Exhibit B-17
KMJY-FM 283C1 Newport, Washington
NIER Analysis

Facilities Proposed

The proposed operation will be on Channel 283C1 (104.5 MHz) with a maximum lobe effective radiated power of 87 kilowatts (horizontally polarized only). Operation is proposed with a 6-element horizontally-polarized directional antenna. The antenna will be side-mounted on a new tower to be constructed atop Moon Hill, near Cusick, Washington. The proposed antenna support structure will 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. There are no other broadcast users of this site.

NIER Calculations

Study of the area within 1000 meters of the proposed site reveals no other likely sources of non-ionizing radiation. 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 the EPA report titled: *An Engineering Assessment of the Potential Impact of Federal Radiation Protection Guidance on the AM, FM, and TV Broadcast Services* (Gailey & Tell, April, 1985). All calculations contained herein are based on the measured element patterns for the antenna, and follow the procedure shown in the Gailey and Tell report. The patterns were identified by applying the procedure outlined in the report to the measurement data contained in the report titled: *Element Pattern Measurements on FM Antennas* (EPA-520/ 6-85-107, June 1985).

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"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. Equation #1, contained in the Gailey & Tell report and shown below, was used to calculate the ground level power density figures from each antenna at incremental distances from the base of its supporting tower.

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

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.
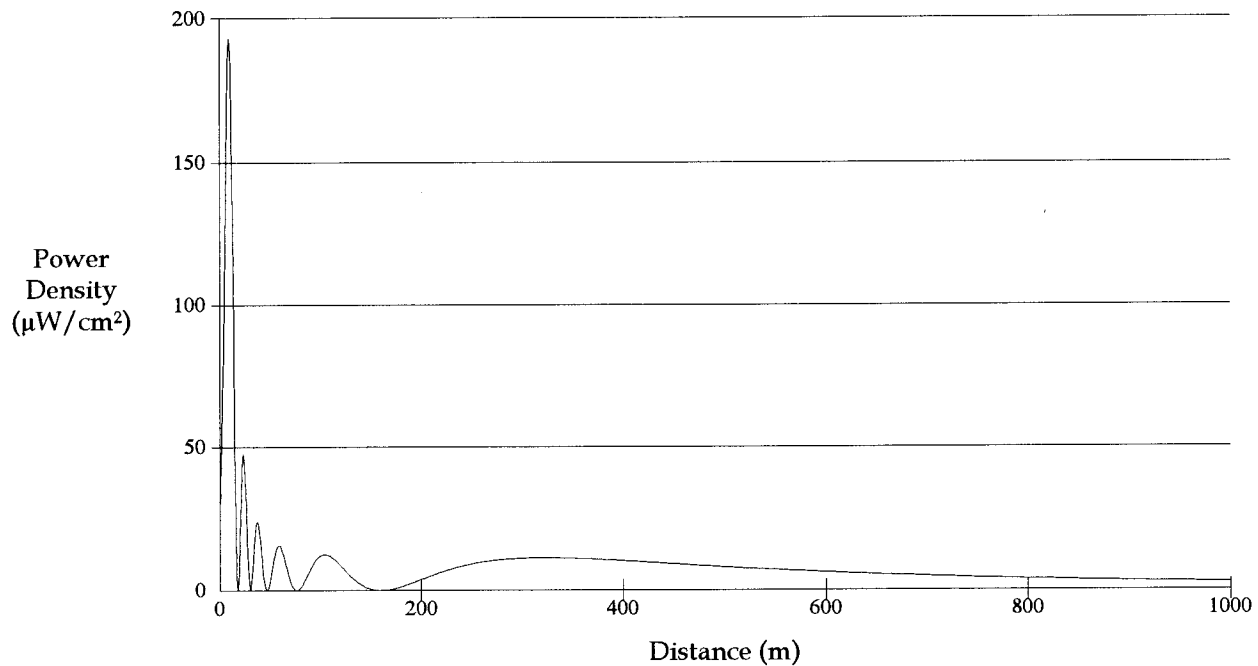
Calculations of the power density produced by the proposed antenna system assume a Type 6 element pattern, which is the element pattern for the Shively antenna proposed for use. The highest calculated ground level power density occurs at a distance of 9 meters from the base of the antenna support structure. At this point the power density is calculated to be 192.9 FW/cm², 19.3% of 1000 FW/cm^2 (the FCC standard for controlled environments) and 96.5% of 200 FW/cm^2 (the FCC standard for uncontrolled environments).

Public access to the site is restricted by its remote location. The unimproved access road will be gated, and the site posted with warning signs. Pursuant to OST Bulletin No. 65, all

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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

Power
Density
(μW/cm^2)

Distance (m)

Ground-Level NIER Analysis   **OET FMModel**

KMJY 283C1 Newport

Antenna Type:	Shively 6800 Series
Number of Elements:	6
Element Spacing:	1.0 wavelength
Distance:	1000 meters
Horizontal ERP:	87 kW
Vertical ERP:	zero kW
Antenna Height:	29 meters AGL

Maximum Power Density is 192.9 μW/cm^2 at 9 meters from the antenna structure.

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