

# **ENGINEERING REPORT**

## **MINOR CONSTRUCTION PERMIT APPLICATION**

for

**WOXL-FM – Biltmore Forest, NC**

License No. BLH-20101130AJQ  
(Facility ID No. 37242)

December, 2013

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**MUNN-REESE, INC.**

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- Exhibit 35.1 - RF Radiation Study

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

# Discussion of Report

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This firm was retained to prepare the required engineering report in support of this Minor Construction Permit Application for WOXL-FM – Biltmore Forest, NC, License No. BLH-20101130AJQ (Facility ID: 37242). WOXL-FM is currently licensed to operate with 2.10 kW ERP (H)&(V) at 1064 meters AMSL on CH243C3. WOXL-FM presently employs a directional antenna. This minor construction permit application requests a Class C3 to Class C2 upgrade from the same site location and antenna height. A new directional antenna will be employed at an operational power of 9.5 kW ERP (H)&(V). WOXL-FM will continue to serve the community of Biltmore Forest, NC.

The WOXL-FM antenna will be mounted on the tower bearing Antenna Structure Registration Number 1033392. A copy of the existing ASR No. 1033392 has been included in **Exhibit 27.1**. As this proposal will not increase the overall tower height, it is believed the FAA need not be notified. A copy of the vertical antenna plan has been included as **Exhibit 27.2**.

The existing WOXL-FM site will continue to meet all Class C2 spacing requirements of 47 C.F.R. §73.207 toward other stations in the allocation with the exception of seven (7) facilities. A tabulation of the existing and required spacing toward each of the relevant stations within the allocation is found in **Exhibit 30.1**. Short-Spacing processing under §73.215 is requested toward four (4) facilities. Full protection has been afforded WJBZ-FM – Seymour, TN (CH242A) and WXBQ-FM – Bristol, VA (CH245C) at their maximum class facilities respectively. Full protection has been afforded WXCC(FM) – Williamson, WV (CH243C1) and WRBN(FM).C – Clayton, GA (CH242A) at their present class facilities as both stations are presently licensed as §73.215 short-spaced facilities themselves. §73.215 Contour Protection Maps and Tabulations toward these four (4) stations has been included in **Exhibit(s) 34.1 to 34.4**. Concerning WNCC-FM - Franklin, NC (CH244A); WROO(FM) - Mauldin, SC (CH244A); and WGOG(FM) - Walhalla, SC(CH242A), these three (3) facilities hold Assignment Change (Non-Adjacent Channel) Construction Permit grants for operation outside of the affected WOXL-FM allocation. As a result, these three (3) licensed operations may be viewed as "Implied STA" facilities not requiring protection. The applicant acknowledges that commencement of the proposed operation here-in may not take place until these three facilities commence operation first. These three facility Construction Permits are as follow and are also a matter of public record before the Commission:

WNCC-FM - Franklin,NC(CH244A) will move to Franklin,NC(CH281A) via BPH-20091125AEJ  
WROO(FM)- Mauldin, SC(CH244A) will move to Mauldin, SC(CH285A) via BPH-20120807ACG  
WGOG(FM)- Walhalla,SC(CH242A) will move to Walhalla,SC(CH296A) via BPH-20120718ABS

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 27.4** of this report. This exhibit shows the 3.16 mV/m contour which serves the community of license, and the overall service provided by the 1.0 mV/m contour of the facility. The plotted contours shown in **Exhibit 27.4**, are based on the use of a full 360 terrain radials. The 1 km Globe terrain database has been used in calculation of the proposed HAAT value as noted on the FCC website. A copy of the HAAT calculations has been included as **Exhibit 27.5**.

## **Discussion of Report** (continued)

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The Special Allotment Reference Point for this one step upgrade application has been identified as the existing ASR tower Number 1218652 bearing NAD 27 coordinates of 35°28'16"N; 82°26'15"W. These coordinates represent a viable site location which meets both the current allocation restrictions and completely encompasses the Biltmore Forest, NC city limits with the 32.6 km Class C2 city grade reference arc. The Special Allotment Reference Point city coverage arc has also been included in **Exhibit 27.4**. A fully spaced Special Allotment Reference Point study has been included in **Exhibit 27.6**. The previously noted provisions concerning the WNCC-FM, WROO(FM) and WGOG(FM) Assignment Change (Non-Adjacent Channel) Construction Permit and subsequent "Implied STA" license facilities not requiring protection applies to this Special Allotment Reference Point study as well. It is believed no further Special Allotment Reference Point showings are required, however additional allocation and site information for the special reference point will be supplied upon request.

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.

**RADIATION PROTECTION:** The Commission requires an engineering study regarding compliance with the guidelines for human protection from radiofrequency radiation. This report section is in response to that provision of the Rules. The current Federal Communications Commission guidelines for RF radiation protection are set forth in OET Bulletin No. 65 (Edition 97-01), and the accompanying Supplement A, (Edition 97-01).

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 35.1** provides the details of the study that was 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.