

# Radiotechniques

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402 Tenth Ave. • PO Box 367 • Haddon Heights, NJ 08035-0367

## Exhibit 10

WHLM, Bloomsburg, PA

### Broadcast Facility

- 1) Compliance with FCC Rules and Regulations Section 73.24(e): By personal inspection, there are no residences within the 1.0 V/m proposed night contour, and one residence within the proposed day 1.0 mV/m contour with a population of 4. The population of the proposed day 25 mV/m contour is 19,455 persons, meeting the requirements. A map showing the transmitter location and the 1.0 V/m contour for day and night is enclosed as Figure 1 of this exhibit.
- 2) Description of the site and antenna per 73.33: The site is presently a field with crops. The location is just south of Arbutus Park Road, an abandoned, paved road. The antenna will consist of skeletal steel, unlighted, base insulated, guyed towers. There is one tower day, and two towers night. Each tower will be toploaded using the top guy wires to effect the toploading. The ground system for each tower will consist of 120, number 10 copper wires extending 265 feet from the base of each tower, or to a strap bisecting the distance between the two towers. The ends of several radials may be shortened up to 10 feet where they intersect the property boundary. Additionally, at the base of each tower an additional 120 radials 50 feet in length, or a ground screen extending 24 feet from the base of the tower will be installed. The radials and ground screen if used will be buried. A plot plan showing the layout of the antenna system is attached as Figure 2 of this exhibit. A vertical plan sketch showing the towers is attached as Figure 3 of this exhibit.
- 3) The minimum efficiency for a class B station is specified as 282 mV/m at 1 km for 1 kW per FCC Rules and Regulations 73.45 and 73.189. The daytime efficiency is 305.1 mV/m at 1 km for 1 kW and for night is 301.6 mV/m at 1 km for 1 kW thereby meeting the requirements of these rules. The efficiency was determined using 1 Ohm ground loss and the methods of FCC Rules section 73.150. The ground system for both day and night operations are substantially complete.
- 4) The night directional antenna parameters are described and plotted on Figure 4. Table 1 is the unattenuated field intensity for this antenna from the horizon to 60 degrees above the horizon as required in FCC Rules Section 73.150. The methods of calculating these field intensity values are those described in Section 73.150. There are no augmentations proposed to this pattern.
- 5) The toploading shall be accomplished using the upper section of the tower guy wires. The top 13.6 meters of guy wire will be connected to the top of the tower, and insulated at its lower end from the remainder of the guy wire. The current

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distribution on the tower will be measured as part of the proof of performance to verify that this corresponds with twenty degrees of loading. This length was determined by moment of methods modeling of the tower with topload guy wires in place.

- 6) Attached Figure 5 is a map showing the proposed day 5.0 and 0.5 mV/m service contours, and presently authorized 0.5 mV/m day service contour of WHLM. The 5.0 mV/m principal community contour encompasses Bloomsburg, PA. Figure 6 is a map showing the proposed 25.1 mV/m Night Interference Free and 5.0 mV/m City grade contour encompassing Bloomsburg, PA. The Critical Hours operation is the same as the Day operation.
- 7) This application proposes to fully protect all Canadian, Mexican, and Bahamian stations and stations continued to be protected under NARBA, as well as complying with the Region 2 agreements.
- 8) Table 2 is a tabulation of the nighttime interference contributors, showing a night interference free contour of 25.1 mV/m.
- 9) This is to certify that this report has been prepared by myself, or under my direction. It is correct and accurate of my own knowledge, except where stated otherwise, and where this is so, the information is correct to the best of my knowledge and belief.
- 10) I further certify that I am a Licensed Professional Engineer in the State of New Jersey and the Commonwealth of Pennsylvania, with a BSEE degree from the Newark College of Engineering of NJIT, and that I am regularly engaged in the practice of radio engineering with the firm of Radiotechniques Engineering Corporation, with offices at 402 Tenth Avenue, Haddon Heights, NJ. I am a member of the AFCCE, senior member of the IEEE, and SBE, and hold an FCC General Radiotelephone Operator License. My qualifications are a matter of record with the FCC.



Date: October 18, 2001

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