

**NEW FM TRANSLATOR APPLICATION**  
**FRIENDS OF ST. SIMONS RADIO**  
**CH 248D - 97.5 MHZ - 0.12 KW**  
**BRUNSWICK, GEORGIA**  
**March 2003**

**EXHIBIT B**

**Radio Frequency and Environmental 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 stations and utilizes the appropriate formulas contained in the Bulletin.

**Environmental Analysis**

The proposed FM translator tower does not involve the use of high intensity white lighting (strokes) in a residential neighborhood. The structure is not located in an officially designated wilderness area or wildlife preserve, nor does it threaten the existence or habitat of endangered species. The facility does not affect districts, sites, buildings, structures or objects significant in American history, architecture, archaeology, engineering or culture that are listed in the National Register of Historic Places, or are eligible for listing, nor does it affect Indian religious sites. Further, the site is not located in a floodplain and did not, to the knowledge of the applicant, require significant change in surface features (wetland fill, deforestation or water diversion) at the time of construction.

## **Radio Frequency Radiation Study**

This radio frequency radiation study is being conducted to determine whether this proposal is in compliance with OET Bulletin Number 65, dated August 1997, regarding human exposure to radio frequency radiation in the vicinity of broadcast towers. This study considers all nearby contributing stations, specifically WXMK, WSEG and WAYR-FM, and utilizes the appropriate formulas contained in the OET Bulletin.<sup>1</sup>

The proposed translator antenna system is mounted with its center of radiation 40.4 meters (132.5 feet) above the ground at the tower location and will operate with an effective radiated power of 0.250 kilowatt in the horizontal and vertical planes (circularly polarized). At two meters, the height of an average person, above the ground at the base of the proposed tower, the FM translator antenna system will contribute 0.0068 mw.<sup>2</sup> Based on exposure limitations for a controlled environment, 0.7% of the allowable limit is reached at two meters above the ground at the base of the proposed tower. For uncontrolled environments, 3.4% of the limit is reached at two meters above the ground at the base of the tower.

The WXMK antenna system is mounted with its center of radiation 124 meters (407 feet) above the ground at the tower location and operates with an effective radiated power of 15.0 kilowatts in the horizontal and vertical planes (circularly polarized). The WXMK antenna is an Electronics Research, Inc., rototiller type (FCC Type #3). At two meters, the height of an average person, above the ground at the base of the tower, the WXMK antenna system

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- 1) The contribution of the FM facility was calculated using the FM Model program. A single bay EPA dipole antenna was used for calculation purposes.
  - 2) This level of field occurs at 11.2 meters out from the base of the tower and is considered worst case.

contributes 0.0149 mw.<sup>3</sup> Based on exposure limitations for a controlled environment, 1.5% of the allowable limit is reached at two meters above the ground at the base of the tower. For uncontrolled environments, 7.5% of the limit is reached at two meters above the ground at the base of the tower.

The WSEG antenna system is mounted with its center of radiation 115 meters (377 feet) above the ground at the tower location and operates with an effective radiated power of 4.2 kilowatts in the horizontal and vertical planes (circularly polarized). The WSEG antenna is an Electronics Research, Inc., rototiller type (FCC Type #3). At two meters, the height of an average person, above the ground at the base of the tower, the WSEG antenna system contributes 0.0048 mw.<sup>4</sup> Based on exposure limitations for a controlled environment, 0.5% of the allowable limit is reached at two meters above the ground at the base of the tower. For uncontrolled environments, 2.4% of the limit is reached at two meters above the ground at the base of the tower.

The authorized WAYR-FM antenna system will be mounted with its center of radiation 98 meters (321.5 feet) above the ground at the tower location and will operate with an effective radiated power of 14.0 kilowatts in the horizontal and vertical planes (circularly polarized).<sup>5</sup> The proposed WAYR-FM antenna is a Shively Labs 6800 series (FCC Type #6). At two meters, the height of an average person, above the ground at the base of the tower, the WAYR-FM antenna

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- 3) This level of field occurs at 121.6 meters out from the base of the tower and is considered worst case.
  - 4) This level of field occurs at 112.0 meters out from the base of the tower and is considered worst case.
  - 5) The licensed WAYR-FM antenna is slightly lower on the tower than the authorized permit, but at substantially lower power. As such, the permit is considered worst case for calculation purposes.

system contributes 0.0216 mw.<sup>6</sup> Based on exposure limitations for a controlled environment, 2.2% of the allowable limit is reached at two meters above the ground at the base of the tower. For uncontrolled environments, 10.8% of the limit is reached at two meters above the ground at the base of the tower.

Combining the contributions of the proposed translator, WXMK, WSEG and WAYR-FM, a total of 24.1% of the uncontrolled limit is reached at two meters above the ground. Since this level for uncontrolled environments is well below the 100% limit defined by the Commission, the proposed translator facility is believed to be in compliance with the radio frequency radiation exposure limits as required by the Federal Communications Commission. Further, Friends of St. Simons Radio (“Friends”) will ensure warning signs are posted in the vicinity of the tower warning of potential radio frequency radiation hazards at the site. In addition, Friends 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. Based on the above factors, this proposal is categorically excluded from environmental processing pursuant to §1.1306 of the Commission's rules.

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6) This level of field occurs at 99.2 meters out from the base of the tower and is considered worst case.

**AFFIDAVIT AND QUALIFICATIONS OF CONSULTANT**

*State of Georgia )*  
*St. Simons Island ) ss:*  
*County of Glynn )*

**R. STUART GRAHAM**, being duly sworn, deposes and says that he is an officer of Graham Brock, Inc. Graham Brock has been engaged by Friends of St. Simons Radio, to prepare the attached Technical Exhibit.

His qualifications are a matter of record before the Federal Communications Commission. He is a graduate of Auburn University and has been active in Broadcast Engineering since 1972.

The attached report was either prepared by him or under his direction and all material and exhibits attached hereto are believed to be true and correct.

*This the 13th day of March, 2003.*

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R. Stuart Graham, Jr.  
*Affiant*

*Sworn to and subscribed before me  
this the 13th day of March, 2003.*

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*Notary Public, State of Georgia  
My Commission Expires: April 16, 2006*