



**ENGINEERING STATEMENT**  
**IN SUPPORT OF**  
**APPLICATION FOR DIGITAL TELEVISION**  
**BROADCAST STATION LICENSE**  
**WKAR-DT**  
**EAST LANSING, MI**

**Background**

The Board of Trustees, Michigan State University (MSU) is the licensee of noncommercial WKAR-TV, CH23, East Lansing, MI (BLET-19790921KF, Facility ID # 6104), and also holds a construction permit for WKAR-DT, CH55, East Lansing, MI (BPEDT-20000411ABC). MSU has completed construction of the facility specified in the permit and, except as noted herein, the station is in compliance with all terms of the permit and the Commission's Rules and Regulations.

**Antenna System**

MSU replaced its authorized omni-directional antenna with a different omni-directional antenna as permitted under Section 73.1690 (c) (1). This broadband antenna serves both WKAR-TV and WKAR-DT. The radiation center height (564.21m AMSL) is 1.51 meters above the previously authorized height; this complies with Section 73.1690 (c) (1), which permits a change of up to 2 meters above the authorized height without prior approval. The transmitter power output has been adjusted in order to maintain authorized ERP in accordance with Section 73.1690 (c) (10).

**Tower**

The installation of the new antenna caused a change in the overall height of the antenna structure. The new height exceeds authorized height by 0.61 meters. The FAA was notified and MSU has received a Determination of No Hazard for the new height (2003-AGL-7329-OE). The ASR will be modified to show the new overall tower height simultaneously with the filing of this application.

**RFR/Environmental**

The changes do not involve any elements which would trigger the requirement for preparation of an Environmental Assessment.

The ground level radiation is calculated to be  $0.000197 \text{ mW/cm}^2$ , which is less than 1% 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, MSU will reduce power or cease operation on both WKAR-DT and collocated WKAR-TV as necessary when workers are in the vicinity of the common antenna. Workers on the tower will be encouraged to wear personal RFR monitors while working on the tower. Signage is posted 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.

**Other Matters**

While the construction of the facilities described in the construction permit has been completed, the EAS equipment required by Section 11.32 has not been installed (equipment is scheduled for delivery o/a February 10, 2004). It should be noted however that this digital station is collocated with WKAR-TV where proper equipment for the receipt and transmission of EAS signals is installed and operating properly.

Furthermore, since the equipment needed to encode and insert the station's call letters in the digital data stream has not yet been received; the station is not able to transmit a proper station ID as required by Section 73.1201; this issue will be resolved shortly after the equipment is delivered o/a February 10, 2004.

To the extent it may be required, MSU requests permission to operate for 30 days without the EAS and ID equipment installed. The Commission will be notified upon the installation and commissioning of the equipment.

**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.

A handwritten signature in black ink, appearing to read "John F.X. Browne", written over a horizontal line.

John F.X. Browne, P.E.

January 21, 2004