

KSTS Application for STA for Interim Broadcast Facility

Engineering Exhibit

The purpose of this application is to request special temporary authority (STA) to construct and operate an interim broadcast facility for KSTS, Facility ID 64987, San Jose, California, licensed to NBC Telemundo License LLC, on its licensed channel 49. Construction of the station's authorized post incentive auction facility (construction permit file number 0000034597) will require removal of the KSTS main antenna to make room for installation of the antenna for the new channel. The requested STA is required to allow KSTS to continue serving over-the-air viewers until tower top work is completed, the antenna replaced, and the station has transitioned to its post-auction channel.

Antenna System

This application specifies use of an ERI i230ECW-24-49 compact panel antenna. The antenna is elliptically polarized with a maximum horizontally polarized effective radiated power (ERP) of 220 kW, a maximum vertically polarized ERP of 118.7 kW, electrical beam tilt of 1.25 degrees, and no mechanical tilt. The main beam axis of symmetry is 220 degrees with a center of radiation 92.7 meters above ground. The vertically polarized ERP does not exceed the horizontally polarized ERP in any direction.

Complete antenna data is provided in the attachment "KSTS49-STA-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?" in the Elevation Data item in the Antenna Technical Data section of this application is checked "Yes" solely to allow uploading elevation pattern data for the antenna and not because there is any variation in elevation pattern with azimuth.

Environmental Statement

The facilities requested in this application are located on an existing tower (FCC ASR # 1044718). No new tower construction is required.

RF power density from the facility was calculated using the procedures described in FCC Office of Engineering and Technology Bulletin 65. Access to the site is through a locked gate with appropriate RF exposure signage. The maximum power density on the ground from the proposed facility after summing the horizontal and vertical ERP is calculated to be 0.03437 mW/cm^2 , which is 7.55% of the maximum permissible exposure level for an uncontrolled environment of 2.277 mW/cm^2 at the operating frequency of 683 Mhz. The area at the site where the power density is above 5% of the public exposure level is very small and located in a crescent extending from 112 to 123 meters from the tower over the arc between 112 and 178 degrees. This area is uninhabited and contains no structures. Calculated power density at communications sites and on towers east of the KSTS tower is less than 5% of the maximum permissible exposure level for an uncontrolled environment.

This facility will be used only when the current licensed main facility has to be shut down to allow workers to safely work on top of the tower during removal and installation of antennas on the tower and after replacement of the KSTS main antenna prior to the transition to the post-auction KSTS antenna. Power will be reduced or shut off as required to protect workers on the tower from RF exposure above the limits specified in FCC rule §1.1310.

December 10, 2019

KSTS Application for STA for Interim Broadcast Facility (continued)

Broadcast Facility

Compliance with Section 73.616: The contour of the proposed facility is entirely contained within the current licensed contour. See the attached map showing the licensed service area contour and the contour of the facility requested in this application. The contour of the requested facility was calculated in TVStudy using the derived azimuth pattern at the radio horizon. No new interference is predicted.

Compliance with Section 73.622(c): The facility will use KSTS's allotted channel.

Compliance with Section 73.623(e): Not applicable

Compliance with Section 73.625: The proposed contour does not exceed that of the KSTS licensed contour.

Compliance with Section 73.1030: Not applicable for an interim broadcast facility STA in this location

Compliance with Section 73.1125: Not applicable for an interim broadcast facility STA

Doug Lung
December 10, 2019

KSTS Application for STA for Interim Broadcast Facility (continued)

