

# **ENGINEERING REPORT**

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

for

**W279BN – Le Roy, IL**

Lic No. BLFT-20081106ATZ

July, 2009

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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 W279BN, Le Roy, IL, License No. BLFT-20081106ATZ. W279BN presently operates on 103.7 MHz with 50 watts of non-directional power with an antenna COR of 276 meters AMSL. A new site location and lower AMSL height are requested. Operation on CH279D with 100 watts ERP at 244 meters AMSL is requested. The translator will continue to rebroadcast FM station WCIC(FM), Pekin, IL, CH218B, facility ID No. 28301 and remain licensed to Le Roy, IL.

TOWAIR has been consulted and the proposed tower does not require Antenna Structure Registration. A copy of the USGS topographic mapping depicting the site has been included in **Exhibit 12.1**. A copy of the vertical antenna system has been included in **Exhibit 12.2**. 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 WBWN.L – CH281B1 – Le Roy, IL and WBWN.C – CH281B – Le Roy, IL. General allocation details are found in **Exhibit 12.5**. A Second Adjacent Channel Given Interference (§74.1204(d)) Waiver Request is required toward WBWN.L and WBWN.C. Full protection will be afforded both facilities as the calculated interference area has been demonstrated to be void of population, housing, and major roads. A map of the §74.1204(d) waiver request calculated interference area has been included in **Exhibit 12.1**. It is believed sufficient clearance exists precluding the need for additional contour protection showings.

The applicant would like to note the max HAAT value as well as all allocation and contour showings have been determined using the 30 sec NGDC terrain database.

The proposed 60 dBu contour of the translator lies outside of the WCIC(FM) primary service contour. A map of the proposed service area in relation to the primary station service contour has been included in **Exhibit 12.4**.

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

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 12.3**.

**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).

## Discussion (continued)

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 16.1** 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.***

**DISTANCES TO CONTOURS:** The following tabulation of the distances to the proposed service contours results from calculations performed in accordance with §73.313(d) and §73.333 Figure 1.

| N. Lat. = 402118.0    W. Lng. = 884342.0<br>HAAT and Distance to Contour,<br>FCC, FM 2-10 Mi, 51 pts Method - NGDC 30 SEC |       |       |        |        |       |       |
|---|-------|-------|--------|--------|-------|-------|
| Azi.  | AV EL | HAAT  | ERP kW | dBk    | Field | 60-F5 |
| 000   | 256.2 | -12.2 | 0.1000 | -10.00 | 1.000 | 5.64  |
| 030   | 257.4 | -13.4 | 0.1000 | -10.00 | 1.000 | 5.64  |
| 060   | 250.3 | -6.3  | 0.1000 | -10.00 | 1.000 | 5.64  |
| 090   | 231.1 | 12.9  | 0.1000 | -10.00 | 1.000 | 5.64  |
| 120   | 225.0 | 19.0  | 0.1000 | -10.00 | 1.000 | 5.64  |
| 150   | 222.8 | 21.2  | 0.1000 | -10.00 | 1.000 | 5.64  |
| 180   | 225.8 | 18.2  | 0.1000 | -10.00 | 1.000 | 5.64  |
| 210   | 223.6 | 20.4  | 0.1000 | -10.00 | 1.000 | 5.64  |
| 240   | 235.6 | 8.4   | 0.1000 | -10.00 | 1.000 | 5.64  |
| 270   | 236.9 | 7.1   | 0.1000 | -10.00 | 1.000 | 5.64  |
| 300   | 243.9 | 0.1   | 0.1000 | -10.00 | 1.000 | 5.64  |
| 330   | 254.4 | -10.4 | 0.1000 | -10.00 | 1.000 | 5.64  |
| Ave El= 238.59 M    HAAT= 5.41 M    AMSL= 244   |       |       |        |        |       |       |