

DENNY & ASSOCIATES, P.C.
CONSULTING ENGINEERS
OXON HILL, MARYLAND

**REQUEST FOR PROGRAM TEST AUTHORITY
AND APPLICATION FOR
FM BROADCAST STATION LICENSE
(FCC FILE NUMBER BPH-20011001AAV)
PREPARED FOR
AMFM RADIO LICENSES, LLC
STATION WKTU(FM)
LAKE SUCCESS, NEW YORK
CH 278B 6.0 KW (H&V) 415 METERS**

ENGINEERING STATEMENT

This engineering exhibit was prepared on behalf of AMFM Radio Licenses, LLC (hereinafter AMFM), licensee of station WKTU(FM), Lake Success, New York, in support of a request for Program Test Authority and an application for FM broadcast station license.

WKTU is authorized (FCC File Number BLH-20011001AAV) to operate on channel 278B (103.5 megahertz (MHz)) with 6.0 kilowatts effective radiated power (ERP) and antenna radiation center height above average terrain of 415 meters from the master FM antenna on the Empire State Building (ESB). The geographic coordinates of the site are 40° 44' 54" North Latitude, 73° 59' 10" West Longitude, referenced to the 1927 North American

Datum. The antenna radiation center height of the master FM antenna at the site is 413 meters above ground level.

WKTU completed construction of its new facility at the ESB in September 2002, but was unable to operate with the authorized ERP of 6.0 kW until reconfiguration of the FM master antenna combiner system was complete.

WKTU has been operating with 3.9 kW ERP pursuant to the third special operating condition of its construction permit. Work on the combiner system is now complete, and WKTU seeks to increase ERP to the 6.0 kW authorized.

Public access to the exterior of the ESB site is extremely limited by a series of locked doors above the 86th floor outdoor observation deck, which is at a height of 319.4 meters above ground level, 93.6 meters below the antenna radiation center of the FM master antenna. An analysis of the human exposure to RFR using the calculation methodology described in *OET Bulletin 65, Edition 97-01*, prepared by the FCC Office of Engineering and Technology, at a reference point two meters above the 86th Floor outdoor observation deck, was made. A conservative vertical plane relative field factor of 0.45 for the Electronics Research Inc. (ERI) two-bay master FM antenna at the ESB and the

authorized WKTU circularly polarized ERP of 6.0 kW were used in the calculations of the WKTU power density. To account for reflections, a coefficient of 1.6 was used in the calculations, which were made at 103.5 MHz, the WKTU operating frequency. The FCC maximum permissible exposure (MPE) limit for general population/uncontrolled exposure is 0.2 milliwatt-per-square centimeter (mW/cm^2) at the WKTU operating frequency. At the reference point two meters above the deck of the ESB 86th floor outdoor observation deck, the calculated WKTU power density is $0.00968 \text{ mW}/\text{cm}^2$, which is 4.8 percent of the FCC MPE limit for general population/uncontrolled exposure.

Pursuant to the provisions of *OET Bulletin 65, Edition 97-01*, at a multiple-user transmitter site, only those licensees whose transmitters produce power density levels in excess of 5.0 percent of the applicable exposure limit are considered “significant contributors” and share responsibility for actions necessary to bring the local RFR environment into compliance with FCC exposure limits. Since the authorized WKTU channel 278B facilities will contribute no more 4.8 percent of the most restrictive permissible exposure at the closest location of uncontrolled access at the ESB, the authorized WKTU facilities are not considered a “significant contributor” to the local RF exposure

environment. While not a “significant contributor” to the exposure levels at the ESB 86th Floor outdoor observation deck, WKTU will be a “significant contributor” at locations near the FM master antenna when it is operating at full power. WKTU is a member of a cooperative group of licensees at the multiple use site that has been organized to ensure that the proper precautions are taken so that work may be performed at the site without causing exposures to workers exceeding FCC MPE’s for occupational/controlled exposure.

Measurements were made of the RFR exposure levels at the eight points customarily measured by this firm and others to determine aggregate exposure levels on the 86th floor outdoor observation deck by Robert W. Denny, Jr., P.E., on September 9, 2002. At that time, WKTU was operating with ERP of 3.9 kW, circularly polarized. Aggregate RF exposure levels at these eight points ranged from 10.5 percent to 68.8 percent of the FCC MPE limits for general population/uncontrolled exposure. The increase in WKTU ERP from 3.9 kW, circularly polarized, to 6.0 kW, circularly polarized, is not expected to increase aggregate exposure at these measurement locations on the outdoor observation deck by more than two percent.

Monitoring of the RFR exposure levels at the ESB is an ongoing process as changes to the facilities at the site occur regularly. Measurements on the 86th floor outdoor observation deck are in the process of being scheduled for the coming weeks. Since the exposure levels on the 86th floor outdoor observation deck are not expected to increase by more than two percent as a result of this proposal, and increasing the most recent measurement of exposure levels by two percent does not result in exposures exceeding the MPE limit for general population/uncontrolled exposure, there is no risk of overexposure from the higher power operation of WKTU as authorized.

CERTIFICATION

We declare under penalty of perjury that the foregoing is true and correct to the best of our knowledge. Executed on May 22, 2003.

Robert W. Denny, Jr., P.E.

Robert G. Mallery