



## **ENVIRONMENTAL AND RADIO FREQUENCY SAFETY**

The licensee of WSES is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WSES 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 WSES must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For WSES, which will operate on television Channel 36 (602-608 MHz), the MPE is 403.33 microwatts per centimeter squared ( $\mu\text{W}/\text{cm}^2$ ) in an “uncontrolled” environment and 2,016.7  $\mu\text{W}/\text{cm}^2$  in a “controlled” environment. The proposed WSES facility will operate with a maximum ERP of 319 kW from an elliptically polarized directional transmitting antenna with a centerline height of 597 meters above ground level (AGL). Considering a conservative predicted vertical plane relative field factor of 0.300 the WSES facility is predicted to produce a power density at two meters above ground level of 5.419  $\mu\text{W}/\text{cm}^2$ , which is 1.34% of the FCC guideline value for an “uncontrolled” environment, and 0.268% of the FCC’s guideline value for “controlled” environments. There are no other broadcast facilities located at the WSES site. Therefore the total estimated percentage of the ANSI value at the proposed site is only that contributed by WSES: 1.34% of the limit applicable to “uncontrolled” environments, and 0.268% of the limit for “controlled” environments. (See Appendix A)

**SUMMARY OF RADIOFREQUENCY  
RADIATION STUDY**

WSES, Tuscaloosa, AL

Channel 36, 319 kW, 659 m 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 (<math>\mu</math>W/cm<sup>2</sup>)</u>	<u>FCC UNCONTROLLED LIMIT (<math>\mu</math>W/cm<sup>2</sup>)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
WSES	DT	36	605	H & V	597	319.000	0.300	5.419	403.33	1.34%
<b>TOTAL PERCENTAGE OF FCC GUIDELINE VALUE =</b>										<b>1.34%</b>

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