

# **ENGINEERING REPORT**

**MINOR CHANGE MODIFICATION  
For Construction Permit  
BPH-20020820AAE**

**WEZJ-FM – Williamsburg, KY  
Channel 282C3 - 104.3 MHz**

**May 2003**

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Broadcast Engineering Consultants  
Coldwater, MI 49036

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Exhibit 29.1 - RF Radiation Study

(Exhibit Numbering is in response to FCC Online Form 301, Section III-B)

**MUNN-REESE, INC.**

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Coldwater, MI 49036

## **DISCUSSION OF REPORT**

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This firm was retained to prepare the required engineering report in support of a minor change modification to Construction Permit No. BPH-20020820AAE, WEZJ-FM, Williamsburg, KY. Presently WEZJ-FM operates under License No. BLH-19900925KB with 1.4 kW (H)&(V) ERP at 200 meters HAAT on Channel 282A. The granted Construction Permit authorizes 6.2 kW (H)&(V) ERP at 200 meters HAAT as a Class C3 operation. A directional antenna will be employed. This instant application is being filed at the request of FCC personnel. The FCC is requesting this modification for protection of a RADD 282A Surgoinville, TN Rulemaking which was omitted from the database during the original application preparation and grant. The FCC acknowledges this error of omission originated internally at the Commission, and therefore is requesting a voluntary WEZJ-FM construction permit modification to remedy the situation. The actual WEZJ-FM operation will fully protect all facilities within the allocation. WEZJ-FM will continue to serve Williamsburg, KY.

The WEZJ-FM site will remain unchanged and will continue to meet all the spacing requirements of 47 C.F.R. §73.207 toward other stations in the allocation with the exception of two stations. A tabulation of the existing and required spacing toward each of the other relevant stations is found in **Exhibit 24.1**. Contour protections as required by §73.215 have been included in **Exhibit(s) 28.1 to 28.3**, towards WEYE, 282A, Surgoinville, TN and WBON, 283A Knoxville, TN. In addition, the associated Rulemaking to move the Surgionsville, TN station (RADD 282A) has also been protected at the supplied reference point. Relevant contours for all facilities have been protected both at present and maximum allowable facilities.

The proposed service contours have been calculated in accordance with the Rules, and the data obtained has been tabulated and plotted in this report. The plotted contours are found as **Exhibit 22.1** of this report. This exhibit shows the 3.16 mV/m contour that serves the community of license, and the overall service provided by the 1.0 mV/m contour of the facility. The tabulation of the distances to the respective contours shown in this discussion is based on the use of the standard eight cardinal bearings, which were also used for the computation of the HAAT. However, the plotted contours shown in **Exhibit 22.1** and the contour used as the basis of the population figures shown in **Exhibit 22.2**, are based on the use of a full 360 terrain radials.

A new directional four-bay ERI antenna will be employed, however the antenna COR will remain unchanged. A directional pattern study has been included in **Exhibit 24.2**. Overall tower height will also remain unchanged, therefore the FAA need not be notified.

## DISCUSSION OF REPORT (continued)

The remainder of the information in this report and exhibit numbering is responsive to the Rules of the Commission, and provides the data for FCC Online Form 301, Section III-B.

The FM Broadcast facility proposed in this application will not result in human exposure to radiofrequency radiation in excess of the applicable safety standards specified in §1.1310 of the Commission's rules. **Exhibit 29.1** provides the details of the study made to demonstrate compliance. The facility will be properly marked with signs, and entry will be restricted by means of fencing with locked doors and/or gates. Any other means as may be required to protect employees and the general public will be employed.

In the event work would be required in proximity to the antenna such that the person or persons working in the area would be potentially exposed to fields in excess of the guidelines set forth in OET Bulletin No. 65 (Edition 97-01), the transmitter power will be reduced or the station will cease operation during the critical period.

**DISTANCES TO CONTOURS:** The table below shows the distances to the 3.16 mV/m and 1.0 mV/m contours from the proposed facility using an ERP of 6.2 kW at a HAAT of 200 meters. These distances have been calculated based on the FCC F(50-50) curves.

Munn-Reese, Inc. - Coldwater, MI 49036							
N. Lat. = 36 44 43 W. Lng. = 84 11 24							
HAAT and Distance to Contour - FCC Method - 30 Arc Sec.							
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5	70-F5
000	336.5	219.5	6.2000	7.92	1.000	40.55	24.08
045	328.7	227.3	6.2000	7.92	1.000	41.10	24.48
090	322.2	233.8	1.2555	0.99	0.450	29.19	16.75
135	359.7	196.3	4.8286	6.84	0.883	36.77	21.57
180	432.3	123.7	6.2000	7.92	1.000	31.37	18.34
225	417.3	138.7	6.2000	7.92	1.000	33.06	19.41
270	326.2	229.8	6.2000	7.92	1.000	41.27	24.61
315	323.6	232.4	6.2000	7.92	1.000	41.45	24.75
Ave El= 355.82 M HAAT= 200.18 M AMSL= 556							