



ENVIRONMENTAL AND RADIO FREQUENCY SAFETY

The licensee of WCIV is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WCIV 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 WCIV must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For WCIV, which will operate on television Channel 25 (536-542 MHz), the MPE is 359.33 microwatts per centimeter squared ($\mu\text{W}/\text{cm}^2$) in an “uncontrolled” environment and $1,796.7 \mu\text{W}/\text{cm}^2$ in a “controlled” environment. The proposed WCIV facility will operate with a maximum ERP of 1000 kW from an horizontally polarized directional transmitting antenna with a centerline height of 580.4 meters above ground level (AGL). Considering a predicted vertical plane relative field factor of 0.300 the WCIV facility is predicted to produce a power density at two meters above ground level of $8.988 \mu\text{W}/\text{cm}^2$, which is 2.50% of the FCC guideline value for an “uncontrolled” environment, and 0.50% of the FCC’s guideline value for “controlled” environments. There are two other full-power DTV broadcast facilities that are located at the WCIV 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 6.70% of the limit applicable to “uncontrolled” environments, and 1.34% of the limit for “controlled” environments. (See Appendix A)

SUMMARY OF RADIOFREQUENCY RADIATION STUDY

WCIV, Charleston, SC
Channel 25, 1000 kW, 583.3 m HAAT
October, 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>
WCIV	DT	25	539	H	580.4	1000.000	0.300	8.988	359.33	2.50%
WTAT-TV	DT	17	491	H	580.4	1000.000	0.300	8.988	327.33	2.75%
WCBD-TV	DT	20	546	H	580	546.000	0.300	4.914	339.33	1.45%
TOTAL PERCENTAGE OF FCC GUIDELINE VALUE =										6.70%

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