

ENGINEERING REPORT

FM Translator Minor Change Modification

for

**W222BB – Battle Creek, MI
Site Change Application**

Lic No. BLFT-20070126AFA

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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 change modification for FM Translator W222BB, Battle Creek, MI, License No. BLFT-20070126AFA. W222BB is presently licensed to operate on 92.3 MHz with 120 watts of non-directional power with an antenna COR of 313 meters AMSL. A change in site locations with operating parameters of 80 watts ERP at a COR of 311 meters AMSL is requested. Circular polarization will be employed. The translator will rebroadcast parent station WSAE(FM), Spring Arbor, MI.

The proposed site is the existing tower bearing Antenna Structure Registration No. 1059603. A copy of ASR 1059603 has been included in **Exhibit 12.1**. This proposal will not increase the overall tower height, therefore the FAA need not be notified. 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 translator operation. Allocation details are found in **Exhibit 12.5**. Contour protection studies toward select stations have been included in **Exhibit 12.6**. It is believed sufficient clearance exists precluding the need for additional contour protection showings. The translator site lies outside of the of the primary contour of WSAE(FM), and the 1 mV/m (60 dBu) contour of the proposed translator extends beyond the WSAE(FM) station 1 mV/m 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 Canadian concerns, the present facility is and will remain within 320 km of the common border between the United States and Canada. No Canadian allotment nor Canadian facility has been noted in the proposed allocation. In addition, the proposed 34 dBu f(50:10) contour falls well short of the 60 km limit as required under §74.1235(d)(3).

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**.

The translator will employ a one bay circularly polarized Shively 6812-B antenna. As stated before, the antenna will be mounted on an existing tower.

The proposed facility meets the requirements of the Rules for operation without a licensed operator in attendance. The transmitter site may be reached promptly at all hours and in all seasons. The transmitter will be equipped with proper control and interface circuits which will place the translator in a non-radiating condition in the event the proper incoming signal is absent. The transmitter and controls will be placed in a locked area to prevent unauthorized tampering with the equipment. A person or persons will be assigned to observe the signals of the station each day, and to take corrective action if required. The equipment proposed for operation is listed in the type-approved list of the Commission.

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 facility proposed in this application is in compliance with the provisions of the FCC Rules and Guidelines concerning human exposure to radiofrequency radiation to observers located on the ground. Since the facility will operate with an ERP of less than 100 watts, §1.1307(b)(1) categorically exempts the facility from the requirement for special showings.

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. = 421844 W. Lng. = 851202						
HAAT and Distance to Contour - FCC Method - NGDC 30 SEC						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	272.9	38.1	0.0800	-10.97	1.000	5.96
030	269.4	41.6	0.0800	-10.97	1.000	6.23
060	270.2	40.8	0.0800	-10.97	1.000	6.17
090	273.2	37.8	0.0800	-10.97	1.000	5.93
120	276.8	34.2	0.0800	-10.97	1.000	5.66
150	278.0	33.0	0.0800	-10.97	1.000	5.56
180	284.4	26.6	0.0800	-10.97	1.000	5.33
210	289.3	21.7	0.0800	-10.97	1.000	5.33
240	290.3	20.7	0.0800	-10.97	1.000	5.33
270	261.0	50.0	0.0800	-10.97	1.000	6.85
300	259.2	51.8	0.0800	-10.97	1.000	6.97
330	266.7	44.3	0.0800	-10.97	1.000	6.43
Ave El= 274.28 M HAAT= 36.72 M AMSL= 311 M						