

TECHNICAL EXHIBIT  
APPLICATION FOR AUXILIARY ANTENNA  
STATION WRZA  
PARK FOREST, ILLINOIS  
CH 260B 3.5 KW 134 M

Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of an application for an auxiliary antenna for FM station WRZA at Park Forest, Illinois. Currently, WRZA is licensed to operate on channel 260B (99.9 MHz) at Park Forest with a nondirectional antenna maximum effective radiated power (ERP) of 50 kilowatts (horizontal and vertical polarizations) and an antenna radiation center height above average terrain (HAAT) of 150 meters (BMLH-20010511ABE). By means of this instant application, WRZA proposes an auxiliary operation on channel 260B from a site located 19.1 km northeast of the WRZA licensed site with a nondirectional ERP of 3.5 kW and an HAAT of 134 meters. An ERI model P-300-4E, vertically polarized antenna will be utilized.

Antenna Location Coordinates (NAD 27)/Antenna Structure  
Registration Number

The geographic coordinates (NAD 27) for the proposed WRZA auxiliary antenna tower are as follows:

Latitude 41° 27' 15" North/Longitude 87°43'22" West

The tower registration number for the proposed WRZA auxiliary antenna tower is 1009091.

Compliance With Section 73.1675(a)

Figure 1, attached, is a map which demonstrates that the 1 mV/m contour of the auxiliary facility is located entirely within the 1 mV/m contour of the current main facility in accordance with Section 73.1675(c)(1).

Environmental Considerations

The proposed WRZA facilities were evaluated in terms of potential radiofrequency radiation exposure at 2 meters above ground level in accordance with the OST Bulletin No. 65,

"Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation". This Bulletin provides assistance in determining whether FCC-regulated transmitting facilities, operations or devices comply with limits for human exposure to radiofrequency (RF) electromagnetic fields adopted by the Commission in 1996.<sup>1</sup>

The proposed WRZA antenna will be mounted at the 111 meter level on the existing tower structure. The calculated power density at 2 meters above ground level at the base of the tower was calculated using the appropriate equation contained in the Bulletin. Using a "worst case" vertical relative field value of 1.0 for the proposed nondirectional antenna, the total ERP of 3.5 kW (vertical polarization) and an antenna center of radiation height above ground level of 111 meters, the calculated power density at two meters above ground level at the base of the tower is 0.0098 milliwatt per square centimeter ( $\text{mW}/\text{cm}^2$ ), or 4.9 percent of the Commission's recommended limit applicable to general population/uncontrolled exposure areas ( $0.2 \text{ mW}/\text{cm}^2$  for FM channel 260). Therefore, based on the responsibility threshold of 5%, the proposal will comply with the RF emission rules.

Access to the tower site will be restricted and appropriately marked with warning signs. Furthermore, as this is a multi-user site, procedures will be in effect in the event that workers or other authorized personnel enter the restricted area or climb the tower to ensure that appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such procedures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the station is at reduced power or shut down.

Finally, it is noted that this technical exhibit only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental

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<sup>1</sup> See Report and Order in ET Docket 93-62, FCC 96-326, adopted August 1, 1996, 11 FCC Rcd 15123 (1997). See also *First Memorandum Opinion and Order*, ET Docket 93-62, FCC 96-487, adopted December 23, 1996, 11 FCC Rcd 17512 (1997), and *Second Memorandum Opinion and Order and Notice of Proposed Rulemaking*, ET Docket 93-62, FCC 97-303, adopted August 25, 1997.

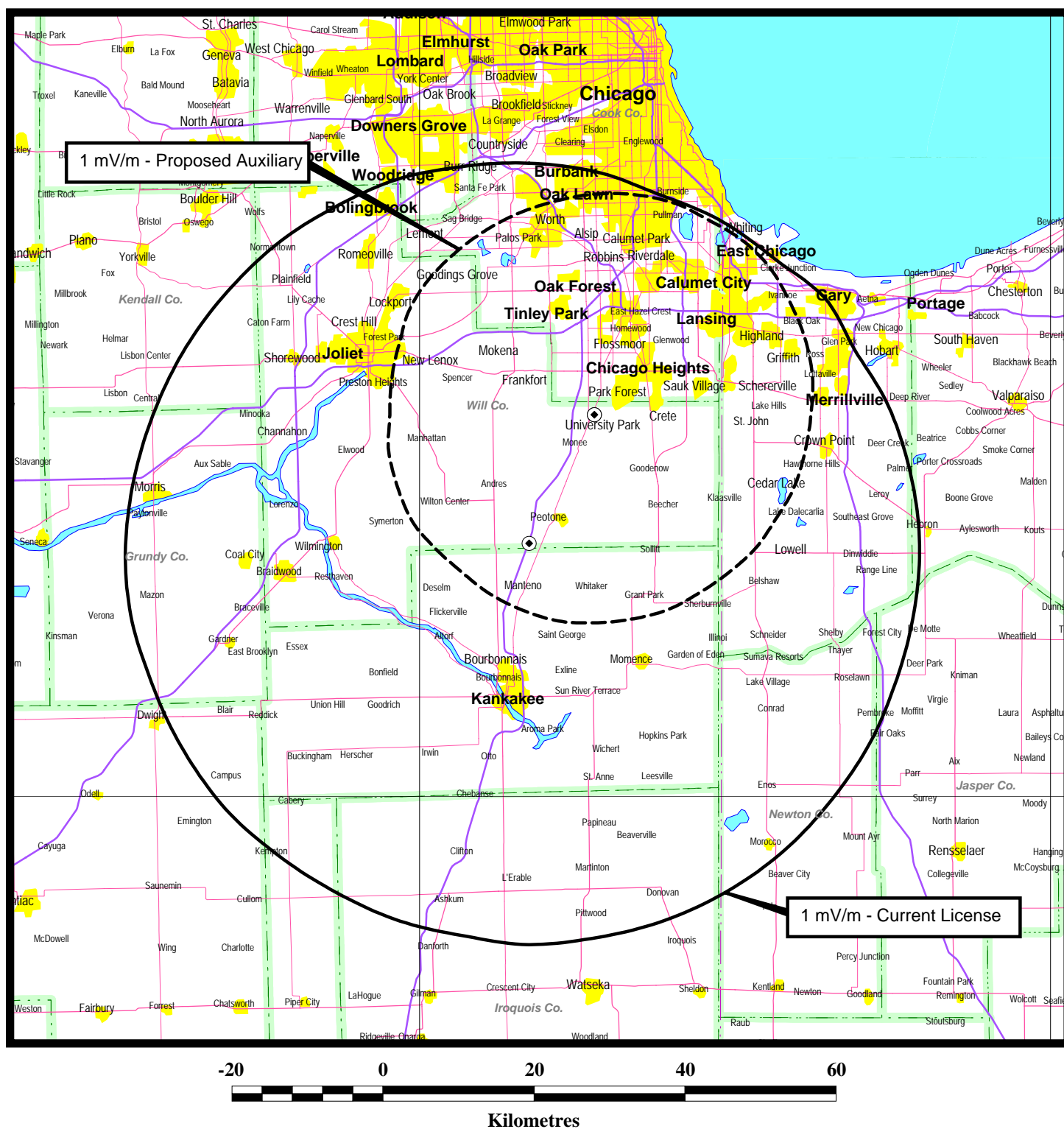
processing analysis will be or already has been provided to the FCC by the tower owner as part of the tower registration process.

W. Jeffrey Reynolds

du Treil, Lundin & Rackley, Inc.  
201 Fletcher Avenue  
Sarasota, FL 34237-6019  
(941) 329-6000  
JEFF@DLR.COM

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Figure 1



## COMPLIANCE WITH SECTION 73.1675(a)

PROPOSED AUXILIARY OPERATION  
STATION WRZA  
PARK FOREST, ILLINOIS  
CH 260B 3.5 KW 134 M