

**TECHNICAL EXHIBIT  
MINOR CHANGE APPLICATION FOR  
MODIFICATION OF CONSTRUCTION PERMIT  
STATION WRGB-DT (FACILITY ID 73942)  
SCHENECTADY, NEW YORK**

**MAY 26, 2006**

**CH 39 600 KW-ND 426 M**

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**Technical Narrative**

This Technical Exhibit supports a minor change application for modification of construction permit (CP) for digital television (DTV) station WRGB-DT at Schenectady, New York (Facility ID 73942).

Station WRGB was allotted DTV channel 39 at its analog site (42-38-12, 73-59-45). The FCC assigned the channel 39 DTV allotment an effective radiated power (ERP) of 1000 kilowatts (kW) and antenna height above average terrain (HAAT) of 311 meters.

Station WRGB-DT is currently authorized to operate on channel 39 (BPCDT-19991029ADH) with a non-directional (ND) antenna system. The ERP is 746 kW and the antenna HAAT is 426 meters. The antenna center of radiation is 139 meters above ground level (AGL), and 681.8 meters above mean sea level (AMSL). The transmitter site coordinates are 42-37-31, 74-00-38 (NAD-27). The FCC antenna structure registration number is 1231728.

**Proposed DTV Facilities**

This minor change application to modify the CP proposes to simply reduce the ERP to 600 kW-ND. There are no other changes from that authorized in the current WRGB-DT CP (BPCDT-19991029ADH).

Figure 1 is a map showing the predicted 41 dBu and 48 dBu contours for the proposed WRGB-DT operation. The city limits of Schenectady, New York are indicated. The predicted 48 dBu contour encompasses all of the land area within the Schenectady city limits. The estimated population (2000 Census) and land area within the predicted 41 dBu contour are 1,653,510 people and 32,540 square kilometers, respectively.

Figure 1 also shows the predicted 41 dBu contour for the WRGB-DT CP operation (Ch.39, 746 kW-ND, 426 m). The proposed 41 dBu contour is completely within the DTV allotment 41 dBu contour, complying with the FCC's freeze exemption for minor change DTV applications.

Figure 2 shows the proposed antenna's vertical radiation pattern.

### **Allocation Study**

An interference study was conducted using the procedures outlined in the FCC's OET-69 Bulletin, a 2 kilometer grid, and the 1990 Census (current FCC processing method). The proposed WRGB-DT operation complies with the FCC's interference standards. The proposed WRGB-DT operation involves a reduction in ERP, hence, no interference problems are expected.

There are no known AM stations within 5 kilometers (3.1 miles) of the WRGB-DT site. There are other FM and TV stations located in the area. Station WRGB-DT is currently operating with the proposed facilities (600 kW-ND, 426 m) under a special temporary authorization (STA, BMDSTA-20050415ADJ). No adverse electromagnetic interaction is expected from WRGB-DT's proposed operation. The applicant recognizes its responsibility to correct prohibited interference problems that its proposed operation may create.

The WRGB-DT site is about 247 kilometers from the closest point of the Canadian border. This application only proposes to reduce the ERP (746 kW-ND down to

600 kW-ND) from that already authorized in the current CP. Therefore, coordination with Canada should not be a concern.

The WRGB-DT site is more than 2600 kilometers from the closest point of the Mexican border. The closest FCC monitoring station is at Canandaigua, New York, 267 kilometers to the west. The closest point of the National Radio Quiet Zone (VA/WVA) is more than 500 kilometers to the southwest. The closest point of the Table Mountain Radio Quiet Zone (CO) is more than 2600 kilometers to the west. The closest radio astronomy site using channel 37 is at Hancock, New Hampshire, approximately 169 kilometers to the east-northeast. These separations are sufficient to not be coordination concern.

Calculations have been made concerning interference that the proposed WRGB-DT operation would receive. The calculations are based on the OET-69 procedures using a 2 kilometer grid and the 2000 Census. After consideration of terrain and interference, the proposed WRGB-DT operation would serve 1,471,263 people. This represents 101.2% of the required service population for WRGB-DT certification and the FCC's "use-it-or-lose-it" requirement.

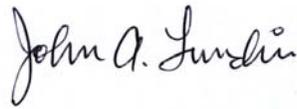
### **Radiofrequency Electromagnetic Field Exposure**

The proposed WRGB-DT 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 antenna is located 139 meters above ground level. The proposed ERP of 600 kW is assumed. A relative field value of 0.21 was assumed for the antenna's downward radiation (see Figure 2). The calculated power density at a point 2 meters (6.6 feet) above ground level is  $0.0471 \text{ mW/cm}^2$ . This is about 11.2% of the FCC's recommended limit of  $0.42 \text{ mW/cm}^2$  for channel 39 for an "uncontrolled" environment. The calculated power density is less than 3% of the FCC's recommended limit for a "controlled" environment.

Access to the transmitting equipment 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.

If there are questions concerning the technical portion of this application, please contact the office of the undersigned.

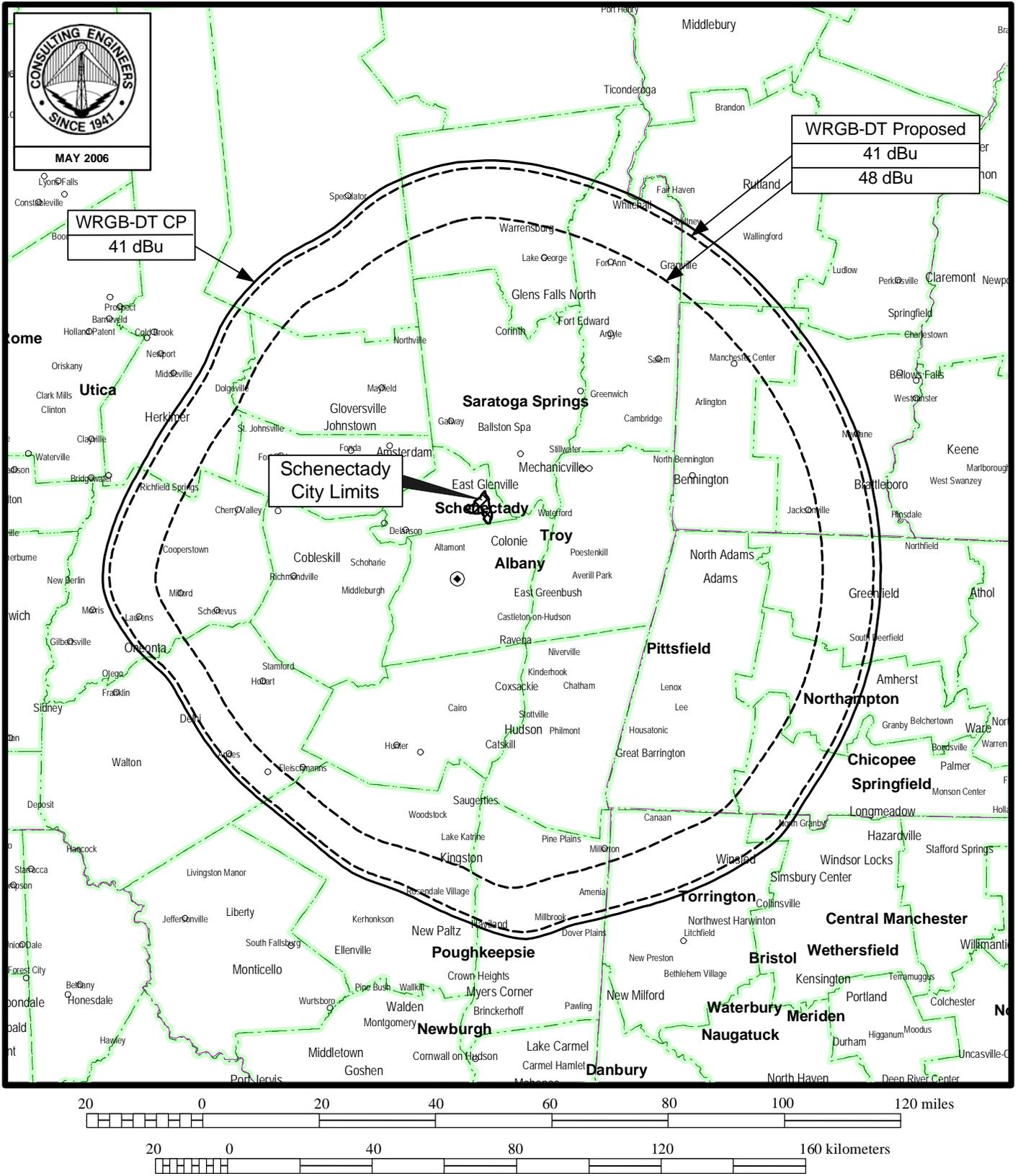


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May 26, 2006

Figure 1



# PREDICTED COVERAGE CONTOURS

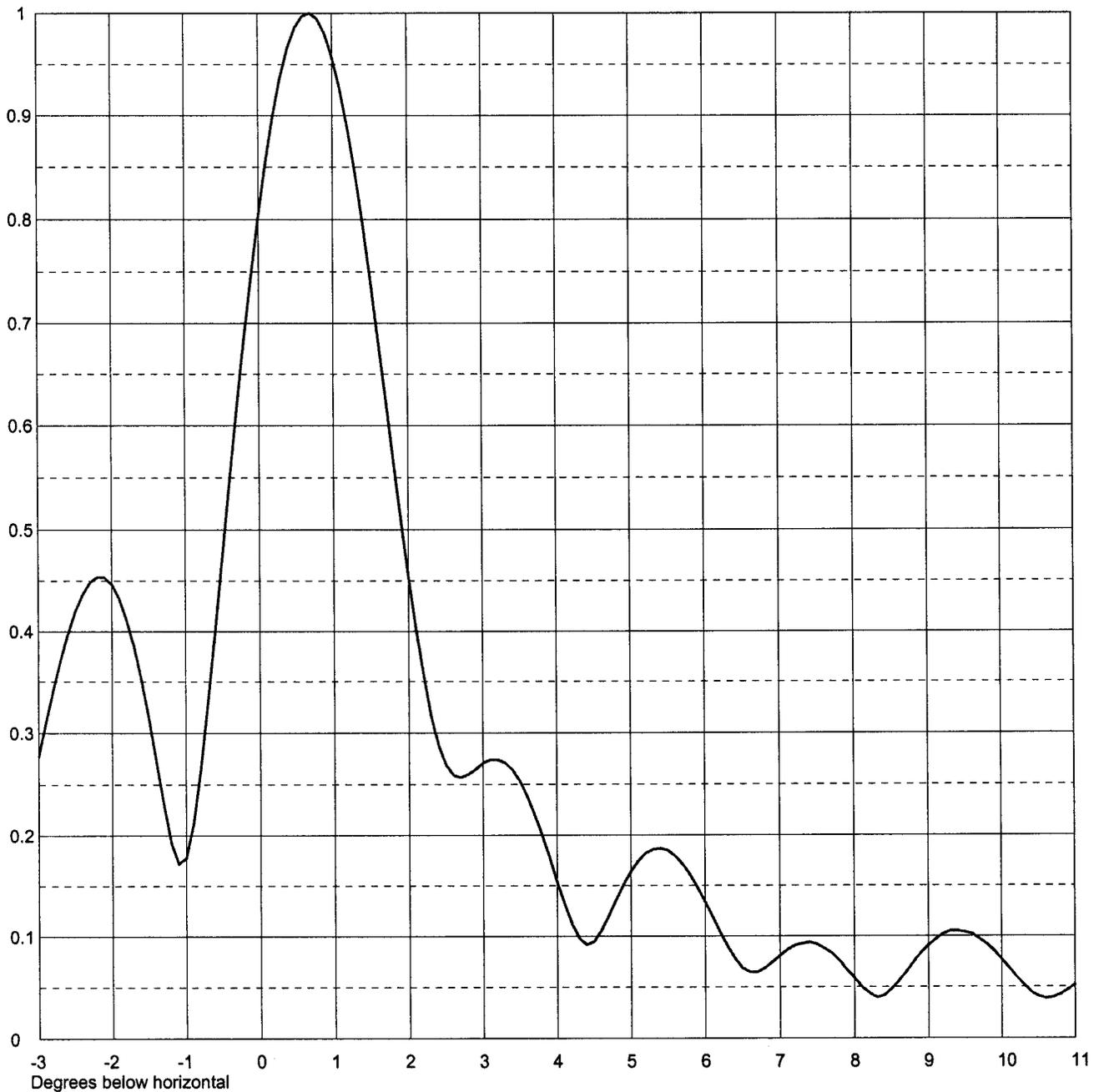
STATION WRGB-DT  
 SCHENECTADY, NEW YORK  
 CH 39 600 KW 426 M

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

Date **25 May 2006**  
Call Letters **WRGB-DT** Channel **39**  
Location **Schenectady, NY**  
Customer  
Antenna Type **TUD-O5-12/60H-T**

### ELEVATION PATTERN

RMS Gain at Main Lobe	<b>24.0 (13.80 dB)</b>	Beam Tilt	<b>0.75 Degrees</b>
RMS Gain at Horizontal	<b>15.5 (11.90 dB)</b>	Frequency	<b>623.00 MHz</b>
Calculated / Measured	<b>Calculated</b>	Drawing #	<b>12U240075</b>

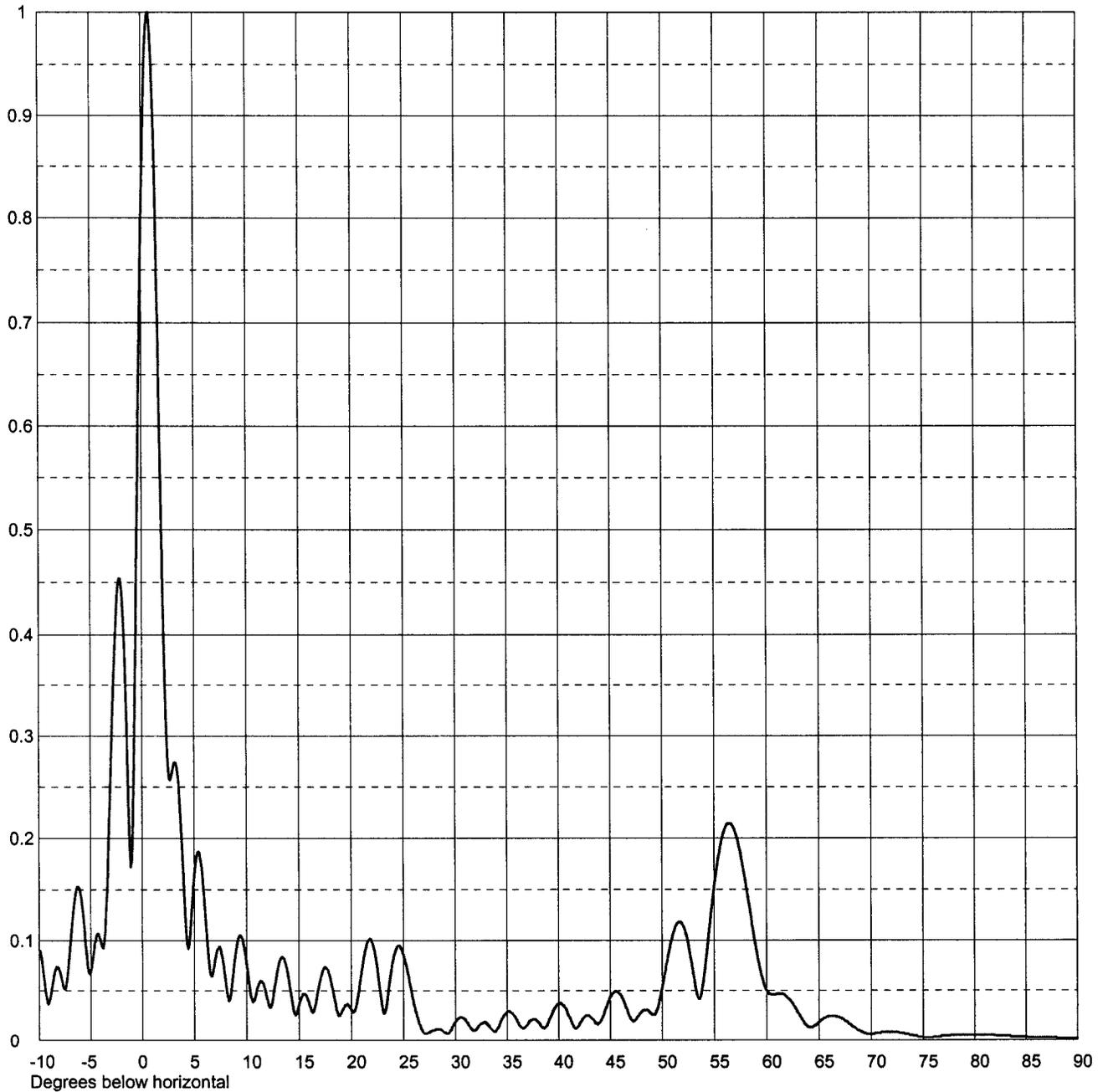


Remarks:

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Remarks: