9	290.5

Element Field Parameters:

Daytime:

<u>Tower No.</u>	<u>Field Ratio</u>	<u>Phase (degrees)</u>
1 (E)	1.000	0.0
2 (C)	0.646	-99.4
4 (N)	2.005	-104.8

Nighttime:

<u>Tower No.</u>	<u>Field Ratio</u>	<u>Phase (degrees)</u>
1 (E)	1.000	+0.0
2 (C)	2.115	-125.2
3 (W)	1.110	+99.2

Ground System:

Installed about the base of each tower are 120 evenly spaced, buried copper wire radials (#10 AWG), extending 75.6 meters (249 ft) from all towers except where shortened and bonded to transverse copper strap between towers. In addition, copper strap runs from the transmitter and down the line of towers and is bonded to ground at the base of each tower.

Geographic Coordinates of
Center of Antenna Array:

38° 30' 17" North Latitude
121° 10' 48" West Longitude

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NIGHTTIME RADIATION PATTERN
(Radiation Values at One Kilometer)

<u>Tower Number</u>	<u>Field Ratio</u>	<u>Phase (deg.)</u>	<u>Spacing (deg.)</u>	<u>Bearing (deg.)</u>	<u>Height (deg.)</u>
1	1.000	0.0	0.0	0.0	85.5
2	2.115	-125.2	90.0	251.0	85.5
3	1.110	+99.2	169.0	255.9	85.5

<u>Input Power (kW)</u>	<u>Loop Loss (ohms)</u>	<u>Theo. RMS (mV/m)</u>	<u>Theo. RSS (mV/m)</u>	<u>Q Factor (mV/m)</u>	<u>Standard RMS (mV/m)</u>
5.0	1.0	727.1	975.8	24.4	763.8

Standard Radiation Pattern
(at One Kilometer)

Azimuth Angle (deg)	Elevation Angle in Degrees						
	0 (mV/m)	5 (mV/m)	10 (mV/m)	15 (mV/m)	20 (mV/m)	25 (mV/m)	30 (mV/m)
0	130	130	128	126	123	120	116
5	96.9	96.5	95.2	93.2	90.7	88.0	85.3
10	78.8	78.2	76.5	73.9	70.7	67.3	64.1
15	70.7	70.0	68.0	64.8	60.7	56.2	51.7
20	66.2	65.5	63.4	60.1	55.8	50.7	45.3
25	61.6	60.9	59.0	55.9	51.8	46.9	41.4
30	57.4	56.7	54.7	51.6	47.6	43.0	37.9
35	57.1	56.1	53.5	49.5	44.7	39.6	34.5
40	63.8	62.4	58.6	52.8	45.8	38.7	32.3
45	77.2	75.3	70.1	62.1	52.4	42.2	33.0
50	94.3	92.0	85.4	75.4	62.9	49.7	37.2
55	112	109	102	89.9	75.1	59.1	43.6
60	128	126	117	104	86.8	68.6	50.8
65	142	139	129	115	96.8	76.9	57.3
70	151	148	138	123	104	83.2	62.6
75	156	153	143	127	108	87.0	66.1
80	156	153	143	128	109	88.2	67.9
85	152	149	139	125	107	87.3	68.3
90	144	141	132	119	102	84.7	67.8
95	133	131	123	111	97.0	81.7	67.3
100	122	120	114	104	92.0	79.4	67.7
105	113	111	106	98.4	89.0	79.1	69.7
110	108	106	102	96.4	89.1	81.3	73.4
115	107	106	103	98.5	92.5	85.7	78.4
120	112	111	108	104	98.1	91.4	83.8
125	118	117	115	110	104	97.1	88.9
130	125	124	121	116	110	102	93.6
135	131	130	127	122	115	107	98.2
140	136	135	132	127	121	113	105
145	145	144	141	137	131	124	116
150	163	162	159	155	149	142	134
155	194	193	190	185	179	171	162
160	241	240	236	230	222	212	200
165	303	301	296	288	277	263	247
170	378	376	369	357	342	323	301
175	462	459	450	435	414	390	361

Standard Radiation Pattern
(at One Kilometer)

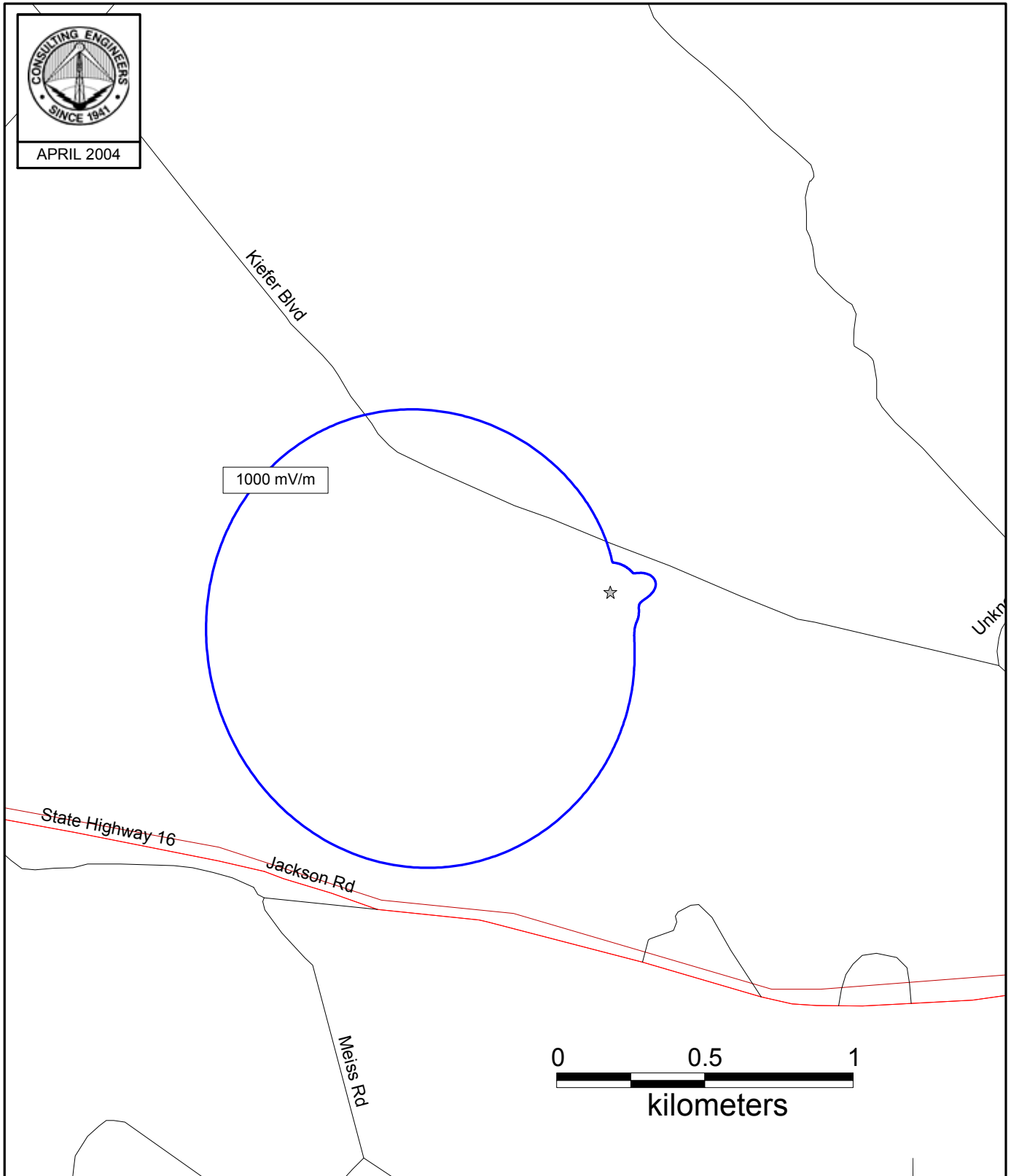
Azimuth Angle (deg)	Elevation Angle in Degrees						
	35 (mV/m)	40 (mV/m)	45 (mV/m)	50 (mV/m)	55 (mV/m)	60 (mV/m)	65 (mV/m)
0	112	107	102	96.2	89.8	82.3	73.5
5	82.8	80.5	78.3	75.9	73.0	69.1	63.8
10	61.6	59.9	59.1	58.7	58.4	57.4	55.0
15	47.9	45.3	44.4	44.8	46.1	47.2	47.2
20	40.2	36.2	34.0	34.1	36.0	38.5	40.3
25	35.9	30.9	27.4	26.3	28.0	31.2	34.3
30	32.7	27.6	23.3	21.1	22.0	25.3	29.3
35	29.6	25.0	20.8	17.9	17.8	20.7	25.1
40	26.9	22.6	18.9	16.0	15.1	17.4	21.8
45	25.7	20.8	17.4	14.9	13.7	15.2	19.3
50	27.0	20.3	16.7	14.6	13.3	14.1	17.5
55	30.6	21.6	16.9	14.9	13.7	13.8	16.5
60	35.3	24.2	18.3	16.0	14.7	14.1	16.0
65	40.2	27.6	20.6	17.7	16.1	15.0	16.0
70	44.5	31.1	23.3	19.9	17.9	16.2	16.5
75	47.9	34.3	26.3	22.5	19.9	17.7	17.3
80	50.3	37.3	29.5	25.3	22.1	19.4	18.3
85	52.0	40.1	32.7	28.2	24.5	21.1	19.6
90	53.5	43.0	36.2	31.3	26.9	23.0	21.0
95	55.2	46.3	39.8	34.4	29.4	24.9	22.7
100	57.8	50.0	43.5	37.6	31.8	27.0	24.6
105	61.4	54.1	47.3	40.7	34.3	29.2	26.7
110	65.9	58.4	51.1	43.7	36.9	31.7	29.2
115	70.7	62.8	54.7	46.7	39.7	34.6	32.2
120	75.6	66.9	58.1	49.8	42.8	38.1	35.7
125	80.0	70.7	61.6	53.4	46.8	42.4	39.9
130	84.2	74.7	65.7	57.9	51.9	47.7	44.8
135	89.0	79.8	71.4	64.3	58.7	54.4	50.7
140	96.0	87.6	80.0	73.3	67.6	62.5	57.4
145	108	100	92.4	85.4	78.8	72.2	65.1
150	126	118	110	101	92.5	83.4	73.7
155	153	143	132	120	109	96.3	83.3
160	187	173	159	143	127	111	93.7
165	229	210	190	169	148	126	105
170	277	251	224	197	170	143	117
175	330	296	262	228	194	161	129

Standard Radiation Pattern
(at One Kilometer)

Azimuth Angle (deg)	Elevation Angle in Degrees						
	0 (mV/m)	5 (mV/m)	10 (mV/m)	15 (mV/m)	20 (mV/m)	25 (mV/m)	30 (mV/m)
180	554	550	538	518	493	461	425
185	648	643	629	605	574	535	491
190	744	738	721	693	655	610	558
195	837	831	811	779	736	684	624
200	927	919	897	861	813	755	688
205	1011	1003	978	939	886	822	749
210	1087	1079	1052	1010	953	884	805
215	1156	1147	1119	1074	1013	940	855
220	1216	1206	1177	1130	1067	989	901
225	1268	1257	1227	1178	1113	1032	940
230	1310	1300	1269	1219	1151	1069	974
235	1345	1334	1303	1252	1183	1098	1001
240	1372	1361	1329	1277	1207	1121	1023
245	1391	1380	1348	1296	1225	1138	1038
250	1404	1393	1360	1308	1237	1149	1048
255	1409	1398	1366	1313	1242	1154	1053
260	1408	1397	1365	1312	1240	1153	1052
265	1400	1389	1357	1304	1233	1146	1045
270	1385	1374	1342	1290	1219	1132	1032
275	1362	1352	1320	1268	1198	1112	1014
280	1332	1322	1290	1239	1170	1086	990
285	1294	1283	1252	1203	1135	1053	959
290	1246	1236	1206	1158	1093	1013	922
295	1190	1180	1152	1105	1043	967	880
300	1125	1116	1089	1044	985	913	831
305	1051	1043	1017	976	920	853	777
310	970	962	938	900	849	788	717
315	881	874	853	819	773	717	654
320	787	781	762	732	692	643	588
325	690	685	669	643	609	567	519
330	592	588	575	553	525	490	451
335	496	492	482	465	442	415	383
340	404	401	393	381	363	343	319
345	318	317	311	302	290	275	258
350	243	242	238	232	225	215	203
355	179	179	177	173	168	162	156

Standard Radiation Pattern
(at One Kilometer)

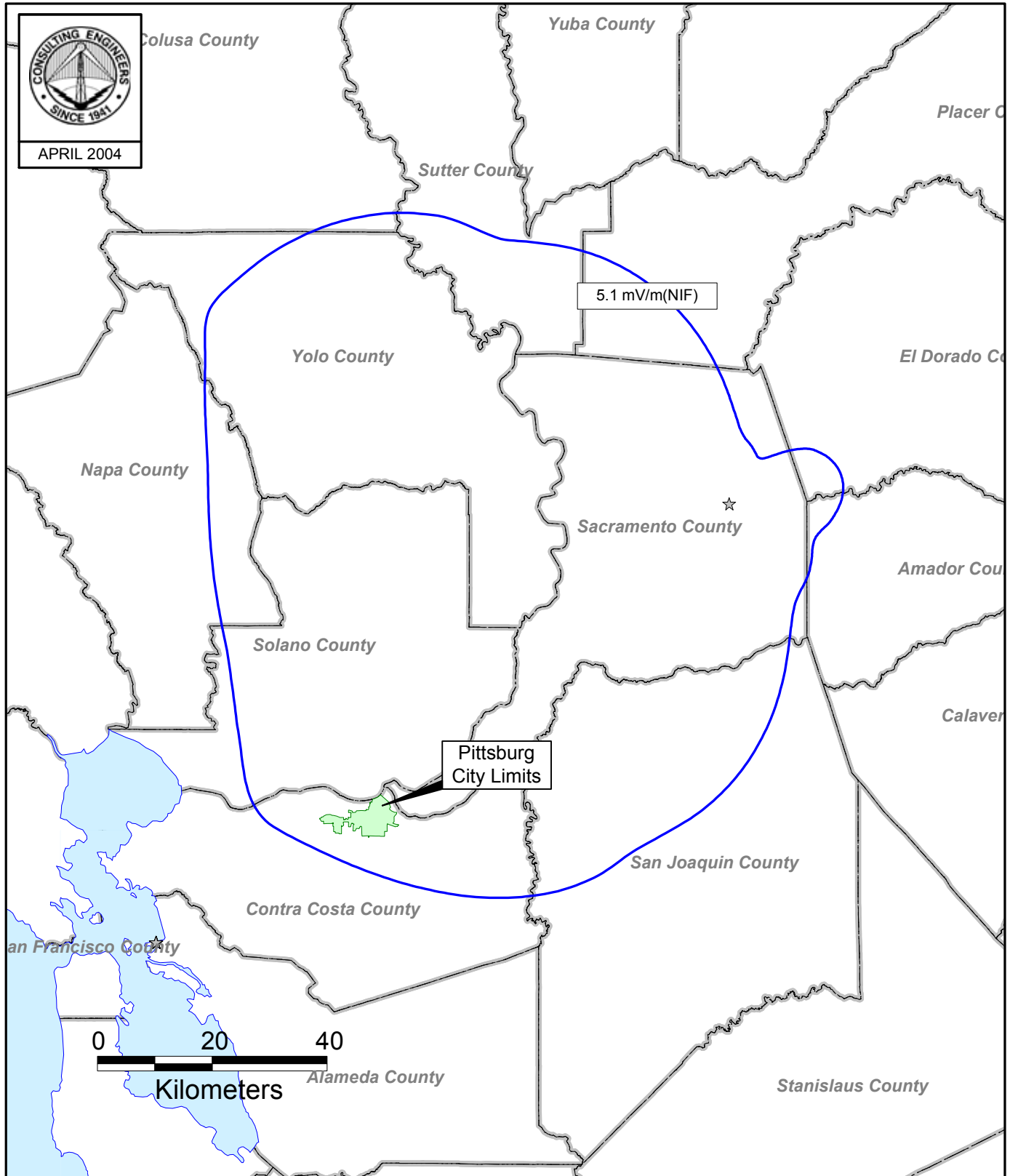
Azimuth Angle (deg)	Elevation Angle in Degrees						
	35 (mV/m)	40 (mV/m)	45 (mV/m)	50 (mV/m)	55 (mV/m)	60 (mV/m)	65 (mV/m)
180	386	344	302	259	218	179	142
185	443	393	343	292	244	198	155
190	502	443	384	325	269	216	168
195	560	493	425	358	295	235	180
200	616	541	465	390	319	253	193
205	669	586	503	421	343	271	205
210	719	629	539	450	365	287	216
215	764	668	572	477	386	302	227
220	804	703	601	501	405	316	237
225	840	734	627	522	422	329	245
230	870	761	650	541	436	340	253
235	895	783	669	556	449	349	259
240	914	800	683	568	458	356	264
245	929	813	694	577	465	361	268
250	938	821	701	583	470	365	270
255	942	824	704	586	472	366	271
260	941	823	703	585	471	366	271
265	934	818	699	581	468	363	269
270	923	807	690	573	462	359	266
275	906	792	677	563	454	352	262
280	884	773	660	549	443	344	256
285	856	749	639	532	429	334	249
290	823	720	615	511	413	322	240
295	785	686	586	488	395	309	231
300	742	649	555	463	375	294	221
305	694	607	520	434	353	278	210
310	641	562	482	404	330	260	198
315	586	515	443	372	305	242	185
320	528	465	401	339	279	224	172
325	468	414	359	305	253	204	159
330	408	363	317	271	227	185	146
335	349	313	275	238	201	166	133
340	292	264	235	206	176	148	120
345	239	218	197	175	152	130	107
350	191	177	162	146	130	113	95.4
355	148	139	130	120	109	96.9	84.0



PROPOSED NIGHTTIME FIELD STRENGTH CONTOURS

RADIO STATION KATD
PITTSBURG, CALIFORNIA
990 KHZ 10 KW-D, 5.0 KW-N U DA-2

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

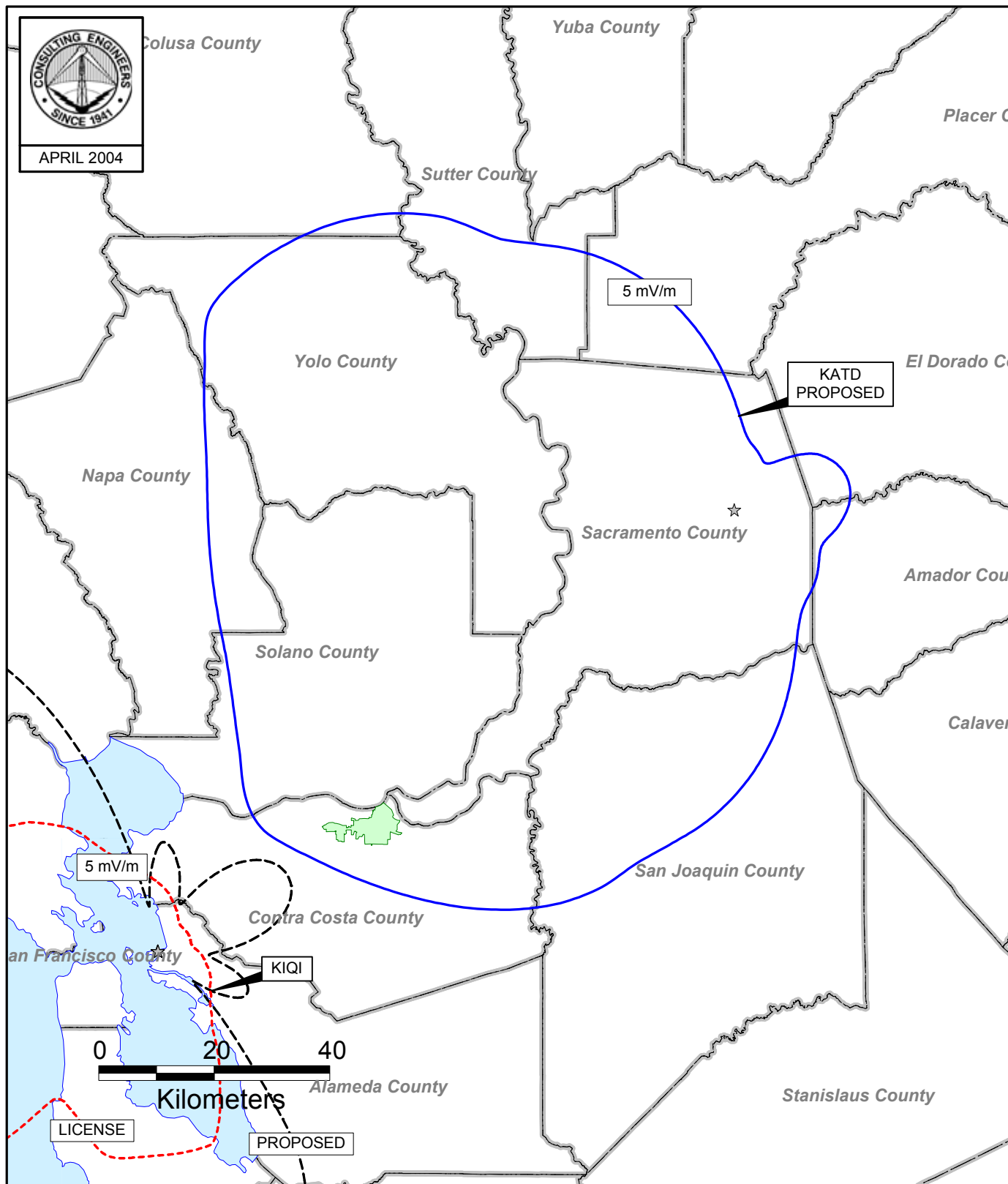


PROPOSED NIGHTTIME FIELD STRENGTH CONTOURS

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du Treil, Lundin & Rackley, Inc. Sarasota, Florida

Figure 11B



NIGHTTIME ALLOCATION STUDY

RADIO STATION KATD
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Nighttime Allocation Study
Skywave Analysis

Nighttime Limit
To Station (Call) KATD 38-30-17 121-10-48

From Station(Call)	CBW	KOMO	KATD	KFWB	KTMS	KRKS	KHBZ
Frequency(kHz)	990.000	1000.000	990.000	980.000	990.000	990.000	990.000
G.C. Distance(km)	2254.000	1001.300	74.700	561.000	468.200	1403.000	3981.900
Slant Distance (km)	2262.829	1021.056	213.478	595.542	509.114	1417.210	3986.951
Bearing degrees	245.045	173.684	50.587	332.379	343.756	269.298	53.047
Mid-Pt Latitude(deg)	44.780	42.990	38.290	36.300	36.490	39.430	31.210
Geo. M.P. Lat.	52.770	49.150	44.630	43.000	43.060	47.130	34.060
Min-Angle(deg)	0.000	5.920	62.410	13.120	16.030	2.690	0.000
Max-Angle(deg)	0.960	11.160	72.480	21.800	25.980	6.500	0.000
Horiz. Rad (mV/m)	2870.010	4228.620	156.820	788.590	38.770	224.460	731.420
Max Vert. Rad. (mV/m)	2870.011	4112.664	27.351	732.095	44.839	224.070	731.420
Skywave Mult.	6.771	40.320	431.874	105.089	131.951	23.930	5.263
Night Limit (mV/m)	3.887	3.316	2.362	1.539	1.183	1.072	0.770

From Station(Call)	KTKT	XEBC	KCAF	XEATM	XEFP1	KSVP	XEER
Frequency(kHz)	990.000	990.000	990.000	990.000	990.000	990.000	990.000
G.C. Distance(km)	1153.200	2695.600	2315.600	2843.600	2556.100	1638.800	1739.300
Slant Distance (km)	1170.457	2702.997	2324.243	2850.618	2563.912	1650.998	1750.800
Bearing degrees	309.870	324.579	292.077	321.616	321.173	297.385	313.958
Mid-Pt Latitude(deg)	35.490	29.400	36.460	29.470	30.400	35.960	33.660
Geo. M.P. Lat.	42.830	37.520	44.940	37.780	38.540	43.830	41.400
Min-Angle(deg)	4.510	0.000	0.000	0.000	0.000	1.320	0.810
Max-Angle(deg)	9.100	0.000	0.670	0.000	0.000	4.600	3.900
Horiz. Rad (mV/m)	91.970	335.040	319.640	344.700	288.780	144.840	148.980
Max Vert. Rad. (mV/m)	90.947	335.040	319.640	344.700	288.780	144.784	148.960
Skywave Mult.	36.726	9.699	10.079	8.681	10.270	19.899	18.860
Night Limit (mV/m)	0.668	0.650	0.644	0.598	0.593	0.576	0.562

RSS Night Limit to station

50 % Exclusion = 05.109 mV/m from CBW KOMO
 25 % Exclusion = 05.835 mV/m from CBW KOMO KATD KFWB
 0 % Exclusion = 06.533

duTreil, Lundin & Rackley, Inc.
Sarasota, Florida

Job Title : KATD PROPOSED

Frequency 990 kHz

Night Permissible Vertical Radiation
From Station:KATD
Coordinates: 38-30-17 121-10-48

Toward Station	Freq. (kHz)	GC Dist. (km)	Bear (degT)	Angles (deg)		Skywav Mult. (mV/m)	50% Ex-RSS (mV/m)	25% Ex-RSS (mV/m)	Req. Prot. (mV/m)	Perm. Vert-Rad mV/m@1km
KINS	980	358.8	316.3	21.1	32.9	177.99	9.34	10.68	2.67	750.3
KFWB	980	561.	150.6	13.1	21.8	105.09	3.73	4.95	1.24	588.8
KDBV	980	200.3	190.6	35.2	49.6	297.27	20.29	20.29	5.07	853.3
KGLN	980	1200.7	80.1	4.1	8.5	31.77	11.57	14.26	3.57	5611.5
WTEM	980	3795.8	75.	0.0	0.0	2.38	7.06	7.32	1.83	38395.5
WRNE	980	3228.5	95.6	0.0	0.0	5.1	15.47	19.28	4.82	47257.2
WTOT	980	3373.1	93.7	0.0	0.0	4.55	14.03	16.89	4.22	46429.2
WHSR	980	4046.8	97.3	0.0	0.0	3.28	7.69	10.73	2.68	40959.9
WHSR	980	4033.1	97.2	0.0	0.0	3.3	7.68	10.76	2.69	40818.4
WPGA	980	3422.6	88.9	0.0	0.0	4.11	21.03	23.79	5.95	72418.8
WPGA	980	3422.6	88.9	0.0	0.0	4.11	21.03	23.79	5.95	72418.8
WPGA	980	3430.9	89.7	0.0	0.0	4.14	18.27	22.24	5.56	67184.8
KUPI	980	949.4	51.1	6.5	12.0	45.29	11.57	14.6	3.65	4030.9
KSGM	980	2722.4	81.8	0.0	0.0	6.23	14.95	17.19	4.30	34494.5
WITY	980	2874.3	75.8	0.0	0.0	5.04	24.46	26.13	6.53	64750.3
WCAP	980	4171.	67.3	0.0	0.0	1.38	47.77	47.77	11.94	431412.6
KKMS	980	2412.5	64.2	0.0	0.2	6.71	12.62	14.49	3.62	26984.
KMBZ	980	2295.2	80.1	0.0	0.8	8.96	10.63	10.63	2.66	14840.5
WAAV	980	3858.6	83.4	0.0	0.0	2.81	22.98	23.93	5.98	106518.
KMIN	980	1240.	103.4	3.8	8.1	31.66	12.36	13.5	3.38	5332.3
WOFX	980	3969.6	67.7	0.0	0.0	1.66	7.76	9.76	2.44	73716.6
WONE	980	3174.	75.8	0.0	0.0	3.93	10.18	12.8	3.20	40769.7
WILK	980	3828.1	70.8	0.0	0.0	2.06	12.84	12.84	3.21	77963.2
KDSJ	980	1595.3	60.2	1.6	4.9	17.2	10.42	12.02	3.01	8735.6
WYFN	980	3042.3	84.	0.0	0.0	4.97	11.7	15.86	3.96	39865.
KRTX	980	2509.	105.	0.0	0.0	9.09	13.56	15.31	3.83	21050.7
KHOS	980	2071.1	109.1	0.0	1.9	13.22	13.84	15.39	3.85	14549.1
KSVC	980	790.8	85.1	8.5	15.0	63.22	14.15	15.5	3.87	3064.2
WFHG	980	3419.8	81.2	0.0	0.0	3.6	20.9	23.77	5.94	82570.9
KJOX	980	905.8	2.8	7.0	12.7	47.96	19.25	19.25	4.81	5016.8
WCUB	980	2844.	66.7	0.0	0.0	4.47	23.66	24.73	6.18	69224.6
NEW	990	1884.5	341.8	1.6	1.6	12.61	4.21	4.21	2.11	835.6
CBW	990	2254.	48.4	0.0	0.0	6.77	.55	.74	.27	201.3
CBY	990	5061.5	55.3	0.0	0.0	.29	1.89	2.07	.95	16367.9
CHTX	990	3940.5	63.4	0.0	0.0	1.94	10.87	12.08	5.43	13982.
CKGM	990	3940.5	63.4	0.0	0.0	1.94	10.87	12.08	5.43	13982.

** - enters the 50% RSS calculation

duTreil, Lundin & Rackley, Inc.
Sarasota, Florida

Job Title : KATD PROPOSED

Frequency 990 kHz

Night Permissible Vertical Radiation
From Station:KATD
Coordinates: 38-30-17 121-10-48

Toward Station	Freq. (kHz)	GC Dist. (km)	Bear (degT)	Angles Min (deg)	Angles Max (deg)	Skywav Mult. (mV/m)	50% Ex-RSS (mV/m)	25% Ex-RSS (mV/m)	Req. Prot. (mV/m)	Perm. Vert-Rad mV/m@1km
CHTX	990	3940.5	63.4	0.0	0.0	1.94	10.87	12.08	5.43	13982.2
HJDB	990	5807.6	116.1	0.0	0.0	.34	4.75	4.75	2.38	34549.4
CMOE	990	4087.9	105.6	0.0	0.0	.72	5.35	6.09	2.67	18699.5
CMKE	990	4704.3	101.4	0.0	0.0	.53	5.71	6.18	2.85	26916.6
CMGE	990	4364.8	102.7	0.0	0.0	.62	5.92	6.25	2.96	23842.8
HISA	990	5265.	98.8	0.0	0.0	.42	4.26	4.87	2.13	25430.5
YSTA	990	4179.5	122.5	0.0	0.0	.68	9.36	9.76	4.68	34513.3
BEAUS	990	6524.6	99.8	0.0	0.0	.27	1.98	1.98	.99	18098.7
TGAL	990	4067.3	121.7	0.0	0.0	.72	3.48	4.31	1.74	12042.5
4VCPS	990	5191.6	101.1	0.0	0.0	.43	5.28	6.33	2.64	30560.
XECL	990	830.5	140.1	11.1	11.1	83.15	4.87	5.8	2.43	146.4
XECL1	990	834.8	139.4	11.0	11.0	82.7	4.92	5.86	2.46	148.8
XEHZ	990	1901.8	144.3	1.5	1.5	12.25	10.31	12.58	5.16	2105.1
XEER	990	1739.3	126.	2.4	2.4	16.26	9.39	12.93	4.69	1443.5
XENVA2	990	1962.	117.8	1.2	1.2	11.06	9.66	13.97	4.83	2183.
XETG	990	3642.4	123.7	0.0	0.0	2.3	16.59	18.6	8.30	18066.2
XEBC	990	2695.6	135.8	0.0	0.0	4.67	17.36	17.98	8.68	9302.4
XEBC	990	2695.6	135.8	0.0	0.0	4.67	17.36	17.98	8.68	9302.4
XE	990	2648.	130.5	0.0	0.0	4.88	18.41	19.07	9.20	9436.7
XEATM	990	2843.6	131.7	0.0	0.0	4.09	14.93	17.4	7.47	9130.5
XE	990	2863.8	132.9	0.0	0.0	4.02	14.7	17.13	7.35	9149.9
XET	990	2419.6	119.8	0.0	0.0	6.26	12.71	14.68	6.35	5077.3
XEIU	990	3364.3	128.3	0.0	0.0	2.76	15.75	19.19	7.88	14280.4
XEIU1	990	3364.3	128.3	0.0	0.0	2.76	15.75	19.19	7.88	14280.4
XEOL	990	3090.1	125.5	0.0	0.0	3.37	14.09	20.36	7.04	10466.9
XEOL1	990	3089.9	125.5	0.0	0.0	3.37	14.09	20.37	7.04	10467.1
XEUM	990	3722.4	112.6	0.0	0.0	2.18	13.59	17.57	6.80	15570.6
XEFP	990	2556.1	131.9	0.0	0.0	5.35	16.57	18.29	8.29	7751.4
XEFP1	990	2556.1	131.9	0.0	0.0	5.35	16.57	18.29	8.29	7751.4
HOU 44	990	5285.7	117.1	0.0	0.0	.42	2.25	2.68	1.12	13509.6
KTKT	990	1153.2	124.	4.5	9.1	36.73	5.59	7.19	1.80	244.7
**KTMS	990	468.2	162.9	16.0	26.0	131.95	8.17	9.26	6.92	262.2
KRKS	990	1403.	79.	2.7	6.5	23.93	11.84	11.84	2.96	618.7
WMYM	990	4047.4	98.1	0.0	0.0	3.31	6.43	8.17	2.04	3082.
WDYZ	990	3810.	94.7	0.0	0.0	3.57	7.21	9.13	2.28	3198.9
**KHBZ	990	3981.9	252.	0.0	0.0	5.26	1.6	1.76	1.42	1351.6
NEW	990	727.9	27.6	9.5	16.5	68.94	6.43	6.66	1.67	120.8

** - enters the 50% RSS calculation

duTreil, Lundin & Rackley, Inc.
Sarasota, Florida

Job Title : KATD PROPOSED

Frequency 990 kHz

Night Permissible Vertical Radiation
From Station:KATD
Coordinates: 38-30-17 121-10-48

Toward Station	Freq. (kHz)	GC Dist. (km)	Bear (degT)	Angles (deg)		Skywav Mult. (mV/m)	50% Ex-RSS (mV/m)	25% Ex-RSS (mV/m)	Req. Prot. (mV/m)	Perm. Vert-Rad mV/m@1km
WGSO	990	2996.1	99.	0.0	0.0	6.16	18.1	21.84	5.46	4434.9
NEW	990	4321.	64.	0.0	0.0	1.06	43.43	43.43	10.86	51457.3
WDEO	990	3182.8	70.3	0.0	0.0	3.5	11.47	13.58	3.40	4855.8
KSVP	990	1638.8	107.5	1.3	4.6	19.9	10.58	11.67	2.92	732.8
WLZG	990	3638.1	67.6	0.0	0.0	2.19	9.17	10.05	2.51	5724.
WZZD	990	3909.	72.6	0.0	0.0	2.04	4.82	6.61	1.65	4045.7
WPRA	990	5657.5	97.7	0.0	0.0	1.68	10.25	12.63	3.16	9408.8
WALE	990	4167.6	68.5	0.0	0.0	1.45	24.18	27.13	6.78	23338.2
WNOX	990	3287.2	83.	0.0	0.0	4.09	6.25	8.03	2.01	2454.2
KWAM	990	2778.6	88.1	0.0	0.0	6.41	9.09	10.92	2.73	2130.1
KWAM	990	2784.	87.9	0.0	0.0	6.37	9.02	10.86	2.71	2131.
KZZB	990	2639.5	102.4	0.0	0.0	8.12	19.86	21.78	5.45	3355.3
KCAF	990	2315.6	97.3	0.0	0.7	10.08	24.74	25.59	6.40	3173.9
KCAF	990	2085.	97.1	0.0	1.8	12.31	15.3	15.96	3.99	1620.3
WLEE	990	3778.7	77.5	0.0	0.0	2.57	15.08	15.54	3.89	7550.8
YVTA	990	6037.8	107.3	0.0	0.0	.32	3.05	3.05	1.53	24013.9
YVRT	990	6194.3	105.	0.0	0.0	.3	2.67	2.67	1.34	22031.1
CMAN	990	3969.2	105.1	0.0	0.0	.76	6.56	7.27	3.28	21512.2
CMAM	990	3953.3	106.4	0.0	0.0	.77	5.9	7.2	2.95	19202.6
CMOE	990	4087.9	105.6	0.0	0.0	.72	5.35	6.09	2.67	18699.5
CMKE	990	4704.3	101.4	0.0	0.0	.53	5.71	6.18	2.85	26916.6
CMGE	990	4364.8	102.7	0.0	0.0	.62	5.92	6.25	2.96	23842.8
KCEO	1000	683.7	147.8	10.4	17.7	80.6	13.43	13.89	3.47	2153.6
WMVP	1000	2826.4	71.9	0.0	0.0	4.95	2.02	2.51	.63	6324.8
K'TOK	1000	2130.5	92.1	0.0	1.6	11.45	18.5	18.5	4.63	20197.3
WVWI	1000	5837.4	96.	0.0	0.0	1.52	13.06	13.75	3.44	113152.4
KOMO	1000	1001.3	354.5	5.9	11.2	40.32	2.89	2.89	.72	897.2

** - enters the 50% RSS calculation

duTreil, Lundin & Rackley, Inc.
Sarasota, Florida

Job Title : KATD LICENSE

Frequency 990 kHz

Night Permissible Vertical Radiation From Station : KATD

Coordinates : 38 4 49 121 50 33

Toward Station	Freq. (kHz)	GC Dist. (km)	Bear. (degT)	Angles (deg)		Skywav Mult. (uV/m)	50 % Ex-RSS (mV/m)	25 % Ex-RSS (mV/m)	Reqd. Prot. (mV/m)	Permisbl Vert-Rad mV/m@1km
				Min	Max					
CBW	990	2328.5	48.0	.0	.0	2.54	.39	.49	.18	352.7
CBY	990	5135.9	54.9	.0	.0	1.11	4.62	4.62	2.31	10412.8
CHTX	990	4013.4	62.7	.0	.0	1.87	13.37	14.37	6.68	17918.0
HISA	990	5315.3	98.0	.0	.0	.41	3.40	4.24	1.70	20685.8
4VCPS	990	5239.7	100.2	.0	.0	.42	5.07	5.32	2.40	28341.9
XEHZ	990	1898.9	141.7	1.5	1.5	12.30	10.31	12.58	4.82	1959.4
XEER	990	1760.1	123.3	2.2	2.2	15.64	9.39	12.79	4.60	1469.0
ALTARE	990	1992.5	115.5	1.0	1.0	10.53	8.86	13.12	4.43	2103.1
XETG	990	3665.2	122.3	.0	.0	2.27	8.42	11.35	4.21	9280.7
XEBC	990	2703.3	133.9	.0	.0	4.62	17.31	17.94	8.35	9031.7
XE	990	2662.5	128.6	.0	.0	4.81	18.36	19.02	8.24	8560.2
XEATM	990	2856.6	129.9	.0	.0	4.05	14.92	18.00	7.46	9213.5
XE	990	2875.2	131.1	.0	.0	3.98	14.68	17.70	7.34	9213.8
XEIU	990	3381.4	126.8	.0	.0	2.72	12.43	15.39	6.13	11277.0
XEIU1	990	3381.4	126.8	.0	.0	2.72	12.43	15.39	6.13	11277.0
XEUM	990	3758.3	111.3	.0	.0	2.14	8.90	10.37	4.16	9715.4
XEFP1	990	2568.9	129.9	.0	.0	5.29	16.50	18.23	8.25	7799.9
HOU 44	990	5316.3	116.2	.0	.0	.41	.90	1.07	.42	5133.8
KTKT	990	1177.2	120.1	4.3	8.8	35.68	6.28	7.24	1.77	247.7
KATD	990	.0	.0	.0	.0	.00	4.88	5.39	.00	.0
KTMS	990	445.8	153.5	16.9	27.2	140.00	8.17	9.76	-8.17	** -291.8
KRKS	990	1460.5	77.8	2.3	6.0	22.47	11.62	11.62	2.91	646.8
WMYM	990	4098.5	97.0	.0	.0	3.31	6.03	7.86	1.97	2970.4
WHOO	990	3864.2	93.6	.0	.0	3.55	7.21	9.15	2.29	3225.0
KIKI	990	3912.4	252.0	.0	.0	5.39	1.60	1.76	-1.57	** -1453.9
WGSO	990	3046.5	97.6	.0	.0	6.05	18.10	20.76	5.19	4287.2
BELFAS	990	4393.7	63.4	.0	.0	.99	18.86	19.53	4.88	24739.9
WDEO	990	3253.3	69.5	.0	.0	3.33	13.77	15.26	3.79	5689.5
KSVP	990	1681.1	105.1	1.1	4.3	19.17	9.39	10.73	2.68	699.8
WLGZ	990	3709.7	66.9	.0	.0	2.08	7.57	8.79	2.20	5280.3
WZZD	990	3978.5	71.8	.0	.0	1.97	7.14	7.94	1.99	5036.0
WPRA	990	5708.9	96.9	.0	.0	1.70	10.25	12.63	3.15	9252.8
WALE	990	4238.8	67.8	.0	.0	1.39	24.18	27.33	6.83	24592.8
WNOX	990	3350.6	82.0	.0	.0	3.99	6.52	8.17	2.04	2559.6
KWAM	990	2838.5	86.8	.0	.0	6.22	9.09	10.92	2.73	2195.0

** - enters the 50% RSS calculation

duTreil, Lundin & Rackley, Inc.
Sarasota, Florida

Job Title : KATD LICENSE

Frequency 990 kHz

Night Permissible Vertical Radiation From Station : KATD

Coordinates : 38 4 49 121 50 33

Toward Station	Freq. (kHz)	GC		Angles		Skywav Mult. (uV/m)	50 % Ex-RSS (mV/m)	25 % Ex-RSS (mV/m)	Reqd. Prot. (mV/m)	Permisbl Vert-Rad mV/m@1km
		Dist. (km)	Bear. (degT)	Min (deg)	Max (deg)					
KZZB	990	2686.6	100.8	.0	.0	7.95	14.73	17.94	4.49	2822.0
KXXL	990	2137.4	95.3	.0	1.6	11.87	8.44	10.28	2.57	1083.2
PRINCE	990	1912.3	343.4	1.4	1.4	12.02	4.22	4.22	2.11	876.6
CHTX	990	4013.4	62.7	.0	.0	1.87	13.37	14.37	6.68	17918.0
CKGM	990	4013.4	62.7	.0	.0	1.87	13.37	14.37	6.68	17918.0
HJDB-B	990	5839.3	115.2	.0	.0	.34	4.75	4.75	2.38	34941.0
CMOE-B	990	4131.4	104.5	.0	.0	.70	3.40	4.36	1.70	12224.9
CMKE-B	990	4752.1	100.5	.0	.0	.52	5.43	5.80	2.59	24994.7
CMGE-B	990	4411.4	101.6	.0	.0	.61	3.90	4.44	1.95	16071.0
YSTA-B	990	4203.8	121.2	.0	.0	.67	3.44	3.93	1.72	12832.9
BEAU-B	990	6573.9	99.1	.0	.0	.27	1.98	1.98	.99	18368.7
TGAL-B	990	4092.5	120.4	.0	.0	.71	3.89	4.07	1.74	12269.4
XECL-O	990	834.9	134.6	11.0	11.0	82.66	4.49	5.91	2.24	135.7
XECL-O	990	840.1	134.0	10.9	10.9	82.12	4.54	5.97	2.27	138.2
XEBC	990	2703.3	133.9	.0	.0	4.62	17.31	17.94	8.35	9031.7
XET -O	990	2447.6	117.8	.0	.0	6.05	12.70	13.69	5.95	4917.4
XEOL-O	990	3110.8	123.8	.0	.0	3.30	14.73	18.41	6.83	10333.6
XEOL-O	990	3110.5	123.9	.0	.0	3.30	14.73	18.42	6.83	10342.2
XEFP	990	2568.9	129.9	.0	.0	5.29	16.50	18.23	8.25	7799.9
KRKS-P	990	1469.3	77.3	2.3	5.9	22.17	11.84	11.84	2.96	667.4
KRKS	990	1469.3	77.3	2.3	5.9	22.17	11.84	11.84	2.96	667.4
KRKS-P	990	1469.3	77.3	2.3	5.9	22.17	11.84	11.84	2.96	667.4
WHOO	990	3864.1	93.6	.0	.0	3.55	7.21	9.15	2.29	3224.9
LAKE-P	990	3069.6	64.6	.0	.0	3.53	15.46	15.46	3.87	5473.3
KLMX	990	1657.6	90.6	1.2	4.5	18.66	12.19	13.25	3.24	867.0
WZZD	990	3978.5	71.8	.0	.0	1.97	7.14	7.94	1.99	5035.9
KXXL-P	990	2367.7	95.7	.0	.4	9.77	24.74	25.59	6.40	3274.5
WLEE-P	990	3845.6	76.6	.0	.0	2.51	15.07	15.54	3.78	7536.0
YVTA-B	990	6079.4	106.5	.0	.0	.31	3.06	3.06	1.41	22442.6
YVRT-B	990	6238.3	104.2	.0	.0	.30	2.67	2.67	1.34	22347.0
KZXX	980	3225.6	330.3	.0	.0	2.92	2.46	2.61	.65	11192.7
KINS	980	360.4	327.8	21.0	32.7	177.28	8.41	9.45	2.36	666.7
KFWB	980	553.4	142.6	13.3	22.1	107.06	2.80	4.49	1.12	524.0
KCTY	980	151.4	171.6	43.2	57.3	348.40	14.35	14.84	3.71	532.6
KGLN	980	1266.4	78.1	3.6	7.8	29.16	11.57	13.85	3.46	5937.6

** - enters the 50% RSS calculation

duTreil, Lundin & Rackley, Inc.
Sarasota, Florida

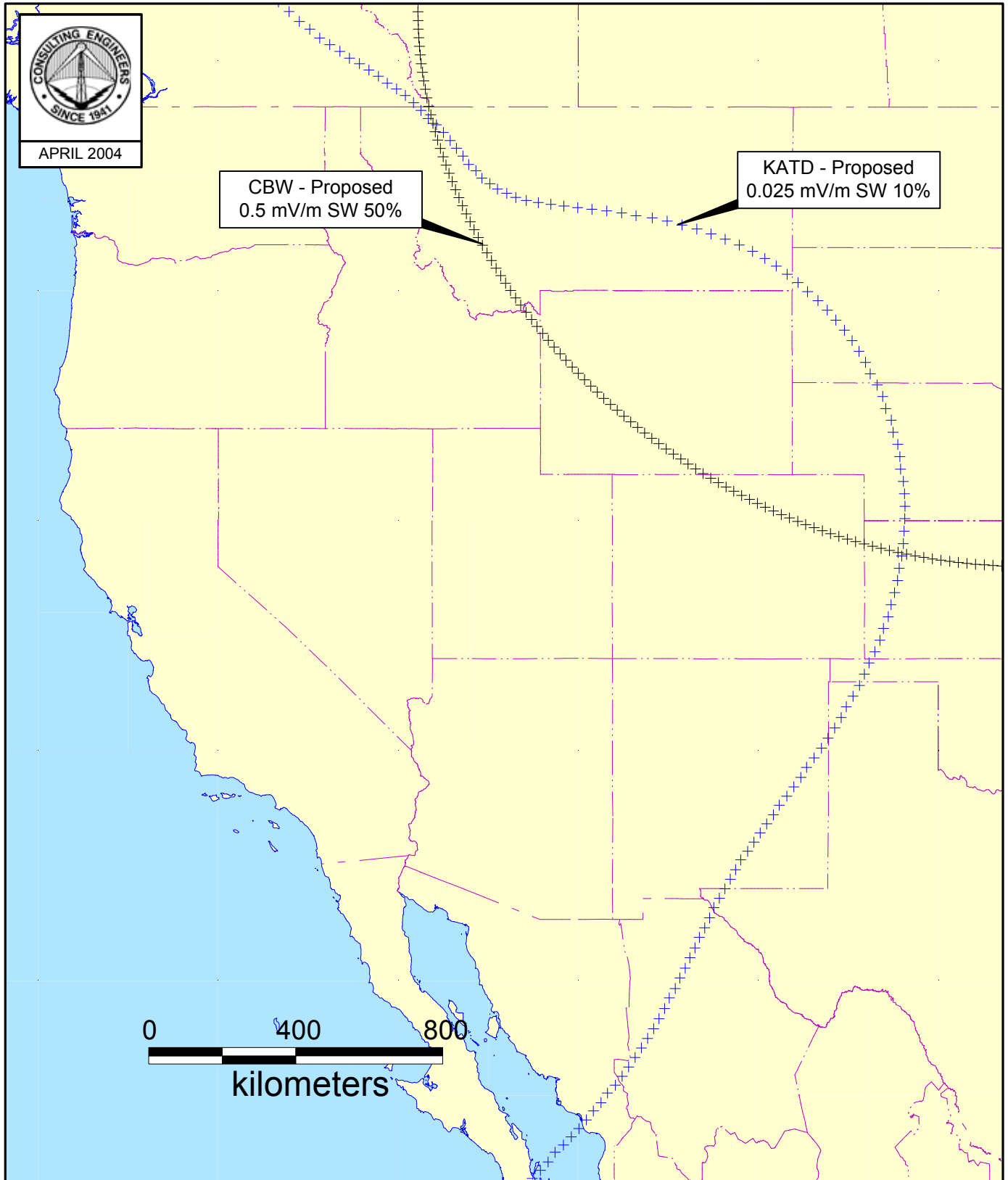
Job Title : KATD LICENSE

Frequency 990 kHz

Night Permissible Vertical Radiation From Station : KATD
Coordinates : 38 4 49 121 50 33

Toward Station	Freq. (kHz)	GC Dist. (km)	Bear. (degT)	Angles (deg)		Skywav Mult. (uV/m)	50 % Ex-RSS (mV/m)	25 % Ex-RSS (mV/m)	Reqd. Prot. (mV/m)	Permisbl Vert-Rad mV/m@1km
				Min	Max					
WTEM	980	3864.0	74.2	.0	.0	2.31	4.12	5.76	1.40	30354.2
WRNE	980	3282.0	94.3	.0	.0	5.02	13.34	17.22	4.30	42858.9
WHSR	980	4098.6	96.2	.0	.0	3.27	7.69	10.20	2.55	38964.7
WPGA	980	3489.4	88.6	.0	.0	4.07	17.47	19.50	4.88	59876.3
KUPI	980	1024.0	50.7	5.7	10.8	40.18	10.34	13.95	3.49	4342.2
KSGM	980	2786.8	80.7	.0	.0	6.00	11.09	12.00	3.00	25006.0
WITY	980	2942.2	74.8	.0	.0	4.83	21.97	24.65	6.16	63751.5
WCAP	980	4242.6	66.7	.0	.0	1.32	47.77	47.77	11.94	*****
KKMS	980	2485.2	63.4	.0	.0	6.29	14.31	15.55	3.89	30910.0
KMBZ	980	2360.7	78.9	.0	.5	8.53	2.46	4.00	.99	5811.9
WAAV	980	3921.7	82.5	.0	.0	2.77	22.98	23.93	5.98	*****
KMIN	980	1286.8	100.4	3.5	7.6	29.92	11.67	12.87	3.22	5377.3
WOFX	980	4041.2	67.0	.0	.0	1.57	7.76	9.78	2.44	77676.8
WONE	980	3241.9	74.9	.0	.0	3.78	10.18	12.81	3.20	42357.3
WILK	980	3898.4	70.1	.0	.0	1.98	11.20	11.58	2.89	73188.4
KDSJ	980	1669.0	59.4	1.2	4.4	15.85	10.42	11.59	2.90	9144.8
WYFN	980	3105.2	82.9	.0	.0	4.83	9.14	12.12	3.03	31365.3
KRTX	980	2553.5	103.3	.0	.0	8.90	13.56	15.31	3.83	21494.4
KHOS	980	2111.5	107.0	.0	1.7	12.89	13.85	15.39	3.85	14928.1
KSVC	980	853.6	81.9	7.6	13.7	56.51	13.13	14.57	3.64	3223.5
WXBQ	980	3484.5	80.2	.0	.0	3.51	20.43	23.36	5.84	83214.0
WCUB	980	2916.0	65.9	.0	.0	4.21	28.95	32.21	8.05	95630.6
KFWB	980	553.4	142.6	13.3	22.1	107.06	2.80	4.49	1.12	524.0
KCTY	980	153.8	172.4	42.7	56.9	345.76	14.33	14.81	3.70	535.6
KRTX-P	980	2553.5	103.3	.0	.0	8.90	13.56	15.31	3.83	21495.1
KCEO	1000	678.8	141.2	10.4	17.9	81.52	13.43	13.43	3.36	2058.9
WMVP	1000	2896.2	71.0	.0	.0	4.71	2.10	2.36	.59	6251.8
KTOK	1000	2187.2	90.4	.0	1.3	11.00	2.03	2.68	.67	3045.1
WVWI	1000	5890.3	95.2	.0	.0	1.55	13.06	14.27	3.57	*****
KOMO	1000	1044.4	357.5	5.5	10.5	37.88	2.89	2.89	.72	954.3

** - enters the 50% RSS calculation



NIGHTTIME ALLOCATION STUDY

RADIO STATION KATD
PITTSBURG, CALIFORNIA
990 KHZ 10 KW-D, 5.0 KW-N U DA-2

du Treil, Lundin & Rackley, Inc. Sarasota, Florida



APRIL 2004



KATD Proposed Site Photograph
View to the East

SITE PHOTOGRAPHS

RADIO STATION KATD
PITTSBURG, CALIFORNIA
990 KHZ 10 KW-D 5.0 W-N DA-2 U

du Treil, Lundin & Rackley, Inc. Sarasota, Florida



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KATD Proposed Site Photograph
View to the West

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