



ENVIRONMENTAL AND RADIO FREQUENCY SAFETY

The licensee of WPDE-TV is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WPDE-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 WPDE-TV must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For WPDE-TV, which will operate on television Channel 27 (548-554 MHz), the MPE is 367.33 microwatts per centimeter squared ($\mu\text{W}/\text{cm}^2$) in an “uncontrolled” environment and 1,836.7 $\mu\text{W}/\text{cm}^2$ in a “controlled” environment. The proposed WPDE-TV facility will operate with a maximum ERP of 543 kW from an elliptically polarized directional transmitting antenna with a centerline height of 598 meters above ground level (AGL). Considering a conservative predicted vertical plane relative field factor of 0.300 the WPDE-TV facility is predicted to produce a power density at two meters above ground level of 9.193 $\mu\text{W}/\text{cm}^2$, which is 2.50% of the FCC guideline value for an “uncontrolled” environment, and 0.500% of the FCC’s guideline value for “controlled” environments. There is one other full-power DTV facility and two LPTV DTV facilities that are located at the WPDE-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 5.29% of the limit applicable to “uncontrolled” environments, and 1.058% of the limit for “controlled” environments. (See Appendix A)

SUMMARY OF RADIOFREQUENCY

RADIATION STUDY

WPDE-TV, Florence, SC

Channel 27, 543 kW, 600 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 ($\mu\text{W}/\text{cm}^2$)</u>	<u>FCC UNCONTROLLED LIMIT ($\mu\text{W}/\text{cm}^2$)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
WPDE-TV	DT	27	551	H & V	598	543.000	0.300	9.193	367.33	2.50%
WWMB	DT	26	545	H & V	579	448.000	0.300	8.092	363.33	2.23%
W15DC-D	DT	15	479	H	100	3.000	0.300	0.939	319.33	0.29%
WEQA-LD (CP)	DT	22	521	H	100	3.000	0.300	0.939	347.33	0.27%
TOTAL PERCENTAGE OF FCC GUIDELINE VALUE =										5.29%

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