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### **Technical Statement for Construction Permit Minor Modification:**

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

### **Modification of Construction Permit in File No. 0000025123**

#### ***Introduction***

This Technical Statement provides supplemental technical data and information associated with an application for a Minor Modification of the FCC Construction Permit (CP) for Minor Modification of a Licensed Facility associated with the Commission's Broadcast Television Spectrum Repack, in File Number 0000025123 granted on June 23, 2017 and expiring on January 17, 2020. The current application for modification of the WFOX-TV facilities on Channel 14 in Jacksonville, FL seeks to maintain the existing antenna and to increase the station's Effective Radiated Power (ERP) to the value specified by the FCC in its post-repack parameters for WFOX-TV. The antenna used by WFOX is a broadband panel array that is shared with another station. Because the patterns of such antennas are sensitive to frequency and shift their shapes between frequencies, it was found necessary in the initial construction permit application for the Spectrum Repack to reduce Effective Radiated Power (ERP) from the FCC-specified value to avoid contour extensions greater than 1 percent. As the constraint on contour extensions does not apply during the current application filing window, WFOX-TV seeks in this application to move to the power level that the Commission specified for it in the first place, i.e., 663 kW. Due to the change in power, several of the attachments to the original CP application are updated with the filing of the current application, and the updates are described in the following sections.

#### ***Facilities***

The antenna currently authorized for use by WFOX-TV on Channel 14 post-repack has a "bent peanut" azimuth pattern shape and uses horizontal polarization. The station seeks to upgrade by increasing

power while keeping the same pattern that it currently has authorized. During filing of the initial construction permit application, for which contour distance increase of more than one percent were proscribed, the station was forced to reduce power from the FCC-prescribed parameters due to shift in the antenna pattern shape with frequency. When the frequency was lowered, the widths of the “arms” of the peanut shape were widened. Since the shape of the pattern is purely a function of operating frequency, the pattern to be used was filed with the initial CP application. Since a power increase is proposed, however, there will be changes in the required pattern plots showing power in dBk. Consequently, a new set of pattern plots has been uploaded to the LMS and is found in the file named <DIE TUC-P5-12-60H-1-B Plots for FCC Application Attachment v2 – 663 kW ERP.pdf>. With the increase in power proposed, new predicted interference also is possible, so new interference studies were conducted. The results of the recent interference studies are described in the following section of this Technical Statement.

***Interference Analysis***

As a result of the proposed power increase described in the preceding section, interference studies were conducted to confirm that interference protection to neighboring stations would be maintained after the proposed change. The studies were conducted using the Commission’s TVStudy software, version 2.2.3. The Licensing and Management System (LMS) database dated October 26, 2017 was applied.

TVStudy found only two records requiring analysis, representing the respective Construction Permit and Baseline facilities of a single full-service television station. The station, records, and results are included in the following table.

Call	Chan	Svc	Status	City, State	File Number	Dist. km	IX % Incr.
WOPX-TV	D14	DT	CP	MELBOURNE, FL	BLANK0000027036	246.4	0.00
WOPX-TV	D14	DT	BL	MELBOURNE, FL	DTVBL67602	246.9	0.00

As can be seen in the table, both records show zero increase in predicted interference from the proposed power increase of WFOX-TV. With a permissible increase in the level of predicted interference of 0.5 percent, there is no impermissible new interference predicted to be caused. Complete data from the interference studies described are provided in a file uploaded to the LMS record named <WFOX Ch14 DIE TUC-P5-12-60H 663kW tvixstudy.pdf>.

### ***Environmental Impact/Radio Frequency Radiation***

The power increase impacts the determination of predicted Radio Frequency Radiation (RFR) previously made and filed with the Commission. Consequently, the RFR percentage of the Maximum Permissible Exposure (MPE) has been recalculated using the increased power level, and the results are reported in the file < Environmental Impact - Radio Frequency Radiation - WFOX Jacksonville - Hpol Only v2.pdf>, which has been uploaded to the LMS record for this application.

### ***Other Changes***

The recent run of TVStudy regarding WFOX-TV produced a slightly different value for Height Above Average Terrain (HAAT) for the Center of Radiation of the antenna than was in the LMS database previously. Consequently, the value in the LMS record has been updated to the value computed by TVStudy.