

# **KESSLER AND GEHMAN ASSOCIATES, INC.**

507 NW 60<sup>th</sup> St. Ste C, Gainesville, FL 32607

License Modification to FCC File No.: BLED-20030623AHA

WJCT-FM  
Jacksonville, FL

## **License Modification Description**

Pursuant to 47 C.F.R. Section 73.1690(c)(10), it is hereby proposed to modify the licensed WJCT-FM facility (FCC File No: BLED-20030623AHA) to increase the Transmitter Power Output (“TPO”) due to an alteration in the existing transmission line. WJCT-FM currently has 939 feet of Andrew HJ11-50 transmission line between the WJCT-FM transmitter and antenna. WJCT Inc. will be moving the FM transmitter out of an existing building and into another building which currently contains their TV transmitter. The existing WJCT-FM tower and antenna will not be modified. The transmitter relocation will require adding 120 feet of 3-1/8<sup>th</sup> inch Myat rigid transmission line to the Andrew HJ11-50 existing transmission line, the total line loss of the new section is approximately 0.11 dB. In order to compensate for the additional loss, the WJCT-FM TPO will be increased by 0.11 dB in order to produce the licensed ERP.

As such, the existing TPO is 18.63kW<sup>1</sup> or 12.70 dBkW, with the addition of the extended transmission line it shall become 19.10 KW or 12.81 dBkW. No other changes are proposed.

## **Environmental Impact / RFR Hazard Analysis**

A theoretical analysis has been conducted of the human exposure to radio frequency radiation (“RFR”) using the calculation methodology described in OET Bulletin 65, Edition 97-01. The RFR analysis is conducted pursuant to the following methodology:

---

<sup>1</sup> It should be noted that FCC File No.: BLED-20030623AHA specifies a TPO of 19.1 kW which is an error, the correct TPO for the current license is 18.63kW. It is merely a coincidence that the figure in error matches the proposed TPO figure in the instant application.

# **KESSLER AND GEHMAN ASSOCIATES, INC.**

507 NW 60<sup>th</sup> St. Ste C, Gainesville, FL 32607

License Modification to FCC File No.: BLED-20030623AHA

WJCT-FM  
Jacksonville, FL

Terrain extraction is compiled from the proposed tower site to radial lengths of 0.25 miles in 0.001 mile increments for 360 radials. The power density is calculated for each terrain point at 6 feet above ground level using the elevation and azimuth pattern of the proposed broadcast antenna. The power density calculations are conducted using the lower edge of the proposed channel frequency. To account for ground reflections, a coefficient of 1.6 was included in the calculation.

The resulting cylindrical polar analysis is then summarized into a coordinate plane graph using the following methodology:

Starting from the origin the maximum calculated RFR value is determined among the 360 degree radials for each 0.001 mile increment, the value is then converted into a percentage of the maximum allowable general population or uncontrolled exposure and plotted as a function of perpendicular distance from the tower.

Exhibit 7.1 is the resulting RFR study demonstrating the peak exposure is 2.2% of the most restrictive permissible exposure threshold. Pursuant to OET Bulletin 65 concerning multiple-user transmitter sites only those licensees whose transmitters produce power density levels greater than 5.0% of the exposure limit are considered significant contributors to RFR. Since the proposed operation is within 5% of the most permissible exposure at any location 2 meters above the ground, it is not considered a significant contributor to RFR exposure. Thus, contributions to exposure from other RF sources in the vicinity of the proposed facility were not taken into account. The instant application is compliant with the FCC limits for human exposure to RF radiation and thus is excluded from further environmental processing.

**KESSLER AND GEHMAN ASSOCIATES, INC.**

507 NW 60<sup>th</sup> St. Ste C, Gainesville, FL 32607

License Modification to FCC File No.: BLED-20030623AHA

WJCT-FM  
Jacksonville, FL

---

**Certification**

The foregoing statement and the report regarding the aforementioned engineering work are true and correct to the best of my knowledge. Executed September 29, 2011.

KESSLER AND GEHMAN ASSOCIATES, INC.



Ryan Wilhour

Consulting Engineer

# FAR FIELD EXPOSURE TO RF EMISSIONS

