



ENVIRONMENTAL AND RADIO FREQUENCY SAFETY

The licensee of KFDM is committed to the protection of station personnel and/or tower contractors working in the vicinity of the KFDM antenna, and is committed to reducing power or ceasing operation during times of maintenance of the transmission systems, when necessary, to ensure protection to personnel.

The predicted emissions of KFDM must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For KFDM, which will operate on television Channel 15 (476-482 MHz), the MPE is 319.33 microwatts per centimeter squared ($\mu\text{W}/\text{cm}^2$) in an “uncontrolled” environment and 1,596.67 $\mu\text{W}/\text{cm}^2$ in a “controlled” environment. The proposed KFDM facility will operate with a maximum ERP of 560 kW from an elliptically polarized omni-directional transmitting antenna with a centerline height of 274 meters above ground level (AGL). Considering a very conservative vertical plane relative field factor of 0.300, the KFDM facility is predicted to produce a power density at two meters above ground level of 45.51 $\mu\text{W}/\text{cm}^2$, which is 14.25% of the FCC guideline value for an “uncontrolled” environment, and 2.85% of the FCC’s guideline value for “controlled” environments. (See Appendix A). There are three digital translator construction permits, KUMJ-LD, K24KQ-D and K34LK-D, that are located within the relevant proximity of 315 meters. The total percentage of the ANSI value at the proposed site, including the cumulative radiation from all authorizations within the relevant proximity is 14.90% of the limit applicable to “uncontrolled” environments, and 2.98% of the limit for “controlled” environments. (See Appendix A)

**SUMMARY OF RADIOFREQUENCY
RADIATION STUDY**
KFDM, Beaumont, Texas
CHANNEL 15, 560 kW ERP, 275 m HAAT
OCTOBER, 2017

<u>CALL</u>	<u>SERVICE</u>	<u>CHANNEL</u>	<u>FREQUENCY</u>	<u>POLARIZATION</u>	<u>ANTENNA HEIGHT ** mAGL</u>	<u>ERP (kW)</u>	<u>VERT. RELATIVE FIELD FACTOR</u>	<u>PREDICTED POWER DENSITY (mW/cm²)</u>	<u>FCC UNCONTROLLED LIMIT (mW/cm²)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
KUMJ-LD	DT	23	527	H	98	3.000	0.300	0.00094	0.351	0.27%
K24KQ-D	DT	24	533	H	226.6	15.000	0.300	0.00088	0.355	0.25%
KFDM	DT	15	479	H & V	272	560.000	0.300	0.04551	0.319	14.25%
K34LK-D	DT	34	593	H	13	0.030	0.300	0.00053	0.395	0.13%

TOTAL PERCENTAGE OF ANSI VALUE= 14.90%

*** The antenna heights indicated above are 2 meters less than the actual antenna heights so that the predicted power densities consider the 2 meter human height allowance.*

This evaluation includes facilities collocated at the site, and facilities located within 315 meters.

