

APPLICATION FOR STATION LICENSE
NEW AUXILIARY ANTENNA SYSTEM
THE UNIVERSITY OF SOUTH CAROLINA
WUSC-FM RADIO STATION
CH 213A - 90.5 MHZ - 0.24 KW
COLUMBIA, SOUTH CAROLINA
June 2010

EXHIBIT B

Radio Frequency 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 contributing stations and utilizes the appropriate formulas contained in the OET Bulletin.¹

The authorized WUSC-FM auxiliary antenna system is installed on a tower, located atop a building in Columbia, South Carolina. The antenna is mounted 7.6 meters (25.0 feet) above the roof and 26.2 meters (86.0 feet) above the ground. Access to the roof of the building is restricted by a locked door, therefore, the general public cannot reach the roof. When roof access is needed by someone not trained to work in RF environments, the WUSC-FM auxiliary antenna, if operating, will reduce power or cease operation.

The WUSC-FM auxiliary antenna system will operate, when needed, with an effective radiated power of 0.240 kilowatt in the horizontal and vertical planes (circularly polarized). The

1) The FMMModel Program was used for all calculations for the FM station contributions. The EPA single bay dipole antenna was used unless otherwise noted.

WUSC-FM antenna is a two bay half wavelength spaced system (FCC/EPA Type #1). At 2.0 meters above the roof at the base of the tower, the height of an average person, the WUSC-FM auxiliary antenna system will contribute 0.061 mw/cm^2 .² Based on exposure limitations for a controlled environment, 6.1% of the allowable ANSI limit is reached at 2.0 meters above the roof at the base of the tower. Based on exposure limitations for an uncontrolled environment, 30.5% of the allowable ANSI limit is reached at 2.0 meters above the roof at the base of the tower.

Since these levels for controlled and uncontrolled environments are below the 100% limit defined by the Commission, the authorized WUSC-FM auxiliary antenna is believed to be in compliance with the radio frequency radiation exposure limits as required by the Federal Communications Commission.

2) This level of field occurs at 9.0 meters out from the base of the tower and is considered worst case.