

## **ENGINEERING REPORT**

FM Translator Minor Construction  
Permit Application for  
**W287AK – South Hadley, MA**  
Frequency Change to CH284D

License No. BLFT-19980511TC

**July, 2005**

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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 application for FM translator W287AK, South Hadley, MA, License No. BLFT-19980511TC. W287AK is being displaced by WBEC-FM.A Application No. BPH-20050218AAT. The translator currently rebroadcasts and will continue to rebroadcast primary station WRSI(FM), Turners Falls, MA, Channel 230. The proposed translator will operate on Channel 284D with 3 watts at a max HAAT of 225 meters while employing a one bay stock Scala directional antenna.

It has been determined the translator may be used in the area without interference to any existing FM broadcast station or translator. The applicant agrees to vacate this channel upon interference to any future full service FM facility. Allocation details are found in **Exhibit 12.5**. The translator site is within the primary contour, and the 1 mV/m (60 dBu) contour is contained wholly within the primary station 1 mV/m contour. A map of the proposed service area in relation to the primary station service contour has been included in **Exhibit 12.4**.

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 12.3**.

The proposed translator is located within 320 kilometers of the border between the United States of America and Canada, however full protection is afforded all Canadian facilities as noted in **Exhibit 12.5**.

The translator will employ a stock one bay circularly polarized Scala CA5-FM-CP antenna. The antenna will be mounted on an existing tower bearing ASR No. 1037849. The antenna will not increase the overall height, therefore the FAA need not be notified. A copy of the existing Antenna Structure Registration has been included in **Exhibit 12.1**.

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.

Prompt suspension of the translator operation will be made, in the event of equipment failure that could cause operation outside the specifications of the Rules. The data contained in this report is responsive to the Rules of the Commission, and provides information for FCC Form 349.

## Discussion (continued)

**RADIATION PROTECTION:** The FM broadcast facility proposed in this application is within the limits as set forth in the FCC Form 349 Worksheet #2 (RF Exposure Compliance), issued March, 2001. As this facility complies with Worksheet #2, no RF study need be supplied. The facility will be properly marked with signs, and entry will be 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. = 42 16 48    W. Lng. = 72 37 15						
HAAT and Distance to Contour - FCC Method - 03 Arc Sec.						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	43.1	218.9	0.0002	-37.37	0.247	2.48
030	44.7	217.3	0.0001	-41.71	0.150	1.63
060	113.8	148.2	0.0001	-39.98	0.183	1.78
090	82.9	179.1	0.0000	-43.15	0.127	1.54
120	84.0	178.0	0.0001	-39.75	0.188	1.91
150	65.0	197.0	0.0001	-42.00	0.145	1.54
<b>180</b>	<b>36.9</b>	<b>225.1</b>	<b>0.0001</b>	<b>-41.42</b>	<b>0.155</b>	<b>1.69</b>
210	136.2	125.8	0.0001	-40.62	0.170	1.62
240	94.4	167.6	0.0001	-42.18	0.142	1.61
270	144.2	117.8	0.0012	-29.27	0.628	3.57
300	159.6	102.4	0.0029	-25.39	0.982	4.28
330	110.4	151.6	0.0019	-27.21	0.796	4.59

Ave El= 92.94 M    HAAT= 169.06 M    AMSL= 262 M