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NONIONIZING RADIATION COMPLIANCE
Evangelistic Alaska Missionary Fellowship, Inc.
North Pole, AK

The proposed KJNP-DT facilities will fully comply with the current FCC Standard with regard to human exposure to nonionizing radiation. The proposed facilities will operate with a maximum effective radiated power of 15 kilowatts using an RF Technologies CS-2030-SP-14-CUSTOM horizontally polarized directional antenna mounted with its center of radiation at 39.6 meters above ground level on an existing 51.8 meter tower.

Equation (2), found on Page 30 of Supplement A to FCC 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 proposed average DTV effective radiated power (15 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. Utilizing the vertical radiation pattern data from Exhibit 43 to the attached application in conjunction with this equation yields a predicted a worst case power density at two meters above ground level of $2.54 \mu\text{W}/\text{cm}^2$ from the proposed facilities, which will occur at a depression angle of 82.5° and at a horizontal distance of 5.2 meters from the base of the tower. Since the maximum permitted power density for uncontrolled exposure on TV Channel 20 is $337.3 \mu\text{W}/\text{cm}^2$, this amounts to only 0.75% of the permitted level for uncontrolled exposure. Since this value is less than 5% of the permitted level, the proposed KJNP-DT facilities are excluded from environmental processing under this FCC Standard and need not be considered in conjunction with other

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co-located and nearby facilities to establish uncontrolled exposure compliance with this standard.

KJNP-DT, in conjunction with other co-located or nearby facilities, will also take appropriate steps to insure that workers who must climb this tower will not be exposed to power density levels that are in excess of the permitted level for controlled exposure. These steps will include a reduction in power or the cessation of operation by any or all stations, as appropriate, at any time that workers must be on this tower in any area where the total power density levels exceed the permitted level for controlled exposure.