

ENGINEERING REPORT

FM Translator Minor Construction Permit Application

for

W237CZ – Hudsonville, MI

Lic No. BLFT-20100301ACL

June, 2010

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

Discussion

This firm has been retained to prepare the required engineering report in support of a minor construction permit application for FM translator W237CZ, Hudsonville, MI, License No. BLFT-20100301ACL. W237CZ presently operates on 95.3 MHz with 0.250 kW of circularly polarized non-directional power with an antenna COR of 257 meters AMSL. A COR height increase to 271 meters AMSL with the same circularly polarized non-directional operation is requested with same power of 0.250 kW ERP. Operation will continue on the present channel of CH237D, 95.3 MHz. The translator will continue to rebroadcast AM station WPRR(AM) - Ada, MI, 1680 kHz, Facility ID No. 87106 as a AM Fill-In Translator.

The proposed facility will remain mounted on the existing tower bearing Antenna Structure Registration number 1208577. A copy of ASR 1208577 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 WLHT-FM – CH239B, Grand Rapids, MI. General allocation details are found in **Exhibit 13.5**. A §74.1204(d) Second Adjacent Channel Given Interference Waiver is requested toward WLHT-FM as included in **Exhibit 13.6**. The exhibit shows the calculated interference area will not reach the ground nor an artificial 7 meter AGL plane representing a standard second story house when taking into account the manufacturer supplied downward radiation characteristics for the existing ERI 100-1 one bay antenna. It is believed sufficient clearance exists precluding the need for additional contour protection showings.

The translator site and proposed 60 dBu contour lie inside of the WPRR(AM) 2 mV/m daytime contour and within a 25 mile radius from the AM site. A map of the proposed service area in relation to the primary AM station and 2 mV/m AM service contour has been included in **Exhibit 13.4**.

Regarding protection of international concerns, the facility is and will remain within 320 km of the common border between the United States and Canada. Full protection will be afforded all Canadian concerns as noted in the **Exhibit 13.5** allocation showing. In addition, the applicant certifies the proposed 34 dBu F(50:10) interference contour does not enter Canadian territory. Documentation of the 34 dBu F(50:10) interference contour will be supplied upon request.

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**.

The applicant would like to note the use of the NED 03 second terrain database for all HAAT, allocation and contour showings used for this Form 349 Fill-In Translator filing.

Discussion (continued)

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 §1.1307(b)(3) of the Commission's rules concerning RF contributors of less than 5%. ***Exhibit 17.1*** provides the details of the study that was made to demonstrate compliance. The facility is or will be properly marked with signs, and entry is restricted by means of fencing with locked doors and/or gates if required. 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 utilizing the NED 03 terrain database.

| N. Lat. = 425519.0 W. Lng. = 854107.0 HAAT and Distance to Contour, FCC, FM 2-10 Mi, 51 pts Method - NED 03 SEC | | | | | | |
|---|-------|------|--------|-------|-------|-------|
| Azi. | AV EL | HAAT | ERP kW | dBk | Field | 60-F5 |
| 000 | 204.3 | 66.7 | 0.2500 | -6.02 | 1.000 | 10.66 |
| 030 | 228.3 | 42.7 | 0.2500 | -6.02 | 1.000 | 8.47 |
| 060 | 227.0 | 44.0 | 0.2500 | -6.02 | 1.000 | 8.62 |
| 090 | 226.7 | 44.3 | 0.2500 | -6.02 | 1.000 | 8.65 |
| 120 | 227.8 | 43.2 | 0.2500 | -6.02 | 1.000 | 8.53 |
| 150 | 226.8 | 44.2 | 0.2500 | -6.02 | 1.000 | 8.65 |
| 180 | 213.7 | 57.3 | 0.2500 | -6.02 | 1.000 | 9.96 |
| 210 | 216.1 | 54.9 | 0.2500 | -6.02 | 1.000 | 9.75 |
| 240 | 203.2 | 67.8 | 0.2500 | -6.02 | 1.000 | 10.74 |
| 270 | 191.9 | 79.1 | 0.2500 | -6.02 | 1.000 | 11.51 |
| 300 | 207.5 | 63.5 | 0.2500 | -6.02 | 1.000 | 10.43 |
| 330 | 223.3 | 47.7 | 0.2500 | -6.02 | 1.000 | 9.02 |
| Ave El= 216.38 M HAAT= 54.62 M AMSL= 271 M | | | | | | |