

TECHNICAL EXHIBIT
APPLICATION FOR FM CONSTRUCTION PERMIT
FM TRANSLATOR K261DW
AUSTIN, TEXAS
CH 261D 0.099 KW

Technical Narrative

This Technical Exhibit was prepared in support of an application for construction permit for a FM translator station K261DW at Austin, Texas. K261DW is currently licensed to operate with a maximum effective radiated power (ERP) of 99 watts (BLFT-20121128ABK). This application proposes to replace its present directional antenna with a non-directional antenna facility.

K261DW will be mutually-exclusive to its presently licensed facility as the herein proposed 40 dBu interfering contour intersects its licensed 60 dBu protected contour as shown by the map provided in Figure 1.

Tower Registration

The transmitter site will be located at an antenna supporting structure defined by Antenna Structure Registration Number: 1013180. The antenna radiation center will be 1130 feet (344 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 Scala CL-FM 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 toward: (1) K259AJ on 99.7 MHz at Austin and (2) KASE-FM on Channel 264C (100.7 MHz) at Austin.

The protected 60 dBu contours of K259AJ and KASE-FM overlap the proposed K261DW 100 dBu interfering contour. However, no actual interference is predicted to occur to any populated area as required by Section 74.1204(d) of the Commission's Rules. It is noted that the herein proposed K261DW is essentially co-located with K259AJ and KASE-FM. K261DW is located only 160 meters away from K259AJ, only 450 meters away from the licensed KASE-FM (BLH-19820628AN) and exactly co-located with the authorized KASE-FM (BPH-20110826ABA).

The maximum proposed K261DW effective radiated power of 99 watts is 6.6 dB below the K259AJ effective radiated power and 30 dB below the KASE-FM effective radiated power. Therefore, it is obvious that the Section 74.1204(d) requirement of the lack

of affected population due to this contour overlap will occur, as K261DW will not produce a field where the -40 dB desired-to-undesired ratio is exceeded to either of these two stations.

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 2 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 198 watts (99 watts vertical, 99 watts horizontal), and an antenna radiation center height above ground of 344 meters, the calculated power density will not exceed $0.1 \mu\text{W}/\text{cm}^2$. Therefore, the calculated RF exposure at ground level will not exceed 5 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.

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).

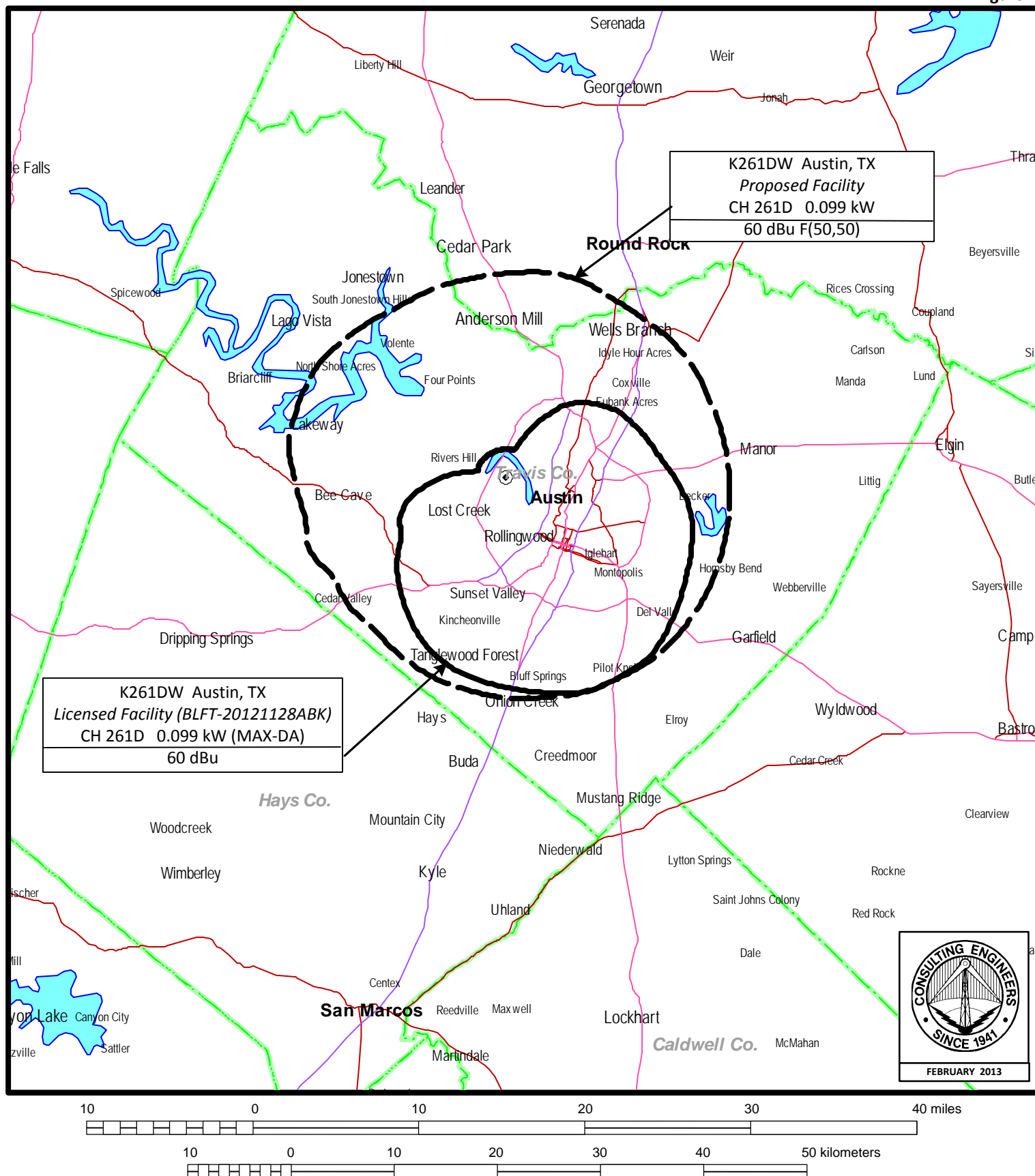
The transmitter site shall be restricted from access. In the event that personnel are required to climb the structure, the proposed FM translator transmissions shall be reduced or terminated as necessary to prevent RF exposure above the FCC recommended limits.

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Figure 1



FCC PREDICTED COVERAGE CONTOURS

FM TRANSLATOR STATION K261DW
AUSTIN, TEXAS
CH 261D 0.099 KW

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