



ENVIRONMENTAL AND RADIO FREQUENCY SAFETY

The licensee of WLUK-TV is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WLUK-TV antenna, and is committed to reducing power or ceasing operation during times of maintenance of the transmission systems, when necessary, to ensure protection to personnel.

The predicted emissions of WLUK-TV must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For WLUK-TV, which will operate on television Channel 12 (204-210 MHz), the MPE is 200 microwatts per centimeter squared ($\mu\text{W}/\text{cm}^2$) in an “uncontrolled” environment and $1,000 \mu\text{W}/\text{cm}^2$ in a “controlled” environment. The proposed WLUK-TV facility will operate with a maximum ERP of 40 kW from an elliptically polarized omni-directional transmitting antenna with a centerline height of 344 meters above ground level (AGL). Considering a conservative predicted vertical plane relative field factor of 0.300 the WLUK-TV facility is predicted to produce a power density at two meters above ground level of $2.057 \mu\text{W}/\text{cm}^2$, which is 1.03% of the FCC guideline value for an “uncontrolled” environment, and 0.206% of the FCC’s guideline value for “controlled” environments. There is one LPTV DTV facility that is located at the WLUK-TV site. The total estimated percentage of the ANSI value at the proposed site, including the cumulative radiation from all authorizations located within the relevant proximity, is 1.65% of the limit applicable to “uncontrolled” environments, and 0.330% of the limit for “controlled” environments. (See Appendix A)

SUMMARY OF RADIOFREQUENCY

RADIATION STUDY

WLUK-TV, Green Bay, WI

Channel 12, 40 kW, 384m HAAT

May, 2017

<u>CALL</u>	<u>SERVICE</u>	<u>CHANNEL</u>	<u>FREQUENCY</u>	<u>POLAR- IZATION</u>	<u>ANTENNA HEIGHT</u>	<u>ERP (kW)</u>	<u>VERT. RELATIVE FIELD FACTOR</u>	<u>WORST-CASE PREDICTED POWER DENSITY ($\mu\text{W}/\text{cm}^2$)</u>	<u>FCC UNCONTROLLED LIMIT ($\mu\text{W}/\text{cm}^2$)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
WLUK-TV	DT	12	207	H & V	344	40.000	0.300	2.057	200.00	1.03%
WGBD-LD	DT	49	683	H & V	179	15.000	0.300	2.879	455.33	0.63%
TOTAL PERCENTAGE OF FCC GUIDELINE VALUE =										1.66%

* For television stations a very conservative vertical relative field factor of 0.3 was assumed pursuant to OET Bulletin 65.