

AMEND BNPFT-20130829AFF
AUGUSTA RADIO FELLOWSHIP INSTITUTE, INC.
NEW FM TRANSLATOR STATION
CH 272D - 102.3 MHZ - 0.25 KW - DA
GRIFFIN, GEORGIA
May 2014

EXHIBIT C

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 facilities, specifically WKEU (AM), and utilizes the appropriate formulas contained in the OET Bulletin.¹

The proposed new translator antenna system will be mounted with its center of radiation 91.4 meters (300 feet) above the ground at the tower location and will operate with an effective radiated power of 0.25 kilowatt (250 watts) in the horizontal and vertical planes (circularly polarized). At 2.0 meters above the ground at the base of the tower, the height of an average person, the proposed new translator's antenna system will contribute 0.00126 mw/cm².² Based on exposure limitations for a controlled environment, <0.2% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 0.63% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

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- 1) The contributions of the FM stations were calculated with the FMModel program. The EPA single bay dipole antenna was used for calculations unless otherwise noted.
 - 2) This level occurs at 24.0 meters out from the base of the tower and is considered worst case.

The WKEU (AM) antenna system tower structure is 177.8' in electrical height, and WKEU (AM) operates with 1.0 kilowatt of power on 1450 kHz. Access to the tower base is limited to a distance not closer than 1.0 meter. By reference to Figure 2 of OET 65-A, a tower radiating 1.0 kilowatt will deliver 367.8 V/m (Electric Field) or .193 A/m (Magnetic Field). Since WKEU operates above 1340 kHz, the controlled and uncontrolled exposure limits differ. These figures represent 59.9% of the controlled electric field limit of 614.0 V/m and 64.7% of the uncontrolled electric field limit of 568.3 V/m and 11.8% of the controlled magnetic field limit of 1.630 A/m and 12.8% of the uncontrolled magnetic field limit of 1.510 A/m. Since the Electric Field contribution is highest, it is used as a worst case scenario.

Combining the contributions of the new translator on Channel 272 and WKEU (AM), a total of less than 66.0% of the recommended uncontrolled limit is reached at the base of the tower. Since this level for an uncontrolled environment is less than the level defined by the Commission, the proposed new translator facility is believed to be in compliance with the radio frequency radiation exposure limits, as required by the Federal Communications Commission. Further, ARFI will post warning signs in the vicinity of the tower warning of potential radio frequency radiation hazards at the site. In addition, ARFI 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.