TELECOMMUNICATIONS ENGINEERING

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RADIOFREQUENCY 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 0.95 kilowatts, circularly polarized, using a Shively 6815-2-DA/SS.5 antenna mounted at the 26-meter level of an existing 45-meter tower. This antenna consists of two radiating elements spaced 0.5 wavelengths apart.

The antenna support structure is situated central to the 47-meter by 7.5-meter rooftop of a 6-meter mechanical penthouse, which, in turn, is situated central to the 59-meter by 34-meter rooftop of an 89-meter, 25-story building. There are no other buildings of comparable height in the immediate vicinity.

The center of radiation is 26 meters above the penthouse roof and 32 meters above the main building roof.

The Commission's FMModel computer software was used to calculate the radiofrequency electromagnetic power density both in a plane 2 meters above the penthouse roof and 2 meters above the main roof, as a function of the distance from the antenna support structure. Calculations were made over a distance reflecting the furthest distance from the tower to the edge of the respective roof. The Shively 6815 is an Opposed-U Dipole type antenna element, which elevation pattern data was selected. A copy of the graphical output of this program is attached.
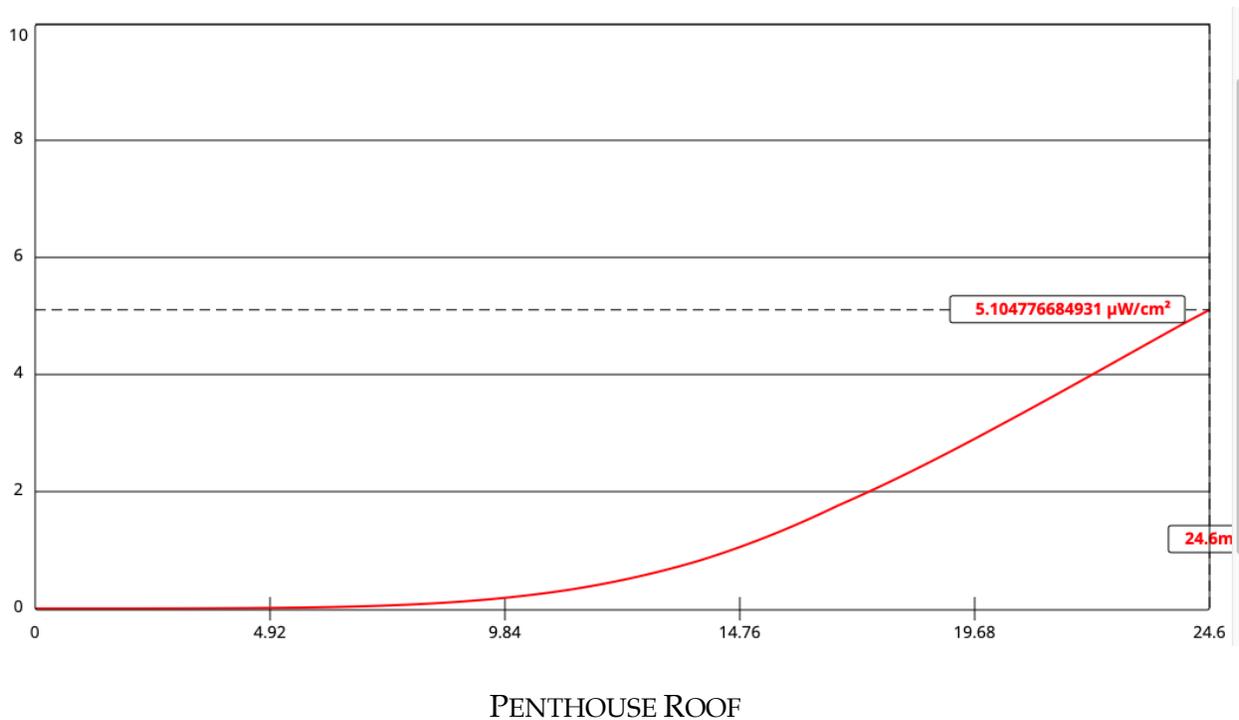
The highest power density on the penthouse roof occurs at a point 24.5 meters from the base of the tower and is equal to 5.1 µW/cm^2. This represents 2.6% of the general
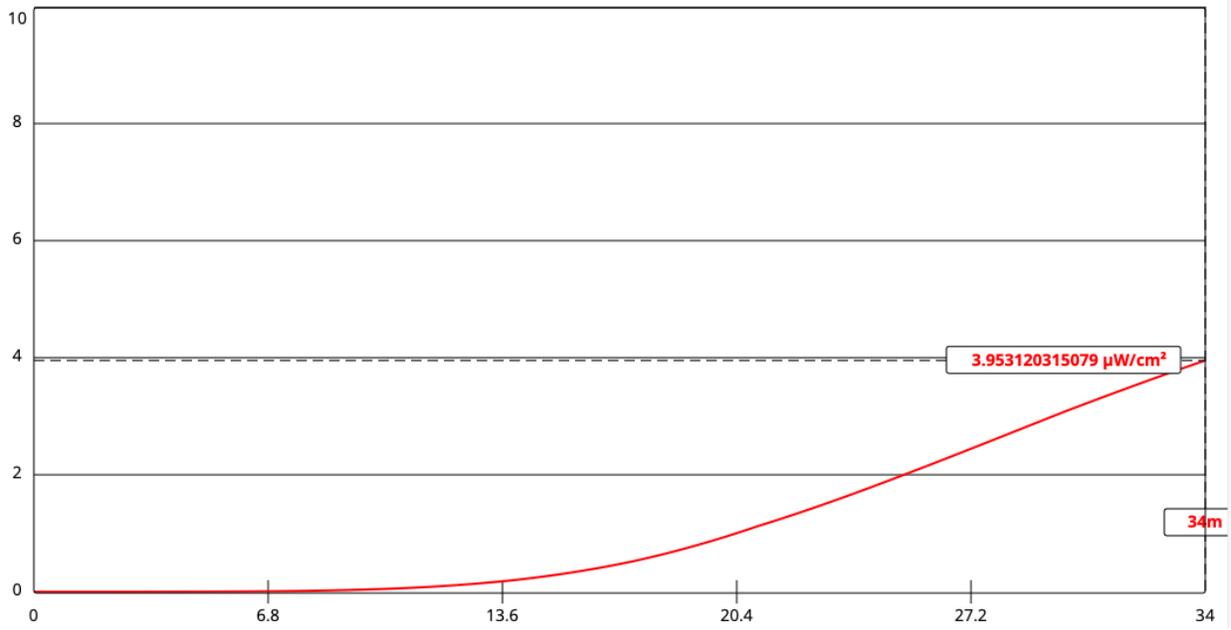
public/uncontrolled MPE standard. The highest power density on the main roof occurs at a point 34 meters from the base of the tower and is equal to 3.95 μW/cm^2. This represents 2.0% of the general public/uncontrolled MPE standard.

Because this is less than 5% of the appropriate MPE standard, the applicant's contribution to the ambient radiofrequency electromagnetic power density need not be considered in calculations by others, nor would the applicant be required to participate in any remediative actions that might be necessary were it determined that the MPE standard was exceeded in areas due to the operation of others.

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.

PENTHOUSE ROOF

MAIN ROOF