



ENVIRONMENTAL AND RADIO FREQUENCY SAFETY

The licensee of WZTV is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WZTV 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 WZTV must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For WZTV, which will operate on television Channel 20 (506-512 MHz), the MPE is 339.33 microwatts per centimeter squared ($\mu\text{W}/\text{cm}^2$) in an “uncontrolled” environment and 1,696.7 $\mu\text{W}/\text{cm}^2$ in a “controlled” environment. The proposed WZTV facility will operate with a maximum ERP of 1000 kW from an elliptically polarized directional transmitting antenna with a centerline height of 350 meters above ground level (AGL). Considering a conservative predicted vertical plane relative field factor of 0.300 the WZTV facility is predicted to produce a power density at two meters above ground level of 31.036 $\mu\text{W}/\text{cm}^2$, which is 9.146% of the FCC guideline value for an “uncontrolled” environment, and 1.829% of the FCC’s guideline value for “controlled” environments. There are two other full-power DTV facilities, one LPTV DTV facility, four full-power FM stations, one LPFM station and three FM auxiliary facilities that are located at the WZTV 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 67.76% of the limit applicable to “uncontrolled” environments, and 13.552% of the limit for “controlled” environments. (See Appendix A)

**SUMMARY OF RADIOFREQUENCY
RADIATION STUDY**
WZTV, Nashville, TN
Channel 20, 1000 kW, 411 m HAAT
June, 2017

CALL	SERVICE	CHANNEL	FREQUENCY	POLAR- IZATION	ANTENNA HEIGHT	ERP (kW)	VERT. RELATIVE FIELD FACTOR**	WORST-CASE PREDICTED POWER DENSITY ($\mu\text{W}/\text{cm}^2$)	FCC UNCONTROLLED LIMIT ($\mu\text{W}/\text{cm}^2$)	PERCENT OF UNCONTROLLED LIMIT
WNAB*	DT	30	569	H	366	200.000	0.300	4.539	379.33	1.20%
WNAB*	DT	30	569	V	366	50.000	0.300	1.135	379.33	0.30%
WZTV*	DT	20	509	H	350	1000.000	0.300	24.829	339.33	7.32%
WZTV*	DT	20	509	V	350	250.000	0.300	6.207	339.33	1.83%
WUXP-TV	DT	21	515	H	352	1000.000	0.300	24.546	343.33	7.15%
WRTN-LD (CP)	DT	17	491	H	305	15.000	0.300	0.491	327.33	0.15%
W233BV	FM	223	92.5	H & V	283	0.140	1.000	0.118	200.00	0.06%
WCJK	FM	242	96.3	H & V	372	39.000	<note 1>	0.123	200.00	0.06%
WLVU	FM	246	97.1	H & V	168	9.000	<note 2>	0.240	200.00	0.12%
WSIX-FM (AUX)	FM	250	97.9	H & V	237	15.500	1.000	18.754	200.00	9.38%
WUBT	FM	266	101.1	H & V	237	1.900	1.000	2.299	200.00	1.15%
WNRQ (AUX)	FM	290	105.9	H & V	237	15.500	1.000	18.754	200.00	9.38%
WNFN	FM	294	106.7	H & V	233	2.950	1.000	3.694	200.00	1.85%
WRVW (AUX)	FM	298	107.5	H & V	237	46.000	1.000	55.658	200.00	27.83%

TOTAL PERCENTAGE OF FCC GUIDELINE VALUE =

67.76%

* WNAB and WZTV are proposing elliptical polarization. The table above includes both the horizontal and vertical power levels for the proposed WNAB and WZTV operations.

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

note 1: FM Model Antenna: EPA Type 3: ERI Rototiller Type, 8-bay, half-wave spaced antenna.

note 2: FM Model Antenna: EPA Type 1 (worst case analysis); 13-bay, 0.83-wave spaced antenna.