

# **ENGINEERING REPORT**

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

for

**W249AG – Roanoke, VA**

Lic No. BLFT-19830708MB

August, 2010

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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 W249AG, Roanoke, VA, License No. BLFT-19830708MB. W249AG presently operates on 97.7 MHz with 24 watts of directional power with an antenna COR of 616 meters AMSL. A correction of site coordinates and COR AGL height is requested from the present site location. In addition, a §74.1233(d)(2) waiver Request for the Displacement of a Translator to a Non-Adjacent Channel and expedited Form 349 processing is requested for operation on CH297D with 10 watts ERP at 609 meters AMSL. A new non-directional antenna will be proposed. The Translator will rebroadcast primary station WHPE-FM, High Point, NC (Facility ID No. 5164) as a non fill-in translator.

The applicant would like to note that it presently holds authorizations for two FM translators grandfathered to serve substantially the same area while rebroadcasting the same signal. The translator to be modified by this Form 349 filing, W249AG (Facility ID No. 5146), serves the same area and is co-located with translator W249AF (Facility ID No. 5122). Both translators have rebroadcasted grandfathered primary station WHPE-FM, High Point, NC (Facility ID No. 5164) as non fill-in translators since the purchase of the facilities in 1993. This proposal and a concurrent, but not contingent, Form 349 filing for the companion W249AF (Facility ID No. 5122) will each change frequencies but propose di-plexed and continued co-located operation from a new common non-directional antenna. A map of the existing and proposed common service areas for both translators has been included in **Exhibit 16.1**. A continuation of the grandfathered common primary station of WHPE-FM, High Point, NC (Facility ID No. 5164) is requested.

As stated before, the applicant would like to note the existence of a §74.1233(d)(2) Waiver Request for the Displacement of a Translator to a Non-Adjacent Channel. This instant displacement application is being submitted as a consequence of pending interference from full-power Construction Permit, WKCJ.C, CH249A, Elliston-Lafayette, VA (BPH-20070119AGN). The applicant has documented no rule compliant first, second third or I.F. Channel (53 or 54 Channel) minor change frequency exists from the present site location. Documentation has been attached to exhibit 1 of the Form 349 itself. As a result, a waiver of §74.1233(d)(2) for the displacement of this translator to the non-adjacent channel of CH297D is believed merited.

The applicant would like to note a request for expedited processing of this Form 349 instant proposal and §74.1233(d)(2) Waiver Request for the Displacement of a Translator to a Non-Adjacent Channel. Expedited processing is believed merited in this instance due to the pending WKCJ.C construction permit which will displace the translator. The applicant respectfully understands that due to current policy, expedited processing may still require up to 60 days for grant of the application. Should WKCJ.C commence operation during that time, the translator will cease operation and file an STA for silent authority.

The existing tower does not require Antenna Structure Registration. A copy of USGS topographic mapping of the existing tower site has been included in **Exhibit 13.1**. It has been determined the translator may be used in the area without interference to any existing FM broadcast station or translator operation with the exception of WYYD(FM) – Amherst, VA and WYYD-FM1 – Roanoke, VA. Allocation details are found in **Exhibit 13.5**. A §74.1204(d) waiver request for third adjacent channel given interference towards WYYD(FM) and WYYD-FM1 showing a lack of population or housing within the interference area has been included in the **Exhibit 13.1** topographic map showing. It is believed sufficient clearance exists precluding the need for additional contour protection showings. The applicant would like to note the use of the NED 03 second terrain database for all HAAT, allocation and contour showings.

## Discussion (continued)

The Translator site lies outside of the primary contour of WHPE-FM, and the 1 mV/m (60 dBu) contour of the proposed Translator lies outside of the WHPE-FM station primary contour as well. 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 present facility is and will remain more than 320 km from the common border between the United States and Canada or Mexico. As a result, it is believed no further international showings are required.

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**.

**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.

N. Lat. = 371356.0 W. Lng. = 800246 HAAT and Distance to Contour, V-Soft 3-16 km, 131 pts Method - NED 03 SEC						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	357.0	252.0	0.0100	-20.00	1.000	9.28
030	330.6	278.4	0.0100	-20.00	1.000	9.76
060	309.6	299.4	0.0100	-20.00	1.000	10.12
090	347.8	261.2	0.0100	-20.00	1.000	9.45
120	394.5	214.5	0.0100	-20.00	1.000	8.54
150	414.3	194.7	0.0100	-20.00	1.000	8.11
180	580.6	28.4	0.0100	-20.00	1.000	3.15
210	726.6	-117.6	0.0100	-20.00	1.000	3.15
240	814.8	-205.8	0.0100	-20.00	1.000	3.15
270	486.3	122.7	0.0100	-20.00	1.000	6.46
300	509.3	99.7	0.0100	-20.00	1.000	5.84
330	470.3	138.7	0.0100	-20.00	1.000	6.83
Ave El= 478.47 M HAAT= 130.53 M AMSL= 609						