

Site Selection and RF Energy Exposure

prepared 11/05/2018 for

UniMas Bakersfield LLC

KBTF-CD Bakersfield, CA

Channel 31 14.2 kW-DA 388 m

This application proposes replacement of an existing communications tower, which is structurally overloaded, with a similar, stronger tower, to be placed 20m west of the existing tower. Following the phase 3 channel cutover date, the deficient tower will be dismantled and removed. The towers are located at an established communications site owned by American Tower, located remotely in the Sierra foothills northeast of Bakersfield, an area used for cattle grazing. Use of currently utilized, shared sites in areas with similar structures is environmentally preferred. Antenna structure registration is not required because the total height above ground does not reach 61 meters.

KBTF-DT is authorized for operation on channel 31 and proposes operation at an ERP of 14.2 kW. Its center frequency of 575 MHz implies a radiofrequency radiation exposure guideline value of $383 \mu\text{W}/\text{cm}^2$ for uncontrolled areas. The RFS EPR-16SK antenna, shared with KABE-CD, will have its radiation center 33.5 meters above ground level, with vertical ERP at 19% of horizontal ERP. The maximum downward radiation value, at depression angles greater than 40° , does not exceed 0.09. Consequently, the worst-case predicted exposure level at 2 meters above ground level is calculated at $4.61 \mu\text{W}/\text{cm}^2$. This exposure level is 1.20% of the guideline value, well below the “responsibility threshold” of 5%.

Four broadcast facilities will utilize this tower, KUVI-DT (channel 26), KABE-CD (channel 35), KBTF-CD (channel 31), and KUZZ-FM (107.9 MHz). KUZZ-FM will be the dominant contributor to RF energy levels near the tower, with its auxiliary antenna use representing the worst case. As the tower lessor, Univision, the parent of the KBTF-CD licensee, will ensure that all stations follow a formal RF exposure protection protocol during any above-ground work. The applicant recognizes its responsibility to reduce power or interrupt operation during tower work, to ensure safe working conditions for rigging personnel.

Entry to the site is restricted by a locked gate where the site access road meets the nearest county road and cattle fencing elsewhere. Access to the tower base will be restricted by fencing and marked by appropriate warning signs.

A handwritten signature in black ink, appearing to read "Karl D. Lahm", written over a horizontal line.

Karl D. Lahm, P.E.
California Registration #E010307