

**HUMAN EXPOSURE TO RADIOFREQUENCY ELECTROMAGNETIC FIELDS COMPLIANCE STATEMENT PREPARED BY WILLIAM T. GODFEY, JR. OF THE FIRM KESSLER AND GEHMAN ASSOCIATES, INC., TELECOMMUNICATIONS CONSULTING ENGINEERS IN CONNECTION WITH AN APPLICATION FOR A MINOR MODIFICATION OF THE WGN-TV CONSTRUCTION PERMIT TO DECREASE ERP BY 158 KW AND INCREASE ANTENNA HEIGHT RADIATION CENTER BY 1.7 M.**

**ENVIRONMENTAL IMPACT (SIX FEET ABOVE GROUND)**

The WGN-TV Channel 19 full-service digital television broadcast facility will have no significant environmental impact as defined in §1.1307 of the FCC Rules. The digital transmitter, transmission line and antenna system produces a horizontally polarized ERP of 645.00 kW and a vertically polarized ERP of 188.62 kW (E-pol). It was determined that the maximum lobe of radiation will occur at 2,697.8 feet from the base of the tower (3,147.3 ft radial distance from the antenna center). At 2,697.8 feet from the base of the tower, the depression angle of the main lobe will be approximately 31° below the horizontal. At that point, the relative field is 0.098 and the power density six feet above the ground will be 0.00029 mW/cm<sup>2</sup>. This equates to only 0.02% of the Maximum Permissible Exposure (MPE) limits for Occupational/Controlled Exposure and only 0.09% of the MPE limits for General Population/Uncontrolled Exposure authorized by the American National Standards Institute (ANSI). Since operation of the WGN-TV Channel 19 facility will not exceed 5.0% of the MPE limit for Occupational/Controlled Exposure or General Population/Uncontrolled Exposure at any point on the ground, the WGN-TV Channel 19 facility is not considered a “significant contributor” to the RF exposure environment pursuant to OET Bulletin 65, Edition 97-01. Therefore, contributions of exposure from other sources were not accounted for in this analysis. It is safe to conclude that the emissions would be insignificant and well within the maximum allowable requirements.

### **ENVIRONMENTAL IMPACT (SIX FEET ABOVE ROOF)**


It was determined that the maximum lobe of radiation will occur at 314.6 feet from the base of the tower (367.0 ft radial distance from the antenna center). At 314.6 feet from the base of the tower, the depression angle of the main lobe will be approximately 31° below the horizontal. At that point, the relative field is 0.098 and the power density six feet above the ground will be 0.02138 mW/cm<sup>2</sup>. This equates to only 1.28% of the MPE limits for Occupational/Controlled Exposure and only 6.38% of the MPE limits for General Population/Uncontrolled Exposure authorized by the ANSI. The management of the Willis Building strictly controls access to the roof; and it would be defined as a controlled environment for the purposes of RF exposure evaluation. RF measurements will be taken to the extent necessary to ensure continued compliance with the FCC RF exposure limits. The strict work rules in place concerning access to the Willis Building roof will continue; and the applicant shall cooperate in implementation of the work rules. Therefore, the proposed facility complies with the FCC limits for human exposure to RF energy on the rooftop.

### **ACKNOWLEDGEMENT**

If other antennas are placed on the tower in the future, the licensee will cooperate with those users by reducing or completely terminating the power to the antenna when maintenance workers are in danger from the electromagnetic radiation emanating from the antenna. It is also understood that additional antennas on the support structure could increase the overall RF exposure levels and it is the responsibility of each licensee to ensure that the total RF exposure resulting from the operation of all antennas on the support structure do not exceed the maximum allowable MPE level at any point on the ground and roof.

**CERTIFICATION**

This technical statement was prepared by William T. Godfrey, Jr., Engineering Associate with the firm Kessler and Gehman Associates, Inc. having offices in Gainesville, Florida, and has been working with the firm in the field of radio and television broadcast consulting since 1998. Mr. Godfrey was a graduate from the University of North Florida and a Distinguished Military Graduate from the University of Florida. As a Professional in the field of Telecommunications he states under penalty of perjury that the information contained in this report is true and correct to the best of his knowledge and belief.

  
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