

NONIONIZING RADIATION COMPLIANCE

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Marquee Broadcasting Kentucky, Inc.
Bowling Green, KY

The proposed modified WNKY-LD facilities will fully comply with the current FCC standard with regard to human exposure to nonionizing radiation. The proposed WNKY-LD antenna is a horizontally polarized Samco SAM-450 horizontally polarized yagi directional antenna which will operate with an average effective radiated power of 0.2 kilowatts. This antenna will be mounted with its center of radiation located 6.1 meters (20 feet) above ground on a 6.1 meter pole. 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 (0.2 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. Assuming, as a worst case, 100% downward radiation and substituting these values into this equation yields a predicted maximum power density at two meters above ground level of $397.3 \mu\text{W}/\text{cm}^2$. Since the maximum permitted power density for uncontrolled exposure on TV Channel 35 is $397.3 \mu\text{W}/\text{cm}^2$, this does not exceed the permitted level for uncontrolled exposure.

WNKY-LD will also take appropriate steps to insure that workers 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 in any area where the total power density exceeds the permitted level for controlled exposure.

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Because the modifications proposed in the attached application will fully comply with the FCC standard regarding human exposure to nonionizing radiation and don't involve any tower modifications which would qualify as a major environmental action, it isn't necessary to undertake any further environmental studies or submit an environmental assessment for these proposed facilities.