

ENGINEERING REPORT

FM Translator “Long Form” Filing for Original Construction Permit Application

NEW262D – Brattleboro, VT
File No. BNPFT-20030317AHP
Facility ID No. 140890

Long-Form “Singleton Filing pursuant
to Auction 83 (AUC-03-83-D)

August, 2013

COPYRIGHT 2013

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 13.1 - USGS Topographical Photo-Map Showing Proposed Site

Exhibit 13.2 - Vertical Plan of Existing Tower Structure

Exhibit 13.3 - Licensed vs Proposed Service Contour Study

Exhibit 13.4 - Proposed vs Primary Station Service Contour Study

Contour Overlap Requirements

Exhibit 13.5 - Tabulation of Proposed Allocation

Exhibit 13.6 - §74.1204(d) Second Adjacent Waiver Request Toward WTHK(FM)

Exhibit 13.7 - Tabulation of Proposed Directional Antenna Pattern

Exhibit 13.8 - GLOBE Terrain Database HAAT Calculation

TV Channel 6 Protection Requirements (See Discussion)

Unattended Operation Requirements (See Discussion)

Multiple Translator Requirements (See Discussion)

RF Radiation Study Requirement

Exhibit 17.1 - 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 an original Construction Permit “Long Form” Filing for FM Translator Application BNPFT-20030317AHP (Facility ID No. 140890). The pending “Short-Form” Application specified operation on CH262D (100.3 MHz) with 0.250 kW ERP of directional power at an antenna COR of 152 meters AMSL. Modified Operating Parameters will be requested in this “Long-Form” Filing. Continued operation on Channel CH262D (100.3 MHz) with a power of 0.105 kW ERP is requested from a different site location. A circularly polarized directional antenna will be utilized at an antenna COR height of 483 meters AMSL. The translator will rebroadcast primary station WKVT(AM) – Brattleboro, VT, (Facility ID No. 57781) on 1490 kHz.

The facility will be located at the existing tower which has no Antenna Structure Registration Number. A USGS Topographical Photo-Map of the proposed site 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.

The proposed operating parameters have been changed from the original “Short-Form” values, however the proposed service contour serves a portion of the present service area as seen in **Exhibit 13.3**.

The proposed 60 dB μ contour of the Translator falls wholly inside of the WKVT(AM) licensed 2 mV/m contour and a 25 mile radius around the WKVT(AM) site. A map of the proposed service contour in relation to the primary station service contour has been included in **Exhibit 13.4**. Therefore, this proposal will be licensed as a Fill-In FM Translator.

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 WTHK(FM) – Wilmington, VT. General allocation details are found in **Exhibit 13.5**. A §74.1204(d) Second Adjacent Channel Given Interference Waiver is requested toward WTHK(FM) as included in **Exhibit 13.6**. Full protection will be afforded WTHK(FM) as the calculated interference area is void of all population, housing, buildings or major roads as noted in the **Exhibit 13.6** USGS Aerial Photograph. It is believed sufficient clearance exists precluding the need for additional contour protection showings.

Exhibit 13.7 provides information on the directional antenna pattern to be used.

The applicant would like to note the use of the FCC’s own GLOBE worldwide terrain database for the HAAT calculation contained here-in.

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 1 km GLOBE terrain database.

N. Lat. = 425345.0 W. Lng. = 723949.0 HAAT and Distance to Contour, 3-16 km, 51 pts Method - 1 km GLOBE Terrain Database						
New, Saga Communications Of New England, Inc.						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	276.9	206.1	0.000	-40.25	0.030	1.84
030	362.9	120.1	0.000	-40.25	0.030	1.63
060	185.4	297.6	0.000	-40.25	0.030	1.92
090	179.0	304.0	0.016	-17.97	0.390	11.47
120	184.7	298.3	0.070	-11.54	0.817	16.36
150	250.4	232.6	0.105	-9.79	1.000	15.90
180	358.4	124.6	0.070	-11.54	0.817	10.49
210	469.1	13.9	0.016	-17.97	0.030	1.61
240	541.4	-58.4	0.000	-40.25	0.030	1.61
270	492.0	-9.0	0.000	-40.25	0.030	1.61
300	483.9	-0.9	0.000	-40.25	0.030	1.61
330	414.9	68.1	0.000	-40.25	0.030	1.61

Ave El= 350.0 M HAAT= 133.0 M AMSL= 483 M