

**Exhibit B-17**  
**KFJO(FM) Channel 221A Walnut Creek, CA**  
**NIER Analysis**

**Facilities Proposed**

The proposed operation will be on Channel 221A (92.1 MHz) with an effective radiated power of 3 kilowatts. Operation is proposed with a 3-element circularly-polarized omni-directional antenna. The antenna is side-mounted on an existing tower located on a hilltop in Lafayette, California.

The antenna support structure does not exceed 60.96 meters (200 feet) above ground and does not require notification to the Federal Aviation Administration. Therefore, this structure does not require an Antenna Structure Registration Number.

**NIER Calculations**

Study of the area within 1000 meters of the proposed site reveals no other likely sources of non-ionizing radiation other than KFJO and FM booster station KITS-FM1 Walnut Creek. KITS-FM1 is located 970 meters from KFJO, and as will be demonstrated below the ground-level power density from KFJO falls below 5% of the uncontrolled environment standard at points in excess of 22 meters from the KFJO tower site. Thus, the ground level NIER values near the base of the proposed structure are believed to be negligible. Precise calculations are made only with regard to the levels from this proposal.

The power density calculations shown below were made using the techniques outlined in OET Bulletin No. 65. "Ground level" calculations in this report have been made at a reference height of 2 meters above ground to provide a worst-case estimate of exposure for persons standing on the ground in the vicinity of the tower. The equation shown below was used to calculate the ground level power density figures from each antenna.

$$S(\text{mW} / \text{cm}^2) = \frac{33.40981 \times \text{AdjERP}(\text{Watts})}{D^2}$$

Where: *AdjERP(Watts)* is the maximum lobe effective radiated power times the element pattern factor times the array pattern factor.

*D* is the distance in meters from the center of radiation to the calculation point.

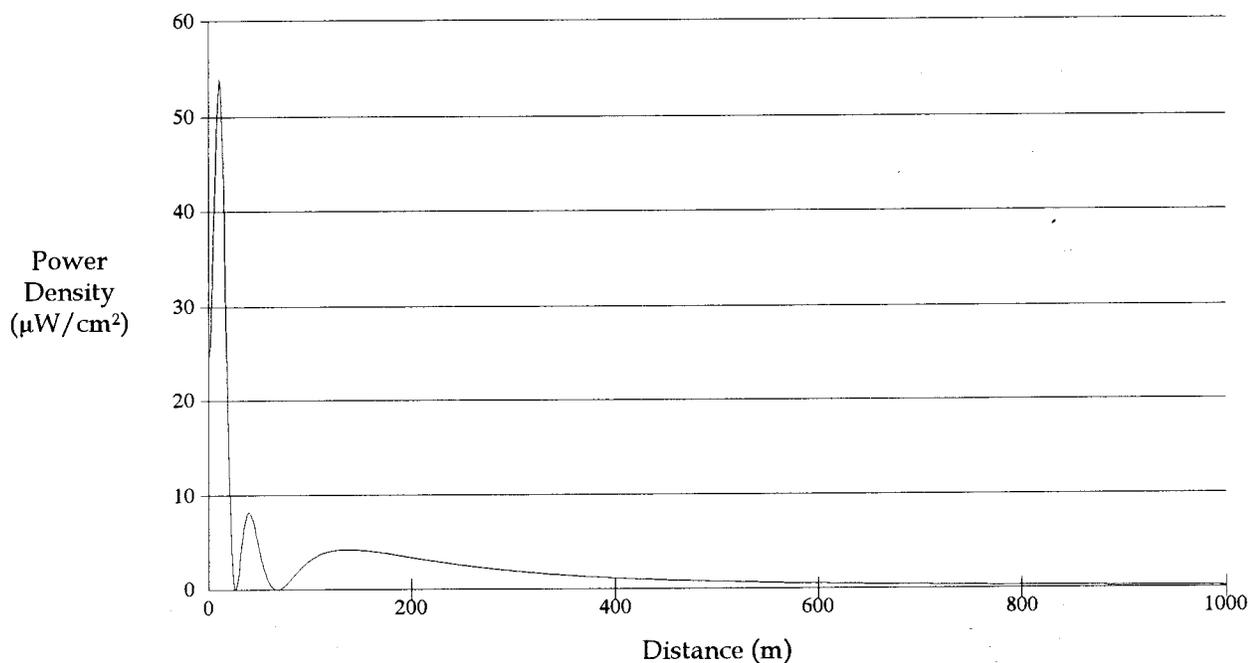
Ground level power densities have been calculated for locations extending from the base of the tower to a distance of 1000 meters. Values past this point are increasingly negligible.

Calculations of the power density produced by the proposed antenna system assume a Type 2 element pattern, which is the element pattern for the Jampro “double V” antenna used by KFJO. The highest calculated ground level power density occurs at a distance of 11 meters from the base of the antenna support structure. At this point the power density is calculated to be 54.0 FW/cm<sup>2</sup>, which is 5.4% of 1000 FW/cm<sup>2</sup> (the FCC standard for controlled environments) and 27% of 200 FW/cm<sup>2</sup> (the FCC standard for uncontrolled environments). Ground level power density falls and remains below 10 FW/cm<sup>2</sup> (5% of the uncontrolled standard) at 22 meters from the KFJO tower.

Public access to the site is restricted and the antenna tower is posted with warning signs. Pursuant to OET Bulletin No. 65, all station personnel and contractors are required to follow appropriate safety procedures before any work is commenced on the antenna tower, including reduction in power or discontinuance of operation before any maintenance work is undertaken.

The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency radiation in excess of FCC guidelines.

Power Density vs Distance



Ground-Level NIER Analysis

OET FMModel

**KFJO(FM) Walnut Creek**

Antenna Type: Jampro "double V"

Number of Elements: 3

Element Spacing: 1.0 wavelength

Distance: 1000 meters

Horizontal ERP: 3 kW

Vertical ERP: 3 kW

Antenna Height: 26 meters AGL

Maximum Power Density is 54.0  $\mu\text{W}/\text{cm}^2$  at 11 meters from the antenna structure.

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