

TECHNICAL EXHIBIT
MINOR AMENDMENT TO APPLICATION
STATION WMHT-DT (FACILITY ID 73263)
SCHENECTADY, NEW YORK

MARCH 4, 2002

CH 34 325 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 WMHT-DT on channel 34 at Schenectady, New York. Station WMHT-DT has an application pending to operate with a non-directional antenna effective radiated power (ERP) of 315 kW and an antenna height above average terrain (HAAT) of 432 meters (BPEDT-19991214ACB).

Proposed Facilities

This amendment proposes to change the transmitter site coordinates, slightly increase ERP, slightly reduce antenna HAAT and employ mechanical beam tilt. The proposed transmitter site coordinates are 42-37-31 N, 74-00-38 W). WMHT-DT proposes to operate non-directionally from the new site with an ERP of 325 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 (325 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 study indicates that the proposed operation meets all of the minimum separation requirements to Canadian stations except for a DTV station on channel 34 at Cornwall, Ontario. The proposal is 110 kilometers “short” of the minimum required separation distance of 386 kilometers.

Since there is predicted contour overlap with the Cornwall DTV station, Longley-Rice studies (using a 2 km grid spacing) were conducted. The studies indicate new interference to 1,099 people, or 1.5% of Cornwall’s Canadian service population of 71,474 people. The map in Figure 4 depicts the unique interference points to Cornwall (interference points already predicted to be caused by the FCC’s DTV allotment for WMHT were not considered). 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 Considerations

Interference calculations have been made using the procedures outlined in the FCC’s OET-69 bulletin, using a 2 kilometer grid spacing. The proposed WMHT-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 Proposed WMHT-DT						
Chan	Call	City/State	Bear (°T)	Dist (km)	Status	App. Ref. No.
19	WCDC-TV	ADAMS MA	89	68.9	LIC	BLCT-19810105KE
20	WUTR	UTICA NY	302	111.2	LIC	BLCT-1970
30	WVIT	NEW BRITAIN CT	136	141.4	LIC	BLCT-19791113LC
33	WFSB-DT	HARTFORD CT	133	137.0	PLN	DTVPLN-DTVP0843
33	WPXG-DT	CONCORD NH	73	227.7	CP	BPCDT-19991101AFX
33	WNBU-DT	CONCORD NH	73	227.7	PLN	DTVPLN-DTVP0857
33	WPIX-DT	NEW YORK NY	180	212.7	PLN	DTVPLN-DTVP0859
33	WPIX-DT	NEW YORK NY	180	212.7	CP	BPCDT-19991019ABH
33	WFXV	UTICA NY	292	125.5	CP	BPCT-19960111LM
33	WFXV	UTICA NY	292	125.5	LIC	BLCT-19861210KG
34	WHPX-DT	NEW LONDON CT	131	201.0	CP	BPCDT-19991001ABI
34	WTWS-DT	NEW LONDON CT	131	201.0	PLN	DTVPLN-DTVP0876
34	WPXB-DT	MERRIMACK NH	78	201.5	CP	BPCDT-19990930AAX
34	WGOT-DT	MERRIMACK NH	78	201.5	PLN	DTVPLN-DTVP0893
34	WPXB	MERRIMACK NH	78	201.5	APP	BPCT-20020123AAE
34	WIVT	BINGHAMTON NY	249	170.7	LIC	BLCT-19871110KV
34	WIVT	BINGHAMTON NY	249	170.7	CP	BPCT-19970807KK
34	WNYO-DT	BUFFALO NY	274	363.6	APP	BPCDT-19991027ACW
34	WNYO-DT	BUFFALO NY	274	363.6	PLN	DTVPLN-DTVP0895
34	960910KE	LAKE PLACID NY	0	181.7	APP	BPET-19960910KE
34	WMHT	SCHENECTADY NY	2	0.1	APP	BPEDT-19991214ACB
34	WMHT-DT	SCHENECTADY NY	29	1.5	PLN	DTVPLN-DTVP0896
34	WYBE	PHILADELPHIA PA	200	304.8	CP	BPEDT-20000501AIA
34	WYBE-DT	PHILADELPHIA PA	200	305.0	PLN	DTVPLN-DTVP0900
35	WVIT	NEW BRITAIN CT	136	141.4	APP	BMPEDT-20000501ACO
35	WVIT-DT	NEW BRITAIN CT	136	141.4	PLN	DTVPLN-DTVP0913
35	WNDS-DT	DERRY NH	86	214.2	CP	BPCDT-19991101AKG
35	WNDS-DT	DERRY NH	86	214.2	PLN	DTVPLN-DTVP0930
35	WWNY-DT	CARTHAGE NY	317	202.8	CP	BPCDT-19991028ADN
35	WWNY-DT	CARTHAGE NY	317	202.9	PLN	DTVPLN-DTVP0931

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 WMHT-DT operation are shown in the interference table.

Study Station	Baseline	Net Population Change/Interference
33 WFSB-DT HARTFORD CT (PLN)	3,877,046	231 (0.0%) New Interference
33 WFXV UTICA NY (CP)	775,089	70 (0.0%) New Interference
34 WHPX-DT NEW LONDON CT (CP)	2,421,514	26,968 (1.1%) New Interference
34 WTWS-DT NEW LONDON CT (PLN)	2,421,514	5,232 (0.2%) New Interference
34 WPXB-DT MERRIMACK NH (CP)	1,923,126	1,156 (0.1%) New Interference
34 WGOT-DT MERRIMACK NH (PLN)	1,923,126	221 (0.0%) New Interference
34 WIVT BINGHAMTON NY (LIC)	704,486	4,894 (0.7%) New Interference
34 WIVT BINGHAMTON NY (CP)	644,625	1,519 (0.2%) New Interference
35 WVIT NEW BRITAIN CT (APP)	3,868,189	497 (0.0%) New Interference
35 WVIT-DT NEW BRITAIN CT (PLN)	3,868,189	726 (0.0%) New Interference

The proposed WMHT-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.

With respect to Class A TV station protection, the proposal has been evaluated according to the requirements of Section 73.613 of the FCC Rules. The analysis reveals no potential impact to any Class A stations.

Environmental Considerations

The proposed WMHT-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 DTV ERP is 325 kW. A worst-case relative field value of 0.0183 was assumed (see Figure 2B). Therefore, the “worst-case” calculated power density at a point 2 meters above ground level will be 0.0194 mW/cm². This is less than 5% of the FCC’s recommended limit of 0.40 mW/cm² for channel 34 for an “uncontrolled” environment.

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

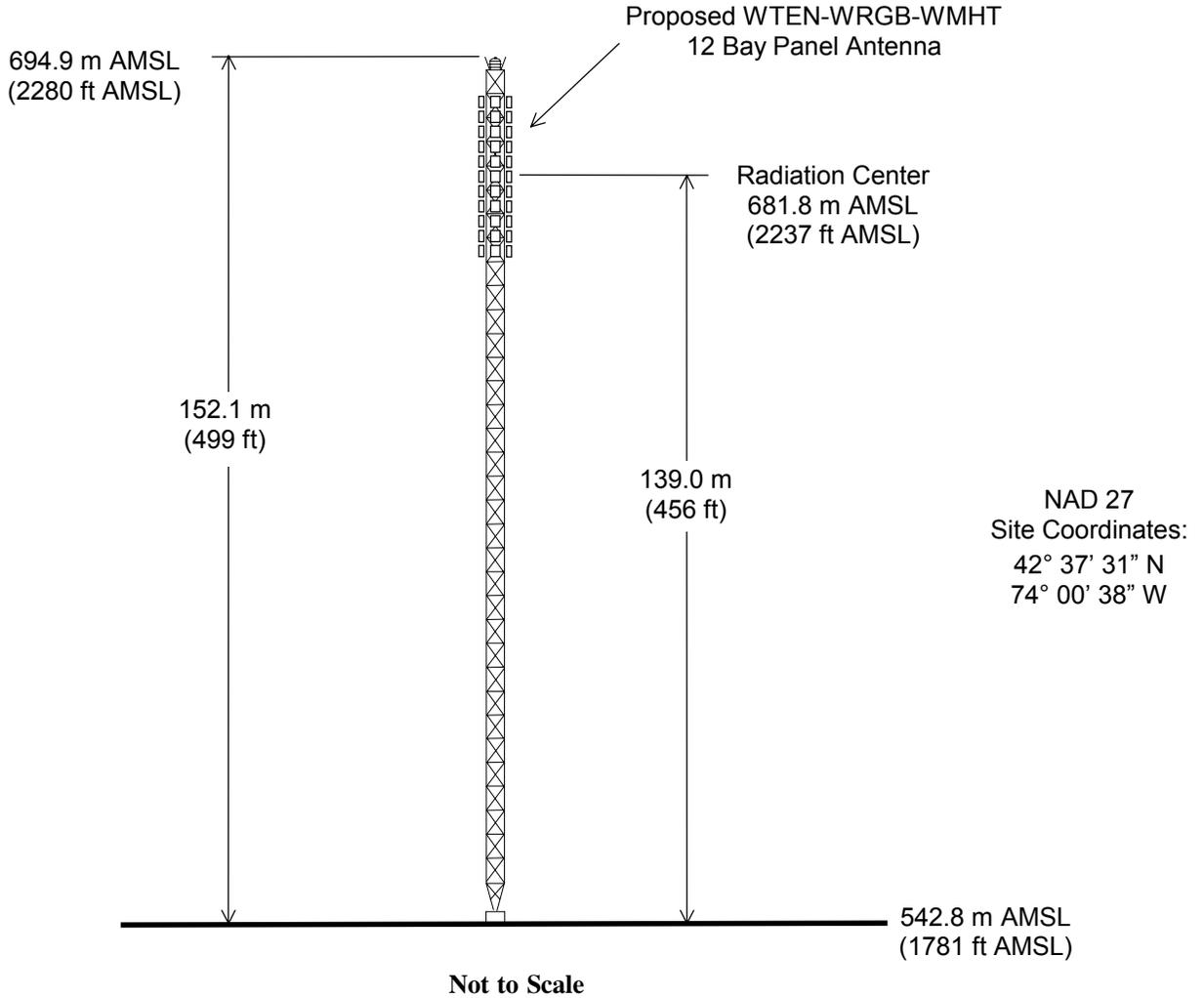
event that workers or other authorized personnel enter restricted areas or climb the tower, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period 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 WMHT-DT operation appears to be otherwise categorically excluded from environmental processing.



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March 1, 2002



ANTENNA AND SUPPORTING STRUCTURE

STATION WMHT-DT

SCHENECTADY, NEW YORK

CH 34 325 KW 426 M

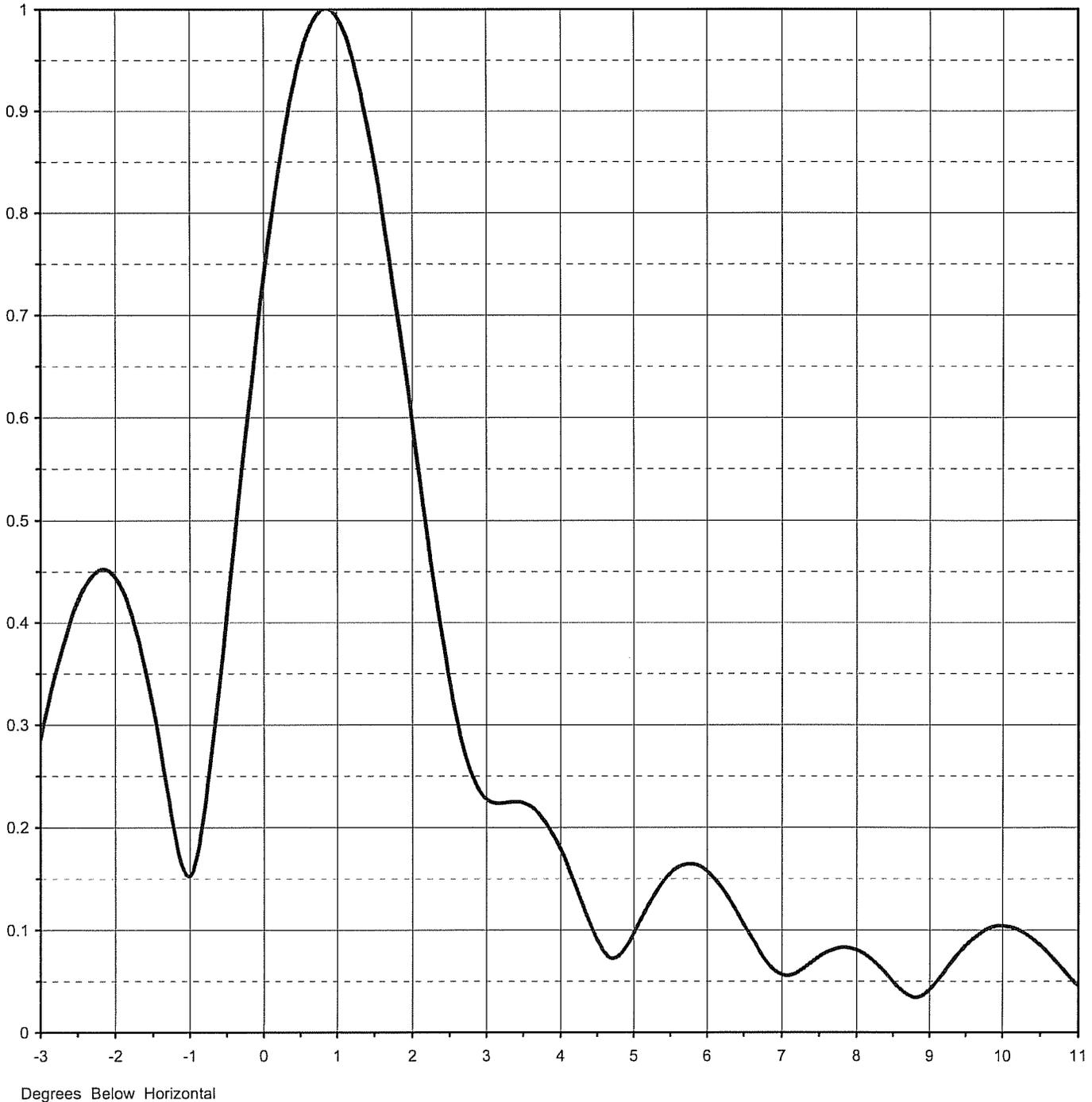
du Treil, Lundin & Rackley, Inc. Sarasota, Florida

Proposal Number **DCA-9245** Revision: **2**
Date **1-Mar-02**
Call Letters **WMHT-DT** Channel **34**
Location **Schenectady, NY**

Antenna Type **TUD-O5-12/60H-1-B**

ELEVATION PATTERN

RMS Gain at Main Lobe	23.70 (13.75 dB)	Beam Tilt	0.75 deg
RMS Gain at Horizontal	12.90 (11.11 dB)	Frequency	593.00 MHz
Calculated / Measured	Calculated	Drawing #	12U237075



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Calculated / Measured **Calculated** Drawing # **12U237075-90**

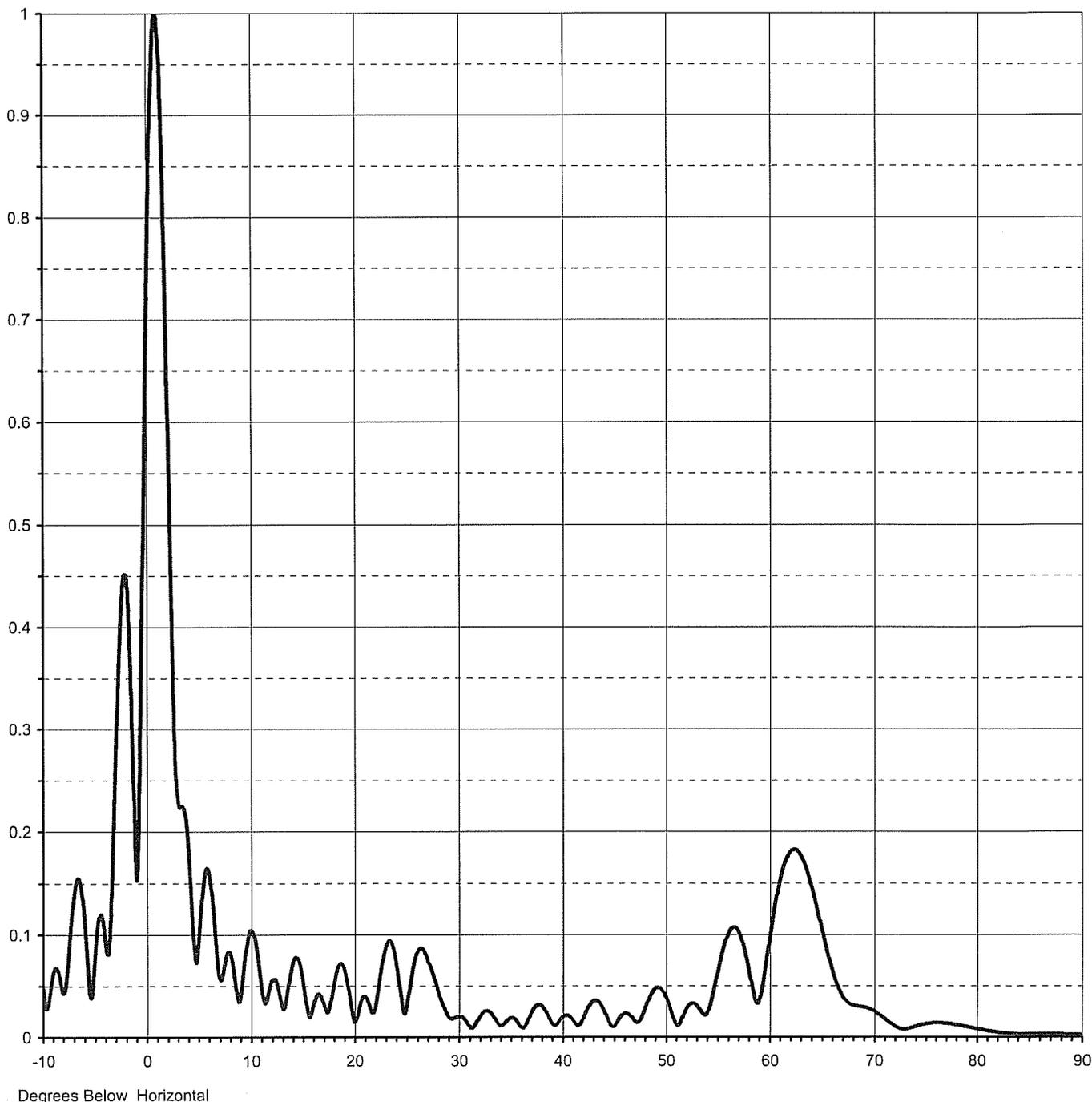
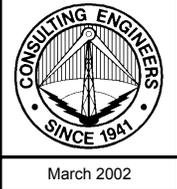
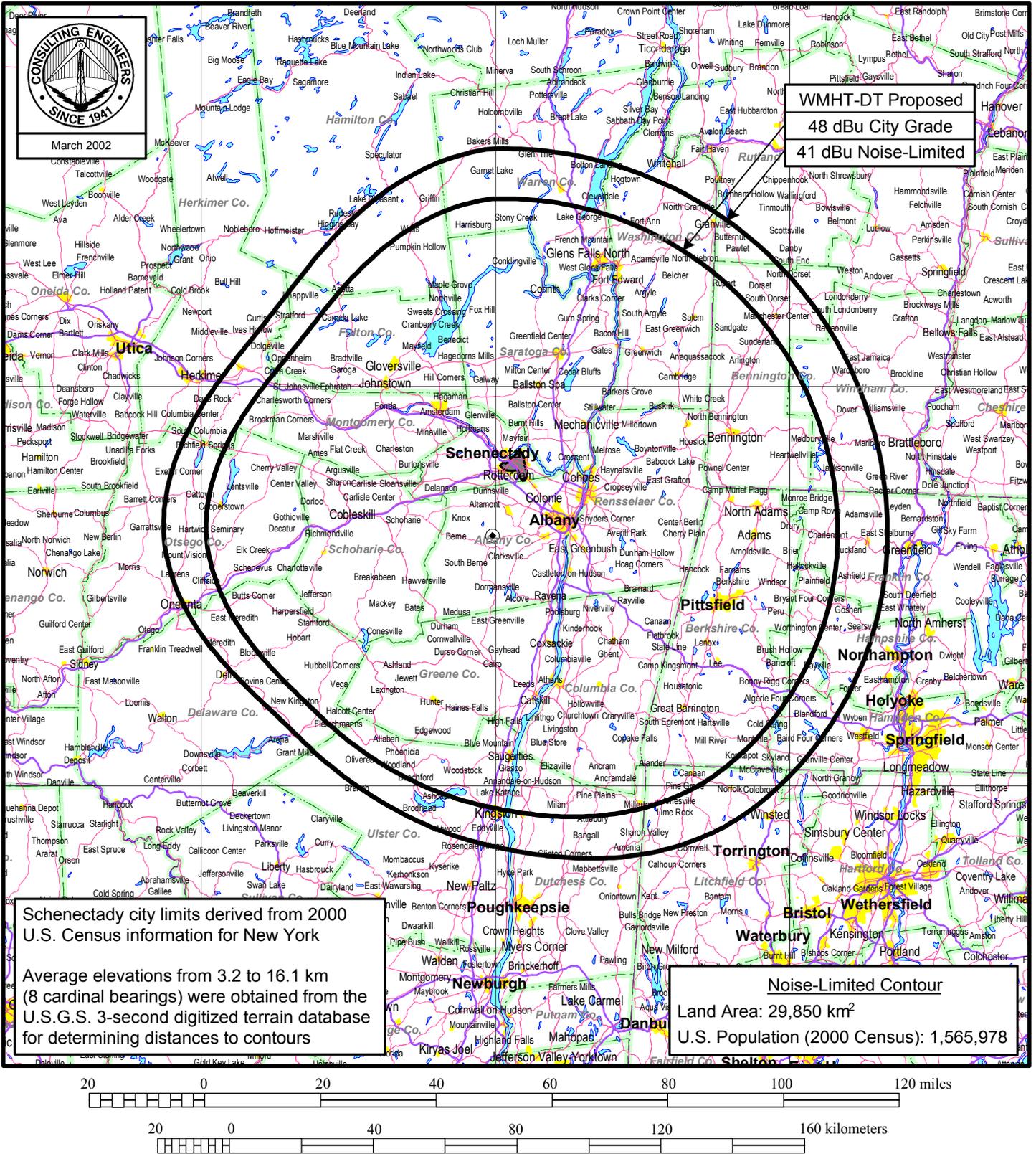


Figure 3



March 2002

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

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

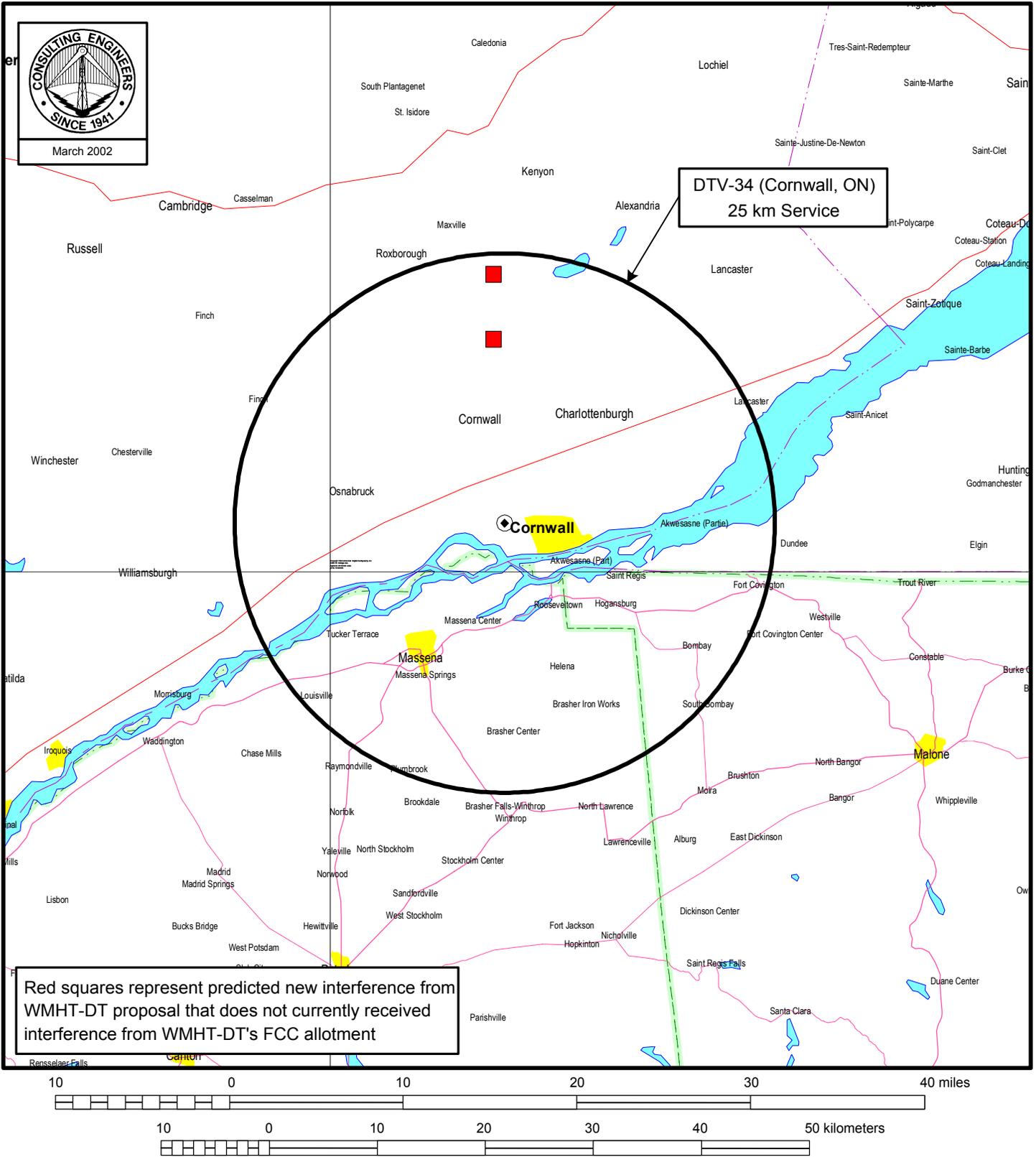
Average elevations from 3.2 to 16.1 km (8 cardinal bearings) were obtained from the U.S.G.S. 3-second digitized terrain database for determining distances to contours

Noise-Limited Contour
 Land Area: 29,850 km²
 U.S. Population (2000 Census): 1,565,978



PREDICTED F(50,90) COVERAGE CONTOURS

STATION WMHT-DT
 SCHENECTADY, NEW YORK
 CH 34 325 KW 426 M
 du Treil, Lundin & Rackley, Inc Sarasota, Florida



**POPULATED INTERFERENCE CELLS CAUSED
TO DTV-34 (CORNWALL) FROM PROPOSED WMHT-DT**
STATION WMHT-DT
SHCENECTADY, NEW YORK
CH 34 325 KW 426 M
du Treil, Lundin & Rackley, Inc Sarasota, Florida

INTERFERENCE CAUSED TO CORNWALL DTV-34 FROM WMHT-DT

CELL SIZE : 2.00
Using DTV->DTV service parameters
Using circles for service area

CAN 45-02-26 74-47-42 34(N) 0.200 kW 170.9 m AMSL 90.0 % 39.0 dBu
CORNWALL ON

CLASS A

Calculated RCAMSL with HAAT of 100
%loc = 90.00 %time = 90.00

	Area	Pop
within Noise Limited Contour	1949.566	71474
not affected by terrain losses	1945.537	71474

DWMHT 42-38-13 74-00-06 34(0) 156.4 kW-DA 534 m AMSL 90.0 % 39.0 dBu
SCHENECTADY NY 17363 1188 DTVSERVICE: 1188000 NTSCSERVICE: 1155000
DTVALT DTV ALLOTMENT CLASS VU
0.99 0.99 0.99 0.99 0.99 0.99 0.99 1.00 1.00 1.00 0.99 0.99
0.98 0.97 0.95 0.94 0.94 0.87 0.82 0.80 0.80 0.81 0.80 0.79
0.81 0.80 0.80 0.81 0.81 0.81 0.81 0.82 0.84 0.92 0.94 0.95
Ref Az: 0.0

D/U Baseline: 19.50
%loc = 10.00%time = 10

	Area	Pop
Interference	120.84	1813 (2.5%)

WMHTDP 42-37-31 74-00-38 34(N) 325.0 kW 681.8 m AMSL 90.0 % 39.0 dBu
SCHENECTADY NY 17363 1188 DTVSERVICE: 1188000 NTSCSERVICE: 1155000
APP CLASS A

D/U Baseline: 19.50
%loc = 10.00%time = 10

	Area	Pop
Interference	201.40	2912 (4.1%)

lost to NTSC IX	0.00	0
lost to additional IX by DTV	201.40	2912
total lost to DTV IX	201.40	2912
lost to all IX	201.40	2912
 Total SERVICE	 1744.14	 68562