



## ENVIRONMENTAL AND RADIO FREQUENCY SAFETY

The licensee of WNUV is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WNUV 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 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 425 kW from a horizontally polarized directional transmitting antenna with a centerline height of 374.8 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  $9.195 \mu\text{W}/\text{cm}^2$ , which is 2.56% of the FCC guideline value for an “uncontrolled” environment, and 0.512% of the FCC’s guideline value for “controlled” environments. There are four other full-power DTV facilities, four LPFM facilities and three FM radio station that are located at 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 44.73% of the limit applicable to “uncontrolled” environments, and 8.946% of the limit for “controlled” environments. (See Appendix A)

# SUMMARY OF RADIOFREQUENCY RADIATION STUDY

WNUV, Baltimore, MD

Channel 25, 425 kW, 372.8 m HAAT  
June, 2017

| CALL                                      | SERVICE | CHANNEL | FREQUENCY | POLAR-<br>IZATION | ANTENNA<br>HEIGHT | ERP<br>(kW) | VERT.<br>RELATIVE<br>FIELD<br>FACTOR | WORST-CASE<br>PREDICTED<br>POWER DENSITY<br>( $\mu\text{W}/\text{cm}^2$ ) | FCC<br>UNCONTROLLED<br>LIMIT<br>( $\mu\text{W}/\text{cm}^2$ ) | PERCENT OF<br>UNCONTROLLED<br>LIMIT |
|---|---------|---------|-----------|-------------------|-------------------|-------------|--------------------------------------|---|---|-------------------------------------|
| WNUV                                      | DT      | 25      | 539       | H                 | 374.8             | 425.000     | 0.300                                | 9.195   | 359.33  | 2.56%                               |
| WJZ-TV                                    | DT      | 11      | 201       | H & V             | 295               | 33.800      | 0.300                                | 2.368   | 200.00  | 1.18%                               |
| WBAL-TV                                   | DT      | 12      | 207       | H                 | 286               | 26.600      | 0.300                                | 0.992   | 200.00  | 0.50%                               |
| WMAR-TV                                   | DT      | 27      | 551       | H & V             | 298               | 797.000     | 0.300                                | 54.704  | 367.33  | 14.89%                              |
| WBFF                                      | DT      | 26      | 545       | H                 | 374.8             | 420.000     | 0.300                                | 9.087   | 363.33  | 2.50%                               |
| 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%                               |
| WYYY                                      | 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 = |         |         |           |                   |                   |             |                                      |   |   | 44.73%                              |

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