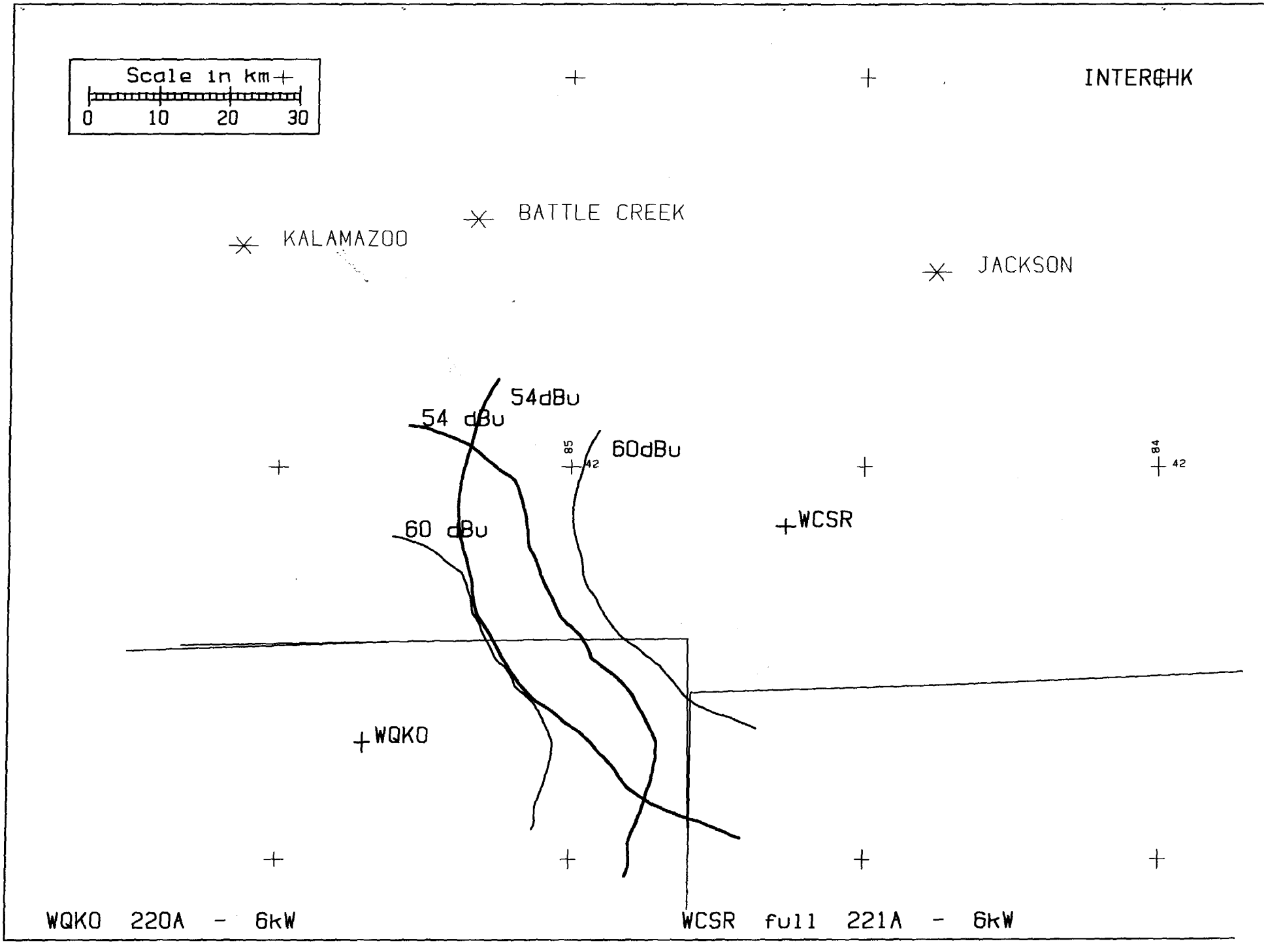
312.0	3.557	122.1	27.5	118.3	6.000	91.9	42.8	53.7
313.0	3.797	121.5	27.8	117.5	6.000	91.5	42.6	53.7
314.0	4.046	121.0	28.2	116.8	6.000	91.1	42.4	53.8
315.0	4.302	120.6	28.5	116.0	6.000	90.5	42.2	53.8
316.0	4.566	120.4	28.9	115.2	6.000	89.9	42.0	53.8
317.0	4.837	120.4	29.3	114.3	6.000	89.0	41.9	53.8
318.0	5.117	120.5	29.7	113.5	6.000	88.3	41.7	53.8
319.0	5.405	120.7	30.1	112.6	6.000	87.6	41.6	53.8
320.0	5.700	121.1	30.5	111.7	6.000	87.2	41.5	53.8
321.0	5.730	121.6	30.6	111.0	6.000	87.0	41.6	53.7
322.0	5.759	121.9	30.6	110.3	6.000	86.9	41.8	53.6
323.0	5.789	121.9	30.7	109.7	6.000	86.8	42.1	53.5
324.0	5.819	121.7	30.7	109.0	6.000	86.6	42.4	53.4
325.0	5.849	121.4	30.7	108.5	6.000	86.4	42.7	53.2
326.0	5.879	121.1	30.7	107.9	6.000	86.0	43.0	53.1
327.0	5.909	120.8	30.7	107.3	6.000	85.6	43.3	52.9
328.0	5.939	120.6	30.7	106.8	6.000	85.3	43.7	52.7
329.0	5.970	120.3	30.7	106.3	6.000	84.9	44.0	52.6
330.0	6.000	120.1	30.7	105.7	6.000	84.6	44.4	52.4


Scale in km
0
10
20
30
INTERCHK
BATTLE CREEK
KALAMAZOO
JACKSON
54dBu
54 dBu
60dBu
60 dBu
85
42
84
42
WCSR
WQKO
WQKO 220A - 6kW
WCSR full 221A - 6kW

Bob Moore Broadcast Engineer
05-02-1995

WQKO
Channel= 220
Max ERP = 6 kW
RCAMSL = 384 M
N. Lat = 413859
W. Lng = 852112

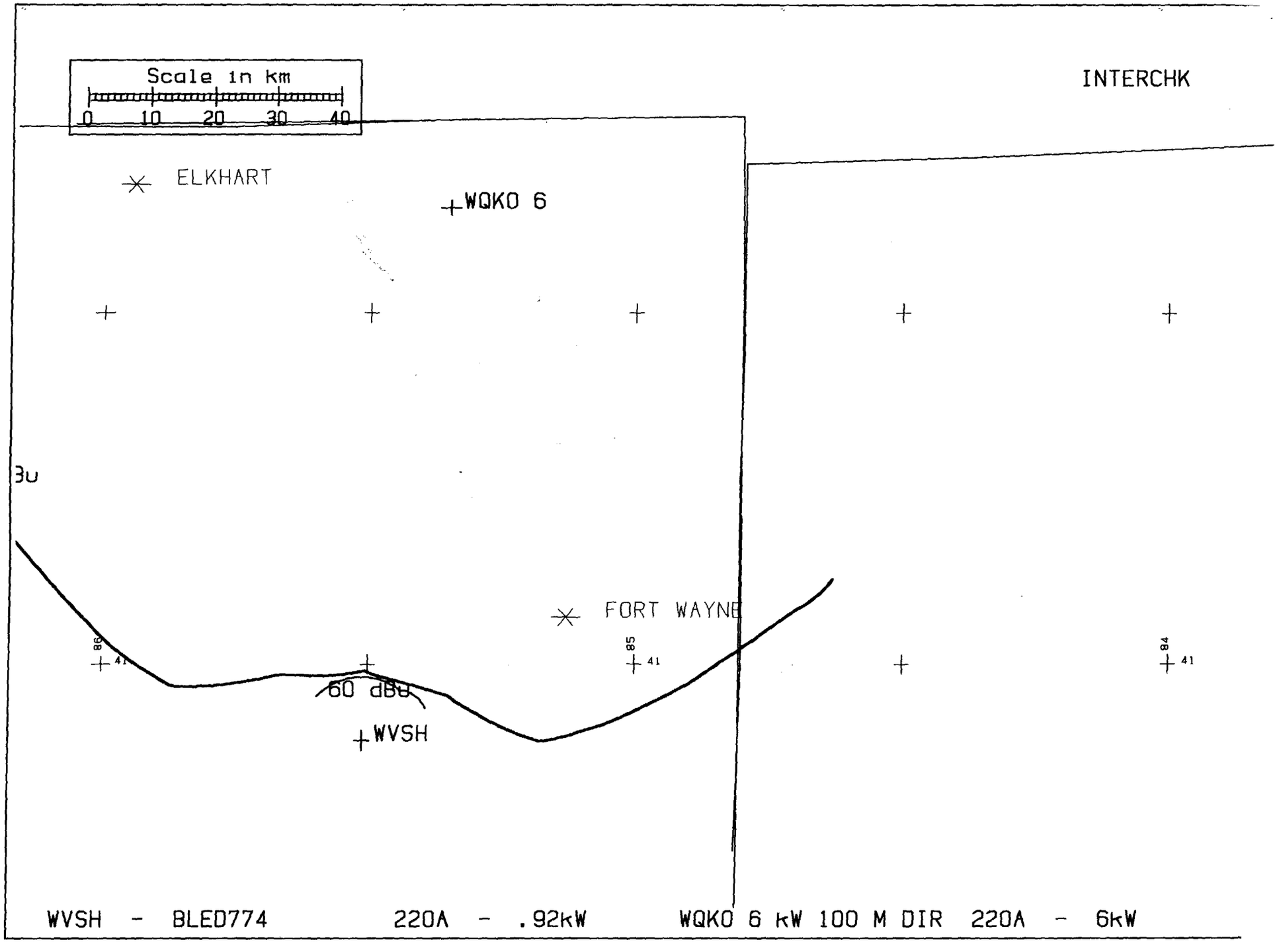
WCSR full
Channel = 221
Max ERP = 6 kW
RCAMSL = 437 M
N. Lat = 415541
W. Lng = 843810

Protected
60 dBu

Interfering
54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
0.0	6.000	107.4	29.3	268.4	6.000	113.7	59.5	48.9
1.0	6.000	106.3	29.1	268.2	6.000	113.5	59.0	49.1
2.0	6.000	105.8	29.0	268.2	6.000	113.5	58.5	49.2
3.0	6.000	105.7	29.0	268.1	6.000	113.4	58.0	49.4
4.0	6.000	105.5	29.0	268.0	6.000	113.3	57.5	49.6
5.0	6.000	105.9	29.1	268.0	6.000	113.3	57.0	49.8
6.0	6.000	106.8	29.2	268.1	6.000	113.4	56.5	50.0
7.0	6.000	107.7	29.3	268.1	6.000	113.4	56.0	50.2
8.0	6.000	108.1	29.3	268.1	6.000	113.4	55.5	50.4
9.0	6.000	108.1	29.3	268.0	6.000	113.3	54.9	50.6
10.0	6.000	108.1	29.3	267.9	6.000	113.2	54.4	50.8
11.0	6.000	108.0	29.3	267.7	6.000	113.0	54.0	51.0
12.0	6.000	107.7	29.3	267.6	6.000	112.9	53.5	51.1
13.0	6.000	107.1	29.2	267.4	6.000	112.7	53.0	51.3
14.0	6.000	106.5	29.1	267.1	6.000	112.4	52.5	51.5
15.0	6.000	106.2	29.1	266.9	6.000	112.2	52.0	51.6
16.0	6.000	105.9	29.1	266.7	6.000	112.0	51.6	51.8
17.0	6.000	105.6	29.0	266.5	6.000	111.8	51.1	52.0
18.0	6.000	105.0	28.9	266.2	6.000	111.5	50.7	52.1
19.0	6.000	104.4	28.9	265.9	6.000	111.2	50.2	52.3
20.0	6.000	103.6	28.8	265.5	6.000	110.9	49.8	52.4
21.0	5.970	102.7	28.6	265.1	6.000	110.6	49.4	52.6
22.0	5.939	101.7	28.5	264.7	6.000	110.2	49.1	52.7
23.0	5.909	100.5	28.3	264.2	6.000	109.7	48.7	52.8
24.0	5.879	99.6	28.1	263.8	6.000	109.4	48.4	52.9
25.0	5.849	98.9	28.0	263.4	6.000	109.0	48.0	53.0
26.0	5.819	98.4	27.9	262.9	6.000	108.8	47.7	53.1
27.0	5.789	98.1	27.8	262.6	6.000	108.6	47.3	53.2
28.0	5.759	97.9	27.8	262.2	6.000	108.5	46.9	53.4
29.0	5.730	97.8	27.7	261.8	6.000	108.3	46.6	53.5
30.0	5.700	97.7	27.7	261.3	6.000	108.0	46.2	53.6
31.0	5.405	97.7	27.3	260.7	6.000	107.7	46.0	53.7
32.0	5.117	97.6	27.0	259.9	6.000	107.7	45.9	53.7
33.0	4.837	97.6	26.7	259.2	6.000	107.8	45.8	53.8
34.0	4.566	97.5	26.3	258.5	6.000	108.1	45.7	53.8
35.0	4.302	97.4	25.9	257.8	6.000	108.5	45.7	53.9
36.0	4.046	97.4	25.6	257.1	6.000	108.9	45.7	53.9
37.0	3.797	97.3	25.2	256.3	6.000	109.2	45.7	53.9
38.0	3.557	97.2	24.8	255.6	6.000	109.3	45.7	53.9
39.0	3.325	96.9	24.4	254.9	6.000	109.3	45.8	53.9
40.0	3.100	96.6	24.0	254.1	6.000	109.0	45.9	53.8
41.0	3.059	96.1	23.9	253.6	6.000	108.6	45.7	53.9
42.0	3.018	95.6	23.7	253.1	6.000	108.1	45.6	53.9

43.0	2.977	95.0	23.6	252.6	6.000	107.5	45.5	53.9
44.0	2.937	94.5	23.5	252.0	6.000	106.7	45.5	53.8
45.0	2.897	93.8	23.3	251.5	6.000	106.1	45.4	53.8
46.0	2.857	93.1	23.1	250.9	6.000	105.3	45.4	53.7
47.0	2.817	92.4	23.0	250.4	6.000	104.8	45.4	53.7
48.0	2.778	91.9	22.8	249.8	6.000	104.2	45.3	53.7
49.0	2.739	91.6	22.7	249.3	6.000	103.8	45.3	53.7
50.0	2.700	91.5	22.6	248.8	6.000	103.6	45.3	53.7
51.0	2.680	91.4	22.6	248.3	6.000	103.3	45.2	53.7
52.0	2.659	91.2	22.5	247.8	6.000	103.2	45.2	53.7
53.0	2.639	91.0	22.5	247.3	6.000	103.0	45.1	53.7
54.0	2.619	90.8	22.4	246.8	6.000	102.8	45.1	53.7
55.0	2.599	90.6	22.3	246.3	6.000	102.7	45.1	53.7
56.0	2.579	90.4	22.3	245.8	6.000	102.5	45.1	53.7
57.0	2.559	90.5	22.2	245.3	6.000	102.3	45.0	53.7
58.0	2.539	90.9	22.3	244.8	6.000	102.1	45.0	53.7
59.0	2.520	91.7	22.3	244.3	6.000	101.9	44.9	53.7
60.0	2.500	92.7	22.4	243.9	6.000	101.7	44.8	53.7
61.0	2.520	93.7	22.5	243.4	6.000	101.5	44.6	53.8
62.0	2.539	94.5	22.7	242.9	6.000	101.2	44.4	53.8
63.0	2.559	95.1	22.8	242.4	6.000	101.0	44.3	53.8
64.0	2.579	95.5	22.9	241.8	6.000	100.8	44.3	53.9
65.0	2.599	95.7	22.9	241.3	6.000	100.5	44.2	53.9
66.0	2.619	95.7	23.0	240.8	6.000	100.3	44.2	53.8
67.0	2.639	95.6	23.0	240.3	6.000	100.1	44.2	53.8
68.0	2.659	95.4	23.0	239.8	6.000	99.9	44.3	53.8
69.0	2.680	95.0	23.0	239.2	6.000	99.6	44.3	53.7
70.0	2.700	94.5	23.0	238.7	6.000	99.4	44.4	53.7
71.0	2.859	93.9	23.2	238.2	6.000	99.0	44.3	53.7
72.0	3.023	93.5	23.5	237.6	6.000	98.6	44.1	53.7
73.0	3.192	93.2	23.7	237.0	6.000	98.2	44.0	53.8
74.0	3.365	93.1	24.0	236.4	6.000	97.7	43.8	53.8
75.0	3.543	93.0	24.3	235.7	6.000	97.1	43.7	53.8
76.0	3.725	92.9	24.6	235.1	6.000	96.5	43.6	53.8
77.0	3.912	92.6	24.8	234.4	6.000	95.7	43.6	53.7
78.0	4.103	92.2	25.0	233.8	6.000	94.8	43.5	53.6
79.0	4.299	91.6	25.2	233.2	6.000	93.9	43.6	53.6
80.0	4.500	91.0	25.4	232.6	6.000	93.1	43.6	53.5
81.0	4.640	90.5	25.5	232.0	6.000	92.4	43.7	53.4
82.0	4.783	90.2	25.6	231.4	6.000	91.8	43.8	53.3
83.0	4.927	90.1	25.8	230.8	6.000	91.4	43.9	53.2
84.0	5.074	90.1	25.9	230.2	6.000	91.1	44.0	53.1
85.0	5.223	90.1	26.1	229.6	6.000	90.8	44.2	53.1
86.0	5.374	90.1	26.3	229.0	6.000	90.6	44.3	53.0
87.0	5.527	90.1	26.4	228.4	6.000	90.3	44.4	52.9
88.0	5.683	90.1	26.6	227.8	6.000	89.9	44.6	52.8
89.0	5.840	90.2	26.8	227.2	6.000	89.5	44.8	52.7
90.0	6.000	90.2	26.9	226.6	6.000	89.0	45.0	52.6


Scale in km
0 10 20 30 40
INTERCHK
ELKHART
WQKO 6
FORT WAYNE
60 dBu
WVSH
86
41
85
41
84
41
WVSH - BLED774 220A - .92kW
WQKO 6 kW 100 M DIR 220A - 6kW

Bob Moore Broadcast Engineer
04-30-1995

WVSH - BLED774
Channel= 220
Max ERP = .92 kW
RCAMSL = 279 M
N. Lat = 405332
W. Lng = 853038

WQKO 6 kW 100 m DIR
Channel = 220
Max ERP = 6 kW
RCAMSL = 384 M
N. Lat = 413859
W. Lng = 852112

Protected
60 dBu

Interfering
40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
0.0	0.920	23.8	10.0	190.1	2.707	100.0	75.3	39.7
1.0	0.920	23.1	10.0	189.9	2.707	99.9	75.3	39.7
2.0	0.920	22.7	10.0	189.8	2.715	99.8	75.3	39.7
3.0	0.920	22.5	10.0	189.7	2.722	99.8	75.3	39.8
4.0	0.920	22.3	10.0	189.5	2.738	99.7	75.2	39.8
5.0	0.920	22.3	10.0	189.4	2.745	99.6	75.2	39.8
6.0	0.920	22.3	10.0	189.3	2.753	99.6	75.2	39.8
7.0	0.920	22.5	10.0	189.1	2.768	99.4	75.2	39.8
8.0	0.920	22.7	10.0	189.0	2.775	99.3	75.2	39.8
9.0	0.920	22.9	10.0	188.9	2.783	99.2	75.2	39.8
10.0	0.920	23.2	10.0	188.7	2.798	99.1	75.2	39.9
11.0	0.920	23.3	10.0	188.6	2.806	99.0	75.2	39.9
12.0	0.920	23.2	10.0	188.5	2.813	98.8	75.2	39.9
13.0	0.920	23.0	10.0	188.4	2.821	98.7	75.2	39.9
14.0	0.920	22.9	10.0	188.2	2.836	98.5	75.2	39.9
15.0	0.920	22.9	10.0	188.1	2.844	98.4	75.3	39.9
16.0	0.920	23.0	10.0	188.0	2.852	98.3	75.3	39.9
17.0	0.920	23.2	10.0	187.8	2.867	98.1	75.3	39.9
18.0	0.920	23.2	10.0	187.7	2.875	97.9	75.3	39.9
19.0	0.920	23.3	10.0	187.6	2.883	97.8	75.4	39.9
20.0	0.920	23.1	10.0	187.4	2.898	97.6	75.4	39.9
21.0	0.920	23.0	10.0	187.3	2.906	97.4	75.4	39.9
22.0	0.920	23.1	10.0	187.2	2.914	97.3	75.5	39.8
23.0	0.920	23.3	10.0	187.1	2.921	97.1	75.5	39.8
24.0	0.920	23.7	10.0	186.9	2.937	96.8	75.6	39.8
25.0	0.920	24.3	10.0	186.8	2.945	96.7	75.6	39.8
26.0	0.920	24.8	10.0	186.7	2.953	96.6	75.7	39.8
27.0	0.920	25.2	10.0	186.6	2.960	96.4	75.8	39.8
28.0	0.920	25.4	10.0	186.4	2.976	96.2	75.8	39.8
29.0	0.920	25.7	10.0	186.3	2.984	96.1	75.9	39.8
30.0	0.920	26.2	10.0	186.2	2.992	96.0	75.9	39.8

WQKO TV Channel 6 Protection

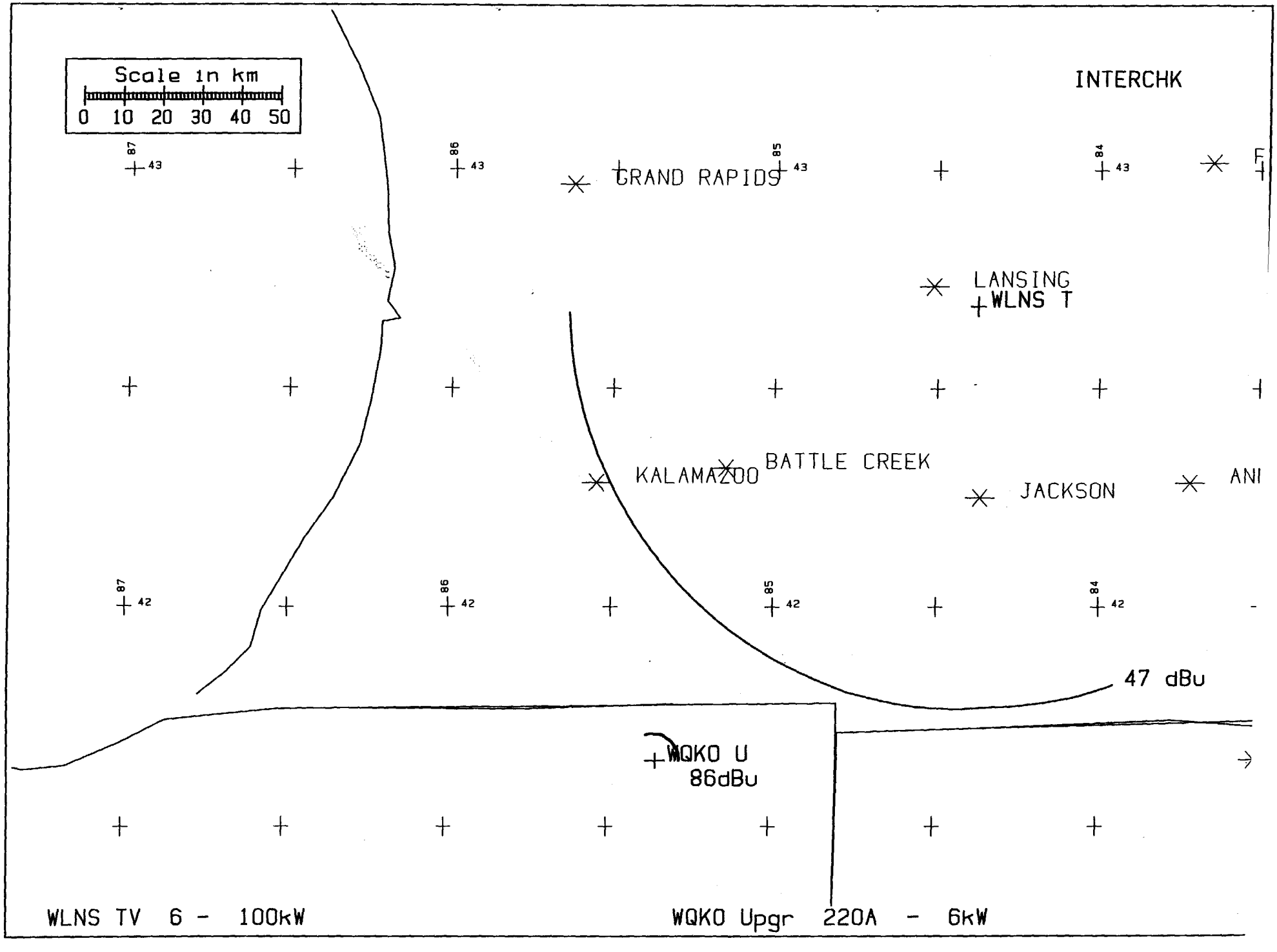
This proposal has been examined to assure compliance with 47 CFR Section 73.525. The spacing "affected radius" is given in Table A as 154 km for channel 220A. The only channel 6 TV station within this radius is WLNSTV in Lansing, Mich. at a distance from WQKO of only 140.7 km. Therefore an evaluation of the potential "Predicted Interference Area" was undertaken according to section e. As is shown below, there is no area where WQKO will interfere with viewers of WLNSTV.

The Grade B contour of WLNSTV which needs to be protected is their 47 dBu contour (per Section 73.684).

The interfering contour is determined by referring to Figure 2. For channel 220, at a channel 6 field strength of 47 dBu, the FM to channel 6 ratio is 39 dB. Therefore the interfering signal is (47+39) 86 dBu (per section 73.525 e 1 ii).

The associated plot shows that the F(50,50) curve for the protected contour and the F(50,10) curve for the interfering contour do not intersect. The tabulated listing shows that a level of protection of nearly 30 dB is attained. These plots are made with a full 6 kw omnidirectional pattern for WQKO. With the directional pattern proposed here, there is additional protection of one dB in the direction of WLNS-TV.

Exhibit #8 page #2



Bob Moore Broadcast Engineer
05-02-1995

WLNS TV
Channel= 6
Max ERP = 100 kW
RCAMSL = 566 M
N. Lat = 424114
W. Lng = 842235

Protected
47 dBu

WQKO Upgr
Channel = 220
Max ERP = 6 kW
RCAMSL = 384 M
N. Lat = 413859
W. Lng = 852112

Interfering
86 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
200.0	100.000	293.5	103.0	68.2	6.000	95.3	49.7	51.4
201.0	100.000	292.9	103.0	66.7	6.000	95.6	48.3	51.9
202.0	100.000	292.5	102.9	65.1	6.000	95.7	47.1	52.3
203.0	100.000	292.4	102.9	63.5	6.000	95.3	45.9	52.8
204.0	100.000	292.6	102.9	61.7	6.000	94.2	44.8	53.1
205.0	100.000	292.8	102.9	59.8	6.000	92.5	43.7	53.4
206.0	100.000	292.8	102.9	57.9	6.000	90.8	42.7	53.6
207.0	100.000	292.9	103.0	55.7	6.000	90.5	41.8	54.0
208.0	100.000	293.2	103.0	53.5	6.000	90.8	40.9	54.3
209.0	100.000	293.5	103.0	51.2	6.000	91.3	40.2	54.7
210.0	100.000	293.6	103.0	48.8	6.000	91.7	39.5	55.0
211.0	100.000	293.5	103.0	46.3	6.000	92.9	39.0	55.3
212.0	100.000	293.3	103.0	43.7	6.000	94.6	38.6	55.7
213.0	100.000	293.2	103.0	41.1	6.000	96.1	38.3	55.9
214.0	100.000	293.1	103.0	38.4	6.000	97.1	38.1	56.1
215.0	100.000	293.2	103.0	35.7	6.000	97.4	38.0	56.2
216.0	100.000	293.5	103.0	32.9	6.000	97.6	38.0	56.2
217.0	100.000	293.9	103.0	30.2	6.000	97.7	38.1	56.1
218.0	100.000	294.0	103.0	27.6	6.000	98.0	38.4	56.1
219.0	100.000	293.8	103.0	24.9	6.000	99.0	38.8	56.0
220.0	100.000	293.7	103.0	22.4	6.000	101.2	39.3	55.9
221.0	100.000	293.6	103.0	19.9	6.000	103.7	39.9	55.9
222.0	100.000	293.7	103.0	17.6	6.000	105.3	40.6	55.7
223.0	100.000	293.9	103.0	15.3	6.000	106.1	41.3	55.5
224.0	100.000	294.1	103.1	13.1	6.000	107.0	42.2	55.2
225.0	100.000	294.3	103.1	11.0	6.000	108.0	43.2	54.9
226.0	100.000	294.5	103.1	9.1	6.000	108.1	44.2	54.4
227.0	100.000	294.5	103.1	7.3	6.000	107.9	45.3	54.0
228.0	100.000	294.5	103.1	5.6	6.000	106.5	46.5	53.4
229.0	100.000	294.4	103.1	4.0	6.000	105.5	47.7	52.9
230.0	100.000	294.4	103.1	2.5	6.000	105.8	49.0	52.4