NONIONIZING RADIATION COMPLIANCE
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Lansing, MI

The proposed WSYM-TV facilities will fully comply with the current FCC Standard with regard to human exposure to nonionizing radiation. The proposed WSYM-TV antenna will be an elliptically polarized Dielectric TFU-24GTH/VP-R BP290 directional antenna which will operate with a maximum average effective radiated power of 487 kilowatts in the horizontal polarization and 78 kilowatts in the vertical polarization. This antenna will be mounted with its center of radiation located 308 meters above ground on an existing 315.8 meter tower. Equation (2), found on Page 30 of Supplement A to OET Bulletin 65, details the calculation technique used to determine the power density at the base of a TV broadcast tower. In this case, however, it is necessary to substitute the total proposed average DTV effective radiated power (565 kilowatts) for the expression $[0.4ERP_V + ERP_A]$ in this equation to compensate for the fact that DTV power levels are expressed in terms of average power, rather than peak power, as is the case for the visual portion of an analog TV signal. Using the vertical radiation pattern data for the proposed antenna, which was supplied by the antenna manufacturer and is detailed in a separate attachment to this application, and substituting these values into this equation yields a predicted maximum power density at two meters above ground level of 1.31 $\mu W/cm^2$, which will occur at a depression angle of 60 degrees below horizontal and at a distance of 176.7 meters from the base of this tower. Since the maximum permitted power density for uncontrolled exposure on TV Channel 28 is 371.3 $\mu W/cm^2$, this amounts to only 0.4% of the permitted level for uncontrolled exposure. Since this is less than 5% of the permitted level, the proposed facilities are excluded from environmental

processing and need not be considered in conjunction with other co-located and nearby facilities to establish compliance with this standard for uncontrolled exposure.

WSYM-TV will also take appropriate steps to insure that workers who must climb this tower will not be exposed to power densities exceeding the permitted levels for controlled exposure. This will include a reduction in power or the cessation of operation, as appropriate, at any time that workers must be on this tower in any area where the total power density exceeds the permitted level for controlled exposure.