

ENGINEERING STATEMENT
IN SUPPORT OF
APPLICATION FOR AUXILIARY ANTENNA / SITE
4.5 kW 195 METERS HAAT
WYRK 106.5 MHz CHANNEL 293B
Facility ID 1908
BUFFALO, NY

This statement and accompanying exhibits have been prepared on behalf of Townsquare Media of Buffalo, Inc., licensee of the above referenced FM Radio Station. The purpose of which is to explain the non-conformity of the proposed directional antenna with 47CFR Part 73 section 316 (b) (1).

The licensee proposes to operate into the HD port of the licensed¹ WBUF (Channel 225B) directional antenna utilizing a three port combiner. This antenna is located on an existing tower identified by ASRN 1006688 and is located at the following NAD 27 coordinates:

42° 57' 13.00" N Latitude
78° 52' 36.00" W Longitude

The antenna is a Shively Antenna Model: 6014-2/2-DA and has an FCC ID No. 68166. The other two stations proposed to operate into this combiner for auxiliary purposes are as follows.

WBLK Ch-229B 93.7 MHz Depew, NY Facility ID 71215

WJYE Ch-241B 96.1 MHz Buffalo, NY Facility ID 1915

Forms FCC-301 for Construction Permit(s) for the above two facilities are being simultaneously filed with this application.

As stated in the WBUF original application (FCC Form 301) for construction permit, the directional antenna exists solely to protect Canadian existing and proposed facilities. A front to back ratio of 20 db was necessary in order to achieve that protection. The application further requested a waiver of §73.316(b)(1) with respect to the direction of the affected

¹ See BLH-20061114AAM Facility ID number: 53699

Canadian stations, and not that of existing and/or proposed domestic facilities. That waiver was apparently granted by the FCC, as a license for the WBUF facility was issued on October 30, 2007.

Figure 1 is a map showing the existing licensed predicted 60 dbμ contour for WYRK as compared to the predicted 60 dbμ contour proposed in this application and shows compliance with §73.1675(a)(ii) of the Commissions rules. The contours shown were generated over an arc of 360 degrees at 1 degree increments using a 30 second terrain database and software supplied by RadioSoft Inc. (Comstudy 2.2).

Figure 2 shows the horizontal field pattern of the existing WBUF directional antenna.

The licensee is aware that the directional response of the antenna to a frequency other than that of original design will vary. The proposed auxiliary 60 dbμ contour is well within that of its licensed facility. It is believed and confirmed by Mr. Bob Surette of Shively Labs (manufacturer of the WBUF antenna) that the slight variation will not exceed the limits of §73.1675(a) (1)(ii) of the Commission's rules. If the antenna were non-directional, it would still comply with the rules. Referring to Figure 1, a hypothetical non-directional 60dbμ contour is shown from the same location with parameters the same as this proposal.

Environmental Considerations

Since this proposal requests utilizing an existing antenna and tower, the only environmental consideration is that of non-ionizing radiation (RFR).

Figure 3 is a matrix showing power density levels² two meters above ground level. A worst case scenario was used for all five stations, that is, a single bay rototiller antenna was assumed for each facility at the licensed and/or proposed center of radiation above ground level. These calculations show a total power density at the base of the tower with all five stations operating to be only 6.06 microwatts (μw/cm²). This represents only 0.61 percent of the maximum permissible exposure (MPE) for controlled areas as stated in the FCC's OET Bulletin 65 edition 97-01 of 1000 μw/cm² (1.0 mw)/cm². Calculations were conducted at 10-meter intervals out to a distance of 250 meters from the tower base. The maximum power density of 44 μw/cm² was found at a distance of 190 meters from the base of the tower. This

² The FM Model program provided by the FCC Office of Engineering and Technology was utilized for these calculations.

represents only 22.4 % of the MPE of 200 $\mu\text{w}/\text{cm}^2$ for uncontrolled areas. There are no other sources of significant radiation in the immediate area of this proposal.

The licensee in cooperation with other users of the tower will either lower power or cease operations completely in order to protect personnel while performing maintenance on the tower. The tower is fenced and locked, with signs strategically placed warning of potential RFR hazards.

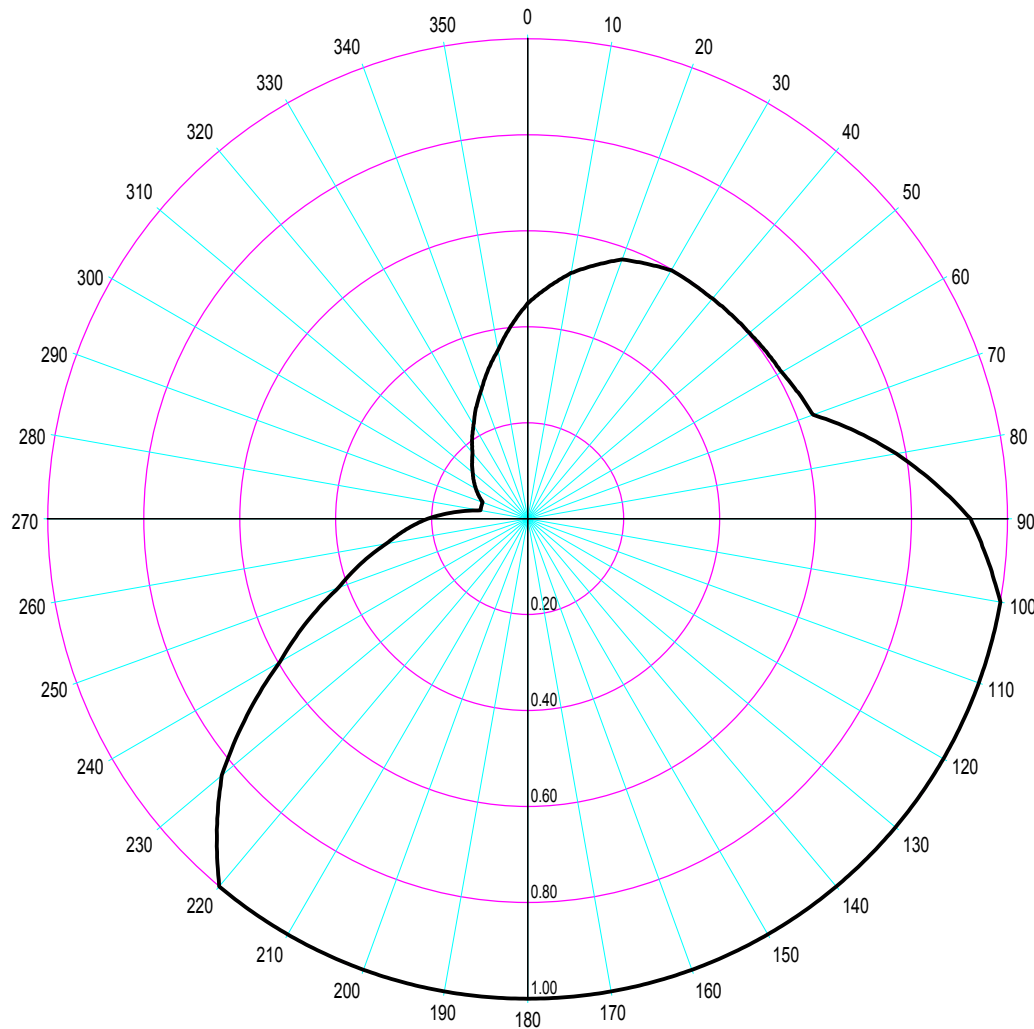
All information in this statement is believed by the undersigned to be true and accurate to the best of his knowledge.

_____ Signed _____ Date: August 6, 2011

Fred W. Greaves Jr.
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PROPOSED WYRK AUXILLIARY 4.5 KW 195 METERS



Azim	Rel.FS	ERP [kW]	dBk
0.0	0.449	0.948	-0.234
5.0	0.484	1.101	0.418
10.0	0.520	1.271	1.041
15.0	0.547	1.406	1.481
20.0	0.575	1.554	1.914
25.0	0.586	1.614	2.079
30.0	0.598	1.681	2.255
35.0	0.598	1.681	2.255
40.0	0.599	1.686	2.270
45.0	0.601	1.698	2.298
50.0	0.603	1.709	2.327
55.0	0.607	1.732	2.385
60.0	0.611	1.755	2.442
65.0	0.622	1.818	2.597
70.0	0.633	1.883	2.749
75.0	0.706	2.343	3.697
80.0	0.780	2.859	4.563
85.0	0.851	3.404	5.320
90.0	0.923	4.004	6.025
95.0	0.961	4.341	6.375
100.0	1.000	4.700	6.721
105.0	1.000	4.700	6.721
110.0	1.000	4.700	6.721
115.0	1.000	4.700	6.721
120.0	1.000	4.700	6.721
125.0	1.000	4.700	6.721
130.0	1.000	4.700	6.721
135.0	1.000	4.700	6.721
140.0	1.000	4.700	6.721
145.0	1.000	4.700	6.721
150.0	1.000	4.700	6.721
155.0	1.000	4.700	6.721
160.0	1.000	4.700	6.721
165.0	1.000	4.700	6.721
170.0	1.000	4.700	6.721
175.0	1.000	4.700	6.721
180.0	1.000	4.700	6.721

Azim	Rel.FS	ERP [kW]	dBk
185.0	1.000	4.700	6.721
190.0	1.000	4.700	6.721
195.0	1.000	4.700	6.721
200.0	1.000	4.700	6.721
205.0	1.000	4.700	6.721
210.0	1.000	4.700	6.721
215.0	1.000	4.700	6.721
220.0	1.000	4.700	6.721
225.0	0.916	3.944	5.959
230.0	0.832	3.253	5.123
235.0	0.714	2.396	3.795
240.0	0.596	1.670	2.226
245.0	0.507	1.208	0.821
250.0	0.419	0.825	-0.835
255.0	0.359	0.606	-2.177
260.0	0.299	0.420	-3.766
265.0	0.254	0.303	-5.182
270.0	0.209	0.205	-6.876
275.0	0.154	0.111	-9.529
280.0	0.100	0.047	-13.279
285.0	0.100	0.047	-13.279
290.0	0.100	0.047	-13.279
295.0	0.112	0.059	-12.295
300.0	0.125	0.073	-11.341
305.0	0.137	0.088	-10.545
310.0	0.150	0.106	-9.757
315.0	0.164	0.126	-8.982
320.0	0.179	0.151	-8.222
325.0	0.202	0.192	-7.172
330.0	0.226	0.240	-6.197
335.0	0.255	0.306	-5.148
340.0	0.284	0.379	-4.213
345.0	0.320	0.481	-3.176
350.0	0.357	0.599	-2.226
355.0	0.403	0.763	-1.173

FIGURE 3

		WBUF Ch-225B 76 KW 192 M μw/cm ²	WGRF CH-245B 24 KW 213 M μw/cm ²	WYRK CH-293B 4.5 KW 192 M μw/cm ²	WBLK CH-229B 4.5 KW 192 M μw/cm ²	WJYE CH-241B 4.7 KW 192 M μw/cm ²	RFR TOTAL μw/cm ²	TOTAL MPE %	Limit MPE
Controlled	0	4.220	1.081	0.250	0.250	0.261	6.061	0.61%	1.0 mw/cm ²
Uncontrolled	10	4.208	1.078	0.249	0.249	0.260	6.045	3.02%	0.2 mw/cm ²
	20	4.678	1.123	0.277	0.277	0.289	6.645	3.32%	
	30	6.241	1.475	0.370	0.370	0.386	8.841	4.42%	
	40	8.143	1.875	0.249	0.249	0.504	11.020	5.51%	
	50	10.299	2.359	0.610	0.610	0.637	14.514	7.26%	
	60	12.389	2.854	0.734	0.734	0.766	17.477	8.74%	
	70	14.476	3.334	0.857	0.857	0.895	20.419	10.21%	
	80	16.678	3.823	0.988	0.988	1.031	23.508	11.75%	
	90	18.824	4.328	1.115	1.115	1.164	26.546	13.27%	
	100	21.141	4.823	1.252	1.252	1.307	29.775	14.89%	
	110	23.289	5.359	1.379	1.379	1.440	32.846	16.42%	
	120	25.633	5.858	1.518	1.518	1.585	36.111	18.06%	
	130	27.734	6.393	1.642	1.642	1.715	39.126	19.56%	
	140	29.054	6.898	1.720	1.720	1.797	41.190	20.59%	
	150	29.921	7.310	1.772	1.772	1.850	42.624	21.31%	
	160	30.574	7.537	1.810	1.810	1.891	43.623	21.81%	
	170	30.976	7.719	1.834	1.834	1.916	44.279	22.14%	
	180	31.212	7.854	1.848	1.848	1.930	44.692	22.35%	
	190	31.299	7.940	1.853	1.853	1.936	44.882	22.44%	
	200	31.121	7.992	1.843	1.843	1.925	44.723	22.36%	
	210	30.845	8.014	1.826	1.826	1.908	44.420	22.21%	
	220	30.488	7.979	1.805	1.805	1.885	43.964	21.98%	
	230	30.126	7.921	1.784	1.784	1.863	43.478	21.74%	
	240	29.810	7.845	1.765	1.765	1.844	43.028	21.51%	
	250	29.431	7.753	1.743	1.743	1.820	42.489	21.24%	

← Max