

## **KNSD Application for Digital Auxiliary Construction Permit**

**November 12, 2021**

### Engineering Exhibit

The purpose of this application is to request a construction permit for an auxiliary broadcast facility for KNSD, San Diego, CA, Facility ID 35277, licensed to Station Venture Operations, LP which is host to channel share station KUAN-LD, Poway, etc., CA, Facility ID 35609 licensed to NBC Telemundo License LLC.

### Antenna System

The proposed facility will use a side mounted Dielectric TFU-12DSB-M/VP slot antenna with elliptical polarization. The proposed maximum vertically polarized ERP of 52.5 kW will not exceed the horizontally polarized ERP of 210 kW in any direction as shown in the attached antenna data. Plots and tabulation of antenna data required by FCC Rules Section 73.625(c) are attached as file "KNSD-AUX-73.625(c)\_antenna\_system-data.pdf".

The question "Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt?" was checked yes solely to allow uploading the antenna elevation pattern and not because there is any variation in elevation pattern with azimuth. Plots and tabulation of antenna data required by FCC Rules Section 73.625(c) are attached as file "KNSD-AUX-73.625(c)\_antenna\_system-data.pdf".

### Environmental Statement

The requested facility will be installed on the side of the tower used for the KNSD main facility. It is located in an antenna farm. The proposed antenna will replace an out of service antenna previously used on pre-auction channel 40 and will not increase the height of the tower. Tower registration is not required due to height under 199' (47CFR17.7(a)).

RF power density from the facility using combined horizontal and vertically polarized ERP was calculated using the procedures described in FCC Office of Engineering and Technology Bulletin 65. The maximum power density at the site, allowing for up to 3 meter building height, and 2 meter person height, is calculated to be 0.076 mW/cm<sup>2</sup> or 4.64% of the FCC maximum permissible exposure level of 0.327 mW/cm<sup>2</sup> at 491 MHz for an uncontrolled environment. At other areas in the antenna farm at higher elevation (up to 10 meters higher) with building heights as high as 4 meters the calculated power density is as high as 0.19326 mW/cm<sup>2</sup> or 11.81% of the FCC maximum permissible exposure level at 491 MHz for an uncontrolled environment. After construction RF power density measurements will be made at the site to determine if combined exposure levels exceed those permitted in any area of the antenna farm.

The tower and the area around the tower where the maximum field on the ground is present is secured with a fence and locked gate with required signage. At full power, RF power density on towers closer than 74m to this facility is calculated to exceed occupational exposure levels. KNSD will coordinate with other users at the site and reduce power or shut off as required to protect workers on this and nearby towers from RF exposure above the limits specified in FCC rule §1.1310.

## **KNSD Application for Digital Auxiliary Construction Permit (continued)**

### Broadcast Facility

*Compliance with Section 73.616:* The contour of the proposed facility is entirely contained within the current licensed contour. No new interference is predicted. (See map)

*Compliance with Section 73.622(c):* The facility will use the KNSD allotted post-auction channel.

*Compliance with Section 73.623(e):* Not applicable

*Compliance with Section 73.625:* The proposed contour does not exceed that of the KNSD licensed contour. (See map)

*Compliance with Section 73.1030:* Not applicable for an auxiliary broadcast facility in this location.

*Compliance with Section 73.1125:* Not applicable for an auxiliary broadcast facility.

### *Section 73.1650 Considerations:*

This facility is within coordination distance with Mexico. The contour of the proposed auxiliary facility does not exceed that of the licensed KNSD facility, the effective radiated power is less than that of the licensed KNSD facility in all directions and polarizations, and the height above average terrain is less than that of the licensed KNSD facility. Therefore, no coordination with Mexico should be required.

Doug Lung  
November 12, 2021

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