



ENVIRONMENTAL AND RADIO FREQUENCY SAFETY

The licensee of WRSP-TV is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WRSP-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 WRSP-TV must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For WRSP-TV, which will operate on television Channel 16 (482-488 MHz), the MPE is 323.33 microwatts per centimeter squared ($\mu\text{W}/\text{cm}^2$) in an “uncontrolled” environment and 1,616.7 $\mu\text{W}/\text{cm}^2$ in a “controlled” environment. The proposed WRSP-TV facility will operate with a maximum ERP of 185 kW from an elliptically polarized directional transmitting antenna with a centerline height of 407 meters above ground level (AGL). Considering a predicted vertical plane relative field factor of 0.300 the WRSP-TV facility is predicted to produce a power density at two meters above ground level of 6.783 $\mu\text{W}/\text{cm}^2$, which is 2.10% of the FCC guideline value for an “uncontrolled” environment, and 0.420% of the FCC’s guideline value for “controlled” environments. There are no other broadcast facilities that are located at the WRSP-TV site. The total estimated percentage of the ANSI value at the proposed site is only that of WRSP-TV, which is 2.10% of the limit applicable to “uncontrolled” environments, and 0.42% of the limit for “controlled” environments. (See Appendix A)

SUMMARY OF RADIOFREQUENCY RADIATION STUDY

WRSP-TV, Springfield, IL
Channel 16, 185 kW, 415m 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 (mW/cm²)</u>	<u>WORST-CASE PREDICTED POWER DENSITY (μW/cm²)</u>	<u>FCC UNCONTROLLED LIMIT (μW/cm²)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
WRSP-TV	DT	16	485	H & V	407	185.000	0.300	0.00678	6.783	323.33	2.10%
TOTAL PERCENTAGE OF FCC GUIDELINE VALUE =											
2.10%											

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