

**NEW FM TRANSLATOR APPLICATION**  
**BANGOR BAPTIST CHURCH**  
**NEW FM TRANSLATOR STATION**  
**CH 263D - 100.5 MHZ - 0.013 KW (DA)**  
**VASSALBORO, MAINE**  
**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 WMEW, and utilizes the appropriate formulas contained in the OET Bulletin.<sup>3</sup>

The proposed translator antenna system is mounted with its center of radiation 31.6 meters (103.7feet) above the ground at the tower location and will operate with an effective radiated power of 0.013 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 0.00059 mw.<sup>4</sup> Based on exposure limitations for a controlled environment, 0.06% of the allowable limit is reached at two meters above the ground at the base of the proposed tower. For uncontrolled environments, 0.3% of the limit is reached at two meters above the ground at the base of the tower.

The WMEW antenna system is mounted with its center of radiation 27 meters (88.6 feet) above the ground at the tower location and operates with an effective radiated power of 3.0 kilowatts in the horizontal and vertical planes (circularly polarized). The WMEW antenna is a three bay, half wave spaced Shively Labs 6813 antenna system (FCC Type #6). At two meters, the height of an average person, above the ground at the base of the tower, the WMEW antenna

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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 8.0 meters out from the base of the tower and is considered worst case.

system contributes 0.0132 mw.<sup>5</sup> Based on exposure limitations for a controlled environment, 1.3% of the allowable limit is reached at two meters above the ground at the base of the tower. For uncontrolled environments, 6.6% of the limit is reached at two meters above the ground at the base of the tower.

Combining the contributions of the proposed translator and WMEW, a total of 6.9% 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, Bangor Baptist Church (“BBC”) will ensure warning signs are posted in the vicinity of the tower warning of potential radio frequency radiation hazards at the site. In addition, BBC 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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3) This level of field occurs at 73.6 meters out from the base of the tower and is considered worst case.