

**NEW**  
**BNPED-20071019AGW**  
**Pineville, Kentucky**  
**Application for New Noncommercial FM Station**  
**On Channel 211 Class C2**  
**by**  
**Eastern Kentucky University**

**Exhibit 22**  
**Compliance with Electromagnetic Exposure Limits**

**November 2009**

© 2009 Eastern Kentucky University

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

Table of Contents

Description	Page
Declaration.....	2
Narrative .....	3
Pineville Calculations .....	3

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](mailto:twarner@tlwinc.net)  
13 November 2009

### 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-65<sup>1</sup> to determine compliance.

It is noted that this exhibit only addresses the potential for radiofrequency electromagnetic field exposure.

### Pineville Calculations

The Pineville facilities, when evaluated under worst case methods in OET-65<sup>2</sup>, would create 0.64 mW/cm<sup>2</sup> at 2 meters above ground level, which exceeds the limit for uncontrolled/public exposure, although it is only 64% of the occupational/controlled limit. When the vertical elevation pattern of the antenna, an ERI LPX4H four level half wave spaced antenna, is considered, the power density at ground level will be significantly reduced. Using the manufacturer's elevation pattern and the equations in OET-65, the maximum electromagnetic power density is 0.016 mW/cm<sup>2</sup> at a distance of 93 meters from the tower base, or 8% of the maximum uncontrolled/public exposure.

The site will be fenced and marked with signs indicating the nature of the exposure.

---

<sup>1</sup> 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.

<sup>2</sup> *ibid.*