

# **ENGINEERING REPORT**

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

**(AMENDMENT)**

for

**W288CQ.C - (Fac ID: 155786)**

Waynesville, NC / Asheville, NC

Permit No. BNPFT-20130306AAN

**(Amendment to BMPFT-20130909AAM)**

March, 2014

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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 modification application for FM translator W288CQ.C – Waynesville, NC, Permit No. BNPFT-20130306AAN (actual amendment to BMPFT-20130909AAM). W288CQ.C is presently authorized to operate on Channel 288D, 105.5 MHz, with 0.050 watts of directional power with an antenna COR of 1437 meters AMSL. Amended operation from a new site location is requested at a new COR AGL height. Operation on CH288D, 105.5 MHz, with 250 watts ERP at 1034 meters AMSL is proposed utilizing a new Scala CL-FM(Slant-45), one bay, directional antenna. The translator will rebroadcast new primary station WISE(AM) – Asheville, NC, 1310 kHz (Facility ID No. 68835) as an AM 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. This W288CQ.P (Facility ID: 155786) proposed operation will be diplexed with a W251AO.P (Facility ID: 137991) proposed operation which has been concurrently, but not contingently filed within this instant Form 349 Application.

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 WTMT(FM) - Weaverville, NC (CH290C2); and WQNS(FM).CP - Woodfin, NC (CH286A) (pending License Application BLH-20140115AAG). General allocation details are found in **Exhibit 13.5**. Two §74.1204(d) Second Adjacent Channel Given Interference Waivers are requested toward WTMT(FM) and WQNS.CP(FM) as included in **Exhibit 13.6**. The Protected Contour at the proposed Translator site has been calculated to be no less than the 121.8 dBμ F(50:10) Interference Contour corresponding to the worst case WQNS(FM).CP - Woodfin, NC (CH286A) (pending License Application BLH-20140115AAG) 81.8 dBμ F(50:50) Protected Contour. This represents the proposed interference contour which falls wholly within the 40:1 dBu ratio. As seen in the Exhibit 13.6 USGS Aerial Photo, there is a lack of population, housing, buildings or major roads within this 121.8 dBμ F(50:10) interference area. The applicant would like to note the existence of several dedicated transmitter buildings located within this restricted access Spivey Mountain, mountain top antenna farm complex. However, structures of this nature have been exempt as a matter of FCC Policy. It is believed sufficient clearance exists precluding the need for additional contour protection showings.

Concerning WQNS(FM).L - Waynesville, NC (CH285A) License No. BLH-19950927KB, WQNS(FM) has commenced operation under pending License Application BLH-20140115AAG covering WQNS(FM).CP - Woodfin, NC (CH286A) Construction Permit BPH-20120807ACK. Therefore, protection of WQNS(FM).L - Waynesville, NC (CH285A) License No. BLH-19950927KB is no longer believed required.

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 WISE(AM) primary daytime 2.0 mV/m contour and a 25 mile radius around the AM site. 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 service contour will not serve a portion of the present service contour, however the proposed facilities will remain mutually exclusive with the present facilities. As a result, a waiver of §74.1233(a)(1) is requested. A similar waiver of §74.1233(a)(1) was previously granted in the “*Letter to John F. Garziglia, esq. (W263AQ, Mattoon, IL)*,” DA 11-1495, released September 2, 2011 (“Mattoon Decision”) which granted FCC File No. BPFT-20101025ABR. In the Mattoon Decision, a series of four (4) criteria meriting the waiver were noted by the Commission. These four (4) criteria have been met and outlined below:

1. No History of Filing Serial Modification Applications (“Translator Hops”). W288CQ.C – Waynesville, NC, is a new FM Translator facility as of 2013 with no history of serial modification applications. Information concerning the Translator filing history of W288CQ.C is a matter of record before the Commission and is available for public viewing on CDBS.

2. Mutual Exclusivity. The proposed facilities will remain mutually exclusive with the present facilities. A map of the present to proposed mutually exclusive contour overlap has been included in **Exhibit 13.3**. This mutual exclusivity has also been noted on the **Exhibit 13.5** allocation tabulation study.

## Discussion (continued)

3. *Concerns raised in the LPFM Third Further Notice.* W288CQ.C is presently located within the 39 km buffer zone of the Asheville, NC "Spectrum Available" 30 Minute Grid Area as identified by the "Creation of a Low Power Radio Service, Third Further Notice of Proposed Rulemaking", 26 FCC RCD 9986 (2011) and subsequent "Creation of a Low Power Radio Service, Fifth Order on Reconsideration and Sixth Report and Order", MM Docket No. 99-25 & MB Docket No. 07-172, RM 11338, FCC 12-144 (2012). The proposed W288CQ.P site represents an "intra-market" relocation within the Asheville, NC "Spectrum Available" 30 Minute Grid Area. In addition, operation on CH288D will not affect any potential Co-, 1st- or 2nd- adjacent channel (CH286L1-CH290L1) LPFM Grid Points within the Asheville, NC "Spectrum Available" 30 Minute Grid. Therefore a grant of this "Mattoon Waiver" will not adversely affect any future LPFM filings within Asheville, NC "Spectrum Available" Market. An LPFM Affected Market Map for the Asheville, NC "Spectrum Available" Market as well as an Asheville, NC "Spectrum Available" Market LPFM Preclusion Study has been included in "Attachment 1" of this Form 349 filing itself.

4. *Fill-In for AM Station.* The proposed facility will be utilized for the rebroadcast of AM station WISE(AM) – Asheville, NC , 1310 kHz (Facility ID No. 155786). A map of the proposed facility in relation to the WISE(AM) 2 mV/m daytime contour and 25 mile radius around the AM site has been included in **Exhibit 13.4**. In addition, WISE(AM) has been properly noted as the proposed primary station on the Form 349 itself.

In addition, pursuant to the Mattoon Letter, waiver of §74.1233(a)(1) would be consistent with Commission action in other contexts where it has considered waiver of the minor change rules to be in the public interest (see Mattoon Letter, footnote 5). Here, as in the Mattoon Letter, "a waiver from the Commission is appropriate if special circumstances [fn omitted] warrant a deviation from the general rule, and such deviation would better serve the public interest than strict adherence to the general rule." here, as in the Mattoon Letter, the "relief requested would not undermine the policy objective of the rule in question, and would otherwise serve the public interest. [fn omitted.]"

**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	417.9	0.0002	-36.48	0.030	3.00
030	625.7	408.3	0.0380	-14.20	0.390	16.36
060	747.8	286.2	0.1669	-7.78	0.817	19.99
090	675.5	358.5	0.2500	-6.02	1.000	24.57
120	663.0	371.0	0.1669	-7.78	0.817	22.63
150	645.6	388.4	0.0380	-14.20	0.390	15.96
180	735.6	298.4	0.0002	-36.48	0.030	2.81
210	699.6	334.4	0.0002	-36.48	0.030	2.87
240	769.2	264.8	0.0004	-34.42	0.038	3.31
270	948.5	85.5	0.0004	-33.98	0.040	2.32
300	733.9	300.1	0.0004	-34.42	0.038	3.39
330	643.2	390.8	0.0002	-36.48	0.030	2.97
Ave El= 708.65 M HAAT= 325.35 M AMSL= 1034						