

# **ENGINEERING REPORT**

**Requesting a Minor Construction  
Permit for FM Station**

**WYFV(FM) – Cayce, SC  
License No. BLED-19901022KI  
Channel 204A (88.7 MHz)**

**February, 2005**

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**Spacing Requirements** (none)

**Grandfathered Short-Spaced Requirements** (none)

**Contour Protection Requirements** (none)

### **TV Channel 6 Protection Requirements**

Exhibit 18.1 - Channel 6 Study towards WJBF-TV, Augusta, GA

## **RF Radiation Study Requirement**

Exhibit 22.1 - RF Radiation Study

(Exhibit Numbering is in response to FCC Online Form 340, Section VII)

## DISCUSSION OF REPORT

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This firm was retained to prepare the required engineering report in support of a minor change to Non-Commercial FM station WYFV(FM), Cayce, SC License No. BLED-19901022KI, for Channel 204A 88.7 MHz. Currently WYFV(FM) is licensed to operate with 0.15 kW at 43 meters HAAT utilizing a non-directional antenna. This minor change seeks to relocate the transmitter to a new site and change frequencies to Channel 203. The change in location will result in Class C2 operating parameters of 50.0 kW at 52 meters HAAT utilizing a directional antenna pattern.

The proposed site for the Class C2 operation meets all the contour protection requirements towards other stations in the allocation. A tabulation of the proposed protections to each of the other relevant stations is found in **Exhibit 15.1**. There are four (4) other facilities, existing or proposed, close enough to the transmitter site to require further study. FMCont™ maps of the relevant protected and interference contours have been supplied as **Exhibit 15.2**. It is believed there is sufficient clearance to preclude the need for further study with respect to the other protected stations shown in the allocation study. The transmitter site is not located within 320 km of the common border between the United States and Mexico/Canada. Tabulations for each contour employed will be supplied to the FCC upon request.

The transmitter site proposed in this application is within the affected radius of one (1) Channel 6 television station, WJBF-TV, Augusta, GA. The additional studies dictated by §73.525 under such conditions are included as **Exhibit 18.1** of this report. Full protection is provided to the Channel 6 facility under the current Rules.

The proposed service contours have been calculated in accordance with the Rules, and the data obtained has been tabulated and plotted in this report. The plotted contours are found as **Exhibit 13.4** of this report. This exhibit shows the overall service that is provided by the 1.0 mV/m contour of the facility. The tabulation of the distances to the respective contours shown in this discussion is based on the use of the standard eight cardinal bearings, which were also used for the computation of the HAAT. However, the plotted contours shown in **Exhibit 13.4** are based on the use of a full 360 terrain radials.

The antenna will be mounted on an existing structure. The structure stands 51.2 meters Above Ground Level and bears FCC Antenna Structure Registration 1228692. A vertical antenna plan depicting the placement of the antenna on the tower has been included in **Exhibit 13.2**.

The remainder of the information in this report and exhibit numbering is responsive to the Rules of the Commission, and provides the data for FCC Form 340.

## **DISCUSSION OF REPORT** (continued)

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The FM Broadcast facility proposed in this application will not produce human exposure to radiofrequency radiation in excess of the applicable safety standards specified in §1.1310 of the Commission's rules. **Exhibit 22.1** provides the details of the study that was made to demonstrate compliance. The facility is properly marked with signs, and entry is restricted by means of fencing with locked doors and/or gates. Any other means as may be required to protect employees and the general public will be employed.

***In the event work would be required in proximity to the antenna such that the person or persons working in the area would be potentially exposed to fields in excess of the guidelines set forth in OET Bulletin No. 65 (Edition 97-01), the transmitter power will be reduced or the station will cease operation during the critical period.***

**DISTANCES TO CONTOURS:** The table below shows the distances to the 1.0 mV/m contour from the proposed facility using an ERP of 50.0 kW at an HAAT of 52 meters. These distances have been calculated based on the FCC F(50-50) curves.

N. Lat. = 33 54 32    W. Lng. = 81 05 57						
HAAT and Distance to Contour - FCC Method - 30 Arc Sec.						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	72.3	59.7	50.0000	16.99	1.000	36.44
045	56.0	76.0	50.0000	16.99	1.000	40.10
090	34.5	97.5	20.8929	13.20	0.646	37.24
135	66.9	65.1	50.0000	16.99	1.000	37.69
180	131.6	0.4	30.1995	14.80	0.777	23.67
225	104.1	27.9	6.4952	8.13	0.360	16.10
270	92.7	39.3	6.9183	8.40	0.372	18.78
315	84.9	47.1	44.7458	16.51	0.946	31.68
Ave El= 80.37 M    HAAT= 51.63 M    AMSL= 132 M						