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Merrill Weiss Group LLC

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Technical Statement for Auxiliary Antenna Construction Permit Application:

Cox Television Jacksonville, LLC Station WFOX-TV, Facility ID 11909 Channel 14 Jacksonville, FL

Auxiliary to Pending License in File No. 0000120746

Introduction

This Technical Statement provides supplemental technical data and information associated with an application for a construction permit for an Auxiliary Antenna and facility for Digital Television Broadcast Station WFOX-TV, licensed to Cox Television Jacksonville, LLC, on Channel 14 in Jacksonville, FL, in with a pending License to Cover application in File Number 0000120746 ("WFOX"). The Auxiliary Antenna will be shared with another station, WJAX-TV, at a site owned by SBA Towers II, LLC, known as Hogan Road (ASR No. 1235223), which also is the site of a shared facility and antenna for the WFOX and WJAX Main facilities. The shared Main Antenna is top-mounted on a three-arm candelabra atop the tower. The shared Auxiliary Antenna will be side-mounted about half-way up the tower.

Auxiliary Facilities Requested

Requested facilities for the WFOX Auxiliary Antenna are detailed technically in the LMS form to which this description is attached. In summary, they include operation with a directional antenna having a radiation center height of 152.4 m (500.0 ft) above ground level (RCAGL), corresponding to 154.8 m above mean sea level (RCAMSL). Peak effective radiated power (ERP) will be 579 kW, and the azimuth orientation of the axis of symmetry of the antenna will be toward 270 degrees True. As can be seen on the map on the next page hereof, the pattern and power of the proposed Auxiliary facility at the Hogan Road site are such that the WFOX Auxiliary contour will be fully contained within the WFOX Channel 14 contour authorized by the station's Construction Permit and eventually its License. The ERP was determined by matching the transmitter power output (TPO) for the Auxiliary Antenna to the TPO value required to feed the Main Antenna, thereby making switching between them easier.

Locations of Predicted Noise-Limited Contours

Section 73.1675(c)(1) of the FCC rules requires that an exhibit be provided demonstrating compliance with the requirements of §73.1675(a) that the service contour of the Auxiliary Antenna not extend beyond the contour of the Main Antenna. Figure 1 provides a map showing the Main Antenna contour in dark red and the proposed Auxiliary Antenna contour in violet. As can be seen on the map, the Auxiliary Antenna contour is fully contained within the Main Antenna contour in all directions. The map was produced using EDX Signal software, version 11.6.8.



Figure 1 – Comparison of WFOX 38.7 dBu Contours – Pending License to Cover (Dark Red) vs. Proposed Auxiliary (Violet)

Environmental Impact/Radio Frequency Radiation

Information on effects of installation and operation of the proposed Auxiliary antenna on the environment and with respect to predicted radio frequency radiation are contained in a separate document filed with the current application as an attachment in the Technical Certifications category in the LMS ingest system.

Plots of Antenna Patterns

The antenna pattern plots required by \$73.625(c) are provided in Figures 2 – 5. Figure 2 shows the azimuth pattern in relative field values, and Figure 3 shows the azimuth pattern expressed as dBk. In both azimuth pattern plots, the pattern is shown in two orientations: One in which the pattern is oriented with its axis of symmetry passing through zero degrees (shown in light blue), and the second in which the pattern is oriented as it will be installed geographically (in dark red), i.e., with its axis of symmetry facing 270 degrees True. Required azimuth pattern data is included in the online application form in the LMS ingest system.

Figure 4 shows the elevation pattern in relative field values, and Figure 5 shows the elevation pattern expressed as dBk. In both cases, only a single plot is required. The data underlying the elevation pattern plots is included in Table 1.



Figure 2 – Azimuth patterns in terms of relative field values – normalized in light blue and rotated to geographic position in dark red.



Figure 3 – Azimuth patterns in terms of dBk values – normalized in light blue and rotated to geographic position in dark red.







Figure 5 – Elevation pattern in terms of dBk values.

-10	0.084	10	0.077	30	0.016	50	0.016	70	0.023
-9	0.110	11	0.072	31	0.047	51	0.035	71	0.021
-8	0.199	12	0.114	32	0.068	52	0.052	72	0.018
-7	0.196	13	0.055	33	0.060	53	0.062	73	0.014
-6	0.174	14	0.104	34	0.032	54	0.059	74	0.010
-5	0.086	15	0.167	35	0.007	55	0.046	75	0.007
-4	0.172	16	0.130	36	0.003	56	0.027	76	0.004
-3	0.266	17	0.049	37	0.006	57	0.011	77	0.003
-2	0.136	18	0.011	38	0.011	58	0.011	78	0.003
-1	0.525	19	0.029	39	0.012	59	0.016	79	0.003
0	0.938	20	0.055	40	0.041	60	0.014	80	0.003
1	0.936	21	0.031	41	0.074	61	0.010	81	0.003
2	0.509	22	0.082	42	0.088	62	0.005	82	0.003
3	0.166	23	0.157	43	0.075	63	0.002	83	0.002
4	0.339	24	0.163	44	0.044	64	0.003	84	0.002
5	0.212	25	0.103	45	0.015	65	0.006	85	0.001
6	0.158	26	0.032	46	0.019	66	0.011	86	0.001
7	0.327	27	0.020	47	0.024	67	0.017	87	0.001
8	0.313	28	0.023	48	0.019	68	0.021	88	0.001
9	0.199	29	0.014	49	0.009	69	0.023	89	0.001
								90	0.001

Table 1 – Elevation pattern data in relative field values at 1-degree depression angle increments.