

Pineville, Kentucky
Application for New Noncommercial FM Station
On Channel 211 Class C2
by
Eastern Kentucky University

Exhibit 22
Compliance with Electromagnetic Exposure Limits

October 2007

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Timothy L. Warner, Inc.
Post Office Box 8045
Asheville, North Carolina 28814-8045
(828) 258-1238
twarner@tlwinc.net

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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 Exhibit 22 Compliance with Electromagnetic Exposure Limits for Eastern Kentucky University, 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.



Timothy L. Warner, P.E.
Post Office Box 8045
Asheville, North Carolina 28801
(828) 258-1238
twarner@tlwinc.net
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Narrative

This Exhibit provides details of the Compliance with Electromagnetic Exposure Limits for the proposed new station to serve Pineville, Kentucky. The facility requires calculations which are beyond the scope of the worksheets for FCC Form 340. This proposal was studied under the procedures in FCC Bulletin OET-65¹ to determine compliance.

It is noted that this exhibit only addresses the potential for radiofrequency electromagnetic field exposure. The structure proposed for this station was constructed prior to March 16, 2001.

Pineville Calculations

The Pineville facilities, when evaluated under worst case methods in OET-65², would create 0.79 mW/cm² at 2 meters above ground level, which exceeds the limit for uncontrolled/public exposure, although it is 79% of the occupational/controlled limit. When the vertical elevation pattern of the antenna, a Scala CL-FMV four level full wave spaced antenna, is considered, the power density at ground level will be significantly reduced. Using the manufacturer's single element elevation pattern and the equations in OET-65, the maximum electromagnetic power density is 0.083 mW/cm² at a distance of 21 meters from the tower base, or 41.5% of the maximum uncontrolled/public exposure. A four level antenna will further reduce the power density at ground level.

¹ Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields, OET Bulletin 65, Edition 97-01, Robert F. Cleveland, Jr., David M. Sylvar, and Jerry L. Ulcek, and Supplement A, Additional Information for Radio and Television Broadcast Stations.

² *ibid.*