

TECHNICAL EXHIBIT  
APPLICATION FOR MODIFICATION OF  
AUXILIARY STATION CONSTRUCTION PERMIT  
STATION WNKL(FM) (FACILITY ID 78441)  
WAUSEON, OHIO  
CH 245A 0.15 KW (MAX-DA) 109 M

Technical Narrative

The technical exhibit of which this narrative is part was prepared on behalf of radio station WNKL(FM) at Wauseon, Ohio. The WNKL(FM) main facility is presently licensed on Channel 245A with a maximum effective radiated power of 5 kilowatts and antenna height above average terrain of 109 meters.<sup>1</sup> By this instant application, WNKL(FM) is proposing to modify its existing auxiliary (stand-by) construction permit authorization.<sup>2</sup>

The WNKL(FM) auxiliary antenna is interleaved with the main WNKL(FM) antenna and is presently employed by the WNKL(FM) IBOC operation.<sup>3</sup> Both antennas (the main and the IBOC (proposed auxiliary) have identical radiation centers and their respective radiation patterns are entirely encompassed by the WNKL(FM) directional antenna pattern envelope.

Transmitter Location

The proposed auxiliary site location is uniquely described by the following NAD-27 coordinates:

---

<sup>1</sup> See FCC File No. BLH-20030311AML.

<sup>2</sup> See FCC File No. BXPB-20040625AAZ.

41° 36' 03" North Latitude  
83° 54' 27" West Longitude

A sketch showing the antenna and supporting structure is shown on Figure 1. It is proposed to operate with a maximum ERP of 0.15 kilowatt.

#### Blanketing Contour

The 115 dBu predicted blanketing contour of the station would extend radially less than 1.0 kilometer from the transmitting site. The applicant recognizes its responsibility to resolve complaints of blanketing interference as required by Section 73.318.

#### Coverage Contours

The predicted 60 dBu coverage contours for the auxiliary operation and the existing main operation were calculated in accordance with the provisions of Section 73.313. In accordance with current FCC practice, the distances to the contours were calculated without consideration given to terrain roughness correction factors.

The average terrain elevations from 3 to 16 kilometers along eight radials evenly spaced at 45 degree intervals were obtained from the National Geophysical Data Center's (NGDC) 30-second terrain database. The terrain elevations were then used in combination with the effective radiated power for determining the distances to coverage contours.

Figure 2 is a map showing the predicted 60 dBu coverage contours for the licensed and proposed operations. As the map illustrates, the predicted auxiliary's 60-dBu contour is entirely encompassed by the primary station's 60-dBu contour.

---

<sup>3</sup> This interleaved antenna system is manufactured by Shively and the complete installation details are contained within the WNLK(FM) application for main station license (BXPB-20040625AAZ).

Radiofrequency Electromagnetic Field Considerations

The proposed WNKL(FM) auxiliary facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. Assuming a conservative downward relative field of 1.0 the calculated power density at ground level is  $0.001 \text{ mW/cm}^2$  or less than 5% of the FCC's recommended limit of  $0.2 \text{ mW/cm}^2$  for FM frequencies in an "uncontrolled" environment.

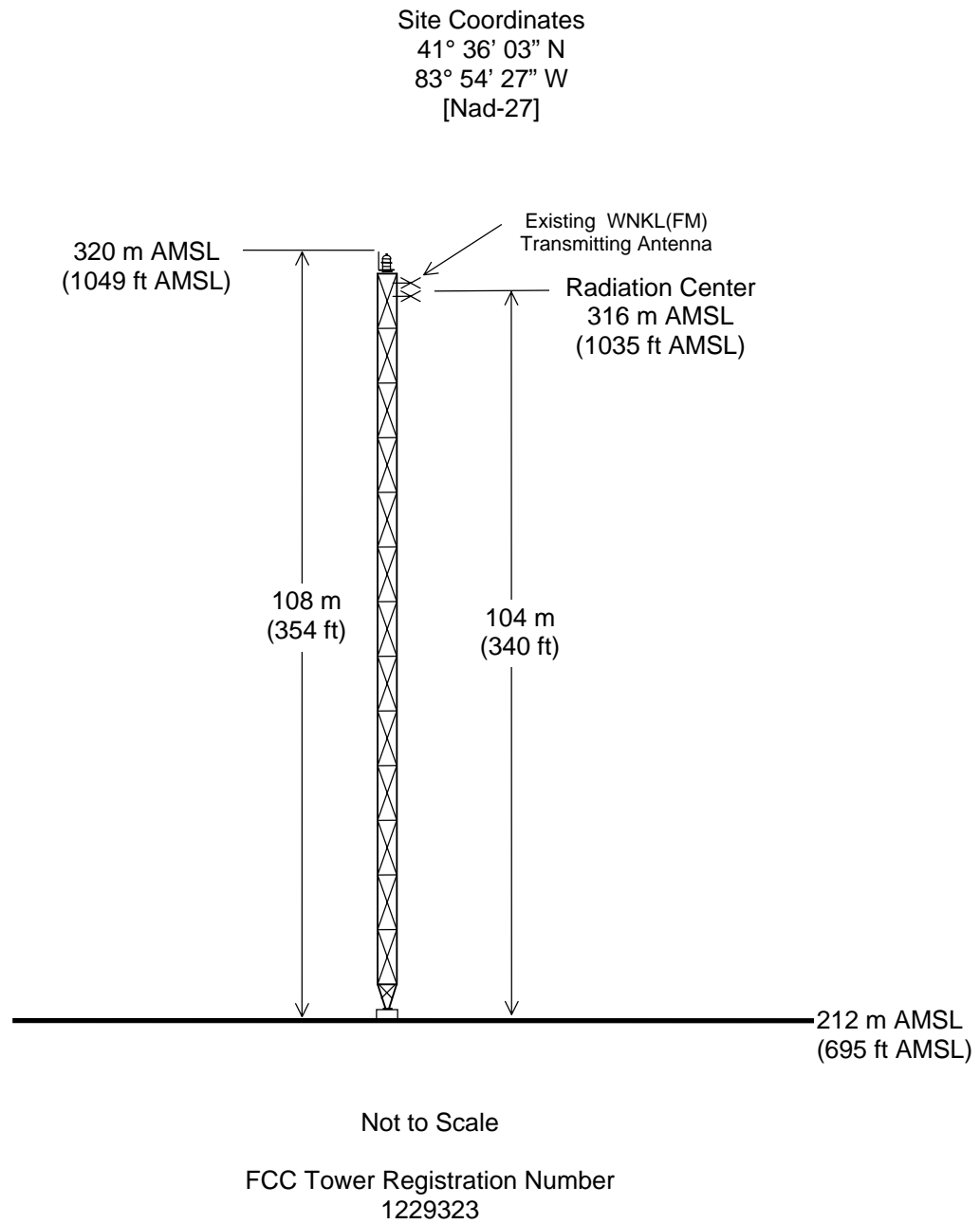
It is noted that this technical exhibit only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis have been provided to the FCC by the tower owner as part of the tower registration process.

Access to the transmitting site is restricted and appropriately marked with warning signs. In the event that workers or other authorized personnel enter restricted areas or climb the tower or any nearby adjacent towers, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures 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 stations are at reduced power or shut down.

Charles A. Cooper

du Treil, Lundin & Rackley, Inc.  
201 Fletcher Avenue  
Sarasota, Florida 34237  
941.329.6000

November 17, 2005

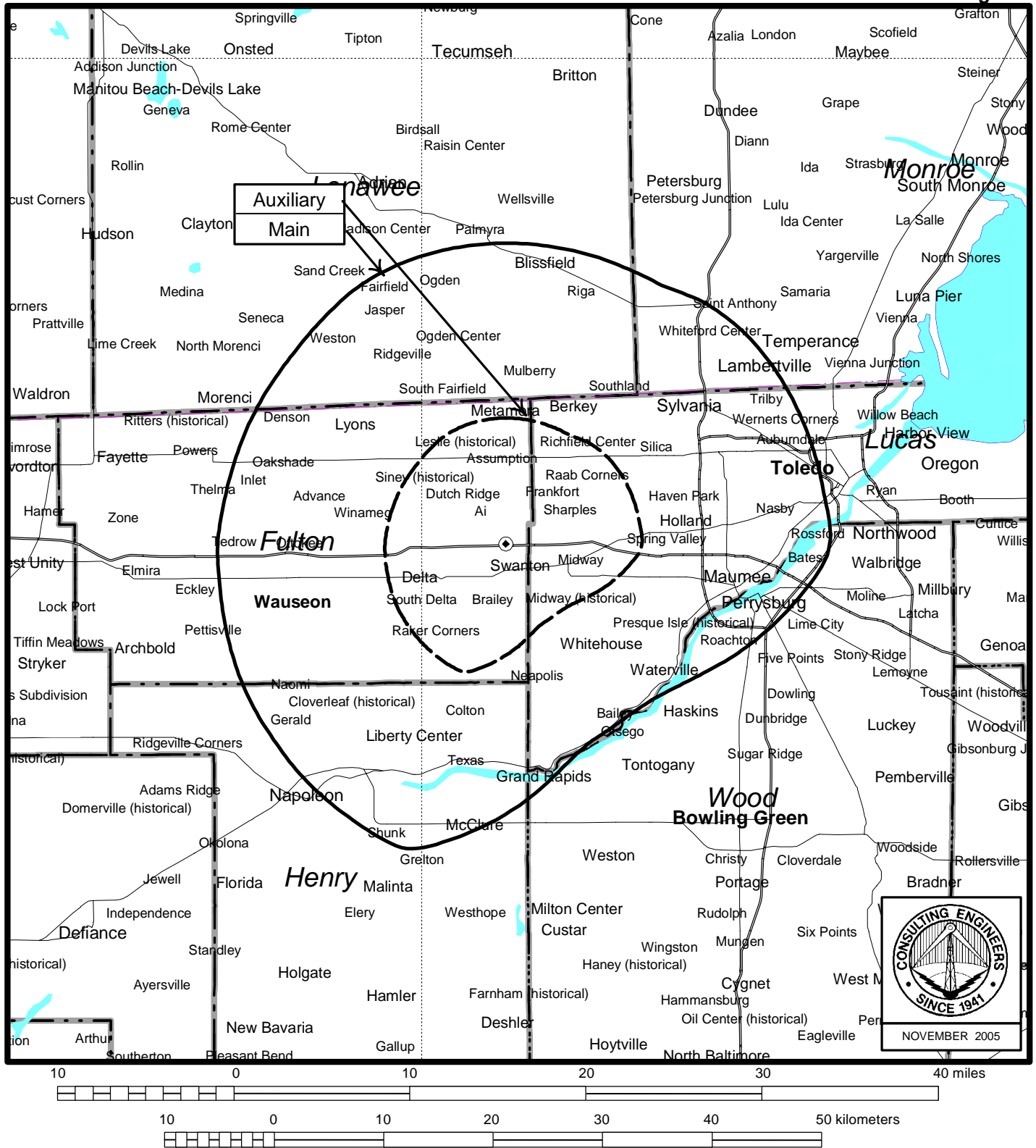


## **PROPOSED ANTENNA AND SUPPORTING STRUCTURE**

FM RADIO STATION WNKL(FM)  
WAUSEON, OHIO  
AUXILIARY FACILITY  
CH 245A 0.15 KW (MAX-DA) 109 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

Figure 2



## FCC PREDICTED 60 DBU COVERAGE CONTOURS

RADIO STATION WNKL(FM)  
 AUXILIARY FACILITY  
 WAUSEON, OHIO  
 CH 245A 0.15 KW (MAX-DA) 109 M

du Treil, Lundin & Rackley, Inc., Sarasota, Florida