

# **ENGINEERING REPORT**

**Supplemental RF Radiation Study for  
Form 302-FM covering  
Construction Permit File No.  
BPED-20050225AAW**

**WYFV(FM) – Cayce, SC  
Channel 203C2 – 88.5 MHz**

**March, 2006**

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# **CERTIFICATION OF ENGINEERS**

The firm of Munn-Reese, Inc., Broadcast Engineering Consultants, with offices at 385 Airport Drive, Coldwater, Michigan, has been retained for the purpose of preparing the technical data forming this report.

The data utilized in this report was taken from the FCC Secondary Database and data on file. While this information is believed accurate, errors or omissions in the database and file data are possible. This firm may not be held liable for damages as a result of such data errors or omissions.

The report has been prepared by properly trained electronics specialists under the direction of the undersigned whose qualifications are a matter of record before the Federal Communications Commission.

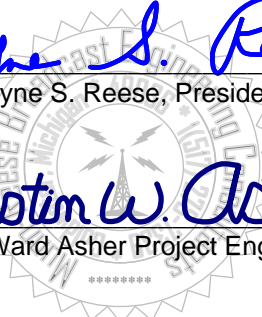
I declare under penalty of the laws of perjury that the contents of this report are true and accurate to the best of my knowledge and belief.

March 10, 2006

**MUNN-REESE, INC.**

By Wayne S. Reese  
Wayne S. Reese, President

By Justin W. Asher  
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## **RADIOFREQUENCY RADIATION GUIDELINES COMPLIANCE STUDY**

The new WYFV(FM) facility for Cayce, SC as authorized in Construction Permit File No. BPED-20050225AAW has been evaluated for human exposure to non-ionizing radiofrequency radiation at the single source transmitter site. The guidelines set forth in §1.1310 Table 1 have been used for actual RF measurements taken on site.

The WYFV(FM) facility operates on FM Channel 203C2, 88.5 MHz, with 50.0 kW ERP (H)&(V), with a center of radiation 37 meters AGL. A five bay SWR FM10/5-DA directional antenna has been employed. Pursuant to Special Condition/Restriction (6) of BPED-20050225AAW, as the antenna employed is something other than the specified Shively 6810 five bay model, demonstration of continued RF compliance has been submitted.

On February 25, 2005, Ronald L Muffley, an engineer in the employ of WYFV(FM) and Bible Broadcasting Network Inc., was dispatched to the site to perform the required measurements. Measurements were made with a Narda Model 8718 Electromagnetic Survey Meter Serial Number 1453, connected to a Narda Model 8742 Isotropic Shaped Electric Field Probe. This probe is designed to measure electromagnetic fields within the frequency range of 300 kHz to 2.7 GHz. The frequency response of the probe is based on IEEE/ANSI Standard C95.1-1991, which is also the basis for the current guidelines of human exposure to radio frequency radiation established by the Federal Communications Commission. These guidelines specify Maximum Permissible Exposure (MPE) levels that vary with the frequency of the source of radio frequency energy. Thus, the response of the probe has been shaped to reflect these frequency dependent MPE parameters. This allows the survey meter to read directly in percent of the limit without the necessity to measure each frequency independently. Since most telecommunication sites involve multiple transmitters operating on several different frequencies, this also allows an evaluation to be made of the combined exposure from all transmitters with a single measurement.

For calibration purposes, the probe was placed inside the case supplied by the manufacturer. This case is lined with material designed to block the penetration of radio frequency radiation. While the probe was in this shielded environment, the self-calibration routine for the meter was successfully executed.

Calibration was performed on the premises prior to the commencement of the WYFV(FM) test operation period. Following calibration, a walking inspection was made of the entire area searching for areas of maximum exposure. No location within the vicinity exceeded 100% of the controlled limit ( $1,000 \mu\text{W}/\text{cm}^2$ ), however substantial areas around the tower including transmission line area and transmitter building as well as distances extending away from these structures were found to exceed the uncontrolled limit ( $200 \mu\text{W}/\text{cm}^2$ ). The extent of this area exceeding the uncontrolled limit was then staked out around the entire circumference of the property.

## RADIOFREQUENCY RADIATION GUIDELINES COMPLIANCE STUDY

Permanent fencing of chain link design and 2.0 meters (6 feet) high was installed and completed March 9, 2006 to a distance of no less than 1 meter (3 feet) beyond the maximum uncontrolled environment staked markers. Placement of the fencing to this distance ensures protection to any person or persons at the fence or in the event a limb is extended over or through the fencing barrier itself.

The facility is properly marked with signs, and entry to the facility is restricted by means of a locked gate. In the event work is required in proximity to the antenna such that the person or persons working in the area will be potentially exposed to fields in excess of the current guidelines, the broadcast licensee agrees to reduce power, or cease operation during the critical period to ensure worker protection

A diagram of the plat layout has been attached.

