TECHNICAL STATEMENT
CONCERNING HUMAN EXPOSURE TO RF ELECTROMAGNETIC ENERGY
PREPARED FOR
TELEVISION STATION WTVC-DT
CHATTANOOGA, TENNESSEE
CHANNEL 9

This Technical Statement was prepared on behalf of television station WTVC-DT concerning an evaluation of compliance with Section 1.1307(b) of the FCC Rules[*] regarding human exposure to radio frequency (RF) energy[†] for its post-transition digital television facility WTVC-DT, Chattanooga, Tennessee (Channel 9).

The WTVC-DT facility is to employ a replacement non-directional transmitting antenna, which will be top-mounted on an existing tower supporting structure located near Walden, Florida (FCC Antenna Structure Registration No. 1235360). The following table summarizes the facilities considered and the technical details and assumptions made in this analysis:

| Call Sign / Mode | Channel / Frequency | Average Effective Radiated Power (kW) | Antenna Radiation Center Height Above Ground (meters) / (feet) | Transmitting Antenna Make and Model / Polarization |
|---|---|---|---|---|
| WTVC-DT / digital | 9 / 186-192 MHz | 10.7 (H), 2.1 (V) Total = 12.8 | 73 / 240 | DIE, THV-5A9 / Elliptical (20%) |

The elevation pattern employed for the above listed antenna is included with the instant application for construction permit (FCC Form 301).

[*] See Rules of the United States Federal Communications Commission (FCC), generally at Title 47 of the Code of Federal Regulations (Telecommunication).
[†] See FCC Office of Engineering and Technology Bulletin No. 56 for background information on non-ionizing RF energy of the type discussed here. Internet web reference: http://www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet56/oet56e4.pdf

Based on Section 73.1310 of the FCC Rules, the pertinent maximum permissible exposure (MPE) limit for the subject station is as follows:

| Call Sign | Frequency (MHz) | MPE for General Population/Uncontrolled (GP/U) Exposure (uW/cm$^2$) | MPE for 5% Exclusion Level for GP/U Exposure (uW/cm$^2$) |
|---|---|---|---|
| WTVC-DT | 189 | 200.0 | 10.0 |

Also indicated in the table above is the 5% MPE level below which RF energy level contributions are considered to be negligible. Those licensees whose transmitters produce RF energy levels in excess of 5% of the applicable exposure limit at an accessible location are considered to be significant contributors and would share in the responsibility to bring the RF exposure levels into compliance in a multiple user environment.

The subject facilities were evaluated for RF exposure at 2-m AGL using the procedures outlined in OET Bulletin No. 65, *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields*[‡], with the following results:

| Call Sign | Distance (m) | Assumed Antenna Downward Relative Field Factor[§] | Calculated Power Density (uW/cm$^2$) | Percent of GP/U MPE (%) |
|---|---|---|---|---|
| WTVC-DT | 71 | 0.20 | 3.4 | **1.7** |

The calculations indicate that the RF field level from WTVC-DT as a percent of the GP/U MPE at 2-m above ground level will not exceed 1.7%. Therefore, since this is

[‡] Federal Communications Commission, Office of Engineering and Technology, OET Bulletin No. 65, Edition 97-01, August, 1997.
[§] This is a conservative estimate of downward relative field factor.

below 5%, it is concluded that the subject facility is a negligible contributor to the RF environment at all ground level locations.[**]

The transmitter site is restricted from access to the public. All licensees located at the transmitter site shall cooperate in the reduction of power or cessation of operations as necessary to protect persons having access to the tower or antennas from RF radiation in excess of the FCC guidelines.



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[**] Furthermore, the facilities are excluded from routine environmental evaluation pursuant to Section 1.1307(b) of the FCC Rules.