

MINOR CHANGE APPLICATION
OHIO VALLEY COMMUNICATIONS, INC.
WEEL RADIO STATION
CH 239B1 - 95.7 MHZ - 6.75 KW
SHADYSIDE, OHIO
September 2002

EXHIBIT B

Radio Frequency and Environmental Assessment

A study has been made to determine whether this proposal is in compliance with 47 C.F.R. §1.1307 of the Commission's rules and with OET Bulletin #65, dated August 1997 ("Bulletin"), regarding human exposure to radio frequency radiation in the vicinity of broadcast towers. This study considers all nearby stations and utilizes the appropriate formulas contained in the Bulletin.

Environmental Analysis

The proposed FM tower does not involve the use of high intensity white lighting (strobes) in a residential neighborhood. The structure is not located in an officially designated wilderness area or wildlife preserve, nor does it threaten the existence or habitat of endangered species. The facility does not affect districts, sites, buildings, structures or objects significant in American history, architecture, archaeology, engineering or culture that are listed in the National Register of Historic Places, or are eligible for listing, nor does it affect Indian religious sites. Further, the site is not located in a floodplain and did not, to the knowledge of the applicant, require significant change in surface features (wetland fill, deforestation or water diversion) at the time of construction.

Radio Frequency Radiation Study

This radio frequency radiation study is being conducted to determine whether this proposal is in compliance with OET Bulletin Number 65, dated August 1997, regarding human exposure to radio frequency radiation in the vicinity of broadcast towers. This study considers all nearby contributing stations, specifically FM station WEGW, and TV stations WTRF-TV, WTRF-DT and W28AS, and utilizes the appropriate formulas contained in the OET Bulletin.⁵

The WEEL antenna system is/will be mounted with its center of radiation 117.4 meters (385.2 feet) above the ground at the proposed tower location and operate with an effective radiated power of 6.75 kilowatts in the horizontal and vertical planes (circularly polarized). At two meters, the height of an average person, above the ground at the base of the proposed tower, the WEEL antenna system will contribute 0.0203 mw.⁶ Based on exposure limitations for a controlled environment, 2.0% of the allowable limit is reached at two meters above the ground at the base of the proposed tower. For uncontrolled environments, 10.2% of the limit is reached at two meters above the ground at the base of the tower.

The WEGW authorized permitted antenna system is to be mounted with its center of radiation 195.0 meters (639.7 feet) above the ground at the tower location and operates with an effective radiated power of 16.0 kilowatts in the horizontal and vertical planes (circularly polarized).⁷ At two meters, the height of an average person, above the ground at the base of the

-
- 5) The contribution of the FM facility was calculated using the FM Model program. A single bay EPA dipole antenna was used for calculation purposes.
 - 6) This level of field occurs at 32.0 meters out from the base of the tower and is considered worst case.
 - 7) The licensed WEGW antenna is located at the same level as the permit, but operates with less power. Therefore, the permit is considered worst case.

proposed tower, the WEGW antenna system will contribute 0.0173 mw.⁸ Based on exposure limitations for a controlled environment, 1.7% of the allowable limit is reached at two meters above the ground at the base of the proposed tower. For uncontrolled environments, 8.7% of the limit is reached at two meters above the ground at the base of the tower.

The WTRF-TV NTSC Channel 7 antenna system is mounted with its center of radiation 215.4 meters (706.6 feet) above the ground at the existing tower location and operates with an effective radiated power of 316 kilowatts in the horizontal plane. As denoted in OET Bulletin #65, Supplement A, Page 29, the typical VHF antenna system has a downward radiation field of 0.2. As such, the WTRF-TV antenna system radio frequency radiation calculations were made based on an effective radiated power of 12.64 kilowatts. At two meters, the height of an average person, above the ground at the base of the tower, the WTRF-TV antenna system contributes 0.0056 mw. Based on exposure limitations for a controlled environment, 0.6% of the allowable ANSI limit is reached at two meters above the ground at the base of the tower. For uncontrolled environments, 2.8% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The authorized WTRF-DT Channel 32 TV antenna system will be mounted with its center of radiation 215.4 meters (706.6 feet) above the ground at the existing tower location and operate with an effective radiated power of 730.9 kilowatts in the horizontal plane. As denoted in OET Bulletin #65, Supplement A, Page 31, the typical UHF antenna system has a downward

8) This level of field occurs at 52.8 meters out from the base of the tower and is considered worst case.

radiation field of 0.1.. As such, the WTRF-DT Channel 32 antenna radio frequency radiation calculations were made based on an effective radiated power of 7.309 kilowatts. At two meters, the height of an average person, above the ground at the base of the tower, the WTRF-DT antenna system will contribute 0.0033 mw. Based on exposure limitations for a controlled environment, 0.2% of the allowable ANSI limit is reached at two meters above the ground at the base of the tower. For uncontrolled environments, 0.9% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The authorized W28AS antenna system is mounted with its center of radiation 30.4 meters (99.7 feet) above the ground at the existing tower location and operates with an effective radiated power of 0.950 kilowatts in the horizontal plane. At two meters, the height of an average person, above the ground at the base of the tower, the W28AS antenna system will contribute 0.0244 mw. Based on exposure limitations for a controlled environment, 1.3% of the allowable ANSI limit is reached at two meters above the ground at the base of the tower. For uncontrolled environments, 6.6% of the ANSI limit is reached at two meters above the ground at the base of the tower.

Combining the contributions of WEEL, WEGW, WTRF-TV, WTRF-DT and W28AS, a total of 29.2% of the limit for uncontrolled environments is reached at two meters above the base of the tower. Since this level for uncontrolled environments is below the 100% limit defined by the Commission, the proposed WEEL facility is believed to be in compliance with the radio frequency radiation exposure limits as required by the Federal Communications Commission.

Further, Ohio Valley Communications, Inc. (“OVC”) will insure warning signs are posted in the vicinity of the tower warning of potential radio frequency radiation hazards at the site. In addition, OVC will reduce the power of the proposed facility or cease operation, in cooperation and coordination with other tower users, as necessary, to protect persons having access to the site, tower or antenna from radio frequency radiation in excess of FCC guidelines. Based on the above factors, this proposal is categorically excluded from environmental processing pursuant to §1.1306 of the Commission's rules.