

NEW-LP
Hendersonville, North Carolina
Application for Minor Modification
On Channel 246 Class L1
by
Ebenezer Pentecostal Radio Service

Engineering Exhibit
Non-Ionizing Radiofrequency Radiation

June 2009

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Declaration

I declare, under penalty of perjury, that I am a technical consultant to broadcasting and other communications systems, that I have over twenty-five years of experience in the engineering of broadcast and other communications systems, that I am familiar with the Federal Communications Commission's Rules found in the Code of Federal Regulations Title 47, that I am a Professional Engineer registered in North Carolina, that I have prepared or supervised the preparation of the attached Engineering Exhibit for Ebenezer Pentecostal Radio Service, and that all of the facts therein, except for facts of which the Federal Communications Commission may take official notice, are true to the best of my knowledge and belief.



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Narrative

This exhibit addresses only the non-ionizing radiation aspects of the proposed site. All other environmental aspects have been addressed by the tower owner. This exhibit with calculations is presented because the tower has other non-broadcast users.

The facilities proposed herein for NEW-LP, when evaluated under the worst case methods in OET-65, will create less than 0.0092 mW/cm² at 2 meters above ground level which is less than 04.6% of the maximum permitted for general population/uncontrolled exposure. A Dielectric DCR-L1 antenna is proposed which reduces the power density at ground level. At depression angles greater than 70 degrees, the relative field is less than one third of the relative field in the horizontal plane of the antenna, resulting in a power density which is no more than 10% of that predicted above for areas within 15 meters of the base of the tower.

The exposure was also calculated using the computer program FM Model¹ which calculates the maximum field at 2 meters above ground to be 0.006 mW/cm² at 7 meters from the tower base, or 3% of the maximum public exposure. The worst case dipole antenna model was used. Because this predicted power density is less than 5% of that permitted for general population/uncontrolled exposure, the proposed exposure is de minimus.

The site is shared with several cellular telephone operators. All of the cellular antennas are significantly higher on the tower than the proposed new antenna.

The tower site is fenced with a locked gate, and the facility is marked with signs indicating the presence of non-ionizing RF radiation. The site use agreement with other users

¹ FM Model for Windows, version 2.10 Beta, March 22, 1995, Office of Engineering and Technology, Spectrum Engineering, Telecommunications Analysis Branch, Michael R. Davis

of the site includes provisions to prevent excess exposure to maintenance workers on the tower. The agreement includes requirements that the users remove power from antennas when personnel are on the tower in the vicinity of the antenna to avoid exposing workers to non-ionizing radiation.