

# **ENGINEERING REPORT**

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

for

**W238CD.C – Coldwater, MI  
BPFT-20110721AAX**

Facility ID No. 156715

November, 2011

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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 this engineering report in support of this emergency minor construction permit modification application for FM translator W238CD construction permit BPFT-20110721AAX. Presently W238CD – Camden, MI (Facility ID No. 156715) is licensed under BLFT-20110527BJK to operate on 95.5 MHz with 0.250 kW of non-directional horizontal only power with an antenna COR of 312 meters AMSL. Granted construction permit BPFT-20110721AAX authorizes an increase in COR height to 362 meters AMSL with a new circularly non-directional antenna from a new site location. Operation on the existing channel of CH238D, 95.5 MHz with 250 watts ERP is authorized in addition to a change in cities of license from Camden, MI to Coldwater, MI. The translator is authorized to rebroadcast primary station WTVB(AM) – Coldwater, MI, 1590 kHz, Facility ID No. 67757 as a Fill-In Translator.

This application seeks a minor change of BPFT-20110721AAX for authority to modify the antenna location from one tower (ASR #1240876) to an adjacent tower (ASR #1240875). While the antenna COR remains unchanged and the site change constitutes less than a three second change in coordinates, FCC staff were consulted and advised that a Form 349 Construction Permit Modification Application was still required due to the nature of the modifications. Therefore, modified Construction Permit parameters of 362 meters AMSL with the new circularly non-directional antenna from the corrected ASR #1240875 site location are requested. Operation on the existing channel of CH238D, 95.5 MHz with 250 watts ERP will remain unchanged as will the authorized new city of license of Coldwater, MI. The translator will continue to rebroadcast primary station WTVB(AM) - Coldwater, MI, 1590 kHz, Facility ID No. 67757 as a fill-in translator. W238CD presently remains silent under existing silent authority BLSTA-20110725ABY.

The proposed facility will be relocated to an existing tower location bearing Antenna Structure Registration Number 1240875. A copy of the USGS Topographic Map and USGS Photo of the existing structure has been included in **Exhibit(s) 13.1** and **13.2**. A copy of the existing ASR has been included in **Exhibit 13.3**. The vertical antenna system has been plotted in **Exhibit 13.4**. 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. General allocation details are found in **Exhibit 13.7**. It is believed sufficient clearance exists precluding the need for additional contour protection showings.

The applicant would like to note the use of the NGDC 30 second terrain database for all allocation, contour and HAAT calculations contained here-in.

The translator site and proposed 60 dBu contour lie inside of the WTVB(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 13.6**.

Regarding protection of international concerns, the facility is and will remain within 320 km of the common border between the United States and Canada. As noted in **Exhibit 13.7**, all Canadian concerns have been fully protected. In addition, the application certifies that the proposed 34 dBu F(50:10) contour will not enter Canadian soil. A copy of the 34 dBu F(50:10) contour will be supplied upon request.

## Discussion (continued)

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 13.5**.

**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 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 utilizing the NGDC 30 second terrain database.

N. Lat. = 415434.0    W. Lng. = 850021.0						
HAAT and Distance to Contour,						
FCC, FM 2-10 Mi, 51 pts Method - NGDC 30 SEC						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	290.1	71.9	0.2500	-6.02	1.000	11.02
030	297.1	64.9	0.2500	-6.02	1.000	10.53
060	307.5	54.5	0.2500	-6.02	1.000	9.71
090	308.8	53.2	0.2500	-6.02	1.000	9.59
120	307.7	54.3	0.2500	-6.02	1.000	9.69
150	307.1	54.9	0.2500	-6.02	1.000	9.75
180	293.0	69.0	0.2500	-6.02	1.000	10.82
210	288.7	73.3	0.2500	-6.02	1.000	11.12
240	284.0	78.0	0.2500	-6.02	1.000	11.44
270	278.3	83.7	0.2500	-6.02	1.000	11.82
300	281.3	80.7	0.2500	-6.02	1.000	11.62
330	285.7	76.3	0.2500	-6.02	1.000	11.32
Ave El= 294.12 M    HAAT= 67.88 M    AMSL= 362.0						