



ENVIRONMENTAL AND RADIO FREQUENCY SAFETY

The licensee of WJAR is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WJAR 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 WJAR must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For WJAR, 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 WJAR facility will operate with a maximum ERP of 530 kW from an elliptically polarized directional transmitting antenna with a centerline height of 274.3 meters above ground level (AGL). Considering a conservative predicted vertical plane relative field factor of 0.300 the WJAR facility is predicted to produce a power density at two meters above ground level of $42.986 \mu\text{W}/\text{cm}^2$, which is 11.96% of the FCC guideline value for an “uncontrolled” environment, and 2.392% of the FCC’s guideline value for “controlled” environments. There is one other full-power DTV facility, two LPTV DTV facilities and one FM station that are located at the WJAR 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 20.55% of the limit applicable to “uncontrolled” environments, and 4.11% of the limit for “controlled” environments. (See Appendix A)

SUMMARY OF RADIOFREQUENCY RADIATION STUDY

WJAR, Providence, RI
Channel 25, 530 kW, 306 m HAAT
June, 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 (mW/cm²)</u>	<u>WORST-CASE PREDICTED POWER DENSITY (μW/cm²)</u>	<u>FCC UNCONTROLLED LIMIT (μW/cm²)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
WJAR	DT	25	539	H & V	274.3	530.000	0.300	0.04299	42.986	359.33	11.96%
WSBE-TV	DT	2	57	H & V	236	0.459	0.300	0.00005	0.050	200.00	0.03%
WRIW-CD	DT	36	605	H	189.7	15.000	0.300	0.00128	1.280	403.33	0.32%
WLNE-TV	DT	24	533	H	253	213.000	0.300	0.01017	10.166	355.33	2.86%
WSNE-FM	FM	227	93.3	H & V	144	31.000	<note 1>	0.01077	10.769	200.00	5.38%
TOTAL PERCENTAGE OF FCC GUIDELINE VALUE =											20.55%

* 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, 3-bay, full-wave spaced antenna