

Environmental Statement

Site Environmental Issues

The proposed site for this digital television facility is the existing site of KFAM-LP, a 150 kW directional Channel 14 Class A analog TV facility. The tower, ASR Number 1209257 has been in existence and is properly lighted according to all FAA and FCC rules and regulations. No change is being made to the physical facility other than to reduce power to 15 kW ERP non-directional, lower the antenna height by 30.48 meters, and change from analog to digital television modulation. This proposal has no environmental impact.

OET Bulletin 65 Compliance

A formula for the power density of a DTV station is:

$$S = \frac{(33.4)F^2(ERP)}{R^2}$$

where:

S = highest power density in microwatts/sq.cm predicted at ground level

F = typical relative field factor in the downward direction (-60 to -90 elevation)

R = distance from ground to center of radiation in meters

ERP = Effective Radiated Power in watts

Based on an antenna form factor of 1, a worst case scenario, an ERP of 15.0 kW, and a minimum distance to ground of 138.7 Meters, the power density at ground level is 26.04 $\mu\text{W}/\text{cm}^2$. Based on the lower frequency of Channel 14, 470 MHz, the OET Bulletin 65 limits for uncontrolled exposure at that frequency is 313.3 $\mu\text{W}/\text{cm}^2$. Therefore, this proposed facility produces 8.3% of the limit allowed. KTSR, a channel 221 C3 FM facility is also located at the site. Based on the same worse case formula, KTSR produces a power density of 51.28 $\mu\text{W}/\text{cm}^2$. This is 25.6% of the 200 $\mu\text{W}/\text{cm}^2$ allowed by the Commission. The combination of these two facilities produces 33.9% of the total power density allowed by the Commission for uncontrolled public exposure. There are no other significant sources of RF radiation at the site. The KFAM digital facility meets all requirements for both controlled and uncontrolled exposure. In addition, the applicant also certifies that, in coordination with other users of the site, it will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.