

# **ENGINEERING REPORT**

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

for

**W235AZ.L – Sweetwater, TN  
License File No.  
BLFT-20060112AED**

October, 2011

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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 W235AZ – Sweetwater, TN, License File No. BLFT-20060112AED. W235AZ presently operates on 94.9 MHz with 0.027 kW of circularly polarized non-directional power with an antenna COR of 374 meters AMSL. An increase in COR height to 423 meters AMSL with a new circularly directional antenna is requested from a new site location. Operation on the existing channel of CH235D, 94.9 MHz with 78 watts ERP (H & V) is requested. In addition a change in cities of license from Sweetwater, TN to Athens, TN is also requested. The translator will rebroadcast new primary station WLAR(AM) – Athens, TN, 1450 kHz, Facility ID No. 29953 as a Fill-In Translator.

The proposed facility will be relocated to an existing tower location bearing Antenna Structure Registration Number 1043012. A copy of the existing ASR has been included in **Exhibit 13.1**. The vertical antenna system has been plotted in **Exhibit 13.2**. As this proposal will not increase the overall tower height, it is believed the FAA need not be notified.

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 13.5**. There is one facility, W235AO – Cleveland, TN close enough to merit further study. As a result, an FMCommander™ map and contour tabulation of the required protection has been included in **Exhibit 13.6**. It is believed sufficient clearance exists precluding the need for additional contour protection showings. The applicant would like to note the use of the NGDC 30 second terrain database for all allocation, contour and HAAT calculations contained here-in.

The translator site and proposed 60 dBu contour lie inside of the WLAR(AM) 2 mV/m daytime contour and within a 25 mile radius from the AM site. A map of the proposed service area in relation to the primary AM station and 2 mV/m AM service contour has been included in **Exhibit 13.4**.

Regarding protection of international concerns, the facility is and will remain more than 320 km of 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 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 here as well and will be outlined below:

1. ***No History of Filing Serial Modification Applications (“Translator Hops”).*** W235AZ, Sweetwater, TN, has remained licensed at its present site since 2006 (an operational period of five (5) years). The facility licensee, Charles H. Lynn, is also licensee of one additional translator, W296CE, Lenoir City, TN. While W296CE recently changed sites in 2011 (see BPFT-20110811ABH and BLFT-20110218ABA), this minor change was not a translator “hop” in nature, but rather a simple site and minor frequency I.F. change intended to improve coverage while serving substantially the same area and the same community of Lenoir City, TN. Information concerning Charles H. Lynn's translator filing history is a matter of record before the Commission and is available for public viewing on CDBS. However, a signed declaration from Charles H. Lynn stating he has not engaged in any translator serial application filings has been included in **Exhibit 13.8**.

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.

3. ***Concerns raised in the LPFM Third Further Notice.*** Neither the present facility nor the proposed facility are located within a “Spectrum-Limited” Market as identified in the “*Creation of a Low Power Radio Service, Third Further Notice of Proposed Rulemaking*”, 26 FCC RCD 9986 (2011). Neither the present facility nor the proposed facility are located in any Arbitron market as noted in **Exhibit 13.4**. As a result, a grant of this §74.1233(a)(1) waiver will remain in full compliance with the recent LPFM Third Further Notice.

## Discussion (continued)

4. *Fill-In for AM Station.* The proposed facility will be utilized for the rebroadcast of AM station WLAR(AM), Athens, TN, 1450 kHz (Facility ID No. 29953). A map of the proposed facility in relation to the WLAR(AM) 2 mV/m daytime contour and 25 mile radius around the AM site has been included in **Exhibit 13.4**. In addition, WLAR(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.]” [Footnotes were omitted from the preceding quotes as they refer to precedent supporting the findings in the Mattoon Letter.]

**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 utilizing the NGDC 30 second terrain database.

N. Lat. = 352751.0 W. Lng. = 843600.0						
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	301.1	121.9	0.0644	-11.91	0.909	10.18
030	321.0	102.0	0.0752	-11.24	0.982	9.72
060	314.8	108.2	0.0761	-11.18	0.988	10.03
090	283.9	139.1	0.0752	-11.24	0.982	11.27
120	281.4	141.6	0.0752	-11.24	0.982	11.38
150	265.6	157.4	0.0769	-11.14	0.993	12.11
180	260.5	162.5	0.0722	-11.42	0.962	12.14
210	259.2	163.8	0.0540	-12.68	0.832	11.36
240	260.9	162.1	0.0418	-13.79	0.732	10.62
270	268.6	154.4	0.0385	-14.14	0.703	10.14
300	281.1	141.9	0.0385	-14.14	0.703	9.69
330	277.5	145.5	0.0465	-13.33	0.772	10.28
Ave El= 281.30 M HAAT= 141.70 M AMSL= 423						