

# **ENGINEERING REPORT**

FM Translator Minor  
Construction Permit  
Modification Application

for

**W246AM – Amherst, MA  
Site Relocation**

CP File No. BPFT-20071206ACA

May, 2008

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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 required engineering report in support of a minor construction permit modification application for FM translator CP BPFT-20071206ACA. Presently, W246AM, Amherst, MA, File No. BLFT-19991112ACX is licensed to operate on 97.1 MHz with 27 watts of circularly polarized directional power with an antenna COR of 394 meters AMSL. Granted construction permit BPFT-20071206ACA authorizes operating parameters of 95 watts of circularly polarized directional power with an antenna COR of 244 meters AMSL at a new site location. This construction permit modification proposes a height increase of 5 meters to 249 meters AMSL and power decrease of 7 watts to 88 watts due to guy wire mounting issues. The proposed facility will operate as a “fill in” translator for parent station WLZX(FM), Northampton, MA, CH257A.

The proposed tower bears Antenna Structure Registration No. 1008868. Overall tower height will not be altered as a result of this proposal, therefore the FAA need not be notified. A copy of the existing ASR 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 translator. Allocation details are found in **Exhibit 12.5**. Contour protection studies have not been supplied as sufficient clearance is believed to exist towards the allocation protections. However contour protection studies will be supplied upon request. The translator site lies inside the primary 60 dBu contour of WLZX(FM), and the 60 dBu “fill in” translator contour is contained wholly within the WLZX(FM) 60 dBu contour. A map of the proposed service area in relation to the primary station service contour has been included in **Exhibit 12.4**. The applicant would like to note the NGDC 30 second terrain database was employed for all allocation map/studies employed in this proposal.

Regarding protection of International concerns, the present facility is and will remain within 320 km from the common border between the United States and Canada. Therefore international concurrence will be required for this proposal. Full protection is afforded all Canadian concerns as note in the **Exhibit 12.5** allocation study and the proposed 34 dBu f(50:10) contour does not extend beyond a 60 km distance in any direction as noted in **Exhibit 12.7**.

The proposed operation need not protect any Channel 6 TV facility as the proposal will operate above CH220.

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 three element skewed Scala HDCA-5-CP, circularly polarized directional antenna. As stated before, the antenna will be mounted on an existing tower, therefore the FAA need not be notified. Directional antenna information has been included in **Exhibit 12.6**.

## Discussion (continued)

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.

**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. = 422225.0 W. Lng. = 724026.0 HAAT and Distance to Contour - FCC Method - NGDC 30 SEC						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	194.5	54.5	0.0053	-22.74	0.246	3.69
030	81.3	167.7	0.0033	-24.84	0.193	5.64
060	63.2	185.8	0.0051	-22.95	0.240	6.62
090	60.0	189.0	0.0177	-17.51	0.449	9.29
120	71.9	177.1	0.0643	-11.92	0.855	12.34
150	47.1	201.9	0.0675	-11.71	0.876	13.26
180	69.0	180.0	0.0880	-10.56	1.000	13.41
210	162.1	86.9	0.0713	-11.47	0.900	8.84
240	271.6	-22.6	0.0845	-10.73	0.980	5.40
270	324.4	-75.4	0.0639	-11.95	0.852	5.02
300	317.7	-68.7	0.0526	-12.79	0.773	4.77
330	318.5	-69.5	0.0088	-20.56	0.316	3.05
Ave El= 165.11 M HAAT= 83.89 M AMSL= 249 M						