

Comprehensive Engineering Exhibit

This application fully complies with 47 C.F.R. 73.1675(a)(1)(ii). Figure 1 shows that the 60 dBu contour from the proposed auxiliary facility is completely encompassed within the 60 dBu contour from the licensed main KTCL (FM) facility.

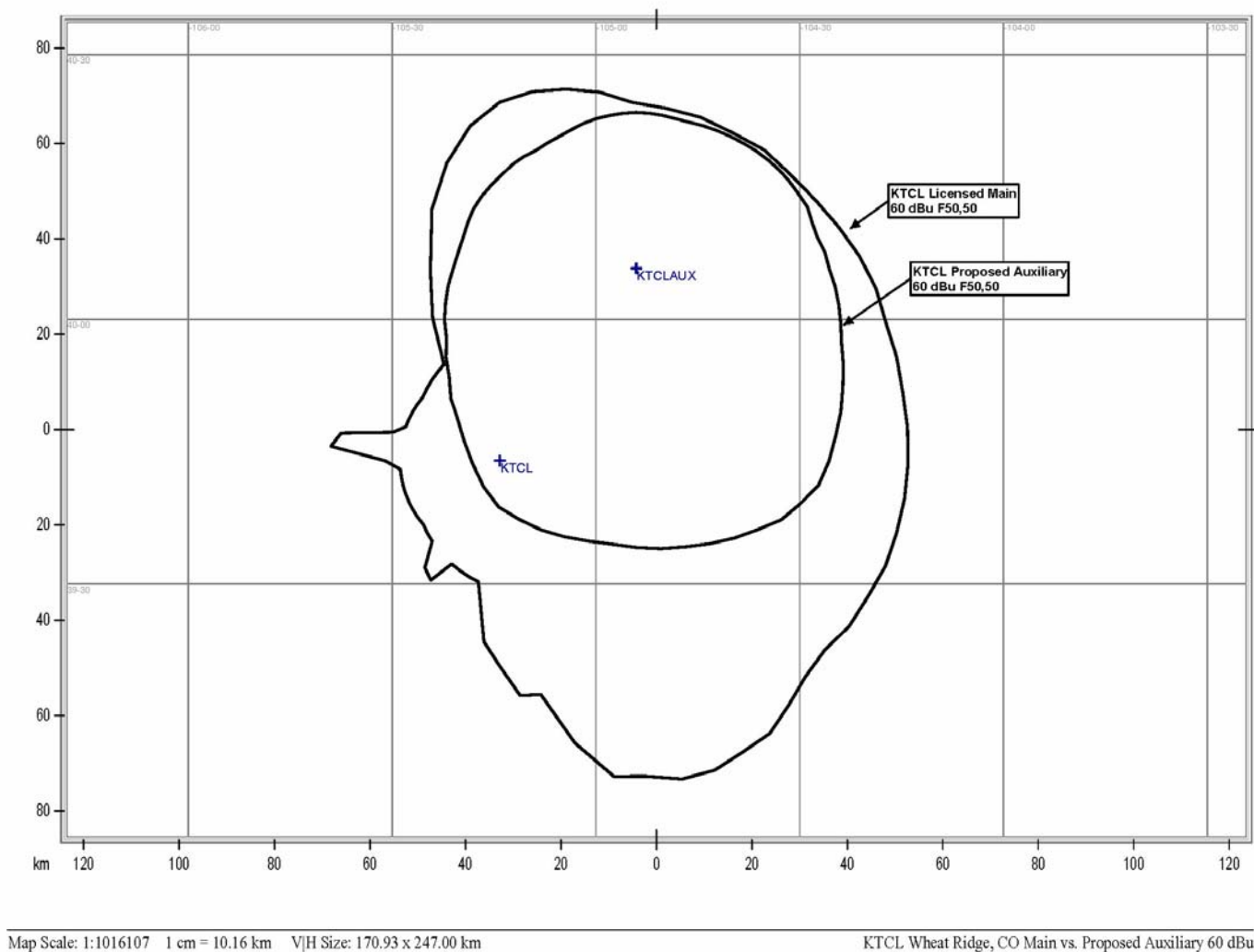


Figure 1

RF Radiation Compliance

This application proposes to construct a multi station antenna system to be shared with KRFX (FM) Denver, CO, permittee of construction permit BXPB-20080215ACE. The KRFX (FM) construction permit reflects the same location, antenna height and power level as requested in this application. The proposed combined facility was evaluated in terms of potential radio frequency radiation exposure at ground level in accordance with OET Bulletin 65 Edition 97-01 "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation."

Facilities:

The proposed antenna is an ERI 1181-3CP-DA 3 level, one element per level, full wave spaced panel antenna mounted with a center of radiation of 314 meters above ground level. The proposed KTCL (FM) facility and the permitted KRFX (FM) facility would each operate at a power level of 23.0 kilowatts in both the horizontal and vertical planes.

Prediction Method:

Techniques described in the FCC's OET Bulletin 65 Edition 97-01 were used to determine the RF power density at ground level at various distances from the tower. A total of 500 data points were used over a total distance of 1500 meters from the tower. This distance was deemed sufficient since the power density decays to extremely small levels beyond this distance. Ground level calculations were made at a reference level of two meters above the ground to provide a "worst case" estimate of exposure for persons standing on the ground near the vicinity of the tower. Elevation pattern data from the antenna manufacturer was used in the calculations. Equation 10 from the FCC's OET Bulletin 65 Edition 97-01 was used to calculate the ground level power density at each data point:

$$\text{EQ 10} \quad S(\text{uW/cm}^2) = \frac{33.4 (F^2) \text{ ERP}}{R^2}$$

where S = power density in uW/cm²
 F = relative field factor (relative numeric gain)
 ERP = power in watts
 R = distance in meters

The maximum predicted RF power density contributed by the proposed KTCL (FM) facility is 2.2 uW/cm² occurring at a distance of 125 meters from the base of the tower. The maximum predicted RF power density contributed by the KRFX (FM) permitted facility is 3.5 uW/cm² occurring at a distance of 159 meters from the base of the tower. By converting the value of the RF power density from each contributor at each point to a percentage of the applicable exposure limit, the total exposure level can be calculated for each point. Figure 2 shows a plot of the contributions from the proposed KTCL (FM) facility, the permitted KRFX(FM) facility and the total contribution as a percentage of the General Population/Uncontrolled exposure limit. The maximum exposure level of 2.8% of the General Population/Uncontrolled exposure limit occurs 143 meters from the base of the tower.

Compliance:

The maximum predicted RF exposure level from the combined operation of the proposed KTCL (FM) facility and the permitted KRFX(FM) facility occurs at a distance of 143 meters from the base of the tower and is calculated to be 2.8 % of the General Population/Uncontrolled Exposure limit of 0.2 mW/cm². This corresponds to 0.56% of the Occupational/Controlled Exposure limit of 1 mW/cm². These figures are less than 5% of the applicable exposure limit at all locations extending out from the base of the tower. Section 1.1307(b)(3) excludes all applications where the calculated exposure level is less than 5% of the applicable power density exposure limit for protection of workers and the general public. It is therefore believed that this proposal is in compliance with OET Bulletin Number 65 as required by the Federal Communications Commission.

Further, the applicant will see that signs are posted in the vicinity of the tower, warning of potential radio frequency hazards at the site. The applicant will cooperate with other users of the tower to reduce power of the facility, or discontinue operation, as necessary to limit human exposure to levels less than specified by the Federal Communications Commission should anyone be required to climb the tower for maintenance or inspection.

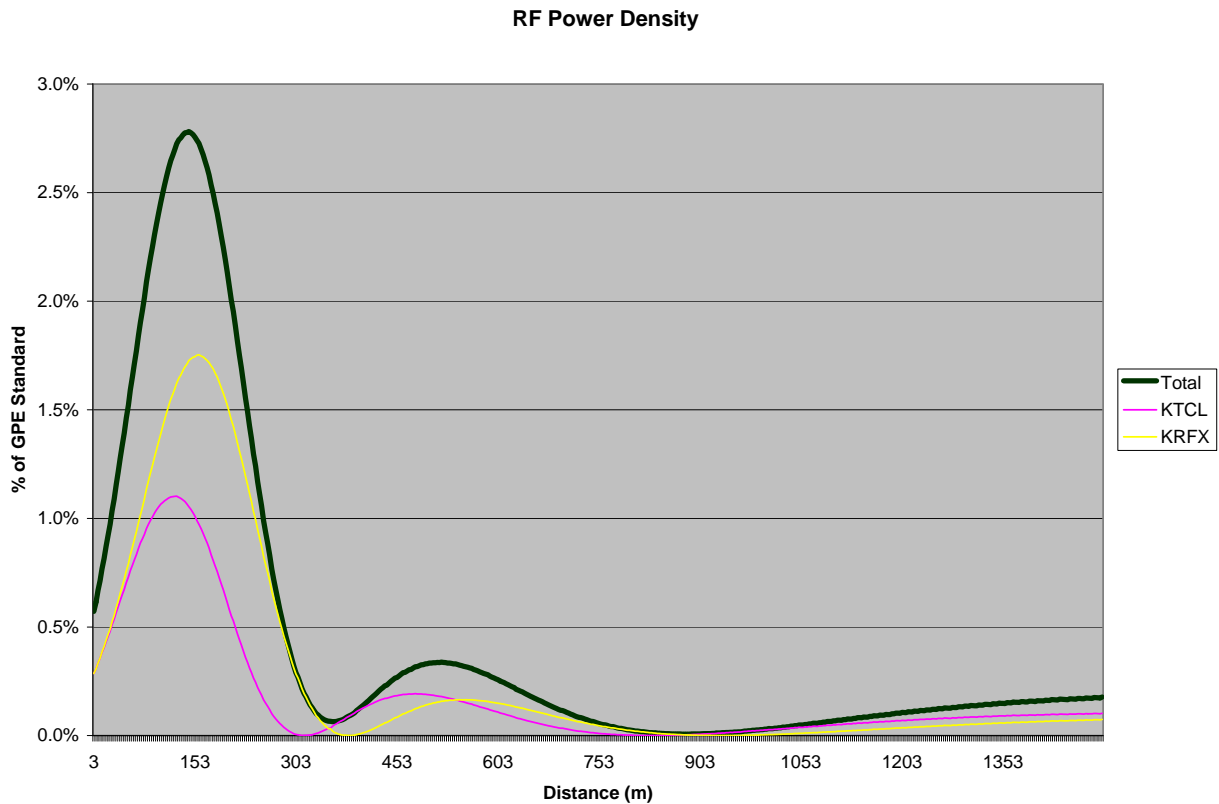


FIGURE 2

Spurious Emissions Measurements

Before program tests commence, the applicant will make sufficient measurements to establish that the diplexed operation of KTCL (FM) and KRFX (FM) is in compliance with the spurious emissions requirements of 47 C.F.R. Sections 73.317(b) through 73.317(d). All measurements will be made with all stations simultaneously utilizing the shared antenna. These measurements will be submitted to the Commission along with the FCC Form 302-FM application for license.