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Technical Statement for Construction Permit Minor Modification:

**Northstar Dallas License, LLC
Station KAZD, Facility ID 17433
Channel 31
Lake Dallas, TX**

Modification of Construction Permit in File No. 0000027868

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 0000027868 granted on July 24, 2017 and expiring on June 21, 2019. The current application for modification of the KAZD facilities on Channel 31 in Lake Dallas, TX seeks to maintain the authorized post-repack antenna and to increase the station's Effective Radiated Power (ERP) to maximize the service that KAZD can deliver to the public. The antenna to be used by KAZD is a non-directional slot that is used solely by KAZD. The plan is to move KAZD back to the ERP of 1 MW with which it operated on Channel 39 before the FCC reassigned it to Channel 31 in the Spectrum Repack and also to change from Horizontal to Elliptical polarization. The higher power is more appropriate since many consumers today do not install the sorts of big outdoor antennas that inspired the "dipole factor" power adjustment built into the Commission's rules and OET Bulletin No. 69. For small and indoor antennas, pure power is most important, and all channels are about equal when delivering signals to relatively small (compared to the size of resonant dipoles) antennas. 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 & Largest-In-Market Comparison

The antenna currently authorized for use by KAZD on Channel 31 post-repack is non-directional and with approval of the current application will use elliptical polarization. Given the non-directional nature of the antenna, there is no requirement for filing antenna pattern plots, and none are included herewith. With the increase in power proposed, though, new predicted interference 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.

In running the predicted-interference studies using the Commission's TVStudy software, TVStudy reported that the "ERP exceeds maximum. ERP: 1000kW. ERP maximum: 487 kW." Indeed, the FCC rules, in §73.622(f)(8) do specify that, for an antenna radiation center HAAT of 510 m, the ERP is limited to 487 kW. But the rules also specify, in §73.622(f)(5), that stations may request facilities "up to that needed to provide the same geographic coverage area as the largest station within their market" The "market" is defined elsewhere in the rules as the "DMA." In the Dallas-Fort Worth DMA, Station KTXA, operates on Channel 29 at 1000 kW ERP and at a higher HAAT than does KAZD. Comparing the service areas of KTXA as licensed and KAZD as proposed in the current application, KTXA has a service area within its 40.2 dBu dipole-factor-adjusted noise-limited contour of 44,134.42 km², while KAZD, upon grant of its application, would have a service area within its 40.4 dBu dipole-factor-adjusted noise-limited contour of 42,394.95 km². Since the proposed KAZD facilities would not equal or exceed in contour-contained area the facilities of KTXA, KAZD is entitled under §73.622(f)(5) to even larger facilities than it currently is requesting. On that basis, the facilities requested by KAZD, even though they exceed the provisions of §73.622(f)(8), must be allowed under the provisions of §73.622(f)(5). Analysis of the service areas was carried out using SignalPro software from EDX Wireless and azimuth pattern data for 360 bearings spaced at 1-degree increments provided for each channel by the antenna manufacturer.

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 eight records requiring analysis, representing the respective licensed facilities of three full-service and one Class A stations, and the Construction Permit and Baseline facilities of one full-service television station and one Class A station. The station, records, and results are included in the following table.

Call	Chan	Svc	Status	City, State	File Number	Dist. km	IX % Incr.
KMPX	D30	DT	LIC	DECATUR, TX	BLCDT20060317AGE	0.2	0.00
KOET	D31	DT	LIC	EUFULA, OK	BLEDT20060601BJT	325.3	0.02
KOHC-CD	D31	DC	CP	OKLAHOMA CITY, OK	BLANK0000028015	311.7	0.00
KOHC-CD	D31	DC	BL	OKLAHOMA CITY, OK	DTVBL10265	311.7	0.00
KBVO-CD	D31	DC	LIC	AUSTIN, TX	BLANK0000001127	263.5	0.00
KUBE-TV	D31	DT	CP	BAYTOWN, TX	BLANK0000028454	362.8	0.00
KUBE-TV	D31	DT	BL	BAYTOWN, TX	DTVBL70492	362.8	0.00
KDAF	D32	DT	LIC	DALLAS, TX	BLCDT20010606ABJ	5.0	0.00

As can be seen in the table, all of the records show either zero or near-zero increases in predicted interference from the proposed power increase of KAZD. 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 <KAZD Ch31 RFS SAA Omni 1 MW 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 - KAZD Dallas - 453mAGL 1000kW Hpol + 30% Vpol v2.pdf>, which has been uploaded to the LMS record for this application.

Other Changes

The recent run of TVStudy regarding WFTV 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.