

TECHNICAL EXHIBIT
MINOR AMENDMENT TO THE APPLICATION
STATION WRGB-DT (FACILITY ID 73942)
SCHENECTADY, NEW YORK

JANUARY 16, 2002

CH 39 746 KW 426 M

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Technical Narrative

This Technical Exhibit supports a minor amendment to the application for construction permit for digital television (DTV) station WRGB-DT on channel 39 at Schenectady, New York. Station WRGB-DT has an application pending to operate with a directional antenna maximum effective radiated power (ERP) of 716 kW and an antenna height above average terrain (HAAT) of 435 meters (BPCDT-19991029ADH).

Proposed Facilities

This amendment proposes to change the transmitter site, increase ERP, decrease antenna HAAT and employ mechanical beam tilt. The proposed transmitter site coordinates are 42-37-31 N, 74-00-38 W). WRGB-DT proposes to operate non-directionally from the new site with an ERP of 746 kW and antenna HAAT of 426 meters, along with 0.75 degree of electrical beam tilting and 0.25 degree of mechanical beam tilting at 45° True (*FCC tower registration no. 1231728*). The proposed facilities (746 kW, 426 m) comply with Section 73.622(f)(8)(i) of the FCC rules concerning maximum allowable ERP and antenna height for DTV stations.

Canadian Allocation Analysis

As the proposal is located in the U.S./Canada border zone (within 400 km), a Canadian allocation study was conducted to confirm compliance with the Canadian Letter of

Understanding (LOU). A separation study indicates that the proposed operation meets all of the minimum separation requirements to Canadian stations except for 2 DTV stations at St-Hyacinth and Ste-Adele, Quebec, both on channel 39. The proposal is 22 kilometers “short” of the minimum required separation distance of 367 kilometers for St-Hyacinth and 21 kilometers “short” of the minimum required separation distance of 386 kilometers for Ste-Adele.

Longley-Rice studies (using a 2 km grid spacing) indicate that no new interference will be caused to any Canadian population within their respective protected service areas. Furthermore, the proposed WRGB-DT operation (746 kW, 426 meters) will actually cause *less net interference* than the FCC’s DTV allotment for WRGB (1000 kW, 311 meters) towards both above-mentioned Canadian DTV operations. The table below shows the increase in service that is predicted to occur for both Canadian stations.

	Canadian DTV Service Population (not affected by terrain losses)	
	CAN, DTV-39, St-Hyacinth, QU	CAN, DTV-39, Ste-Adele, QU
With WRGB FCC DTV Allotment	543,501	89,116
With WRGB-DT Proposal	579,793	89,886
Net Change in Service	+ 36,292 (+ 4.6%)	+ 770 (+0.7%)

If coordination with Canada is required, it is respectfully requested.

The site is more than 2,600 kilometers from the closest point of the Mexican border. The closest FCC monitoring station is at Canandaigua, New York, approximately 268 kilometers to the west. The closest point of the National Radio Quiet Zone (VA/WV) is more than 500 kilometers to the southwest. The closest point of the Table Mountain Radio Quiet Zone (CO) is more than 2,600 kilometers to the west. The closest radio astronomy site operating on TV channel 37 is at Hancock, New Hampshire, approximately 169 kilometers to the east-northeast. These separations are sufficient to not be a concern for coordination purposes.

Allocation Study

Interference calculations have been made using the procedures outlined in the FCC's OET-69 bulletin, using a 2 kilometer grid spacing. The proposed WRGB-DT operation does not cause excessive (greater than 2%, up to 10% total) calculated interference to any analog or DTV assignment. Below is the list of stations considered in the OET-69 analysis.

Stations Potentially Affected by WRGB-DT						
Chan	Call	City/State	Bear (°T)	Dist (km)	Status	App. Ref. No.
24	WEDH	HARTFORD CT	133	137.1	LIC	BLET-341
38	WWOR-DT	SECAUCUS NJ	180	212.7	PLN	DTVPLN-DTVP1001
38	WSWB	SCRANTON PA	228	193.9	LIC	BLCT-19870831KF
39	WEDY-DT	NEW HAVEN CT	147	170.6	CP	BPEDT-20000419AAS
39	WEDY-DT	NEW HAVEN CT	147	170.6	PLN	DTVPLN-DTVP1024
39	WSBK-DT	BOSTON MA	98	230.1	CP	BPCDT-19991029AEJ
39	WSBK-DT	BOSTON MA	98	231.7	PLN	DTVPLN-DTVP1033
39	WIVB-DT	BUFFALO NY	272	377.3	APP	BPCDT-19991025ACW
39	WIVB-DT	BUFFALO NY	272	377.3	PLN	DTVPLN-DTVP1040
39	WLVT-TV	ALLENTOWN PA	208	257.7	LIC	BLET-429
40	WGGB-TV	SPRINGFIELD MA	110	119.5	LIC	BLCT-19990429KH
40	WXTV-DT	PATERSON NJ	179	208.6	CP	BPCDT-19991028AEW
40	WXTV-DT	PATERSON NJ	179	208.6	PLN	DTVPLN-DTVP1074
40	WICZ-TV	BINGHAMTON NY	249	171.0	LIC	BLCT-19900206KG
40	NEW	SARANAC LAKE NY	348	174.6	ADD	BPRM-20000717ADL
40	NEW	VERGENNES VT	23	184.9	ADD	BPRM-20000717AFI

From the above list of stations considered, the table below shows the calculated interference caused to each station. Only stations that are predicted to receive interference from the proposed WRGB-DT operation are shown in the interference table.

Study Station	Baseline	Net Population Change/Interference
39 WSBK-DT BOSTON MA (CP)	6,226,241	-1,548 (0.0%) *Interference Reduction
39 WSBK-DT BOSTON MA (PLN)	6,226,241	4,741 (0.1%) New Interference
39 WIVB-DT BUFFALO NY (APP)	2,223,026	2,804 (0.1%) New Interference
39 WIVB-DT BUFFALO NY (PLN)	2,223,026	8,343 (0.4%) New Interference
39 WLVT-TV ALLENTOWN PA (LIC)	2,858,785	867 (0.0%) New Interference
40 WGGB-TV SPRINGFIELD MA (LIC)	2,713,820	95 (0.0%) New Interference

The proposed WRGB-DT operation does not cause calculated interference to any other analog or DTV station. Therefore, it is believed the proposal complies with the FCC's "de minimis" interference policy.

Class A Consideration

The CDBS database has been reviewed for impact to potential Class A stations. Interference calculations have been made using the procedures outlined in the FCC's OET-69 Bulletin. The proposed WRGB-DT operation will not cause any calculated interference to any current or potential Class A station. If necessary, a waiver of the FCC rules is requested based on use of the FCC's OET-69 procedures to demonstrate no new interference.

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 DTV antenna is located 139 meters above ground level. The maximum DTV ERP is 746 kW. The worst-case relative field value of 0.207 occurs at 57.5° downward (see Figure 2B). Therefore, the "worst-case" calculated power density at a point 2 meters above ground level will be 0.0405 mW/cm². This is 9.8% of the FCC's recommended limit of 0.43 mW/cm² for channel 39 for an "uncontrolled" environment. If necessary, RFR measurements will be taken.

Access to the transmitting site will be restricted and appropriately marked with warning signs. As this will be a multi-user site, an agreement will control site access. 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

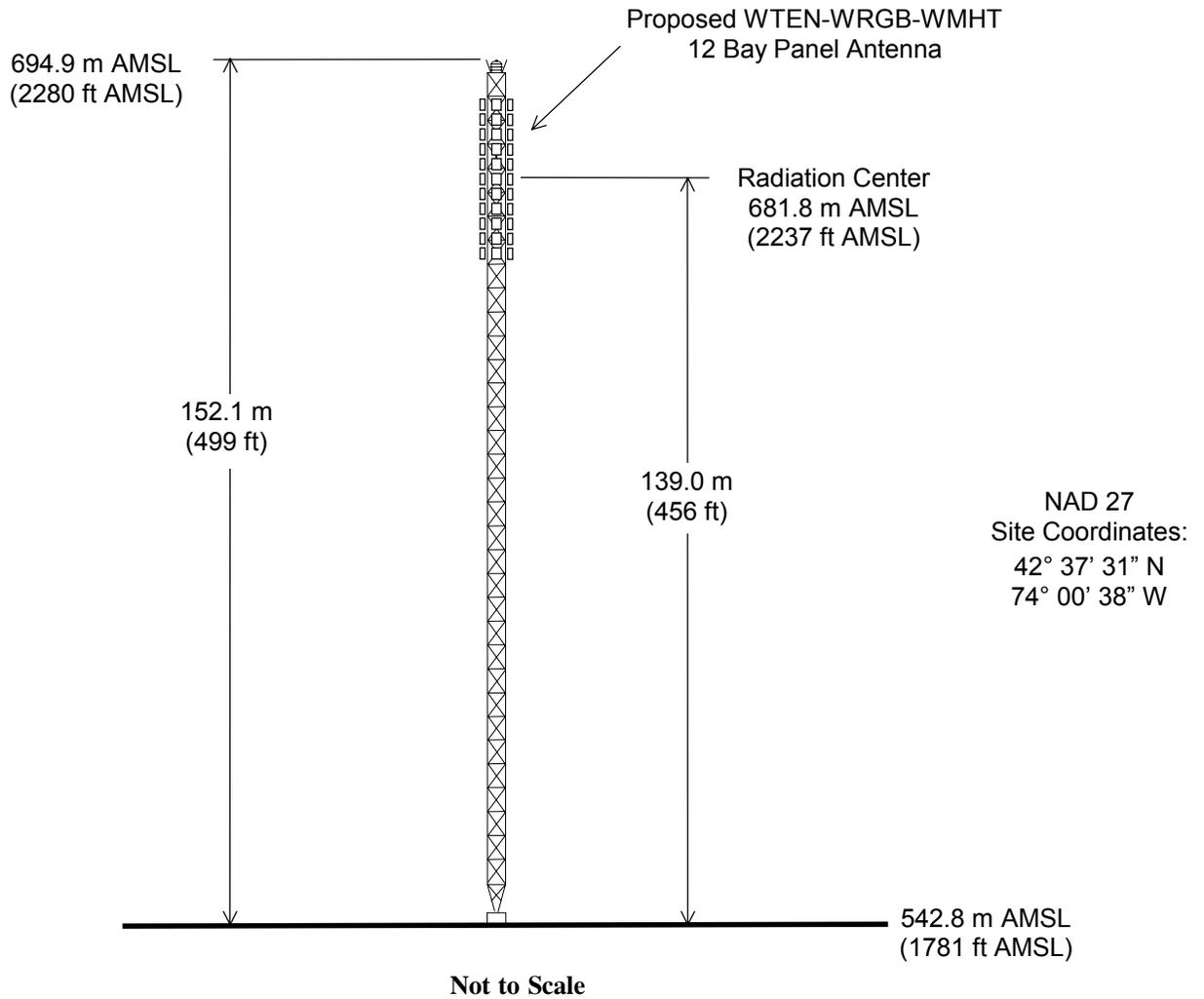
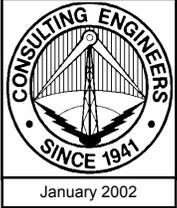
exposure monitors or scheduling work when the stations are at reduced power or shut down. The proposed WRGB-DT operation appears to be otherwise categorically excluded from environmental processing.

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

Jonathan N. Edwards

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201 Fletcher Avenue
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January 16, 2002



ANTENNA AND SUPPORTING STRUCTURE

STATION WRGB-DT

SCHENECTADY, NEW YORK

CH 39 746 KW 426 M

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

Proposal Number **DCA-9245**

Revision: **2**

Figure 2A

Date

14-Jun-01

Call Letters

Channel **39**

Location

Albany, NY

Customer

Antenna Type

TUD-O5-12/60H-1-B

ELEVATION PATTERN

RMS Gain at Main Lobe **24.10 (13.82 dB)**

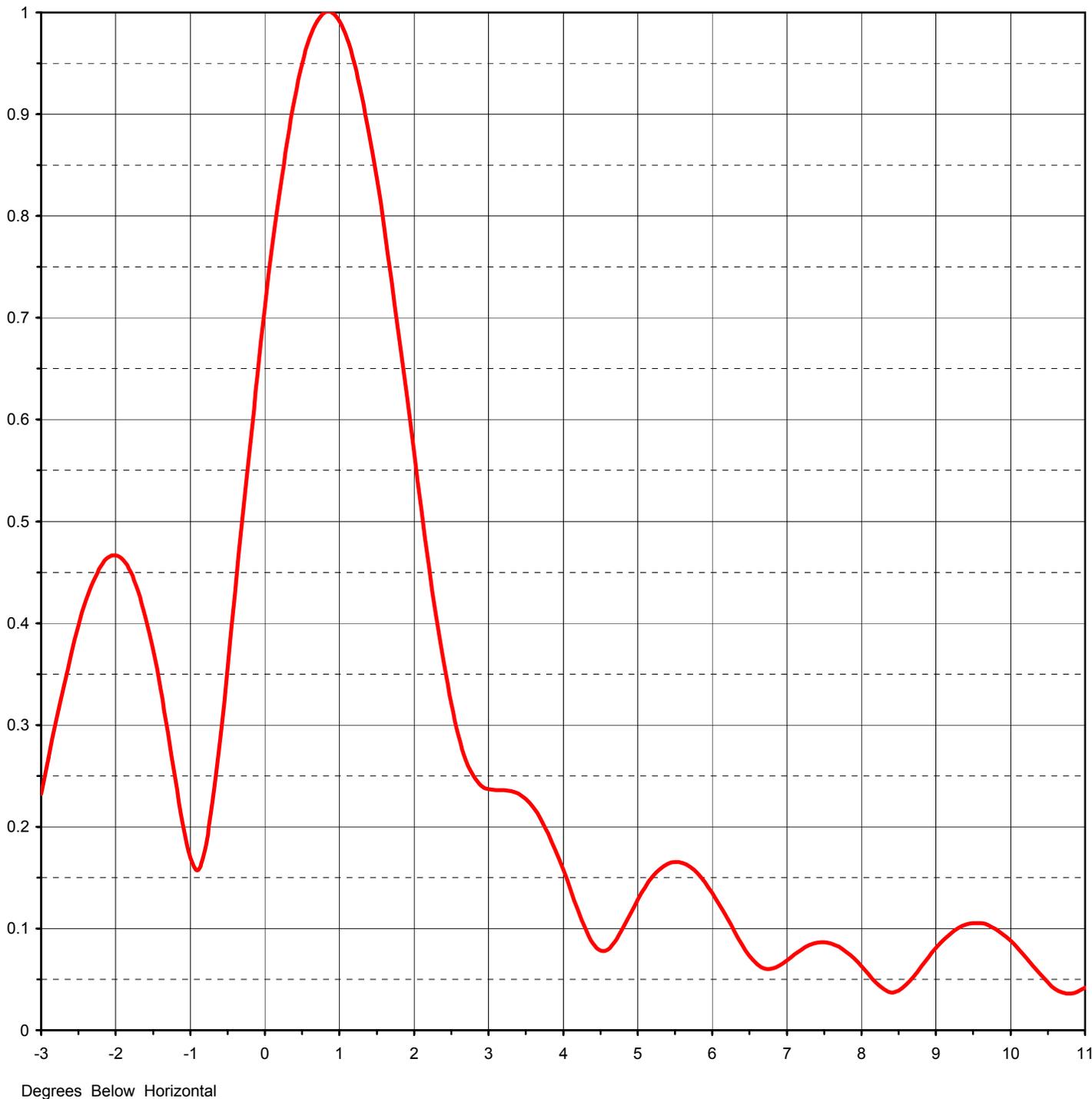
Beam Tilt **0.75 deg**

RMS Gain at Horizontal **12.10 (10.83 dB)**

Frequency **623.00 MHz**

Calculated / Measured **Calculated**

Drawing # **12U241075**



Proposal Number **DCA-9245**

Revision: **2**

Figure 2B

Date

14-Jun-01

Call Letters

Channel **39**

Location

Albany, NY

Customer

Antenna Type

TUD-O5-12/60H-1-B

ELEVATION PATTERN

RMS Gain at Main Lobe **24.10 (13.82 dB)**

Beam Tilt **0.75 deg**

RMS Gain at Horizontal **12.10 (10.83 dB)**

Frequency **623.00 MHz**

Calculated / Measured **Calculated**

Drawing # **12U241075-90**

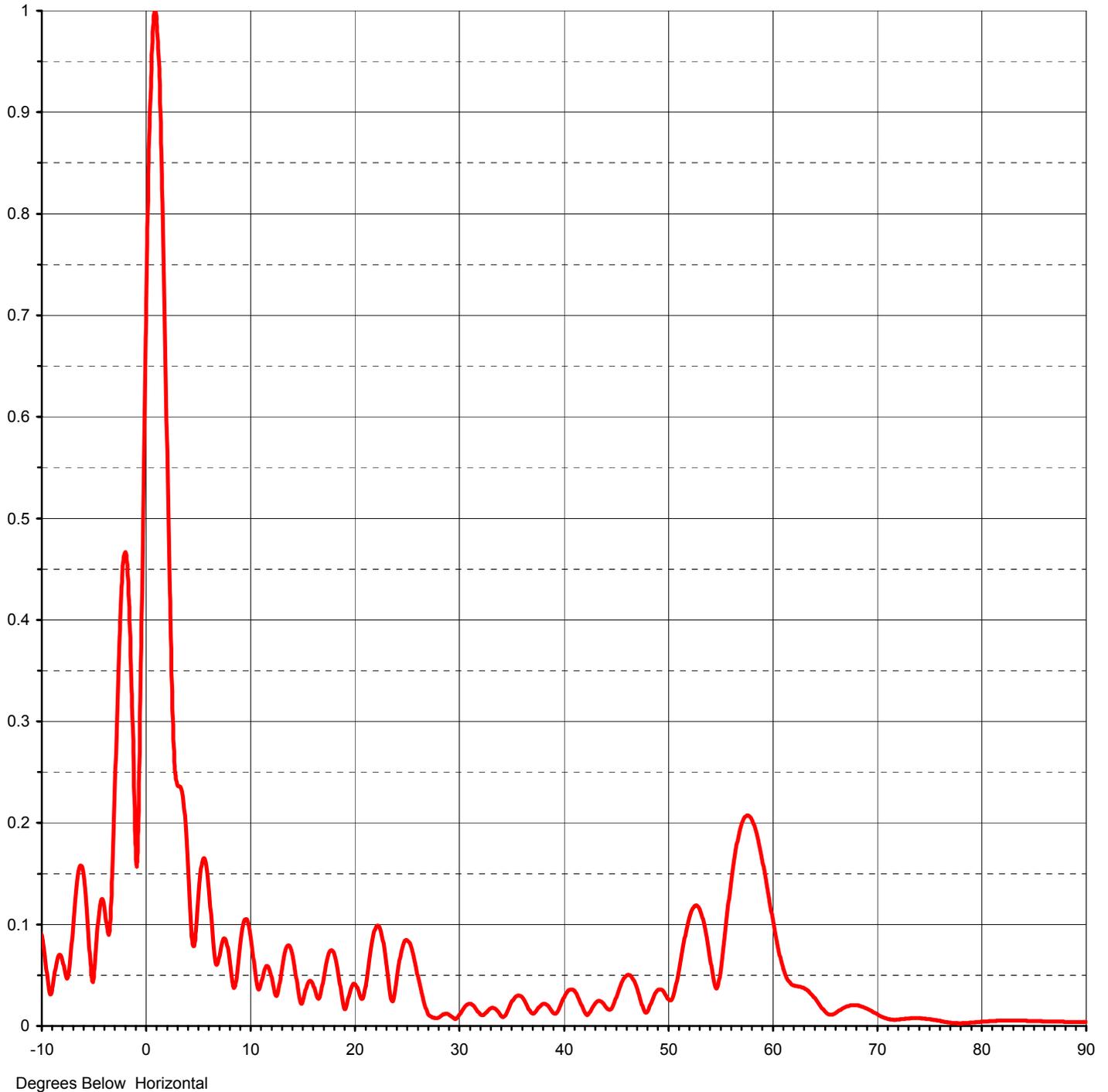
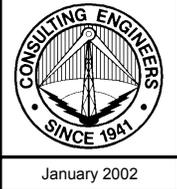
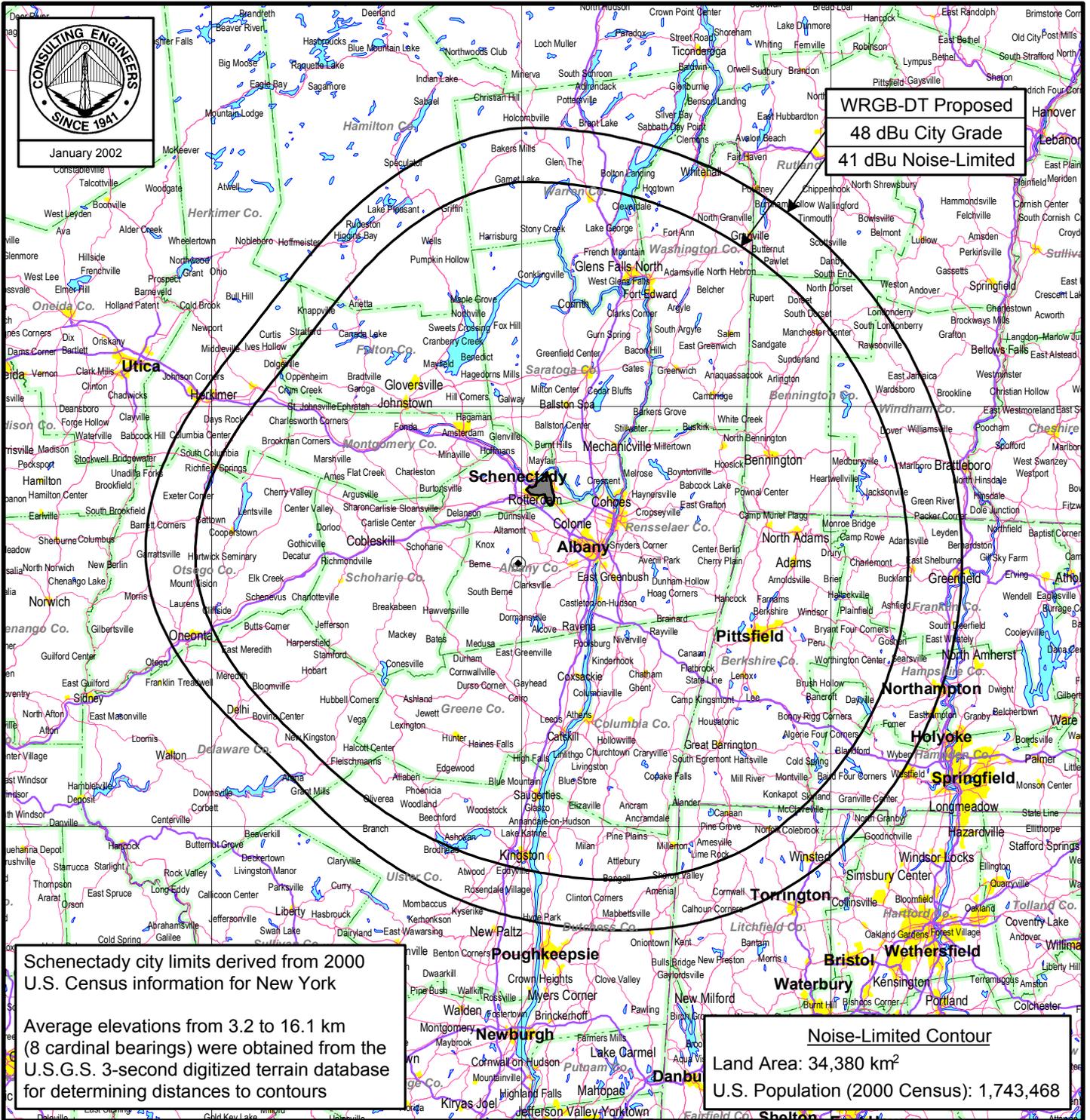


Figure 3



January 2002

WRGB-DT Proposed
48 dBu City Grade
41 dBu Noise-Limited

Schenectady city limits derived from 2000 U.S. Census information for New York

Average elevations from 3.2 to 16.1 km (8 cardinal bearings) were obtained from the U.S.G.S. 3-second digitized terrain database for determining distances to contours

Noise-Limited Contour

Land Area: 34,380 km²
 U.S. Population (2000 Census): 1,743,468

PREDICTED F(50,90) COVERAGE CONTOURS

STATION WRGB-DT
 SCHENECTADY, NEW YORK
 CH 39 746 KW 426 M
 du Treil, Lundin & Rackley, Inc Sarasota, Florida