

TECHNICAL EXHIBIT  
COMPANION CHANNEL APPLICATION  
CLASS A STATION W24AJ (FACILITY ID 168237)  
AURORA, ILLINOIS  
CH 22 15 KW (MAX-DA)

Technical Narrative

This Technical Exhibit supports a “long-form” application for Class A station W24AJ. Station W24AJ is licensed to operate on analog channel 24 with a directional antenna maximum (visual) effective radiated power (ERP) of 7 kW and an antenna height above mean sea level (RCAMSL) of 367 meters (BLTTL-19990716JA).

W24AJ filed a companion channel application for channel 22 (BSFDTL-20060630CEQ), which is noted on the Commission’s Auction no. 85 non-mutually exclusive proposal list (DA 06-1748). The FCC requires that “long-form” applications be filed by October 30, 2006. Therefore, this application is being filed to cover that “short-form” proposal.

Proposed Facilities

This application proposes digital operation on channel (22), at the current transmitter site. The site coordinates are (NAD27): 41-36-22 N, 88-27-09 W. An Antenna Concepts (ANT) model ACS8E directional antenna, with a maximum ERP of 15 kW and antenna RCAMSL of 367 meters is proposed. The existing 151.5 meter tower is assigned antenna structure registration number 1010528.

Figure 1 is a map showing the licensed 74 dBu (analog) and proposed 51 dBu (digital) coverage contours. As can be seen on the map, there is common area where both contours overlap.

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Allocation Considerations

A study has been conducted to assure that the proposal will not create prohibited interference with other licensed, authorized or pending analog or digital TV, LPTV/translator and Class A TV stations. Using the procedures outlined in the FCC's OET-69 Bulletin, a 1-kilometer cell size resolution and 1990 U.S. Census, the proposal complies with the current FCC policy (i.e., less than 0.5% new interference caused to other pertinent assignments). If necessary, a waiver of the FCC rules is respectfully requested based on use of the procedures outlined in the FCC's OET-69 Bulletin.

The applicant understands that it must correct and/or eliminate prohibited interference that may result from its proposed operation.

Radiofrequency Electromagnetic Field Exposure

The proposed W24AJ analog and proposed digital facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. The radiation center for the proposed digital antenna is located 130.8 meters above ground level. The proposed maximum digital ERP is 15 kW. Based on a conservative vertical relative field of 0.5, the calculated power density at a point 2 meters (6.6 feet) above ground level will not exceed  $0.008 \text{ mW/cm}^2$ , which is 2.3% of the FCC's recommended limit of  $0.35 \text{ mW/cm}^2$  for channel 22, applicable to general population/uncontrolled exposure areas.

Access to the transmitting site will be restricted and appropriately marked with warning signs. In the event that workers or other authorized personnel enter restricted areas or climb the tower, 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. It is noted that this statement only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis will be or already have been provided to the FCC by the tower owner as part of the tower registration process.



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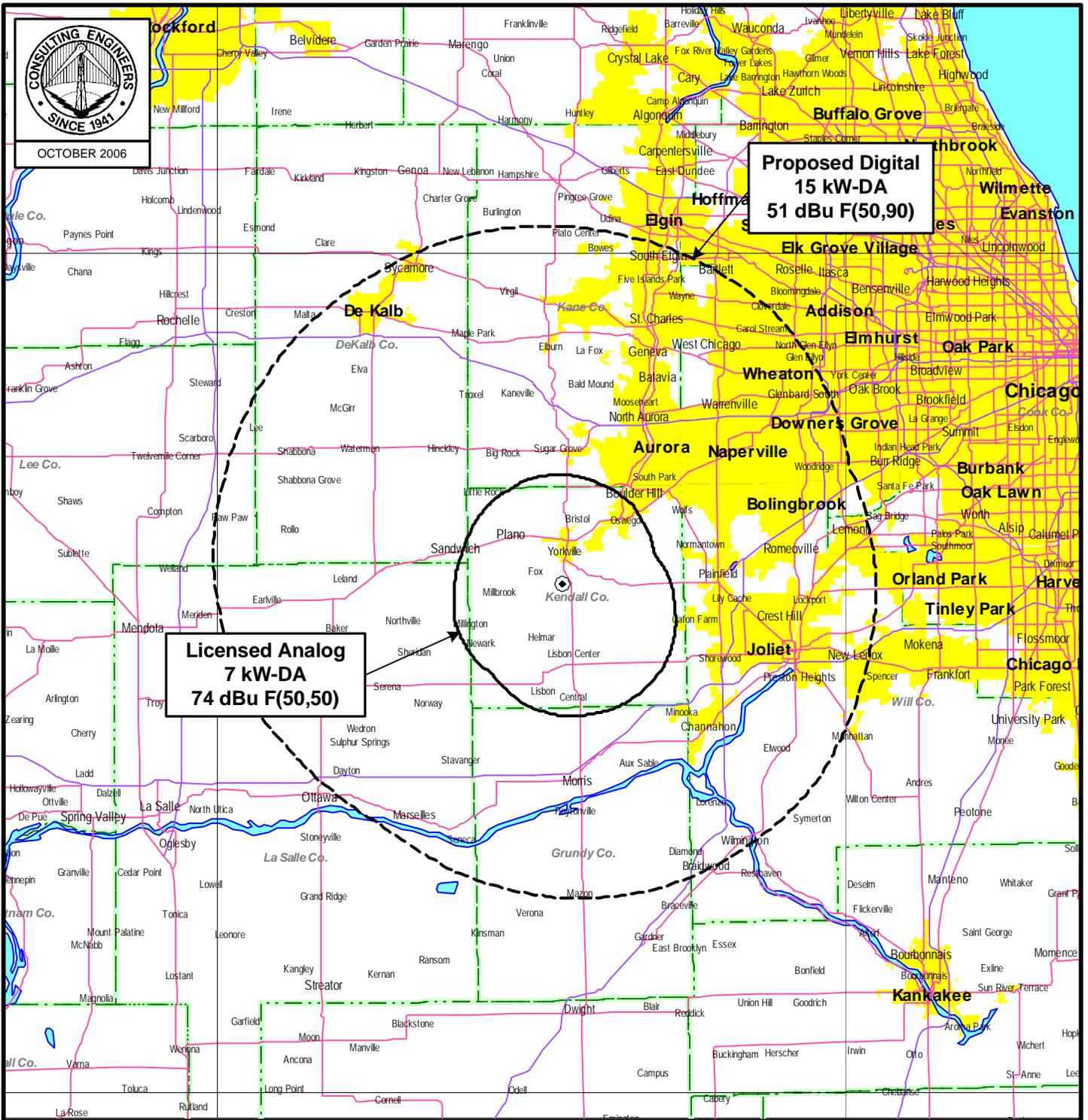
October 18, 2006

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W24AJ RF Transmission System Specifications

Description	System
Transmitter Power Output (1.4 kW):	1.5 dBk
Transmission Line Loss (1-5/8" foam) 450 feet:	2.7 dB
Antenna Concepts ACS8E Gain (20 Power Gain):	13.0 dB
Effective Radiated Power (15 kW):	11.8 dBk

Figure 1



**PREDICTED COVERAGE CONTOURS**

STATION W24AJ

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