

TECHNICAL EXHIBIT  
APPLICATION FOR CONSTRUCTION PERMIT  
CLASS A TV STATION WFXQ-CA  
FACILITY ID 2650  
SPRINGFIELD, MASSACHUSETTS  
CH 28 125 KW (MAX-DA)

Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of a minor modification application for Class A TV station WFXQ-CA at Springfield, Massachusetts (Facility ID: 2650). Specifically, this application proposes to modify the WFXQ-CA licensed operation to change transmitter site, reduce the radiation center above mean sea level (RCMSL) and increase the effective radiate power (ERP) to 125 kW.

Proposed Operation

Station WFXQ-CA proposes to operate on analog channel 28 (554-560 MHz) from an existing tower site. A Dielectric model TLP-24B directional antenna will be employed with a maximum ERP of 125 kW and an RCMSL of 297 meters. The Dielectric directional antenna will be mounted at the 102 meter level on an existing 160 meter tower (ASR 1004484).

Response to Paragraph 13

A study has been conducted using the OET Bulletin 69 interference model.<sup>1</sup> The results indicate that the proposed operation will not create prohibited interference to stations in the Land Mobile Radio Service (LMRS) or other existing, authorized or proposed NTSC or DTV full-power, LPTV, TV translator or Class A stations.

Minor Change Application

Figure 1 depicts the licensed (BLTTA-20060302ABV) and herein proposed 74 dBu contours for WFXQ-CA. As indicated, the proposed 74 dBu encompasses all of the licensed 74 dBu contour.

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<sup>1</sup>The du Treil, Lundin & Rackley, Inc. DTV interference analysis program is based on the program and procedures outlined by the FCC in the Sixth Report and Order; subsequent Memorandum Opinion and Order; and FCC OET Bulletin No. 69. A nominal grid size resolution of 2 km was employed. An Alpha based processor computer system was employed. The results have been found to be in very close agreement with the results of the FCC implementation of OET Bulletin No. 69.

Therefore, the proposed modification is considered a "minor" change in facilities pursuant to Section 73.3572.

US-Canadian LOU Compliance

The proposed transmitter site is located 326 kilometers from the closest point of the Canadian border. The WFXQ-CA interfering 19.5 dBu, F(50,10) contour does not overlap any portion of Canada. Therefore, it is believed that the proposed WFXQ-CA operation is in full compliance with the US-Canadian Letter of Understanding (LOU).

Response to Paragraph 14 - Environmental Protection Act

The proposed WFXQ-CA facilities were evaluated in terms of potential radiofrequency radiation exposure at ground level in accordance with OET Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation." The calculated power density at 2 meters above ground level at the base of the tower was calculated using the appropriate equation of the Bulletin. Figure 2 depicts the vertical pattern data for the proposed directional antenna. Using a worst-case vertical relative field value of 0.19 at depression angles towards the tower base ( $-60^{\circ}$  to  $-90^{\circ}$  elevation), a maximum ERP of 125 kilowatts, the calculated power density at 2 meters above ground level at the base of the tower is 0.0150 milliwatts per square centimeter ( $\text{mW}/\text{cm}^2$ ), or 4.1% percent of the Commission's recommended limit of  $0.37 \text{ mW}/\text{cm}^2$  for TV channel 28 applicable to general population/uncontrolled exposure areas. Therefore, based on the responsibility threshold of 5%, the proposal will comply with the new RF emission rules.

Access to the transmitting site will be restricted and appropriately marked with warning signs. Furthermore, as this is a multi-user site, an agreement will be in place to ensure that 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.

Finally, it is noted that this technical exhibit only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis will be or already has been provided to the FCC by the tower owner as part of the tower registration process.

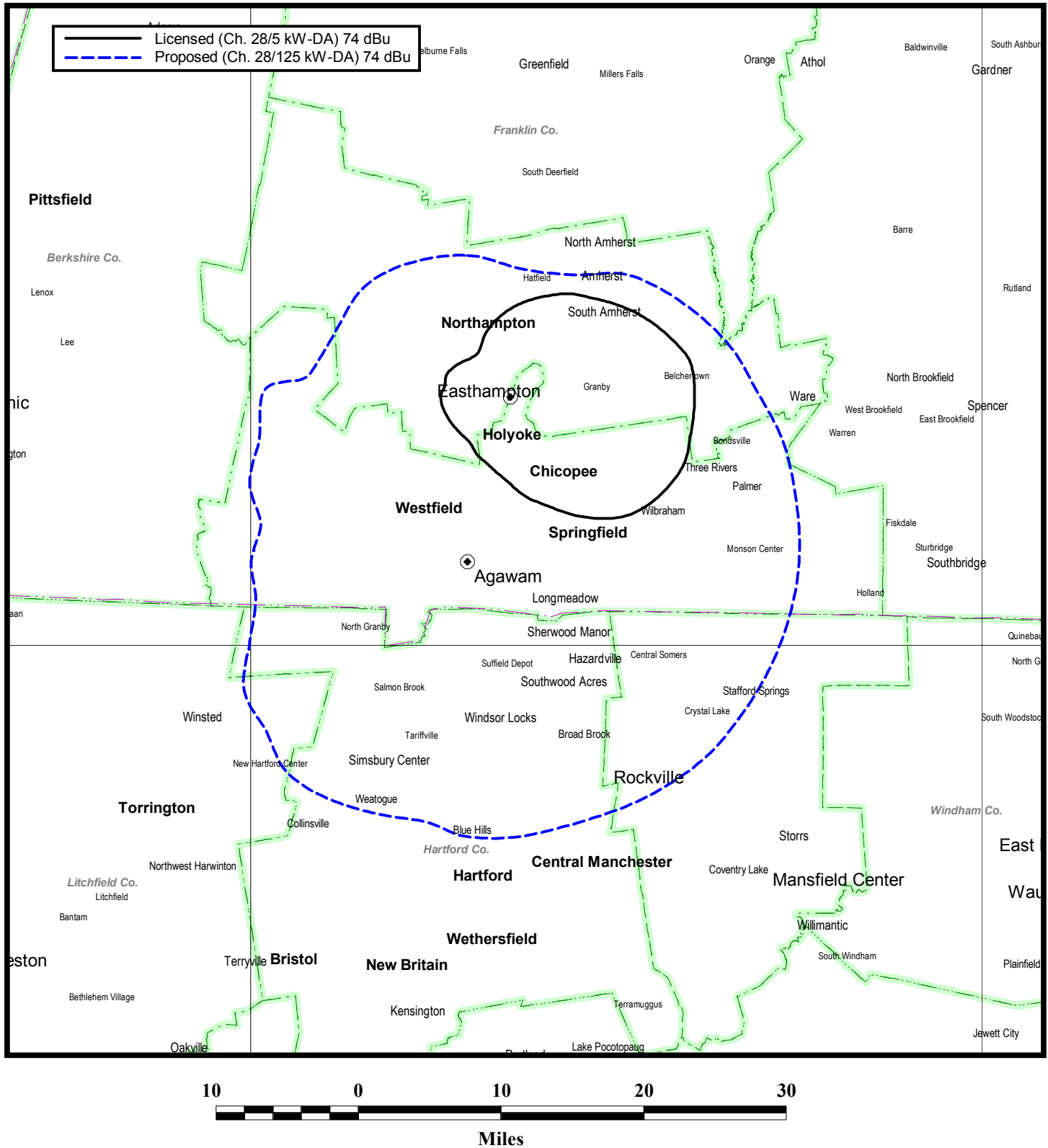
A handwritten signature in black ink, appearing to read 'J. Howell', is centered on the page.

Thomas J. Howell

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September 18, 2008

Figure 1



**FCC PREDICTED COVERAGE CONTOURS**

CLASS A STATION - WFXQ-CA  
SPRINGFIELD, MASSACHUSETTS  
CHANNEL 28

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

# Dielectric

Date

**18 Sep 2008**

Call Letters

**WFXQ-CA**

Channel

**28**

Location

**Springfield, MA**

Customer

Antenna Type

**TLP-24B**

## ELEVATION PATTERN

RMS Gain at Main Lobe

**23.0 (13.62 dB)**

Beam Tilt

**0.50 Degrees**

RMS Gain at Horizontal

**19.0 (12.79 dB)**

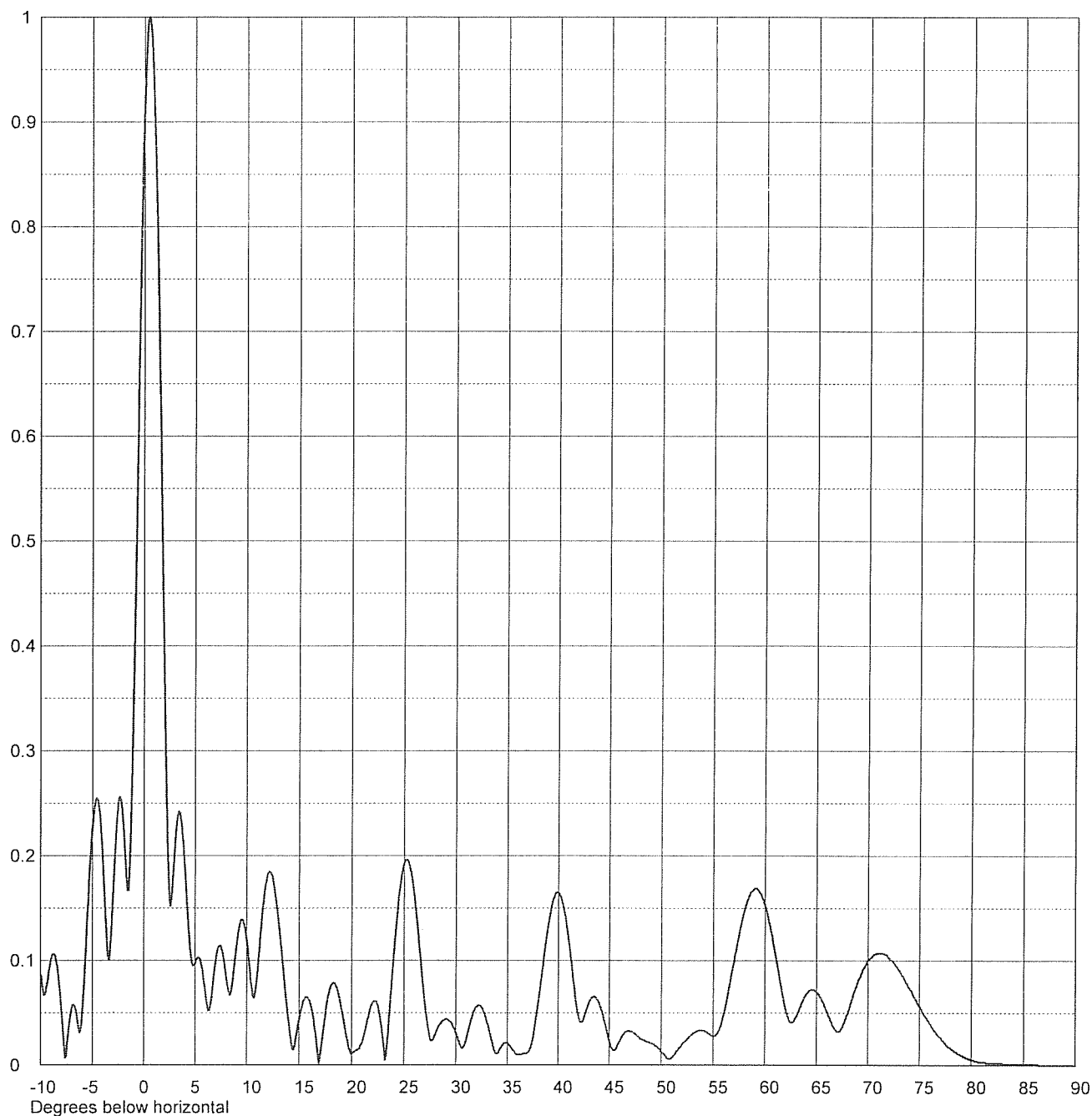
Frequency

**557.00 MHz**

Calculated / Measured

**Calculated**

Drawing #

**24L230050-90**

Remarks: