

# **ENGINEERING REPORT**

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

for

**W288CL.C – Moosic, PA  
(Facility ID: 147323)**

File No. BNPFT-20130326BDN

January, 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 W288CL.C – Moosic, PA, File No. BNPFT-20130326BDN. W288CL.C – Moosic, PA is presently authorized to operate on Channel 288D, (105.5 MHz), with 0.004 kW of directional power with an antenna COR of 621 meters AMSL. This Construction Permit modification application requests a new site location and operation on the new frequency of CH287D (105.3 MHz) with 0.010 kW ERP at 484 meters AMSL. A new Nicom BKG77/1, one bay non-directional antenna will be utilized. The translator will rebroadcast new primary station WITK(AM) – Pittston, PA, 1550 kHz (Facility ID No. 70868) as an AM Fill-In Translator. The Translator will continue to serve the community of Moosic, PA.

The translator will be mounted on the existing tower bearing Antenna Structure Registration Number 1242922. A copy of ASR #1242922 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 WWRR(FM) – Scranton, PA (CH285A). General allocation details are found in **Exhibit 13.5**. A §74.1204(d) Second Adjacent Channel Given Interference Waiver is requested toward WWRR(FM) as included in **Exhibit 13.8**. Full protection will be afforded WWRR(FM) as the calculated interference area is void of all population, housing, buildings or major roads as noted in the **Exhibit 13.8** USGS Aerial Photo-map. There are two (2) facilities, existing or proposed, close enough to merit further study. Therefore supplemental contour protection studies have been provided toward co-channel protection WYCY(FM) – Hawley, PA (CH287A) and WPZX(FM) – Pocono Pines, PA (CH290A) as included in **Exhibit(s) 13.6** and **13.7**. 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 60 dB $\mu$  contour of the Fill-In translator lies wholly inside of the WITK(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 within 320 km of the common border between the United States and Canada. The applicant certifies the proposed Translator 34 dB $\mu$  F(50:10) interference contour does not enter Canadian territory. Documentation of the proposed 34 dB $\mu$  F(50:10) interference contour 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. = 412106 W. Lng. = 753957 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	311.3	172.7	0.0100	-20.00	1.000	7.63
030	334.8	149.2	0.0100	-20.00	1.000	7.07
060	537.2	-53.2	0.0100	-20.00	1.000	3.15
090	525.8	-41.8	0.0100	-20.00	1.000	3.15
120	528.1	-44.1	0.0100	-20.00	1.000	3.15
150	498.9	-14.9	0.0100	-20.00	1.000	3.15
180	575.2	-91.2	0.0100	-20.00	1.000	3.15
210	482.2	1.8	0.0100	-20.00	1.000	3.15
240	258.1	225.9	0.0100	-20.00	1.000	8.77
270	260.2	223.8	0.0100	-20.00	1.000	8.73
300	309.1	174.9	0.0100	-20.00	1.000	7.68
330	372.1	111.9	0.0100	-20.00	1.000	6.19

Ave El= 416.09 M HAAT= 67.91 M AMSL= 484 M