



ENVIRONMENTAL AND RADIO FREQUENCY SAFETY

The licensee of WPFO is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WPFO 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 WPFO must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For WPFO, which will operate on television Channel 17 (488-494 MHz), the MPE is 327.33 microwatts per centimeter squared ($\mu\text{W}/\text{cm}^2$) in an “uncontrolled” environment and 1,636.7 $\mu\text{W}/\text{cm}^2$ in a “controlled” environment. The proposed WPFO facility will operate with a maximum ERP of 850 kW from an elliptically polarized directional transmitting antenna with a centerline height of 209 meters above ground level (AGL). Considering a predicted vertical plane relative field factor of 0.300 the WPFO facility is predicted to produce a power density at two meters above ground level of 119.296 $\mu\text{W}/\text{cm}^2$, which is 36.44% of the FCC guideline value for an “uncontrolled” environment, and 7.288% of the FCC’s guideline value for “controlled” environments. There is one other full-power DTV facility that is also located at the WPFO site. The total estimated percentage of the ANSI value at the proposed site, including the cumulative radiation from all facilities within the relevant proximity, is 37.92% of the limit applicable to “uncontrolled” environments, and 7.58% of the limit for “controlled” environments. (See Appendix A)

APPENDIX A

**SUMMARY OF RADIOFREQUENCY
RADIATION STUDY**

WPFO, Waterville, ME
Channel 17, 850 kW, 333 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>
WPFO	DT	17	491	H & V	209	850.000	0.300	119.296	327.33	36.44%
WCBB	DT	10	195	H	177	30.000	0.300	2.946	200.00	1.47%
TOTAL PERCENTAGE OF FCC GUIDELINE VALUE =										37.92%

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