

# **ENGINEERING REPORT**

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

for

**W239AP – Mobile, AL**

License No. BLFT-20080307AAY

June, 2012

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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 W239AP – Mobile, AL, License No. BLFT-20080307AAY. W239AP presently operates on Channel 239D, 95.7 MHz, with 19 watts of non-directional power with an antenna COR of 122 meters AMSL. A new site location will be utilized with a higher AMSL height and higher power. Operation on CH239D, 95.7 MHz, with 99 watts ERP at 174 meters AMSL is requested utilizing a new Shively 6812B-1 non-directional antenna. The translator will rebroadcast new AM station WIJD(AM) – Prichard, AL, 1270 kHz, Facility ID No. 53144. The Translator will continue to serve the community of Mobile, AL.

The translator will be mounted on the existing tower bearing Antenna Structure Registration number 1035830. A copy of the existing ASR has been included in **Exhibit 13.1**. A copy of the vertical antenna system has been included in **Exhibit 13.2**. As this proposal will not increase the overall tower height, 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 with the exception of WRKH(FM) – Mobile, AL (CH241C). General allocation details are found in **Exhibit 13.5**. A §74.1204(d) Second Adjacent Channel Given Interference Waiver is requested toward WRKH(FM) as included in **Exhibit 13.6**. Full protection will be afforded WRKH(FM) as the calculated interference area will not reach the ground nor a 7 meter artificial plane representing a standard two story building when taking into account the downward radiation characteristics of the antenna as supplied by the antenna manufacturer. A copy of the antenna manufacturer specifications has been included in **Exhibit 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 dBu contour of the Fill-In translator lies wholly inside of the WIJD(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 or Mexico. As a result, no additional international showings are believed 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**.

## 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. = 304406    W. Lng. = 880716 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	28.3	145.7	0.0990	-10.04	1.000	12.34
030	4.1	169.9	0.0990	-10.04	1.000	13.41
060	2.7	171.3	0.0990	-10.04	1.000	13.47
090	3.8	170.2	0.0990	-10.04	1.000	13.43
120	3.0	171.0	0.0990	-10.04	1.000	13.46
150	4.6	169.4	0.0990	-10.04	1.000	13.39
180	6.8	167.2	0.0990	-10.04	1.000	13.30
210	48.1	125.9	0.0990	-10.04	1.000	11.46
240	58.4	115.6	0.0990	-10.04	1.000	11.02
270	50.3	123.7	0.0990	-10.04	1.000	11.37
300	56.9	117.1	0.0990	-10.04	1.000	11.08
330	32.7	141.3	0.0990	-10.04	1.000	12.14
Ave El= 24.98 M    HAAT= 149.02 M    AMSL= 174 M						