

TECHNICAL SUMMARY  
APPLICATION FOR CONSTRUCTION PERMIT  
FM TRANSLATOR STATION K283CY  
FRESNO, CALIFORNIA  
CHANNEL 283 (104.5 MHZ) 0.25 KW (ND)

1. Application Purpose: It is proposed to change K283CY's antenna system from a Scala model 4xCA2-FM/CP/CV directional antenna to Jampro model JLLP-4, 4-bay half-wavelength (HW) spaced nondirectional antenna. No other changes are proposed including no change in transmitter site, antenna height or ERP (250 Watts).

2. Fill-in Translator Coverage & Minor Change Compliance: The proposal will be a fill-in translator for AM station KWRU on 1300 kHz at Fresno, CA (Facility ID 65774). Figure 1 is a map demonstrating that the proposed K283CY 60 dBu contour is entirely within the greater of the KWRU daytime 2 mV/m contour and a 25 mile circle from the KWRU transmitter site as required for fill-in compliance. In addition, as there will be no change in transmitter site, the proposed operation complies with the FCC's minor change rules.

3. Section 74.1204 compliance: Figure 2 is an allocation study for channel 283 based on Section 74.1204. Figure 2 lists the results of a numerical analysis of the potential for contour overlap to all nearby co-channel, first, second and third-adjacent channel facilities as well as IF related stations. For the purposes of the numerical study, the maximum HAAT (140 meters) and ERP (0.25 kW) values were used in determining the maximum distance in any direction to the predicted coverage and interfering contours. The proposal complies with the contour overlap provisions of Section 73.1204 of the FCC rules except with respect to stations KNKS-LP and KFRR. As noted on Figure 2, KNKS-LP has been authorized by LMS File No. 0000114299 to move to non-adjacent channel 264 and an application for license is currently pending, LMS File No. 0000116256. Station KFRR is discussed below.

Specifically, the proposal does not comply with the contour overlap provisions of Section 73.1204 of the FCC rules with respect to second adjacent channel station KFRR (Ch. 281B/104.1 MHz, Woodlake, CA). However, based on the undesired-to-desired (U/D) signal strength interference ratio methodology, which is permitted by the FCC (per Living Way Ministries, Inc., 17 FCC Rcd 17054, 17056, 2002), it has been determined that no actual interference would occur due to lack of population under Section 74.1204(d). Specifically, the calculated KFRR f(50,50) field strength at the proposed site is 64 dBu. Using the 40 dB U/D ratio contained in Section 74.1204 of the FCC rules, the proposed f(50,10) interfering signal is 104 dBu. Figure 3 is a

graph of the proposed 104 dBu signal using the vertical plane relative field pattern for the proposed Jampro model JLLP-4, 4-bay HW spaced nondirectional antenna (see Figure 4) and assuming free-space propagation. As shown on Figure 3, the interfering 104 dBu signal will not reach ground level and, therefore, will contain no population.

4. RFR Compliance: The proposed facilities were evaluated in terms of potential radiofrequency radiation (RFR) exposure at ground level to workers and the general public. The radiation center for the proposed antenna will be located 114 meters above ground level on an existing 157 meter tower (ASRN 1015357). The total ERP is 0.5 kW (circular polarization). A worst-case vertical plane relative field value of 1.0 is presumed for the antenna's downward radiation (for angles below 60 degrees downward). The calculated power density at a point 2 meters above ground level is  $1.33 \text{ uW/cm}^2$  which is only 0.7% of the FCC's recommended limit of  $200 \text{ uW/cm}^2$  for FM frequencies for an uncontrolled environment. Therefore, based on the responsibility threshold of 5%, the proposal will comply with the RF emission rules.

Access to the transmitting site will be restricted and appropriately marked with RFR warning signs. Furthermore, as this is a multi-user site, a formal RFR protection protocol is in effect in the event that workers or other authorized personnel enter the restricted area or climb the tower to ensure that appropriate measure will be taken to assure worker safety with respect to RFR exposure. Such measures include limiting the exposure time, wearing protective clothing, reducing power to an acceptable level or termination of transmitter output power all together until workers leave the restricted area.