

# **ENGINEERING REPORT**

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

for

**K276FD – Marked Tree, AR**

Lic No. BLFT-20070906AFW

September, 2009

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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 K276FD, Marked Tree, AR, License No. BLFT-20070906AFW. K276FD presently operates on 103.1 MHz with 250 watts of non-directional power with an antenna COR of 157 meters AMSL. An I.F. Frequency hop is requested from an alternate site and height. Operation on CH222D with 200 watts ERP at 77 meters AMSL is requested. The Translator will rebroadcast new primary station KDEXY(FM), Lake City, AR (Facility ID No. 53472) as a Fill-In Translator.

The existing tower bears Antenna Structure Registration Number 1042939. A copy of the existing ASR has been included in **Exhibit 12.1**. A copy of the vertical antenna system has been included in **Exhibit 12.2**. It has been determined the translator may be used in the area without interference to any existing FM broadcast station or translator operation with the exception of KASU(FM), Jonesboro, AR. Allocation details are found in **Exhibit 12.5**. A §74.1204(d) waiver request for second adjacent channel given interference towards KASU(FM) showing a lack of population or housing within the interference area has been included in **Exhibit 12.6**. 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 HAAT, allocation and contour showings.

The Translator site lies inside of the primary contour of KDEXY(FM), and the 1 mV/m (60 dBu) contour of the proposed Translator is contained wholly within the KDEXY(FM) station primary contour. A map of the proposed service area in relation to the primary station service contour has been included in **Exhibit 12.4**.

Regarding protection of international concerns, the present 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 further international showings are 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 12.3**.

**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).

## Discussion (continued)

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 16.1** 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.

N. Lat. = 354451.0    W. Lng. = 903749.0 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	77.2	-0.2	0.0095	-20.22	0.218	3.11
030	67.0	10.0	0.0019	-27.25	0.097	2.13
060	67.0	10.0	0.0005	-33.01	0.050	1.61
090	67.0	10.0	0.0238	-16.23	0.345	3.90
120	67.0	10.0	0.1306	-8.84	0.808	6.02
150	64.6	12.4	0.2000	-6.99	1.000	6.71
180	67.0	10.0	0.1306	-8.84	0.808	6.02
210	79.7	-2.7	0.0238	-16.23	0.345	3.90
240	76.1	0.9	0.0005	-33.01	0.050	1.61
270	75.6	1.4	0.0019	-27.25	0.097	2.13
300	103.4	-26.4	0.0095	-20.22	0.218	3.11
330	84.1	-7.1	0.0135	-18.69	0.260	3.40
Ave El= 74.63 M    HAAT= 2.37 M    AMSL= 77						