

# **ENGINEERING REPORT**

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

for

**W221BV.L - (Fac ID: 155427)**  
New Holland, PA / Lancaster, PA  
License No. BLFT-20101014ABZ

March, 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 W221BV.L - New Holland, PA (Facility ID: 155427) License Number BLFT-20101014ABZ. W221BV.L is presently licensed to operate on Channel 221D (92.1 MHz) with 0.010 watts of non-directional power with an antenna COR of 320 meters AMSL. A site change involving a "Mattoon Waiver" request for rebroadcast of AM Primary Station WLPA(AM) - Lancaster, PA (Facility ID: 25870), 1490 kHz, will be made here-in. Operation on CH221D (92.1 MHz) with 0.040 kW ERP(H&V) at 172 meters AMSL is proposed utilizing a new Nicom BKG1/P-1DA(Slant45), one bay directional antenna. The translator will rebroadcast new primary station WLPA(AM) - Lancaster, PA (Facility ID: 25870), 1490 kHz, as an AM Fill-In Translator. As stated before, a "Mattoon Waiver" will be requested here-in. The Translator will serve the new community of Lancaster, PA.

The facility will be relocated to the roof of the Griest Building located at 8 North Queen Street in downtown Lancaster, PA. A copy of USGS Topographic Mapping and Aerial Photography of the existing building site has been included in **Exhibit(s) 13.1 to 13.2**. The vertical antenna system has been plotted in **Exhibit 13.3**. As this proposal will not increase the overall building height, it is believed the FAA need not be notified. In addition, FCC TOWAIR has been consulted and Antenna Structure Registration is not required as the proposal meets the 6.1 meter (20-foot) Rule (the actual proposal will fall below the overall height of ASR 1044369 separately located on the same roof-top).

It has been determined the translator may be used in the area without interference to any existing FM broadcast station or facility. General allocation details are found in **Exhibit 13.6**. There are three (3) facilities, existing or proposed, close enough to merit further protection studies. Therefore, a supplemental FMCommander™ maps and tabulations of contours toward WTPA(FM) - Palmyra, PA; WYTL(FM) - Wyomissing, PA; and WIXQ(FM) - Millersville, PA have been included in **Exhibit(s) 13.7 to 13.9**. 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 WLPA(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"). W221BV.L – New Holland, PA, is a new FM Translator facility as of 2007 with no history of serial modification applications. Information concerning the Translator filing history of W22BV.L 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 13.4**. This mutual exclusivity has also been noted on the **Exhibit 13.6** allocation tabulation study.

3. Concerns raised in the LPFM Third Further Notice. Full protection will be afforded all LPFM concerns as outlined in the "Creation of a Low Power Radio Service, Third Further Notice of Proposed Rulemaking", 26 FCC RCD 9986 (2011). As this Form 349 application is being filed subsequent to the November 15, 2013 closure of the recent LPFM filing window (Public Notice DA 13-2188, released November 14, 2013), protection of Appendix A "Spectrum-Limited" or "Spectrum-Available" Arbitron Markets is no longer required. However, this Form 349 filing will continue to protect all LPFM applications filed during the October 15, 2013 to November 15, 2013 LPFM filing window in addition to all existing LPFM facilities as well.

## Discussion (continued)

4. *Fill-In for AM Station.* The proposed facility will be utilized for the rebroadcast of AM station WLP(A)M - Lancaster, PA (Facility ID: 25870), 1490 kHz. A map of the proposed facility in relation to the WLP(A)M 2 mV/m daytime contour and 25 mile radius around the AM site has been included in **Exhibit 13.5**. In addition, WLP(A)M 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 §1.1310 of the Commission's rules. **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 locked doors. 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. = 400218.0 W. Lng. = 761823.0						
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	126.2	45.8	0.0400	-13.98	1.000	5.54
030	99.5	72.5	0.0400	-13.98	1.000	6.92
060	115.6	56.4	0.0324	-14.89	0.900	5.86
090	117.8	54.2	0.0096	-20.18	0.490	4.26
120	122.8	49.2	0.0256	-15.92	0.800	5.17
150	118.3	53.7	0.0400	-13.98	1.000	6.00
180	119.6	52.4	0.0324	-14.89	0.900	5.65
210	72.3	99.7	0.0121	-19.17	0.550	6.12
240	94.5	77.5	0.0400	-13.98	1.000	7.16
270	116.2	55.8	0.0361	-14.42	0.950	5.97
300	120.4	51.6	0.0400	-13.98	1.000	5.89
330	119.2	52.8	0.0400	-13.98	1.000	5.95
Ave El= 111.87 M HAAT= 60.13 M AMSL= 172						