

### **WPHY-CD Construction Permit Amendment Description**

This amendment changes two things:

- 1) It revises the antenna selection from a 2-bay model (ATC-BPE2C2-U) to a 4-bay model (ATC-BPC4C2-U). The azimuth pattern remains the same. The only change is in the elevation pattern which is included as Exhibit A to this document.
- 2) It revises the height of the radiation center of the antenna from the originally specified 354.5 m AGL to 332.3 m AGL, to reflect the selection of a lower mounting position on the tower than originally anticipated.

The power and orientation of the new antenna are the same as filed in the prior application.

A new TVStudy run was performed using current LMS records, concluding that the revised facility continues to meet the Commission's de minimis interference criteria to all co-channel and adjacent-channel post-repack full-power and Class A and LPTV/translator facilities.

A new power density calculation was performed, using the methods of OET Bulletin No 65, with main lobe radiated power of 15.0 kW, a radiation center 332.3 m AGL, using the updated elevation pattern. The resultant maximum power density two meters above ground is even lower than in the original analysis, peaking at  $0.000032 \text{ mW/cm}^2$  at a distance of 438 m southeast of the tower, which is less than 0.01% of the  $0.35 \text{ mW/cm}^2$  reference value for uncontrolled environments operating on Channel 22 (518-524 MHz).



## Elevation Pattern Tabulation

-5 to 10 in 0.25 increments, 10 to 90 in 0.50 increments

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-5.00	0.184	-14.70	8.75	0.105	-19.58	35.00	0.126	-17.99	62.50	0.057	-24.88
-4.75	0.215	-13.35	9.00	0.108	-19.33	35.50	0.133	-17.52	63.00	0.057	-24.88
-4.50	0.250	-12.04	9.25	0.120	-18.42	36.00	0.137	-17.27	63.50	0.057	-24.88
-4.25	0.289	-10.78	9.50	0.138	-17.20	36.50	0.138	-17.20	64.00	0.056	-25.04
-4.00	0.329	-9.66	9.75	0.180	-14.89	37.00	0.138	-17.20	64.50	0.055	-25.19
-3.75	0.371	-8.61	10.00	0.219	-13.19	37.50	0.134	-17.46	65.00	0.053	-25.51
-3.50	0.414	-7.66	10.50	0.250	-12.04	38.00	0.129	-17.79	65.50	0.051	-25.85
-3.25	0.458	-6.78	11.00	0.272	-11.31	38.50	0.121	-18.34	66.00	0.049	-26.20
-3.00	0.502	-5.99	11.50	0.284	-10.93	39.00	0.111	-19.09	66.50	0.047	-26.56
-2.75	0.546	-5.26	12.00	0.287	-10.84	39.50	0.100	-20.00	67.00	0.044	-27.13
-2.50	0.590	-4.58	12.50	0.281	-11.03	40.00	0.087	-21.21	67.50	0.041	-27.74
-2.25	0.632	-3.99	13.00	0.267	-11.47	40.50	0.074	-22.62	68.00	0.039	-28.18
-2.00	0.674	-3.43	13.50	0.246	-12.18	41.00	0.060	-24.44	68.50	0.036	-28.87
-1.75	0.714	-2.93	14.00	0.219	-13.19	41.50	0.047	-26.56	69.00	0.033	-29.63
-1.50	0.752	-2.48	14.50	0.188	-14.52	42.00	0.036	-28.87	69.50	0.031	-30.17
-1.25	0.788	-2.07	15.00	0.153	-16.31	42.50	0.030	-30.46	70.00	0.028	-31.06
-1.00	0.823	-1.69	15.50	0.118	-18.56	43.00	0.032	-29.90	70.50	0.026	-31.70
-0.75	0.854	-1.37	16.00	0.082	-21.72	43.50	0.040	-27.96	71.00	0.024	-32.40
-0.50	0.883	-1.08	16.50	0.048	-26.38	44.00	0.050	-26.02	71.50	0.022	-33.15
-0.25	0.910	-0.82	17.00	0.021	-33.56	44.50	0.061	-24.29	72.00	0.021	-33.56
0.00	0.933	-0.60	17.50	0.026	-31.70	45.00	0.071	-22.97	72.50	0.020	-33.98
0.25	0.953	-0.42	18.00	0.049	-26.20	45.50	0.081	-21.83	73.00	0.019	-34.42
0.50	0.969	-0.27	18.50	0.070	-23.10	46.00	0.088	-21.11	73.50	0.019	-34.42
0.75	0.982	-0.16	19.00	0.087	-21.21	46.50	0.095	-20.45	74.00	0.020	-33.98
1.00	0.992	-0.07	19.50	0.099	-20.09	47.00	0.100	-20.00	74.50	0.020	-33.98
1.25	0.998	-0.02	20.00	0.107	-19.41	47.50	0.103	-19.74	75.00	0.021	-33.56
1.50	1.000	0.00	20.50	0.109	-19.25	48.00	0.105	-19.58	75.50	0.023	-32.77
1.75	0.999	-0.01	21.00	0.108	-19.33	48.50	0.105	-19.58	76.00	0.024	-32.40
2.00	0.994	-0.05	21.50	0.103	-19.74	49.00	0.103	-19.74	76.50	0.025	-32.04
2.25	0.985	-0.13	22.00	0.094	-20.54	49.50	0.100	-20.00	77.00	0.027	-31.37
2.50	0.973	-0.24	22.50	0.083	-21.62	50.00	0.096	-20.35	77.50	0.028	-31.06
2.75	0.957	-0.38	23.00	0.070	-23.10	50.50	0.091	-20.82	78.00	0.030	-30.46
3.00	0.938	-0.56	23.50	0.057	-24.88	51.00	0.085	-21.41	78.50	0.031	-30.17
3.25	0.915	-0.77	24.00	0.044	-27.13	51.50	0.078	-22.16	79.00	0.032	-29.90
3.50	0.889	-1.02	24.50	0.034	-29.37	52.00	0.070	-23.10	79.50	0.033	-29.63
3.75	0.861	-1.30	25.00	0.028	-31.06	52.50	0.062	-24.15	80.00	0.035	-29.12
4.00	0.830	-1.62	25.50	0.028	-31.06	53.00	0.053	-25.51	80.50	0.036	-28.87
4.25	0.796	-1.98	26.00	0.032	-29.90	53.50	0.044	-27.13	81.00	0.036	-28.87
4.50	0.759	-2.40	26.50	0.037	-28.64	54.00	0.035	-29.12	81.50	0.037	-28.64
4.75	0.721	-2.84	27.00	0.040	-27.96	54.50	0.026	-31.70	82.00	0.038	-28.40
5.00	0.681	-3.34	27.50	0.042	-27.54	55.00	0.018	-34.89	82.50	0.039	-28.18
5.25	0.639	-3.89	28.00	0.041	-27.74	55.50	0.011	-39.17	83.00	0.039	-28.18
5.50	0.596	-4.50	28.50	0.037	-28.64	56.00	0.008	-41.94	83.50	0.040	-27.96
5.75	0.552	-5.16	29.00	0.031	-30.17	56.50	0.012	-38.42	84.00	0.040	-27.96
6.00	0.507	-5.90	29.50	0.023	-32.77	57.00	0.018	-34.89	84.50	0.041	-27.74
6.25	0.462	-6.71	30.00	0.015	-36.48	57.50	0.025	-32.04	85.00	0.041	-27.74
6.50	0.417	-7.60	30.50	0.013	-37.72	58.00	0.031	-30.17	85.50	0.041	-27.74
6.75	0.372	-8.59	31.00	0.022	-33.15	58.50	0.036	-28.87	86.00	0.041	-27.74
7.00	0.327	-9.71	31.50	0.036	-28.87	59.00	0.041	-27.74	86.50	0.041	-27.74
7.25	0.284	-10.93	32.00	0.051	-25.85	59.50	0.045	-26.94	87.00	0.041	-27.74
7.50	0.243	-12.29	32.50	0.066	-23.61	60.00	0.049	-26.20	87.50	0.041	-27.74
7.75	0.204	-13.81	33.00	0.081	-21.83	60.50	0.052	-25.68	88.00	0.041	-27.74
8.00	0.168	-15.49	33.50	0.094	-20.54	61.00	0.054	-25.35	88.50	0.041	-27.74
8.25	0.138	-17.20	34.00	0.107	-19.41	61.50	0.056	-25.04	89.00	0.040	-27.96
8.50	0.116	-18.71	34.50	0.117	-18.64	62.00	0.057	-24.88	89.50	0.040	-27.96
8.75	0.105	-19.58	35.00	0.126	-17.99	62.50	0.057	-24.88	90.00	0.040	-27.96