

Exhibit 18.1

Tabulation of Critical Hours Protection Study

Critical Hours Radiation Report

Proposed Facility Parameters:

Call: WKFL.P Freq: 1170 kHz BUSHNELL, FL, US
 Hours: Critical Hours Lat: 28-42-25 N Lng: 082-07-25 W
 Power: 5.3 kW Theo RMS: 656.44 mV/m @ 1km @ 5.3 kW

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swtch	TL Swtch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	0.0	0	1	55.0	25.0	0.0	0.0
2	0.770	113.0	80.0	355.0	0.0	0	1	55.0	25.0	0.0	0.0
3	0.750	214.0	70.0	50.0	0.0	0	1	55.0	25.0	0.0	0.0
4	0.820	130.0	60.0	140.0	0.0	0	1	55.0	25.0	0.0	0.0

Interpolation factors for 1170 kHz:

K(500) = 0.000
 K(1000) = 0.717
 K(1600) = 0.283

Individual Class A Critical Hours Study Toward:

Call: KJNP.L Freq: 1170 kHz NORTH POLE, AK, US
 Hours: D Lat: 64-45-34 N Lng: 147-19-26 W
 Power: 50.0 kW Theo RMS: 381.41 mV/m @ 1km @ 1kW

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swtch	TL Swtch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	179.9	0	0	0.0	0.0	0.0	0.0

Permissible radiation calculated using FCC 73.190 curves.

Class A Azimuth (deg)	Reference Azimuth (deg)	Distance to 0.1 mV (km) / (mi)	Max Vert Angle (deg)	Max Rad Below Ang (mV/m@1km)	Permiss Radiation (mV/m@1km)	Margin (mV/m@1km)
141.15	330.00	5863.7 / 3643.5	0.0	125.38	13539.9	13414.6 **
106.50	331.00	5820.5 / 3616.7	0.0	112.04	13573.7	13461.7 **
77.88	332.00	5813.3 / 3612.2	0.0	99.69	13608.1	13508.4 **
42.40	333.00	5883.7 / 3656.0	0.0	88.52	13643.1	13554.5 **

Class A Azimuth (deg)	Reference Azimuth (deg)	Distance to 0.1 mV (km) / (mi)	K(1000) Value (mV/m@1km)	K(1600) Value (mV/m@1km)	Permiss Radiation (mV/m@1km)
141.15	330.00	5863.7 / 3643.5	16093.44	7081.11	13539.9 **
106.50	331.00	5820.5 / 3616.7	16093.44	7200.40	13573.7 **
77.88	332.00	5813.3 / 3612.2	16093.44	7321.70	13608.1 **
42.40	333.00	5883.7 / 3656.0	16093.44	7445.04	13643.1 **

** Indicates that the distance and/or azimuth was out of the range of the 73.190 permissible radiation graphs. The calculated permissible radiation is invalid.

Exhibit 18.1

Tabulation of Critical Hours Protection Study

Individual Class A Critical Hours Study Toward:

Call: KFAQ.L Freq: 1170 kHz TULSA, OK, US
Hours: D Lat: 36-08-49 N Lng: 095-48-27 W
Power: 50.0 kW Theo RMS: 400.73 mV/m @ 1km @ 1kW

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swtch	TL Swtch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	193.0	0	0	0.0	0.0	0.0	0.0

Permissible radiation calculated using FCC 73.190 curves.

Class A Azimuth (deg)	Reference Azimuth (deg)	Distance to 0.1 mV (km) / (mi)		Max Vert Angle (deg)	Max Rad Below Ang (mV/m@1km)	Permiss Radiation (mV/m@1km)	Margin (mV/m@1km)
187.86	293.00	1438.1	/ 893.6	6.2	881.22	938.1	56.9
174.55	294.00	1361.2	/ 845.8	6.9	858.97	865.1	6.1
170.21	295.00	1343.9	/ 835.1	7.0	836.59	853.1	16.5
166.19	296.00	1331.0	/ 827.0	7.2	814.11	845.3	31.2
160.18	297.00	1306.6	/ 811.9	7.4	791.54	824.6	33.1
153.42	298.00	1276.4	/ 793.1	7.7	768.90	800.9	32.0
148.00	299.00	1255.4	/ 780.1	7.9	746.22	790.5	44.2
143.54	300.00	1243.0	/ 772.4	8.1	723.51	786.2	62.7
139.48	301.00	1235.5	/ 767.7	8.2	700.80	786.5	85.7
135.91	302.00	1236.0	/ 768.0	8.2	678.09	793.0	114.9
132.08	303.00	1236.0	/ 768.0	8.2	655.42	799.1	143.7
128.06	304.00	1235.9	/ 767.9	8.2	632.81	805.1	172.3
123.92	305.00	1235.9	/ 768.0	8.2	610.26	811.3	201.1
119.72	306.00	1236.9	/ 768.6	8.1	587.80	818.4	230.6
115.43	307.00	1239.9	/ 770.5	8.1	565.46	827.0	261.5
111.02	308.00	1245.0	/ 773.6	8.1	543.37	837.1	293.8
106.52	309.00	1250.5	/ 777.0	8.0	521.83	847.7	325.9
101.89	310.00	1257.7	/ 781.5	7.9	500.46	859.6	359.1
97.06	311.00	1267.3	/ 787.4	7.8	479.22	875.3	396.1
91.94	312.00	1279.7	/ 795.2	7.7	458.09	893.5	435.4
86.41	313.00	1295.5	/ 805.0	7.5	437.20	920.3	483.1
80.28	314.00	1315.7	/ 817.6	7.3	416.43	960.5	544.0
73.37	315.00	1341.3	/ 833.4	7.1	395.78	1010.7	614.9
65.04	316.00	1375.7	/ 854.8	6.7	375.35	1077.2	701.9

Class A Azimuth (deg)	Reference Azimuth (deg)	Distance to 0.1 mV (km) / (mi)		K(1000) Value (mV/m@1km)	K(1600) Value (mV/m@1km)	Permiss Radiation (mV/m@1km)
187.86	293.00	1438.1	/ 893.6	1141.71	423.04	938.1
174.55	294.00	1361.2	/ 845.8	1052.87	390.10	865.1
170.21	295.00	1343.9	/ 835.1	1038.26	384.64	853.1
166.19	296.00	1331.0	/ 827.0	1028.84	381.16	845.3
160.18	297.00	1306.6	/ 811.9	1003.58	371.99	824.6
153.42	298.00	1276.4	/ 793.1	974.80	360.86	800.9
148.00	299.00	1255.4	/ 780.1	962.61	354.99	790.5
143.54	300.00	1243.0	/ 772.4	957.76	352.36	786.2
139.48	301.00	1235.5	/ 767.7	958.75	350.93	786.5
135.91	302.00	1236.0	/ 768.0	967.05	352.72	793.0
132.08	303.00	1236.0	/ 768.0	974.96	354.33	799.1
128.06	304.00	1235.9	/ 767.9	982.74	355.85	805.1
123.92	305.00	1235.9	/ 768.0	990.79	357.47	811.3
119.72	306.00	1236.9	/ 768.6	999.78	359.49	818.4
115.43	307.00	1239.9	/ 770.5	1010.65	362.32	827.0
111.02	308.00	1245.0	/ 773.6	1023.40	365.97	837.1
106.52	309.00	1250.5	/ 777.0	1036.62	369.80	847.7
101.89	310.00	1257.7	/ 781.5	1051.42	374.32	859.6
97.06	311.00	1267.3	/ 787.4	1070.65	381.26	875.3
91.94	312.00	1279.7	/ 795.2	1092.75	389.36	893.5
86.41	313.00	1295.5	/ 805.0	1125.72	400.70	920.3
80.28	314.00	1315.7	/ 817.6	1175.37	416.85	960.5
73.37	315.00	1341.3	/ 833.4	1237.51	436.91	1010.7
65.04	316.00	1375.7	/ 854.8	1319.92	463.32	1077.2

Exhibit 18.1

Tabulation of Critical Hours Protection Study

Individual Class A Critical Hours Study Toward:

Call: WWVA.L Freq: 1170 kHz WHEELING, WV, US
Hours: D Lat: 40-06-07 N Lng: 080-52-02 W
Power: 50.0 kW Theo RMS: 370.15 mV/m @ 1km @ 1kW

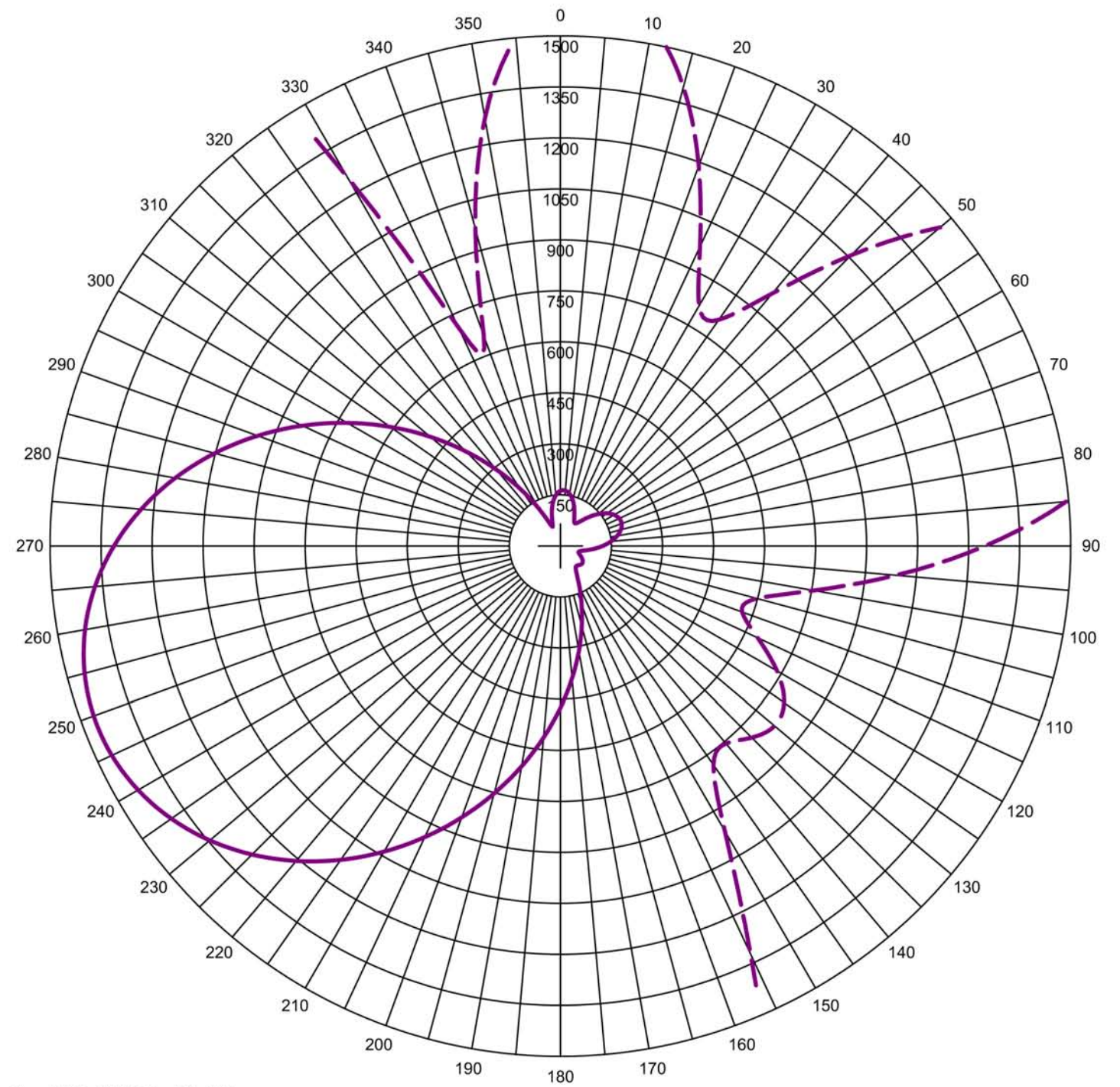
#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swch	TL Swch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	171.3	0	0	0.0	0.0	0.0	0.0

Permissible radiation calculated using FCC 73.190 curves.

Class A Azimuth (deg)	Reference Azimuth (deg)	Distance to 0.1 mV (km) / (mi)	Max Vert Angle (deg)	Max Rad Below Ang (mV/m@1km)	Permiss Radiation (mV/m@1km)	Margin (mV/m@1km)
217.12	0.00	1119.0 / 695.3	9.5	161.95	1472.1	1310.2
210.22	1.00	1109.1 / 689.2	9.7	163.06	1425.9	1262.8
203.63	2.00	1101.8 / 684.7	9.7	163.75	1386.6	1222.9
197.26	3.00	1097.0 / 681.7	9.8	164.04	1353.4	1189.4
191.02	4.00	1094.6 / 680.1	9.8	163.92	1325.7	1161.8
184.80	5.00	1094.3 / 680.0	9.8	163.42	1302.8	1139.3
178.53	6.00	1096.3 / 681.2	9.8	162.54	1284.3	1121.7
172.09	7.00	1100.6 / 683.9	9.8	161.29	1270.1	1108.9
165.38	8.00	1107.6 / 688.2	9.7	159.69	1260.5	1100.8
159.08	9.00	1112.3 / 691.2	9.6	157.74	1246.9	1089.1
152.33	10.00	1121.6 / 696.9	9.5	155.47	1240.5	1085.0
144.92	11.00	1135.3 / 705.4	9.3	152.88	1247.4	1094.5
136.53	12.00	1154.4 / 717.3	9.1	150.00	1264.5	1114.5
126.85	13.00	1180.1 / 733.3	8.8	146.84	1291.6	1144.7
116.58	14.00	1210.9 / 752.4	8.4	143.42	1324.8	1181.4
266.78	354.00	1254.7 / 779.7	7.9	146.45	1632.9	1486.4
250.18	355.00	1190.1 / 739.5	8.7	150.10	1513.9	1363.8
247.24	356.00	1185.0 / 736.3	8.7	153.32	1531.1	1377.8
242.49	357.00	1175.7 / 730.5	8.8	156.12	1537.1	1381.0
232.75	358.00	1150.3 / 714.8	9.1	158.49	1499.7	1341.2
224.58	359.00	1132.6 / 703.8	9.4	160.43	1479.0	1318.6

Class A Azimuth (deg)	Reference Azimuth (deg)	Distance to 0.1 mV (km) / (mi)	K(1000) Value (mV/m@1km)	K(1600) Value (mV/m@1km)	Permiss Radiation (mV/m@1km)
217.12	0.00	1119.0 / 695.3	1830.46	565.68	1472.1
210.22	1.00	1109.1 / 689.2	1771.89	550.63	1425.9
203.63	2.00	1101.8 / 684.7	1722.20	537.76	1386.6
197.26	3.00	1097.0 / 681.7	1680.20	526.86	1353.4
191.02	4.00	1094.6 / 680.1	1645.08	517.83	1325.7
184.80	5.00	1094.3 / 680.0	1615.98	510.54	1302.8
178.53	6.00	1096.3 / 681.2	1592.39	504.93	1284.3
172.09	7.00	1100.6 / 683.9	1574.19	501.08	1270.1
165.38	8.00	1107.6 / 688.2	1561.48	499.15	1260.5
159.08	9.00	1112.3 / 691.2	1543.84	495.70	1246.9
152.33	10.00	1121.6 / 696.9	1535.04	495.42	1240.5
144.92	11.00	1135.3 / 705.4	1542.96	499.73	1247.4
136.53	12.00	1154.4 / 717.3	1563.15	509.14	1264.5
126.85	13.00	1180.1 / 733.3	1595.28	523.39	1291.6
116.58	14.00	1210.9 / 752.4	1634.73	540.84	1324.8
266.78	354.00	1254.7 / 779.7	2019.81	654.10	1632.9
250.18	355.00	1190.1 / 739.5	1875.75	598.57	1513.9
247.24	356.00	1185.0 / 736.3	1898.34	602.18	1531.1
242.49	357.00	1175.7 / 730.5	1907.14	601.08	1537.1
232.75	358.00	1150.3 / 714.8	1862.46	582.09	1499.7
224.58	359.00	1132.6 / 703.8	1838.21	570.47	1479.0

Exhibit 18.2 - Polar Plot of Proposed Critical Hours Directional Antenna Pattern



Theo RMS: 656.444 mV/m@1km
Std RMS: 689.993 mV/m@1km
Q: 30.148 mV/m@1km

Standard Horizontal Plane Pattern

—— Pattern (mV/m @ 1km)
- - - Pattern X10

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Switch	TL Switch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	0.0	0	1	55.0	25.0	0.0	0.0
2	0.770	113.0	80.0	355.0	0.0	0	1	55.0	25.0	0.0	0.0
3	0.750	214.0	70.0	50.0	0.0	0	1	55.0	25.0	0.0	0.0
4	0.820	130.0	60.0	140.0	0.0	0	1	55.0	25.0	0.0	0.0

Call: WKFL.P
Freq: 1170 kHz
BUSHNELL, FL, US
Hours: Critical Hours
Lat: 28-42-25 N
Lng: 082-07-25 W
Power: 5.3 kW
Theo RMS: 656.44 mV/m@1km
@ 5.3 kW

Exhibit 18.3

Tabulation of Proposed Critical Hours Directional Antenna Pattern

AM Radiation Report

Call: WKFL.P
Freq: 1170 kHz
BUSHNELL, FL, US
Hours: Critical Hours
Lat: 28-42-25 N
Lng: 082-07-25 W
Power: 5.3 kW
Theo RMS: 656.44 mV/m @ 1km @ 5.3 kW

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swch	TL Swch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	0.0	0	1	55.0	25.0	0.0	0.0
2	0.770	113.0	80.0	355.0	0.0	0	1	55.0	25.0	0.0	0.0
3	0.750	214.0	70.0	50.0	0.0	0	1	55.0	25.0	0.0	0.0
4	0.820	130.0	60.0	140.0	0.0	0	1	55.0	25.0	0.0	0.0

Standard Horizontal Plane Pattern

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	161.95	120.0	73.55	240.0	1433.29
5.0	163.42	125.0	80.31	245.0	1454.80
10.0	155.47	130.0	82.20	250.0	1459.83
15.0	139.77	135.0	79.55	255.0	1447.85
20.0	118.91	140.0	75.74	260.0	1418.84
25.0	97.13	145.0	78.47	265.0	1373.30
30.0	81.58	150.0	96.66	270.0	1312.22
35.0	81.17	155.0	132.37	275.0	1237.06
40.0	96.96	160.0	182.36	280.0	1149.67
45.0	120.92	165.0	243.51	285.0	1052.19
50.0	145.76	170.0	313.71	290.0	947.00
55.0	167.20	175.0	391.43	295.0	836.59
60.0	182.76	180.0	475.38	300.0	723.51
65.0	191.07	185.0	564.35	305.0	610.26
70.0	191.49	190.0	657.08	310.0	499.26
75.0	184.09	195.0	752.23	315.0	392.83
80.0	169.58	200.0	848.34	320.0	293.23
85.0	149.22	205.0	943.80	325.0	202.87
90.0	124.87	210.0	1036.83	330.0	125.38
95.0	99.13	215.0	1125.52	335.0	70.84
100.0	75.66	220.0	1207.86	340.0	65.90
105.0	59.90	225.0	1281.78	345.0	96.62
110.0	56.87	230.0	1345.23	350.0	127.75
115.0	64.00	235.0	1396.31	355.0	150.10