

ENGINEERING REPORT

FM Translator Minor Construction Permit Modification Application

for

**W275BH.C – Newton, NH
I.F. Frequency Change,
Site Change & Increase in Power**

CP File No. BNPFT-20030729AJO

October, 2008

COPYRIGHT 2008

MUNN-REESE, INC.
Broadcast Engineering Consultants
Coldwater, MI 49036

TABLE OF CONTENTS

Discussion of Report

FM Booster/Fill-in Translator Requirements (See Discussion)

Interference Requirements

Exhibit 12.1 - Copy of Existing Antenna Structure Registration

Exhibit 12.2 - Vertical Plan of Antenna System and Support Tower

Exhibit 12.3 - Present vs Proposed Service Contour Study

Exhibit 12.4 - Proposed vs Primary Station Service Contour Study

Contour Overlap Requirements

Exhibit 12.5 - Tabulation of Proposed Allocation

Exhibit 12.6 - Contour Studies toward Select Station(s)

Exhibit 12.7 - Directional Antenna Pattern Study

TV Channel 6 Protection Requirements (See Discussion)

Unattended Operation Requirements (See Discussion)

Multiple Translator Requirements (See Discussion)

RF Radiation Study Requirement

Exhibit 16.1 - RF Compliance Study

(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 modification application for FM translator W275BH.C, Newton, NH, File No. BNPFT-20030729AJO. W275BH.C is presently authorized to operate on 102.9 MHz with 80 watts of non-directional power with an antenna COR of 75 meters AMSL. A site change and power increase to 150 watts ERP at a COR of 91 meters AMSL is requested on minor change I.F. channel CH221D. Horizontal only polarization will be employed. The facility will rebroadcast new primary station WXRV(FM), Andover, MA as a "Fill-In" Translator.

The proposed site is the existing tower bearing Antenna Structure Registration No. 1007182. A copy of ASR 1007182 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 facility with the exception of second adjacent channel primary station WXRV(FM), Andover, MA. Interference to second adjacent channel primary station WXRV(FM) is allowable under §74.1204(e) as the interference area will not occur over the primary city of license of Andover, MA as noted in **Exhibit 12.4**. Complete allocation details are found in **Exhibit 12.5**. There is one facility close enough to merit contour protection showings. An FM Commander map and tabulation of protection toward WNEF(FM), Newburyport, MA has been included in **Exhibit 12.6**. It is believed sufficient clearance exists precluding the need for additional contour protection showings.

The translator site lies inside of the primary contour of WXRV(FM), and the 0.5 mV/m (54 dBu) contour of the proposed fill-in translator does not extend beyond the WXRV(FM) station service 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 will not enter Canadian soil. The proposed 34 dBu f(50:10) contour has been supplied in **Exhibit 12.4**.

The proposed operating parameters have been changed from the construction permit 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 horizontal only polarized Nicom BKY3-1L directional 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 FM Broadcast facility proposed in this application will not produce human exposure to radiofrequency radiation in excess of the applicable safety standards specified in §1.1310 of the Commission's rules. **Exhibit 16.1** 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.

N. Lat. = 424623.0 W. Lng. = 710601.0 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	37.1	53.9	0.1500	-8.24	1.000	8.43
030	47.4	43.6	0.1500	-8.24	1.000	7.46
060	29.3	61.7	0.1500	-8.24	1.000	9.05
090	24.4	66.6	0.1500	-8.24	1.000	9.38
120	22.3	68.7	0.1500	-8.24	1.000	9.52
150	38.6	52.4	0.1500	-8.24	1.000	8.30
180	55.3	35.7	0.1500	-8.24	1.000	6.75
210	28.7	62.3	0.1500	-8.24	1.000	9.09
240	42.7	48.3	0.1500	-8.24	1.000	7.91
270	46.8	44.2	0.1500	-8.24	1.000	7.51
300	62.6	28.4	0.1500	-8.24	1.000	6.24
330	73.1	17.9	0.1500	-8.24	1.000	6.24
Ave El= 42.37 M HAAT= 48.63 M AMSL= 91						