



ENVIRONMENTAL AND RADIO FREQUENCY SAFETY

The predicted emissions of WNUV must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For WNUV, 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 WNUV facility will operate with a maximum ERP of 920 kW from an elliptically polarized directional transmitting antenna with a centerline height of 383.6 meters above ground level (AGL). Considering a conservative predicted vertical plane relative field factor of 0.300 the WNUV facility is predicted to produce a power density at two meters above ground level of 37.994 $\mu\text{W}/\text{cm}^2$, which is 10.57% of the FCC guideline value for an “uncontrolled” environment, and 2.114% of the FCC’s guideline value for “controlled” environments. There are four other full-power DTV facilities, four LPFM facilities and three FM radio stations that are located at, or within relevant proximity of, the WNUV 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 54.16% of the limit applicable to “uncontrolled” environments, and 10.832% of the limit for “controlled” environments. (See Appendix A)

APPENDIX A

SUMMARY OF RADIOFREQUENCY RADIATION STUDY

WNUV, Baltimore, MD
Channel 25, 920 kW, 381 m HAAT
July, 2018

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
WNUV	DT	25	539	H & V	383.6	920.000	0.300	37.994	359.33	10.57%
WBFF	DT	26	545	H	374.8	440.000	0.300	9.520	363.33	2.62%
WJZ-TV	DT	11	201	H & V	295	30.000	0.300	2.102	200.00	1.05%
WBAL-TV	DT	12	207	H & V	295	27.200	0.300	1.905	200.00	0.95%
WMAR-TV	DT	27	551	H & V	294.6	830.000	0.300	58.301	367.33	15.87%
WTIZ-LP	FM	228	93.5	H	152	0.004	1.000	0.006	200.00	0.00%
W248AO	FM	248	97.5	H	210	0.250	1.000	0.193	200.00	0.10%
WIYY	FM	250	97.9	H & V	275	13.500	1.000	12.104	200.00	6.05%
WLIF (AUX)	FM	270	101.9	H & V	273	2.600	1.000	2.366	200.00	1.18%
WZFT	FM	282	104.3	H & V	296	13.000	1.000	10.050	200.00	5.02%
WJZ-FM (AUX)	FM	289	105.7	H & V	273	0.430	1.000	0.391	200.00	0.20%
W291BA	FM	291	106.1	H & V	273	0.250	1.000	0.227	200.00	0.11%
WWMX (AUX)	FM	293	106.5	H & V	210	13.500	1.000	20.850	200.00	10.43%

TOTAL PERCENTAGE OF FCC GUIDELINE VALUE = 54.16%

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