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Technical Statement for Construction Permit Minor Modification:

**WSOC Television, LLC
Station WAXN-TV, Facility ID 12793
Channel 32
Kannapolis, NC**

Modification of Construction Permit in File No. 0000025121

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 0000025121 granted on June 23, 2017 and expiring on September 6, 2019. The current application for modification of the WAXN-TV facilities on Channel 32 in Charlotte, NC seeks to change the antenna type and model number and to maximize the station's Effective Radiated Power (ERP). The substitute antenna will use a more highly directional azimuth pattern than the original to permit use of higher power. Due to the changes, 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 WAXN-TV on Channel 32 post-repack has a cardioid azimuth pattern and uses elliptical polarization. The station seeks to upgrade by increasing power while keeping essentially the same type of pattern that it currently has authorized. The power increase will be accomplished by using a deeper null in the rear of the pattern to maintain the interference protection currently provided to other stations. By doing so, the Effective Radiated Power (ERP) of the station will be increased to 200 kW. The results of recent interference studies that show the outcome of the approach are described in the following section of this Technical Statement. As the pattern of a directional antenna is proposed to be changed, a new set of patterns, as required by §73.625(c), has

been uploaded to the Licensing and Management System (LMS) as part of the current application. It is in the file named < DIE TFU-16ETT-VP-R 3C180 Plots for FCC Application Attachment v3.pdf>.

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 changes. 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 a total of twelve records requiring analysis, representing the respective Construction Permit and Baseline facilities for a total of six television stations – all full-service operations. The stations, records, and results are included in the following table.

Call	Chan	Svc	Status	City, State	File Number	Dist. km	IX % Incr.
WGHP	D31	DT	CP	HIGH POINT, NC	BLANK0000025059	100.9 km	0.25
WGHP	D31	DT	BL	HIGH POINT, NC	DTVBL72106	100.9	0.45
WKTC	D31	DT	CP	SUMTER, SC	BLANK0000027544	127.4	0.00
WKTC	D31	DT	BL	SUMTER, SC	DTVBL40902	127.4	0.00
WSB-TV	D32	DT	CP	ATLANTA, GA	BLANK0000025134	372.1	0.00
WSB-TV	D32	DT	BL	ATLANTA, GA	DTVBL23960	372.1	0.00
WKPT-TV	D32	DT	CP	KINGSPORT, TN	BLANK0000026140	181.8	0.00
WKPT-TV	D32	DT	BL	KINGSPORT, TN	DTVBL27504	181.8	0.00
WUNL-TV	D33	DT	CP	WINSTON-SALEM, NC	BLANK0000028084	127.9	0.06
WUNL-TV	D33	DT	BL	WINSTON-SALEM, NC	DTVBL69360	127.9	0.06
WRLK-TV	D33	DT	CP	COLUMBIA, SC	BLANK0000025032	128.5	0.00
WRLK-TV	D33	DT	BL	COLUMBIA, SC	DTVBL61013	128.5	0.00

As can be seen in the table, out of the twelve records, eight show zero increase in predicted interference from the proposed modification of WAXN-TV, two show predicted interference increases of less than 0.1 percent, and two show predicted interference of 0.25 percent and 0.45 percent, respectively. All are below, and most are well below the permitted level of 0.5 percent increase. Thus, no impermissible new interference is predicted to be caused by the proposal to other stations currently authorized. During a very recent analysis using TVStudy, a case was found in which potential mutual interference might exist with an application filed during the same filing window as the current WAXN application. Since all stations filing in the current filing window will be treated as filing on the closing day of the window, such applications were excluded from the study. Nevertheless, the possibility of such a mutual exclusivity is recognized. Complete data from the interference studies described are provided in a file

uploaded to the LMS record named < WAXN Ch32 TFU-16ETT-VP-R 3C180 200kW No Apps tvixstudy.pdf>.

Environmental Impact/Radio Frequency Radiation

The change of antenna design and model plus the power increase affect the determination of predicted Radio Frequency Radiation (RFR) previously made. Consequently, the RFR percentage of the Maximum Permissible Exposure (MPE) has been recalculated using the characteristics of the proposed antenna and the increased power levels, and the results are reported in the file < Environmental Impact - Radio Frequency Radiation - WAXN Kannapolis - 200kW 322.24mAGL 30% Vpol v3.pdf>, which has been uploaded to the LMS record for this application.

Other Changes

The recent run of TVStudy regarding WAXN-TV produced a 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.