

# **ENGINEERING REPORT**

## **FM Translator Minor Construction Permit Application**

for

**W243CG – Lenoir City, TN**

Lic No. BLFT-20070823ACN

February, 2011

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**MUNN-REESE, INC.**  
Broadcast Engineering Consultants  
Coldwater, MI 49036

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(Exhibit numbering is in response to FCC Online Form 349, Section III-A)

## **Discussion**

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This firm has been retained to prepare the required engineering report in support of a minor construction permit application for FM translator W243CG, Lenoir City, TN, License No. BLFT-20070823ACN. W243CG presently operates on 96.5 MHz with 0.027 kW of circularly polarized non-directional power with an antenna COR of 319 meters AMSL. A minor I.F. frequency and site change is requested from a higher COR AMSL height. Operation on CH296D with 27 watts ERP at a COR of 346 meters AMSL is requested. The facility will continue to operate with a non-directional antenna employing circular polarization. The translator will continue to rebroadcast primary station WLNT-LP - Loudon, TN CH241L1, Facility ID No. 133392.

The proposed facility will be mounted on an existing tower which does not require Antenna Structure Registration. A USGS Topographic map of the proposed site has been included in **Exhibit 13.1**. A copy of the vertical antenna system has been included in **Exhibit 13.2**. As this proposal will not increase the overall tower height, it is believed the FAA need not be notified.

It has been determined the translator may be used in the area without interference to any existing FM broadcast station or facility with the exception of WIVK-FM; CH299C; Knoxville, TN. General allocation details are found in **Exhibit 13.5**. A §74.1204(d) third adjacent channel given interference waiver is requested toward WIVK-FM as included in the **Exhibit 13.1** USGS topographic map showing and waiver request. Full protection will be afforded the authorized facility as the proposed interference area is void of population, housing, buildings or major roads as noted in the attached exhibit. It is believed sufficient clearance exists precluding the need for additional contour protection showings.

The applicant would like to note the use of the 1 km GLOBE Terrain Database with respect to the HAAT calculation. A copy of the HAAT calculation as take directly off of the FCC's website has been included in **Exhibit 13.5**. Pursuant to §74.1235(b)(1), the maximum permissible power for this non-fill-in (regular) translator will be 27 watts based off a maximum value of 94.3 meters HAAT for radial 240°T.

The translator site and proposed 60 dBu contour lie outside of the WLNT-LP primary 60 dBu contour, therefore this translator will remain licensed a non-fill-in secondary translator. A map of the proposed service area in relation to the primary service contour has been included in **Exhibit 13.4**.

Regarding protection of international concerns, the facility is and will remain more than 320 km of the common border between the United States and Canada or Mexico. As a result, no further international showings are required.

## **Discussion** (continued)

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The proposed operating parameters have been changed from the licensed values, however the proposed service contour serves a portion of the present service area as seen in **Exhibit 13.3**.

**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 produce human exposure to radiofrequency radiation in excess of the applicable safety standards specified in §1.1310 of the Commission's rules. **Exhibit 17.1** provides the details of the study that was made to demonstrate compliance. The facility is properly marked with signs, and entry is 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.***