

ENGINEERING REPORT

FM Translator Minor Construction Permit Application

for

W267BA.L - Harrisonburg, VA
License No. BLFT-20070912ACR

Change in Power;
Change in Directional Antenna;
Correction of Coordinates
& Ground Elevation.

June, 2015

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Table of Contents

Discussion of Report

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

Interference Requirements

- Exhibit 13.1 - Copy of USGS Topographic Map of Site
- Exhibit 13.2 - Copy of USGS Aerial Photograph of Site
- Exhibit 13.3 - Vertical Plan of Antenna System and Support Tower
- Exhibit 13.4 - Present vs Proposed Service Contour Study
- Exhibit 13.5 - Proposed vs Primary Station Service Contour Study

Contour Overlap Requirements

- Exhibit 13.6 - Tabulation of Proposed Allocation
- Exhibit 13.7 - Contour Protection Studies Toward WBRB(FM).L - Buckhannon, WV
- Exhibit 13.8 - Contour Protection Studies Toward WVAI-LP(FM).CP - Charlottesville, VA
- Exhibit 13.9 - Contour Protection Studies Toward WHITE-FM.L - Ruckersville, VA
- Exhibit 13.10 - Contour Protection Studies Toward W266BQ.L - Crozet, VA
- Exhibit 13.11 - §74.1204(d) Third Adjacent Channel Given Interference Waiver Request
- Exhibit 13.12 - 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 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 a Minor Construction Permit Application for FM Translator W267BA.L - Harrisonburg, VA, License No. BLFT-20070912ACR (Facility ID: 141357). W267BA.L is presently licensed to operate on Channel 267D, 101.3 MHz, with 0.010 kW of non-directional power at an antenna COR of 1004 meters AMSL. Operation from the same tower site location is requested, however corrections in site coordinates and ground elevation will be requested here-in. Operation on CH267D, 101.3 MHz, with 0.100 kW ERP (H&V) at 970 meters AMSL is proposed utilizing a new one bay Directional (Custom Parasitic) Antenna. The Translator will rebroadcast primary station WJDV(FM) - Broadway, VA, CH241B1 (Facility ID No. 40648) as an FM Fill-In Translator. The Translator will continue to serve the licensed community of Harrisonburg, VA.

The Translator will be mounted on an existing tower which does not require Antenna Structure Registration. A copy of USGS Aerial Photography and Topographic Mapping of the existing tower site has been included in **Exhibit 13.1** and **13.2**. The vertical antenna system has been plotted in **Exhibit 13.3**. The FAA Notice Criteria Tool and ASR TOWAIR programs have been consulted and neither FAA nor ASR notification is required for this existing tower construction.

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 WQPO(FM) - Harrisonburg, VA (CH264B). General allocation details are found in **Exhibit 13.6**. A §74.1204(d) Third Adjacent Channel Given Interference Waiver is requested toward WQPO(FM) as included in **Exhibit 13.11**. Full protection will be afforded WQPO(FM) as the calculated interference area is void of all population, housing, buildings or major roads as noted in the **Exhibit 13.11** USGS Aerial Photograph. There are four (4) facilities, existing or proposed, close enough to merit further study. Therefore supplemental contour protection studies have been provided toward WBRB(FM).L - Buckhannon, WV; WVAI-LP(FM).CP - Charlottesville, VA; WHITE-FM.L - Ruckersville, VA; and W266BQ.L - Crozet, VA as included in **Exhibit(s) 13.7 to 13.10**. It is believed sufficient clearance exists precluding the need for additional contour protection showings.

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

The proposed 57 dB μ contour of the Fill-In Translator lies wholly inside of the WJDV(FM) primary 57 dB μ service contour. A map of the proposed service area in relation to the primary station service contour has been included in **Exhibit 13.5**.

Regarding protection of international concerns, the facility is and will remain more than 320 km from the common border between the United States and Canada and/or Mexico. Therefore, full protection is believed afforded all international concerns. Additional International compliance showings will be supplied upon request.

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 13.4**.

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 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.

N. Lat. = 382640.0 W. Lng. = 784405.0 HAAT and Distance to Contour, FCC, FM 2-10 Mi, 51 pts Method - NED 03 SEC						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	389.5	580.5	0.1000	-10.00	1.000	25.35
030	687.0	283.0	0.1000	-10.00	1.000	17.46
060	386.8	583.2	0.1000	-10.00	1.000	25.41
090	344.3	625.7	0.1000	-10.00	1.000	26.32
120	358.6	611.4	0.0608	-12.16	0.780	23.11
150	420.0	550.0	0.0048	-23.15	0.220	10.44
180	374.0	596.0	0.0130	-18.87	0.360	14.80
210	484.2	485.8	0.0176	-17.54	0.420	14.53
240	426.6	543.4	0.1000	-10.00	1.000	24.44
270	434.9	535.1	0.1000	-10.00	1.000	24.22
300	411.3	558.7	0.0723	-11.41	0.850	22.94
330	393.8	576.2	0.1000	-10.00	1.000	25.24
Ave El= 425.93 M HAAT= 544.07 M AMSL= 970 M						