

ENGINEERING REPORT

FM Translator Minor Construction Permit Modification Application

for

W247BV.C – Canton, NC

Permit No. BNPFT-20130731APU

Power Increase, Change in Directional
Antenna & Change in Cities of License
to Asheville, NC

November, 2013

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(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 W247BV.C – Canton, NC, Permit No. BNPFT-20130731APU. W247BV.C is presently authorized to operate on Channel 247D, 97.3 MHz, with 0.015 watts of directional power with an antenna COR of 1028 meters AMSL. Operation from the existing site location is requested at the same COR AGL height. Operation on CH247D, 97.3 MHz, with 99 watts ERP at 1028 meters AMSL is proposed utilizing a new Scala CL-FM(Slant-45), one bay directional (Custom) antenna. The translator will rebroadcast primary station WOXL-FM – Biltmore Forest, NC, CH243C3 (Facility ID No. 37242) as an HD-3 Fill-In Translator. The Translator will serve the new community of Asheville, NC.

The translator will be mounted on the existing tower bearing Antenna Structure Registration Number 1033392. A copy of ASR #1033392 has been included in **Exhibit 13.1**. The vertical antenna system has been plotted in **Exhibit 13.2**. As this Form 349 filing will not increase the overall tower height, notification to the FAA is not believed necessary.

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 W249AR – Asheville, NC (CH249D). General allocation details are found in **Exhibit 13.5**. A §74.1204(d) Second Adjacent Channel Given Interference Waiver is requested toward W249AR as included in **Exhibit 13.7**. Full protection will be afforded W249AR as the calculated interference area is void of all population, housing, buildings or major roads as noted in the **Exhibit 13.7** USGS Aerial Photograph. There is one (1) facility existing or proposed, close enough to merit further study. Therefore supplemental contour protection studies have been provided toward co-channel protection WFHC-LP(FM) – Henderson, NC (CH247L1) as included in **Exhibit(s) 13.6**. 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 showings contained here-in.

The proposed 60 dBμ contour of the Fill-In translator lies wholly inside of the WOXL-FM primary 60 dBμ service contour. 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 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 13.3**.

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.

N. Lat. = 353604.0 W. Lng. = 823907.0						
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	616.1	411.9	0.0202	-16.95	0.452	13.98
030	625.7	402.3	0.0726	-11.39	0.857	19.16
060	747.8	280.2	0.0974	-10.11	0.992	17.25
090	675.5	352.5	0.0581	-12.36	0.766	16.99
120	663.0	365.0	0.0095	-20.22	0.310	10.98
150	645.6	382.4	0.0001	-40.50	0.030	1.96
180	735.6	292.4	0.0001	-40.50	0.030	1.91
210	699.6	328.4	0.0019	-27.12	0.140	6.44
240	769.2	258.8	0.0068	-21.68	0.262	8.47
270	948.5	79.5	0.0005	-32.71	0.074	2.43
300	733.9	294.1	0.0001	-40.50	0.030	1.91
330	643.2	384.8	0.0001	-38.45	0.038	2.44
Ave El= 708.65 M HAAT= 319.35 M AMSL= 1028						