



## **ENVIRONMENTAL AND RADIO FREQUENCY SAFETY**

The licensee of WOAI-TV is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WOAI-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 WOAI-TV must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For WOAI-TV, which will operate on television Channel 28 (554-560 MHz), the MPE is 371.3 microwatts per centimeter squared ( $\mu\text{W}/\text{cm}^2$ ) in an “uncontrolled” environment and 1,856.7  $\mu\text{W}/\text{cm}^2$  in a “controlled” environment. The proposed WOAI-TV facility will operate with a maximum ERP of 612 kW from an elliptically polarized non-directional transmitting antenna with a centerline height of 459 meters above ground level (AGL). Considering a conservative predicted vertical plane relative field factor of 0.300 the WOAI-TV facility is predicted to produce a power density at two meters above ground level of 17.62  $\mu\text{W}/\text{cm}^2$ , which is 4.74% of the FCC guideline value for an “uncontrolled” environment, and 0.95% of the FCC’s guideline value for “controlled” environments. There is one other full-power DTV station located at the WOAI-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 11.50% of the limit applicable to “uncontrolled” environments, and 2.30% of the limit for “controlled” environments. (See Appendix A)

**SUMMARY OF RADIOFREQUENCY  
RADIATION STUDY**

WOAI-TV, San Antonio, Texas  
CHANNEL 28, 612 kW ERP, 457 m HAAT  
MAY, 2017

<u>CALL</u>	<u>SERVICE</u>	<u>CHANNEL</u>	<u>FREQUENCY</u>	<u>POLARIZATION</u>	<u>ANTENNA HEIGHT ** mAGL</u>	<u>ERP (kW)</u>	<u>VERT. RELATIVE FIELD FACTOR</u>	<u>PREDICTED POWER DENSITY (mW/cm<sup>2</sup>)</u>	<u>UNCONTROLLED LIMIT (mW/cm<sup>2</sup>)</u>	<u>FCC UNCONTROLLED LIMIT</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
WOAI-TV	DT	28	557	H & V	457	612.000	0.300	0.01762	0.371	4.74%	
KENS	DT	29	563	H & V	440	816.000	0.300	0.02534	0.375	6.75%	
<b>TOTAL PERCENTAGE OF ANSI VALUE=</b>										<b>11.50%</b>	

\*\* The antenna heights indicated above are 2 meters less than the actual antenna heights so that the predicted power densities consider the 2 meter human height allowance. This evaluation includes facilities collocated at the site, and facilities located within 315 meters.

