



**ENGINEERING STATEMENT**  
**IN SUPPORT OF AN APPLICATION FOR**  
**MINOR MODIFICATION OF CONSTRUCTION PERMIT**  
**WNMU-DT**  
**Marquette, MI**

**Background**

The Board of Control, Northern Michigan University (NMU) holds a license for WNMU-TV, CH 13 at Marquette, MI (BLET-328, Facility ID# 4318) and also has a construction permit for WNMU-DT, CH33 at Marquette, MI (BPEDT-20000501AGD, Facility ID# 4318). In addition, it has Special Temporary Authority to operate WNMU-DT with lesser facilities (BDSTA-20040430AGY, Facility ID# 4318) than authorized in the CP. The tower that was to be used for the facility authorized in the construction permit was not built due to severe financial constraints. NMU now wishes to modify that construction permit so that it can utilize an existing smaller nearby tower. The antenna radiation center will be lower when placed on the proposed existing tower and NMU also wishes to utilize a directional antenna with a higher gain so that it can minimize the loss of service due to the lower antenna height.

**Antenna and Tower**

The proposed ERI ALP-P directional radiator will be mounted on an existing registered tower (ASRN 1000705). The antenna will be side mounted so as not to increase the overall height of the tower; therefore, notification to the FAA is not required, nor is any modification of the Antenna Structure Registration. The antenna's azimuth and elevation patterns and tabulations are attached as Exhibits 1a-d and a "dBk/relative field table" is also attached as Table 1.



### **ERP**

The proposed ERP of 46.7 kW is 3.3 kW less than the 50 kW of the construction permit. This is due to transmission line losses and a 1.5 kW transmitter power output. Severe financial constraints prevent the purchase of a larger transmission line and/or a higher power transmitter. The 48 dBu F(50,90) contour of the proposed facility will completely encompass the principal city of Marquette, MI.

### **Interference and Canadian Coordination**

There would be no new interference to any other stations as the proposed facility's contour does not exceed that created by the parameters of the presently authorized construction permit in any direction. Coordination with the Canadian Administration should not be required for the same reason.

### **RFR/Environmental**

The proposed construction does not involve any elements which would trigger the requirement for preparation of an Environmental Assessment.

The ground level radiation is calculated to be  $0.00227 \text{ mW/cm}^2$ , which is much less than 5% of the MPE for public exposure at this frequency.

Workers on the tower in the proximity of the antenna could be exposed to fields which exceed the MPE for occupational exposure. To ensure a compliant environment, NMU will reduce power or cease operation as necessary when workers are in the vicinity of the antenna. Workers will be encouraged to wear personal RFR monitors while working on the tower. Signage is in place warning of the potential RFR hazard on the tower. The tower is enclosed by a locked security fence to limit access to authorized persons only.

**Certification**

I hereby certify that the foregoing report or statement was prepared by me but may include work performed by others under my supervision or direction. The statements of fact contained therein are believed to be true and correct based on personal knowledge, information and belief unless otherwise stated; with respect to facts not known of my own personal knowledge, I believe them to be true and correct based on their origin from sources known to me to be generally reliable and accurate. I have prepared this document with due care and in accordance with applicable standards of professional practice.

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John F.X. Browne

June 27, 2006