

# **ENGINEERING REPORT**

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

**W273CC.L - Alpena, MI**

License No. BLFT-20120201ANQ

Permit No. BPFT-20120202ACP

Facility ID No. 150680

April, 2015

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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 Modification Application for FM Translator W273CC.L - Alpena, MI (Facility ID: 150680). W273CC.L - Alpena, MI is presently licensed under BLFT-20120201ANQ to operate on CH273D (102.5 MHz) with 0.250 kW of non-directional power at an antenna COR of 243 meters AMSL. The Translator also holds W273CC.C - Alpena, MI Construction Permit BPFT-20120202ACP to change sites and frequency to CH274D (102.7 MHz) with 0.250 kW of non-directional power at an antenna COR of 284 meters AMSL. This further Minor Construction Permit Modification Application requests alternate parameters. Operation on CH274D (102.7 MHz) is requested with a non-directional power of 0.250 kW ERP (Circular Polarization). A new site location is requested at a new antenna COR height of 311 meters AMSL. The Translator will rebroadcast new primary station WHSB(FM) - Alpena, MI (Facility ID: 15509), CH299C1, as a Commercial Fill-In FM Translator.

The facility will be located on an existing tower which presently holds Antenna Structure Registration Number 1007362. A copy of existing ASR No. 1007362 has been included in **Exhibit 13.1**. The vertical antenna system has been plotted 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. General allocation details are found in **Exhibit 13.5**. With regards to the allocation concerns, it is believed sufficient clearance exists precluding the need for additional contour protection showings.

The applicant would like to note the use of the USGS 03 second terrain database for all allocation, contour and HAAT calculations contained here-in.

The proposed 60 dB $\mu$  contour of the Translator lies wholly inside of the WHSB(FM) Class C1 primary 60 dB $\mu$  contour. A map of the proposed service contour in relation to the primary station service contour has been included in **Exhibit 13.4**.

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**.

Regarding protection of international concerns, the facility is and will remain within 320 km of the common border between the United States and Canada. The applicant certifies the proposed Translator 34 dB $\mu$  F(50:10) interference contour does not enter Canadian territory. Documentation of the proposed 34 dB $\mu$  F(50:10) interference contour will be supplied upon request.

## 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 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 USGS 03 second terrain database.

N. Lat. = 450346    W. Lng. = 834256						
HAAT and Distance to Contour,						
FCC, FM 2-10 Mi, 51 pts Method - USGS 03 SEC						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	231.1	79.9	0.2500	-6.02	1.000	11.57
030	220.7	90.3	0.2500	-6.02	1.000	12.25
060	216.3	94.7	0.2500	-6.02	1.000	12.53
090	217.2	93.8	0.2500	-6.02	1.000	12.47
120	222.8	88.2	0.2500	-6.02	1.000	12.11
150	235.8	75.2	0.2500	-6.02	1.000	11.25
180	229.9	81.1	0.2500	-6.02	1.000	11.64
210	243.7	67.3	0.2500	-6.02	1.000	10.70
240	240.9	70.1	0.2500	-6.02	1.000	10.90
270	236.9	74.1	0.2500	-6.02	1.000	11.18
300	234.2	76.8	0.2500	-6.02	1.000	11.36
330	237.7	73.3	0.2500	-6.02	1.000	11.12
Ave El= 230.60 M    HAAT= 80.40 M    AMSL= 311 M						