## Exhibit 13 Clearance to WSRV

This instant translator application clears all allocation constraints of Section 74.1204. On first glance, it appears that interference is created to WSRV, Gainesville, GA. However, Section 74.1204(d) instructs us:

"In addition, an application otherwise precluded by this section will be accepted if it can be demonstrated that no actual interference will occur due to intervening terrain, lack of population or such other factors as may be applicable."

Through the use of the proposed Elevation Radiation Pattern from the antenna manufacturer and graphing the actual interfering contour, we will prove that the interference area never touches the ground and therefore there is no population being affected in this small interference area.

WSRV (BLH-19980825KB) uses a center of radiation of 797 M AMSL with 100 KW ERP. WSRV places a signal of 69.8 dBu over the proposed translator site. Adding the 40 dBu U/D ratio to the 69.8 dBu signal produces an interfering contour of 109.8 dBu.

The applicant consulted Shively, the manufacturer of the 6812B 5-bay antenna that is being proposed. The Elevation Pattern for this antenna is attached. This includes a relative field for each degree of elevation. Knowing the relative field at each degree of elevation allows us to calculate the power at each degree of elevation. From that, the distance to the 109.8 dBu interfering contour was calculated. The Excel spreadsheet program was instrumental in graphing the interfering contour. Using trigonometry, points on the 109.8 interfering contour were transformed to point values that could be graphed on an X, Y axis. X is the distance from the antenna and Y is the height above ground.

There is a point where the 109.8 dBu interfering signal actually touches the ground close to the tower. This occurs at a distance of 29.7 meters (97.4 feet) from the tower base. At this distance the interference is still in the immediate vicinity of the tower, guy wires and co-located AM ground system. There are no residents within this proximity of the tower. Further away from the tower the interfering signal does not touch the ground again and stays aloft. The interfering signal extends for a distance of approximately 355.6 meters. The character of the land under this interfering signal is rural. Much of the land is one farm. There are chicken houses, barns and a farm residence under the interfering contour. The interference area remains in the air over this residence and rural land.

The following photograph is of the tower, transmitter building and adjacent land. It is quickly seen that there are no close in residents



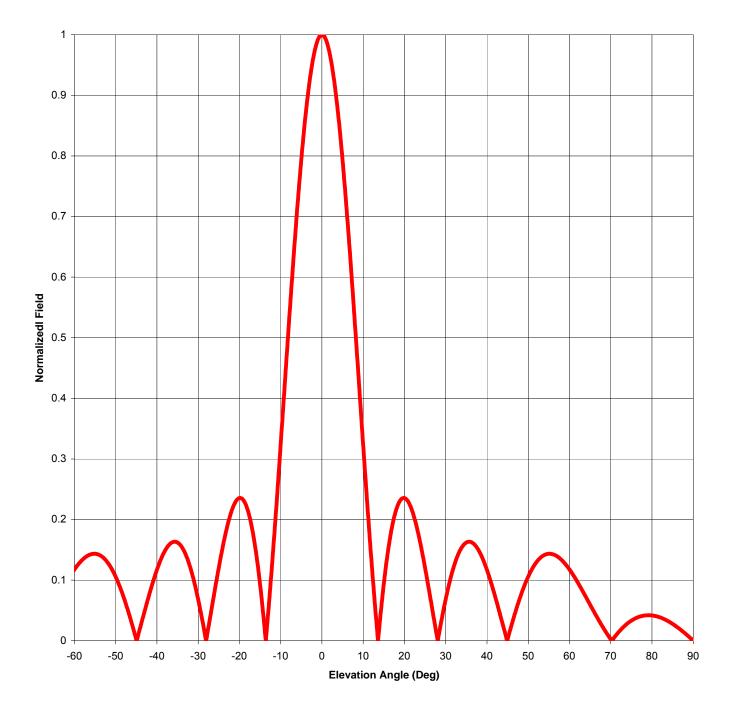
In conclusion, based on the foregoing explanation and related exhibits showing that no persons will receive interference because the interfering contour never touches the ground, it is thought this application is in compliance will Section 74.1204 using Section 74.1204(d).

## **Shively Labs**

Antenna Mfr.: Shively Labs Date: 12/29/2004

Antenna Type: 6812B or 6602B 5-Bay, full-wave-spaced

Frequency: 98.1 6812B Gain (Max) 2.61 4.17 dB 6602B Gain (Max) 5.22 7.17 dB



## Elevation Pattern Tabulation, 6602B and 6812B 5-Bay Full-Wave-Spaced

Relative field at  $0^{\circ}$  Depression = 1.000

Degrees	Rel. Field
1	0.991
2	0.965
3	0.922
4	0.865
5	0.793
6	0.711
7	0.620
8	0.523
9	0.423
10	0.323
11	0.225
12	0.133
13	0.048
14	0.028
15	0.094
16	0.147
17	0.188
18	0.216

Degrees	Rel. Field	
19	0.232	
20	0.236	
21	0.228	
22	0.212	
23	0.187	
24	0.156	
25	0.120	
26	0.082	
27	0.042	
28	0.003	
29	0.034	
30	0.068	
31	0.098	
32	0.123	
33	0.142	
34	0.155	
35	35 0.162	
36	0.163	

Degrees	Rel. Field		
37	0.159		
38	0.149		
39	0.135		
40	0.117		
41	0.096		
42	0.073		
43	0.048		
44	0.023		
45	0.002		
46	0.027		
47	0.050		
48	0.071		
49	0.090		
50	0.106		
51	0.119		
52	0.130		
53	0.137		
54	0.142		

Degrees	Rel. Field		
55	0.144		
56	0.143		
57	0.139		
58	0.134		
59	0.127		
60	0.118		
61	0.107		
62	0.096		
63	0.084		
64	0.072		
65	0.060		
66	0.047		
67	0.035		
68	0.024		
69	0.013		
70	0.003		
71	0.007		
72	0.015		

Degrees	Rel. Field
73	0.022
74	0.028
75	0.033
76	0.037
77	0.040
78	0.041
79	0.042
80	0.042
81	0.041
82	0.038
83	0.036
84	0.032
85	0.028
86	0.023
87	0.018
88	0.012
89	0.006
90	0.000

## **Tabulation of Interference Calculations**

Elevation Angle	Relative Field	Power Watts	Slant Distance*	Dist. On Ground* (Horizontal)	Dist Above Ground to Contour* (Vertical)
1	.991	245.520	355.7	355.6	32.8
2	.965	232.806	346.3	346.1	26.9
3	.922	212.521	330.9	330.4	21.7
4	.865	187.056	310.4	309.6	17.3
5	.793	157.212	284.6	283.5	14.2
6	.711	126.380	255.2	253.8	12.3
7	.620	96.100	222.5	220.8	11.9
8	.523	68.382	187.7	185.9	12.9
9	.423	44.732	151.8	149.9	15.3
10	.323	26.082	115.9	114.1	18.9
12	.133	4.422	47.7	46.7	29.1
14	.028	0.196	10.0	9.7	36.6
16	.147	5.402	52.8	50.8	24.4
18	.216	11.664	77.5	73.7	15.1
20	.236	13.924	84.7	79.6	10.0
25	.120	3.600	43.1	39.1	20.8
30	.068	1.156	24.4	21.1	26.8
35	.162	6.561	58.1	47.6	5.7
40	.117	3.422	42.0	32.2	12.0
45	.002	0.001	0.7	0.5	38.5
50	.106	2.809	38.0	24.4	9.9
55	.144	5.184	51.7	29.7	-3.4
60	.118	3.481	42.3	21.2	2.4
65	.060	0.900	21.5	9.1	19.5

70	.003	0.002	1.0	0.3	38.1
75	.033	0.272	11.8	3.1	27.6
80	.042	0.441	15.1	2.6	24.1
85	.028	0.196	10.0	0.9	29.0
90	0.00	0.000	0.0	0.0	39.0

<sup>\*</sup>All distances calculated in meters

