

## NONIONIZING RADIATION COMPLIANCE

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Marquee Broadcasting, Inc.

Price, UT

The proposed Channel 11 Price, Utah facilities will fully comply with the current FCC Standard with regard to human exposure to nonionizing radiation. The proposed antenna is an elliptically polarized ERI ALV4V7ESO11 nondirectional antenna which will operate with an average horizontally polarized effective radiated power of 37 kilowatts and a maximum average vertically polarized effective radiated power of 11.1 kilowatts. This antenna will be mounted with its center of radiation located 21.3 meters above ground on an existing 29 meter tower located on Salem Peak. 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 (48.1 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 a downward relative field of 0.1, which is typical for high band VHF antennas, and a total effective radiated power of 48.1 kilowatts and substituting these values into this equation yields a predicted maximum power density at two meters above ground level of  $43.1 \mu\text{W}/\text{cm}^2$ . Since the maximum permitted power density for uncontrolled exposure on TV Channel 11 is  $200 \mu\text{W}/\text{cm}^2$ , this amounts to 21.6% of the permitted level for uncontrolled exposure. Since the only other RF sources located at this extremely isolated location are microwave links, which are excluded from this analysis because of the highly directional nature of their dish antennas, it's obvious, based on this information,

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that the proposed facilities will comply with the FCC's nonionizing radiation exposure standard.

The applicant 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.

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 modifications.