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Prepared for Capital Community Radio  
KRNN, Juneau, Alaska  
7 December 2019

## RADIOFREQUENCY ELECTROMAGNETIC FIELDS

An engineering analysis was performed to determine whether the facilities proposed herein comply with the maximum permissible exposure standards outlined in 47CFR1.1310 as regards human exposure to radiofrequency electromagnetic fields and whether environmental processing would be required.

The applicant proposes to operate at 10.0 kilowatts, horizontally polarized, using a Jampro JFHD-2/1(2)R antenna mounted at the 15-meter level of an existing 18 meter tower. This antenna consists of two elements spaced 1.01 wavelengths apart.

The antenna support structure is located near the apex of a local promontory and there are no significant rises in terrain in the near vicinity. The point of closest approach to the antenna is directly beneath it. The transmitter site is accessible only via helicopter.

This antenna will be shared with KXLL, channel 264, Juneau, Alaska, application for which modification is being contemporaneously filed. There are no other significant sources of radiofrequency electromagnetic fields in the vicinity of the proposed antenna.

The commission's FMMODEL computer software was used to calculate the radiofrequency electromagnetic power density in a plane 2 meters AGL as a function of the distance from the antenna support structure. A copy of the graphical output of this program is attached.

Elevation pattern data for the specific antenna was provided by the manufacturer and entered into the FMMODEL antenna database. Because this is a 'panel' style antenna with the elements mounted in front of a reflecting screen, the tower structure is effectively shielded from the radiating elements and does not affect the elevation pattern of the antenna.

The highest power density occurs at a point 13 meters from the base of the tower and is equal to  $102.7 \mu\text{w}/\text{cm}^2$ . This represents 51.4% of the general public/uncontrolled MPE standard.

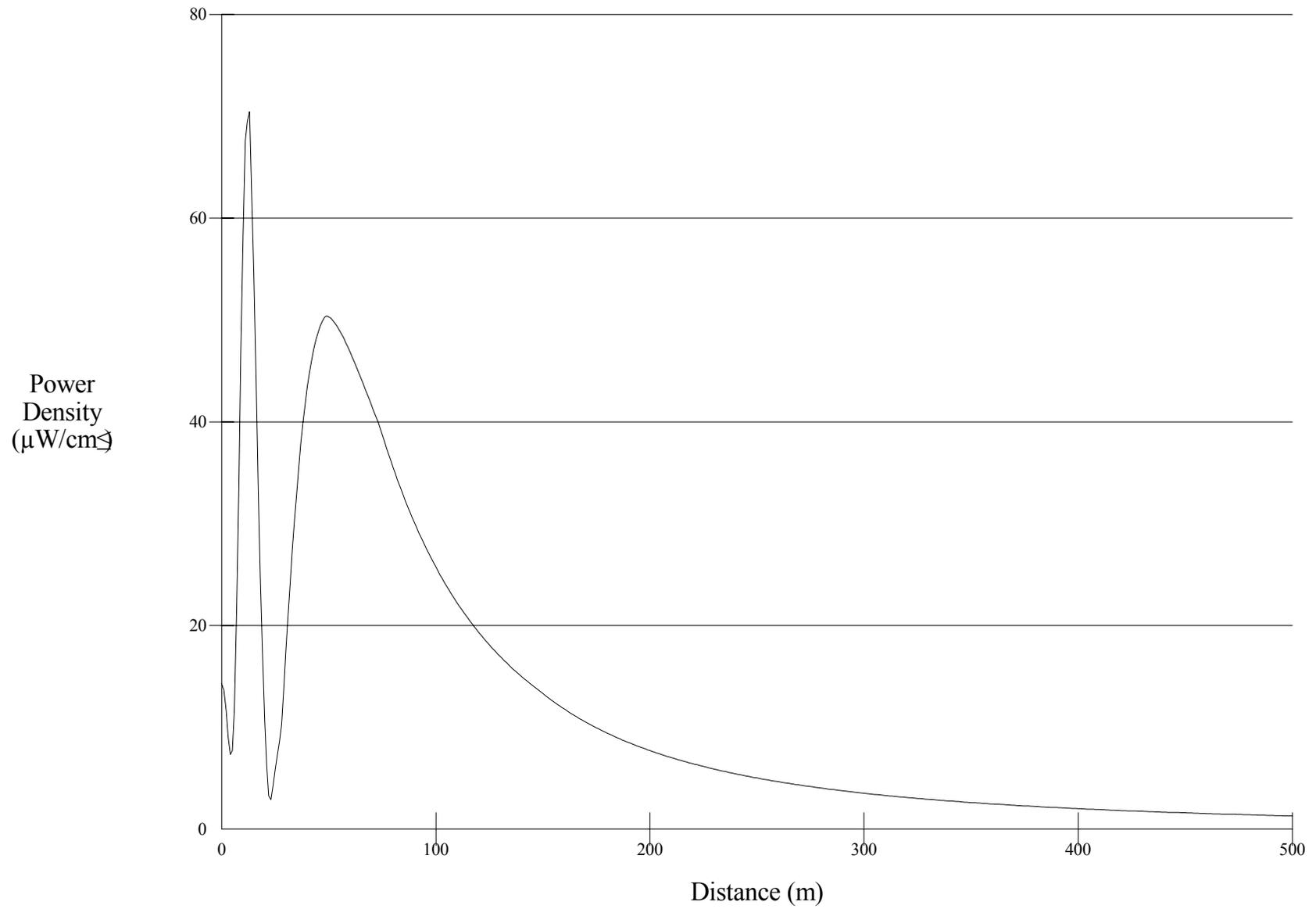
The highest power density for the proposed KXLL operation occurs at the same location and is equal to  $74.2 \mu\text{w}/\text{cm}^2$ . This represents 37.1% of the general public/uncontrolled MPE standard.

Therefore the maximum field produced by the combined operation of the proposed facilities and the proposed facilities of KRNN is equal to  $176.9 \mu\text{w}/\text{cm}^2$ , representing 88.5% of the general public/uncontrolled MPE standard.

Appropriate signs will be installed at the base of the tower warning workers and others that the Maximum Permissible Exposure standard may be exceeded at locations on the tower.

The applicant believes that the facilities proposed herein conform to the MPE standards outlined in 47CFR1.1310 and that environmental processing is not warranted.

# KRNN



# KXLL

