



ENVIRONMENTAL AND RADIO FREQUENCY SAFETY

The licensee of WICS is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WICS 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 WICS must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For WICS, which will operate on television Channel 15 (476-482 MHz), the MPE is 319.33 microwatts per centimeter squared ($\mu\text{W}/\text{cm}^2$) in an “uncontrolled” environment and 1,596.7 $\mu\text{W}/\text{cm}^2$ in a “controlled” environment. The proposed WICS facility will operate with a maximum ERP of 429 kW from an elliptically polarized directional transmitting antenna with a centerline height of 432.2 meters above ground level (AGL). Considering a predicted vertical plane relative field factor of 0.300 the WICS facility is predicted to produce a power density at two meters above ground level of 13.593 $\mu\text{W}/\text{cm}^2$, which is 4.37% of the FCC guideline value for an “uncontrolled” environment, and 0.874% of the FCC’s guideline value for “controlled” environments. There are no other DTV, LPTV or FM broadcast facilities that are located at the WICS site. Therefore, the total estimated percentage of the ANSI value at the proposed site, including the cumulative radiation from all authorizations within the relevant proximity, is 4.37% of the limit applicable to “uncontrolled” environments, and 0.874% of the limit for “controlled” environments. (See Appendix A)

SUMMARY OF RADIOFREQUENCY

RADIATION STUDY

WICS, Springfield, IL

Channel 15, 429 kW, 436 m HAAT

June, 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>
WICS	DT	15	479	H & V	432	429,000	0.300	13.953	319.33	4.37%
TOTAL PERCENTAGE OF FCC GUIDELINE VALUE =										
										4.37%

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