

TECHNICAL EXHIBIT
APPLICATION FOR FM CONSTRUCTION PERMIT
FM TRANSLATOR W243BB
BYHALIA, MISSISSIPPI
CH 242D 0.25 KW (MAX-DA)

Technical Narrative

This Technical Exhibit was prepared in support of an application for construction permit for a FM translator station W243BB at Holly Springs, Mississippi. This application proposes to make W243BB a fill-in translator for WWWN(FM) at Holly Springs, Mississippi, relocate the transmitter site and make a minor modification to the frequency to Channel 242D (96.3 MHz).

W243BB will be mutually-exclusive to its presently licensed facility as the herein proposed 60 dBu proposed contour intersects its licensed 60 dBu protected contour as shown by the map provided in Figure 1.

LPFM Preclusion Analysis

The proposed and existing transmitter sites for W243BB are located in one of the counties, Marshall, of the *Memphis Arbitron Metro* area. Therefore, as W243BB is not making a change into a new Arbitron market, an LPFM availability analysis is not required.

Tower Registration

The transmitter site will be located at an antenna supporting structure defined by Antenna Structure Registration Number: 1283144. The antenna radiation center will be 345 feet (105 meters) above ground level.

Predicted Coverage Contour

The predicted 60 dBu coverage contour was calculated in accordance with Section 73.313 of the FCC Rules. The average terrain elevations from 3 to 16 km from the proposed site were computed using the N.G.D.C. 30-second terrain database. The distances to the predicted 60 dBu coverage contour for the proposal was determined using the average elevations of radials spaced every 10-degrees of azimuth. It is proposed to use a Shively 6020 vertically-polarized transmitting antenna. The antenna radiation center height above average terrain and the ERP in each radial direction were used in conjunction with the propagation prediction curves of Section 73.333 to determine the distances to the contour. Figure 1 is a map showing the predicted 60 dBu coverage contour of the proposed translator facility.

Allocation Considerations

Toward all other licensed and authorized stations, there is no prohibited contour overlap predicted except to first-adjacent station WWWN(FM) on Channel 243A at Holly Springs, Mississippi. However, as W243BB will be a fill-in translator for WWWN(FM), no consideration of interference to WWWN(FM) is necessary.

Radio Frequency Exposure Analysis

The proposal is categorically excluded from environmental processing, as an existing tower site is to be employed, and the proposal complies with the FCC Rules concerning human exposure to radio frequency (RF) energy. The proposal will not exceed 5 percent of the RF exposure limit for general population/uncontrolled environments for the

frequency proposed. The calculation of RF energy at ground level was made under the procedures of OET Bulletin No. 65.¹ The formula employed is as follows:

$$S = \frac{(33.4)F^2P}{R^2}$$

Where, S = power density in $\mu\text{W}/\text{cm}^2$, F = relative field factor at the angle to the calculation point, P = the total effective radiated power relative to a dipole in watts, and R = distance from the antenna radiation center to the calculation point in meters. Based on the conservative assumption of a relative field factor of 1.0 with a total effective radiated power of 250 watts, and an antenna radiation center height above ground of 105 meters (345 feet), the calculated power density will not exceed $1.6 \mu\text{W}/\text{cm}^2$. Therefore, the calculated RF exposure at ground level will not exceed 1 percent of the limit of $200 \mu\text{W}/\text{cm}^2$ for an uncontrolled electromagnetic environment. As the predicted exposure contribution is less than five percent, consideration of other emitters is not necessary.

The transmitter site shall be restricted from access. In the event that personnel are required to climb the structure, the proposed FM translator transmissions shall be reduced or terminated as necessary to prevent RF exposure above the FCC recommended limits.

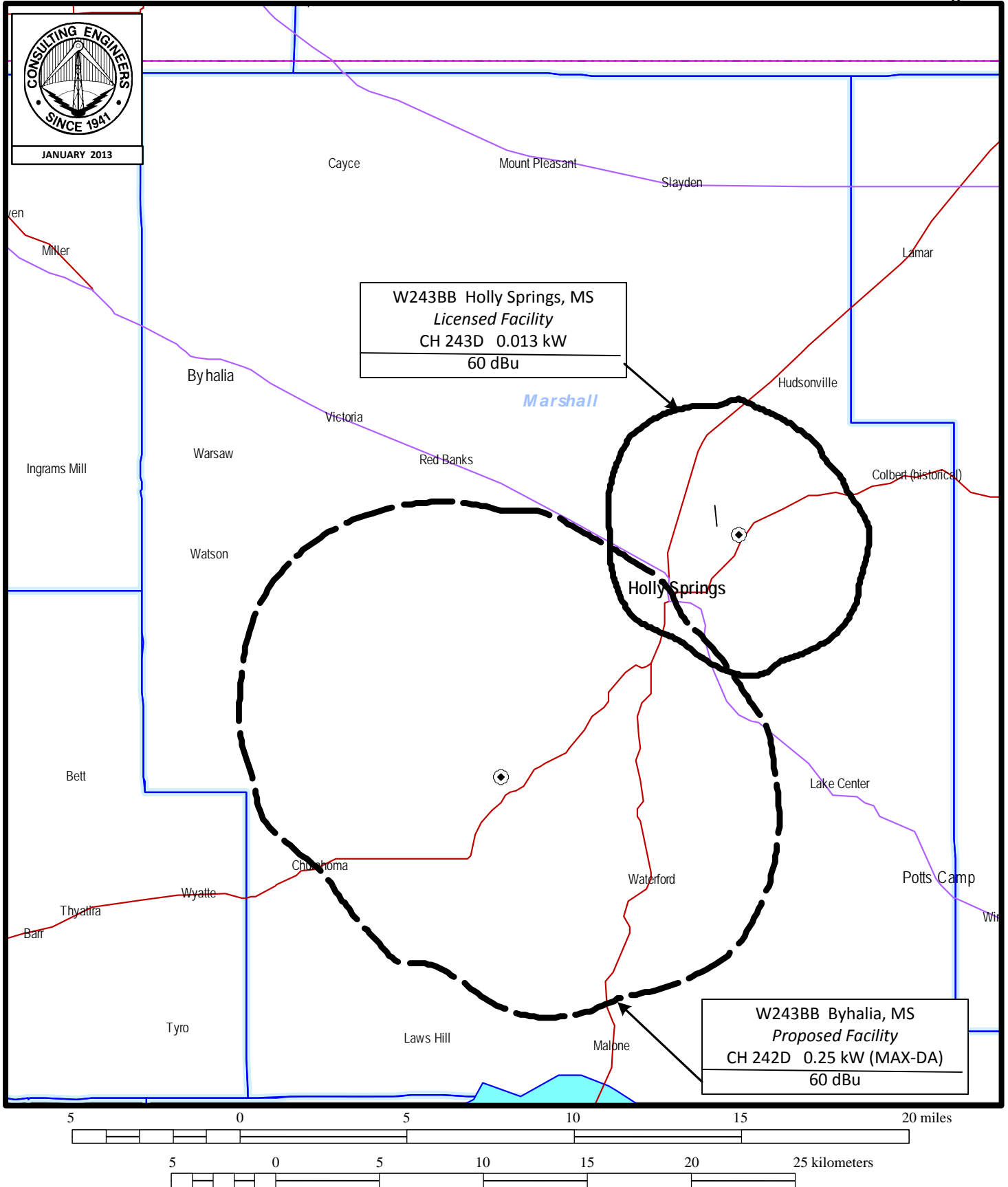
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¹ Federal Communications Commission OET Bulletin No. 65, Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields (Edition 97-01, August 1997).

Figure 1



FCC PREDICTED COVERAGE CONTOURS

FM TRANSLATOR STATION W243BB
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