

## K22JY-D Application for CP for Minor Modification

August 14, 2023

### Engineering Exhibit

The purpose of this application is to request a construction permit to modify the license (LMS file number 0000068298) for K22JY-D, Truth or Consequences, NM, Facility ID 11564, licensed to NBC Telemundo License LLC.

The existing antenna at K22JY-D was destroyed in a storm. This application requests a construction permit to authorize the installation of a replacement antenna. The replacement antenna has a different pattern and increased gain, which changes the effective radiated power (ERP). The coordinates of the tower used for the new and replacement antenna have been updated. The change is minor – 0.2 seconds of latitude and 0.1 second of longitude. The actual location is not changing. The antenna height is reduced to 6.4 meters above ground.

A TVStudy 2.2.5 analysis using default parameters of 1 km cell size and 1 km terrain profile spacing with the facility proposed in this application operating in compliance with the simple emission mask with an effective radiated power (ERP) of 0.310 at 1530.4 meters AMSL with the azimuth and elevation antenna patterns tabulation provided in the application showed the maximum amount of new interference created to authorized constructed or not constructed facility or application in the LMS database dated August 13, 2023 was below 0.5% for any authorized full power or Class A facility and below 2.0% for any authorized LPTV or translator facility.

As shown on the attached map, Truth or Consequences, the community of license, is within the service area contour of the proposed facility.

### Antenna System

The proposed facility will use a 2x2 array of Kathrein 75010210 panel antennas 6.4 meters above ground with horizontal polarization only and 1.5 degree of electrical beam tilt with the main beam axis of symmetry oriented at 110 degrees. The proposed horizontally polarized ERP is 0.310 kW.

This application uses the replacement antenna pattern data, both azimuth and elevation, provided by Kathrein Broadcast GmbH, on the application and in the separate exhibit "K22JY-D Antenna Pattern Data". The question "Does the proposed antenna propose elevation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt?" is checked "Yes" solely to allow uploading antenna elevation pattern data.

### Environmental Statement

The requested facility will use the existing tower. The tower height will not be increased. No new tower construction is required.

RF power density from the facility was calculated using the procedures in FCC Office of Engineering and Technology Bulletin 65. The maximum power density from the proposed facility at the site at ground level, allowing for 2 meter person height, is calculated to be less than 0.0106 mW/cm<sup>2</sup> or 3.05% of the FCC maximum permissible exposure level of 0.347 mW/cm<sup>2</sup> at 521 MHz for an uncontrolled environment at any location around the site. At full power the RF power density from the proposed facility is calculated to be below occupational exposure levels in the main beam of the antenna at distances greater than 3.7 meters from the antenna and below uncontrolled environment (public) exposure levels at distances greater than 8.3 meters from the antenna. Maximum power density on the ground from the four TV translators at the site (K22JY-D, K33PE-D, K25HV and K29LC) is calculated not to exceed 32% of the public exposure level.

The licensee and contractors working on the tower are required to follow appropriate safety measures. K22JY-D will cooperate with other users on the tower to protect worker from excessive RF exposure and reduce power or cease operations as necessary.

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### Broadcast Facility

#### *Compliance with Section 73.709*

The channel assigned to K22JY-D is not allocated for land-mobile operation in this market.

#### *Compliance with Section 74.793(e), Section 74.793(f), Section 74.793(g), Section 74.793(f), and Section 74.793(h)*

A TVStudy 2.2.5 analysis using 1.0 km cell size and 1.0 km terrain profile point spacing and the facility proposed in this application showed the maximum amount of new interference was under 0.5% to any authorized or applied for full power or Class A facility and under 2.0% to any authorized or applied for LPTV or TV translator facility in the FCC LMS database dated August 13, 2023 . A copy of the tvixcheck.txt file from TVStudy is attached to the application.

August 14, 2023

