

# **ENGINEERING REPORT**

## **FM Translator Minor Construction Permit Application**

for

**W203BV.L - Jamestown, NY**

License No. BLFT-20100521ADW

December, 2015

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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 W203BV.L - Jamestown, NY, License No. BLFT-20100521ADW. W203BV.L presently operates on 88.5 MHz with 0.009 kW of circularly polarized, directional power with an antenna COR of 551 meters AMSL. A §74.1233(D)(2) Non-Adjacent Channel Displacement Waiver Request is being made to move to CH220D (91.9 MHz). The Translator site location and antenna COR height will remain unchanged. Operation on CH220DD with the current 9 watts ERP at a COR of 551 meters AMSL is requested. The facility will continue to operate with the same directional antenna pattern employing circular polarization. The Translator will continue to rebroadcast FM station WYFQ-FM - Wadesboro, NC (CH228C3) Facility ID No. 73965.

The proposed facility will be mounted on an existing 25.9 meter AGL tower which does not require Antenna Structure Registration. A copy of USGS topographic mapping of the existing tower site has been included in **Exhibit 13.1**. A copy of the vertical antenna system has been included in **Exhibit 13.2**. As this proposal will not increase the overall tower height, it is believed the FAA need not be notified.

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 WRRN(FM) - Warren, PA (CH222B). General allocation details are found in **Exhibit 13.5**. A §74.1204(d) second adjacent channel given interference waiver is requested toward WRRN(FM) as included in the **Exhibit 13.1** topographic map showing. Full protection will be afforded the facility as the proposed interference area is void of population, housing, buildings or major roads as noted in the attached exhibit. It is believed sufficient clearance exists precluding the need for additional contour protection showings. The applicant would like to note use of the NGDC 30 second terrain database for all allocation, contour and HAAT calculations contained here-in.

The translator site and proposed 60 dBu contour lie outside of the WYFQ-FM 60 dBu contour. The translator is and will continue to operate as a non-commercial, non-fill translator fed via a satellite downlink. A map of the proposed service area in relation to the primary station service contour has been included in **Exhibit 13.4**.

Regarding protection of international concerns, the facility is and will remain within 320 km of the common border between the United States and Canada. Full protection will be afforded all Canadian concerns as noted in the **Exhibit 13.5** allocation showing. In addition, the applicant certifies the proposed 34 dBu F(50:10) interference contour does not enter Canadian territory. Documentation of the 34 dBu F(50:10) interference contour will be supplied upon request.

The proposed facility will not be located within the affected radius of any domestic TV-6 facility as noted in the **Exhibit 13.5** allocation study.

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 13.3**.

## 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 or will be properly marked with signs, and entry is restricted by means of fencing with locked doors and/or gates if required. 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 NGDC 30 terrain database.

N. Lat. = 420753.0    W. Lng. = 791313.0 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	510.5	40.5	0.0090	-20.46	1.000	3.56
030	509.0	42.0	0.0077	-21.15	0.923	3.49
060	467.2	83.8	0.0056	-22.48	0.792	4.60
090	427.9	123.1	0.0045	-23.43	0.710	5.29
120	428.4	122.6	0.0044	-23.52	0.703	5.25
150	425.4	125.6	0.0045	-23.42	0.711	5.34
180	441.8	109.2	0.0058	-22.37	0.802	5.33
210	447.5	103.5	0.0082	-20.88	0.953	5.67
240	435.7	115.3	0.0090	-20.46	1.000	6.12
270	432.9	118.1	0.0088	-20.56	0.988	6.15
300	508.7	42.3	0.0090	-20.46	1.000	3.66
<b>330</b>	<b>400.0</b>	<b>151.0</b>	<b>0.0088</b>	<b>-20.56</b>	<b>0.988</b>	<b>6.89</b>
Ave El= 452.91 M    HAAT= 98.09 M    AMSL= 551						