

TECHNICAL EXHIBIT
MINOR CHANGE AMENDMENT TO
APPLICATION FOR DTV CONSTRUCTION PERMIT
STATION WDPX-DT (FACILITY ID 6476)
VINEYARD HAVEN, MASSACHUSETTS

JANUARY 11, 2002

CH 40 300 KW (MAX-DA) 153 M

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Technical Narrative

This Technical Exhibit supports a minor change amendment to the pending application for a digital television (DTV) construction permit (CP) from station WDPX at Vineyard Haven, Massachusetts. Station WDPX(TV) currently operates on analog (NTSC) channel 58. The pending WDPX-DT application (BPCDT-19991101AFW, Facility ID 6476) proposes a DTV operation on channel 40, the channel allotted to WDPX for DTV use. The pending WDPX-DT application is based on use of a directional antenna (DA) system and maximum effective radiated power (ERP) of 300 kW. The proposed antenna height above average terrain (HAAT) is 159 meters. The transmitter site coordinates are 41-41-19, 70-20-49 (NAD-27).

Proposed DTV Facilities

This minor change amendment proposes to slightly reduce antenna HAAT, and slightly change transmitter site location (coordinates). There is no proposed change in channel, ERP or antenna system (pattern). It is proposed to mount the proposed dual channel directional antenna system on a new tower being built at the current WDPX site. The antenna system will be used for the WDPX analog (NTSC-58) and digital television (DTV-40) operations. The Federal Communications Commission registration number for the new tower is 1231034 and the coordinates are 41-41-20 N, 70-20-49 W (NAD-27). There is only a

difference of 1 second in latitude between the present tower and the new tower. It is proposed to operate with a maximum DTV ERP of 300 kW and antenna HAAT of 153 meters.

The proposed transmitter site is 381 kilometers from the closest point of the Canadian border. It is believed the proposed WDPX-DT operation complies with the US/Canada LOU/DTV agreement.

The WDPX-DT site is more than 2,700 kilometers from the closest point of the Mexican border. The closest FCC monitoring station is at Belfast, Maine, approximately 323 kilometers to the north. The closest point of the National Radio Quiet Zone (VA/WV) is more than 700 kilometers to the southwest. The closest point of the Table Mountain Radio Quiet Zone (CO) is more than 2,900 kilometers to the west. The closest radio astronomy site operating on TV channel 37 is at Hancock, New Hampshire, approximately 193 kilometers to the northwest. These separations are considered sufficient to not be a concern for coordination purposes.

Allocation Study

Figure 4 is a separation study showing pertinent analog (NTSC) and DTV stations and allotments. This study is used as a guide to identify assignments requiring further study using the procedures outlined in the FCC's OET-69 Bulletin. Interference calculations have been made to analog (NTSC) and DTV stations and allotments using the procedures outlined in the FCC's OET-69 Bulletin and a 2 kilometer grid spacing. The proposed WDPX-DT operation does not cause excessive calculated interference to any analog or DTV assignment or allotment.

It is noted that the proposed WDPX-DT may erroneously appear to receive excessive interference from the proposed WLVI-DT operation on channel 41 at Cambridge, Massachusetts. This erroneous result will occur if the vertical radiation pattern and mechanical beam tilting proposed in the WLVI-DT application are not considered in the interference calculations. If the proper vertical radiation pattern and mechanical tilting are incorporated into the WLVI-DT calculations then WDPX-DT does not receive excessive

interference. If a waiver of the FCC rules is required for the WDPX-DT/WLVI-DT interference showing it is respectfully requested.

Class A Consideration

The FCC's CDBS and list of low power television (LPTV) assignments eligible for Class A status have been reviewed for potential impact. Interference calculations have been made using the procedures outlined in the FCC's OET-69 Bulletin. The proposed WDPX-DT operation does not cause any calculated interference to any known current or eligible 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 interference to LPTV assignments requesting Class A status.

Radiofrequency Electromagnetic Field Exposure

The proposed WDPX-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 123.1 meters above ground level. The maximum DTV ERP is 300 kW. A relative field value of 0.15 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 0.0154 mW/cm². This is less than 4% of the FCC's recommended limit of 0.42 mW/cm² for channel 40 for an "uncontrolled" environment. The calculated power density is less than 1% of the FCC's recommended limit for a "controlled" environment.

Access to the transmitting site will be restricted and appropriately marked with warning signs. As this is a multi-user site an agreement will control 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 WDPX-DT operation appears to be otherwise categorically excluded from environmental processing.

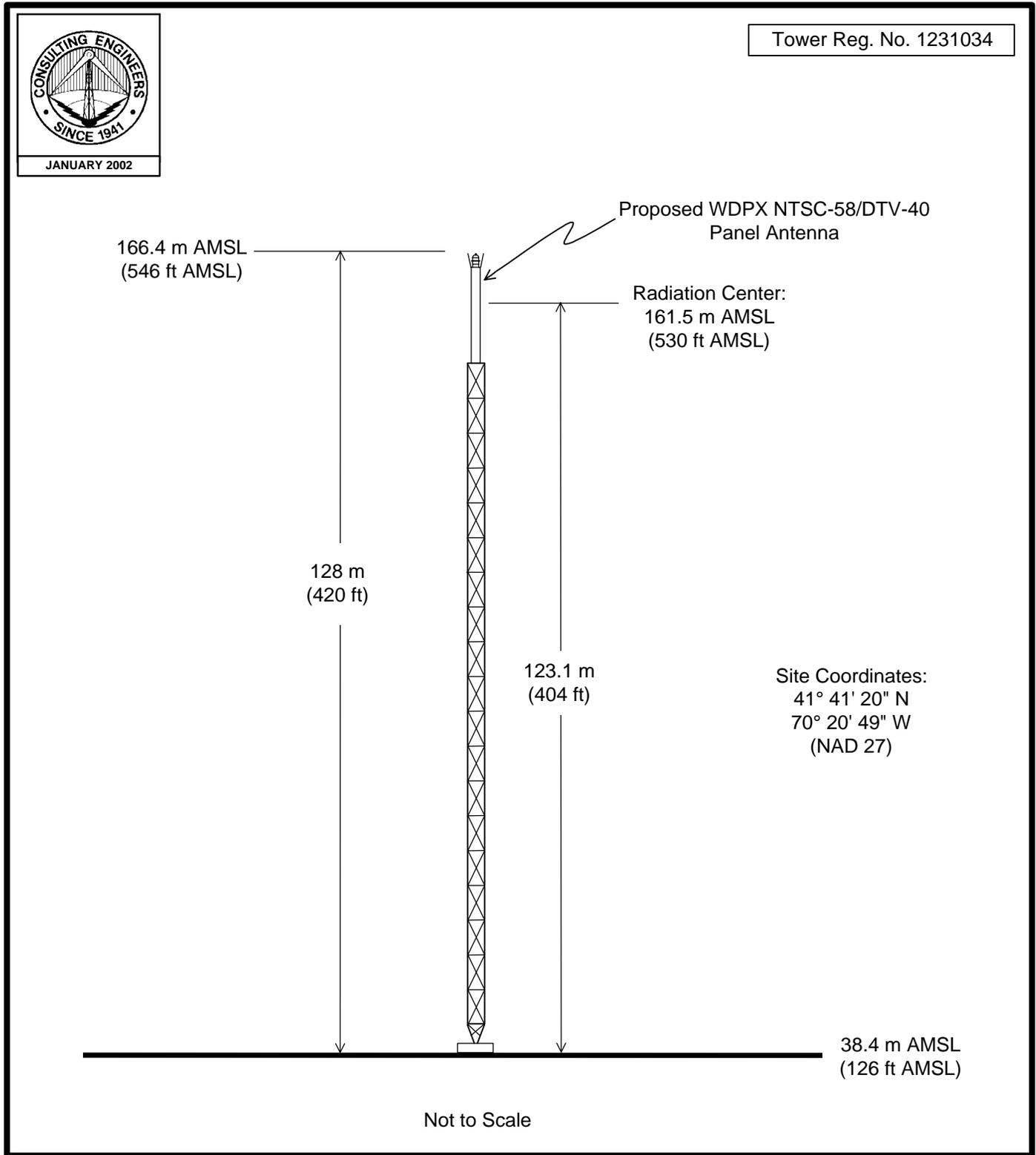
If there are questions concerning the technical portion of this application, please contact the office of the undersigned.

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January 11, 2002

Figure 1



ANTENNA AND SUPPORTING STRUCTURE

STATION WDPX-DT
VINEYARD HAVEN, MASSACHUSETTS
CH 40 300 KW (MAX-DA) 153 M

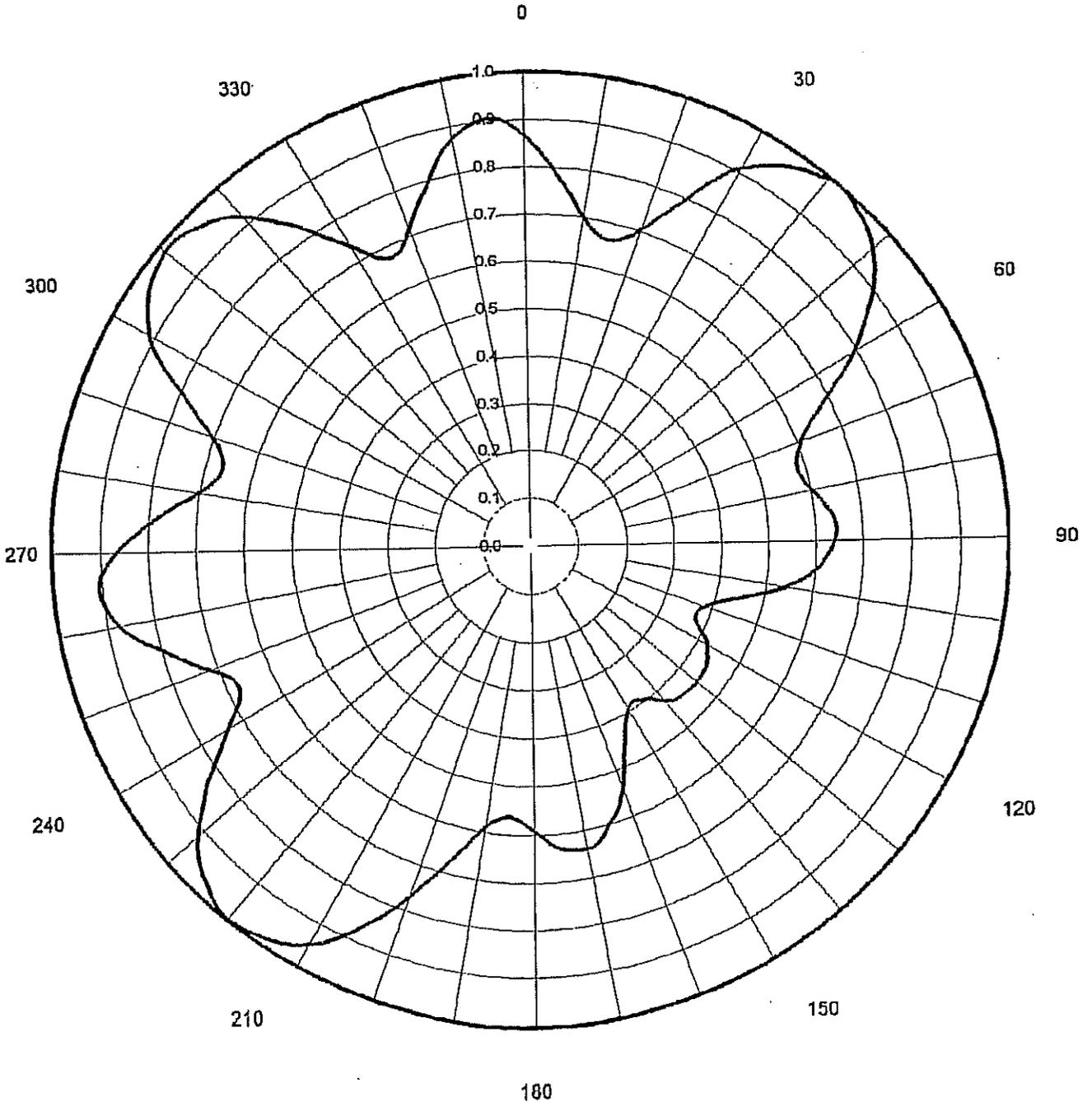
du Treil, Lundin & Rackley, Inc., Sarasota, Florida



Proposal Number **DCA-8445**
Date
Call Letters Channel **40**
Location **Vineyard Haven, MA**
Customer
Antenna Type **TUP-C4-6-1**

AZIMUTH PATTERN

Gain **1.80 (2.55 dB)** Frequency **629.00 MHz**
Calculated / Measured **Calculated** Drawing # **TUP-C4-40**





Proposal Number **DCA-8445**

Date

Call Letters

Channel **40**

Location

Vineyard Haven, MA

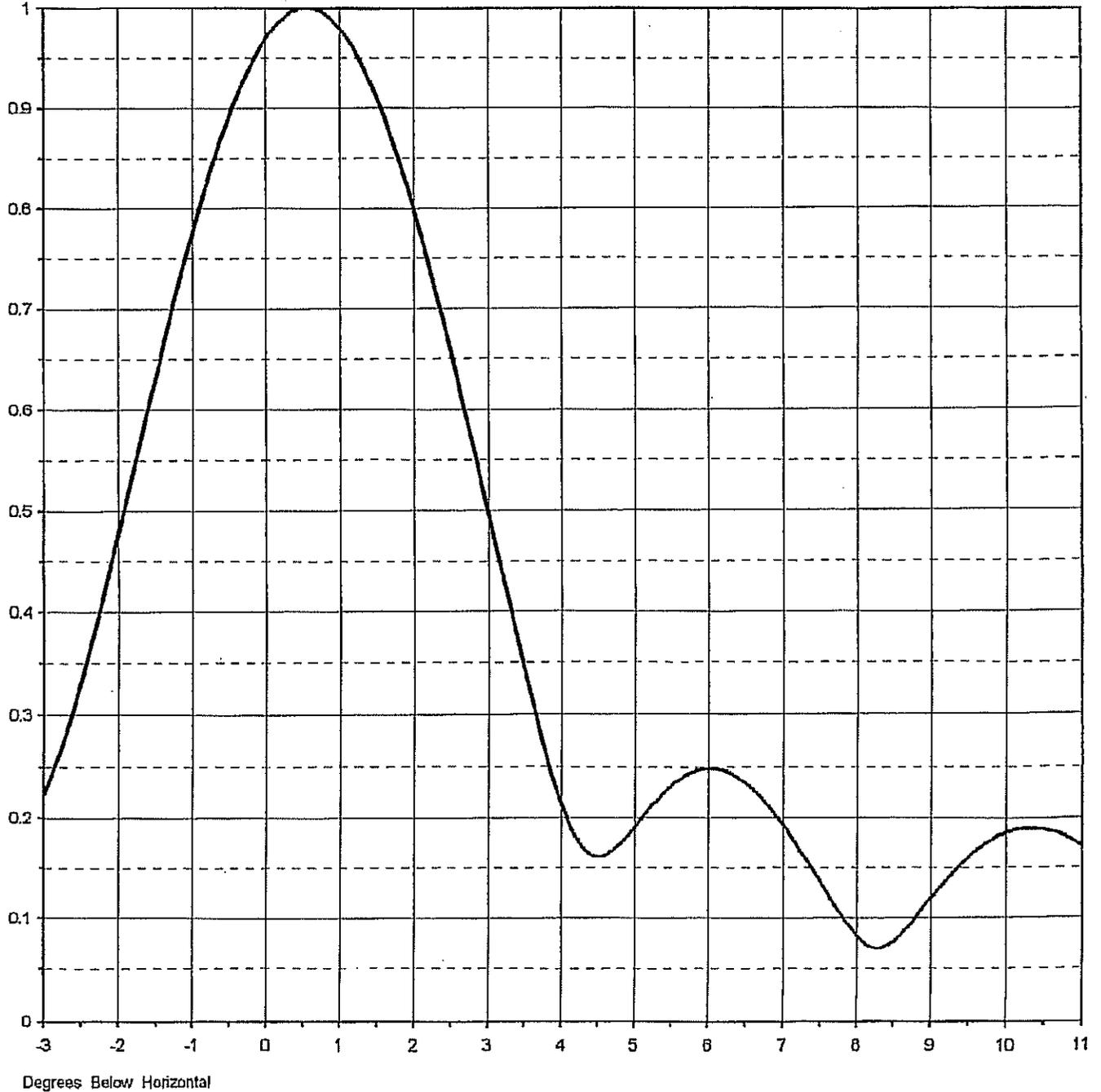
Customer

Antenna Type **TUP-C4-6-1**

ELEVATION PATTERN

RMS Gain at Main Lobe **14.50 (11.61 dB)**
RMS Gain at Horizontal **13.60 (11.34 dB)**
Calculated / Measured **Calculated**

Beam Tilt **0.50 deg**
Frequency **629.00 MHz**
Drawing # **06U145050**

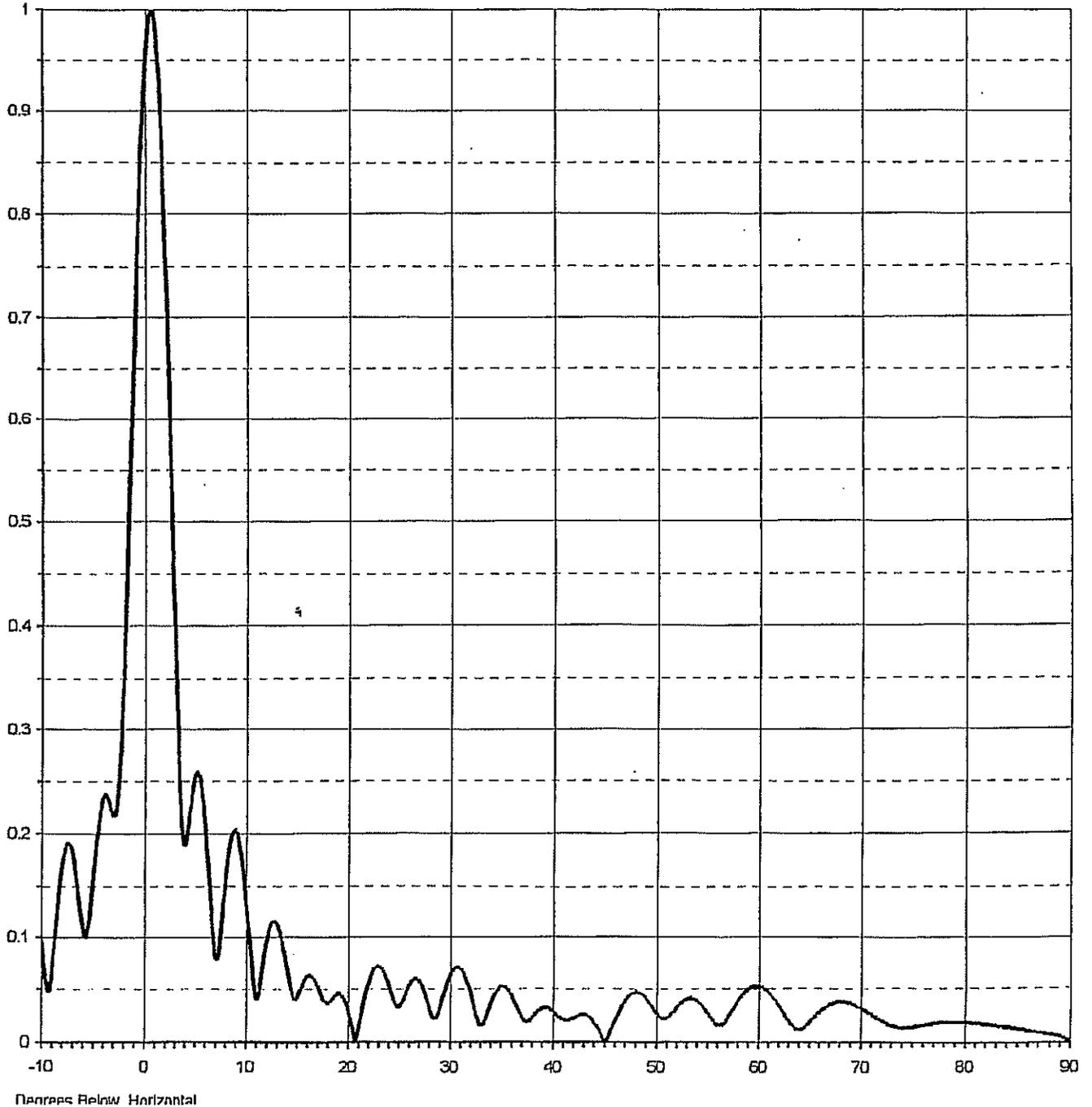




Proposal Number **DCA-8445**
Date
Call Letters **Channel 40**
Location **Vineyard Haven, MA**
Customer
Antenna Type **TUP-C4-6-1**

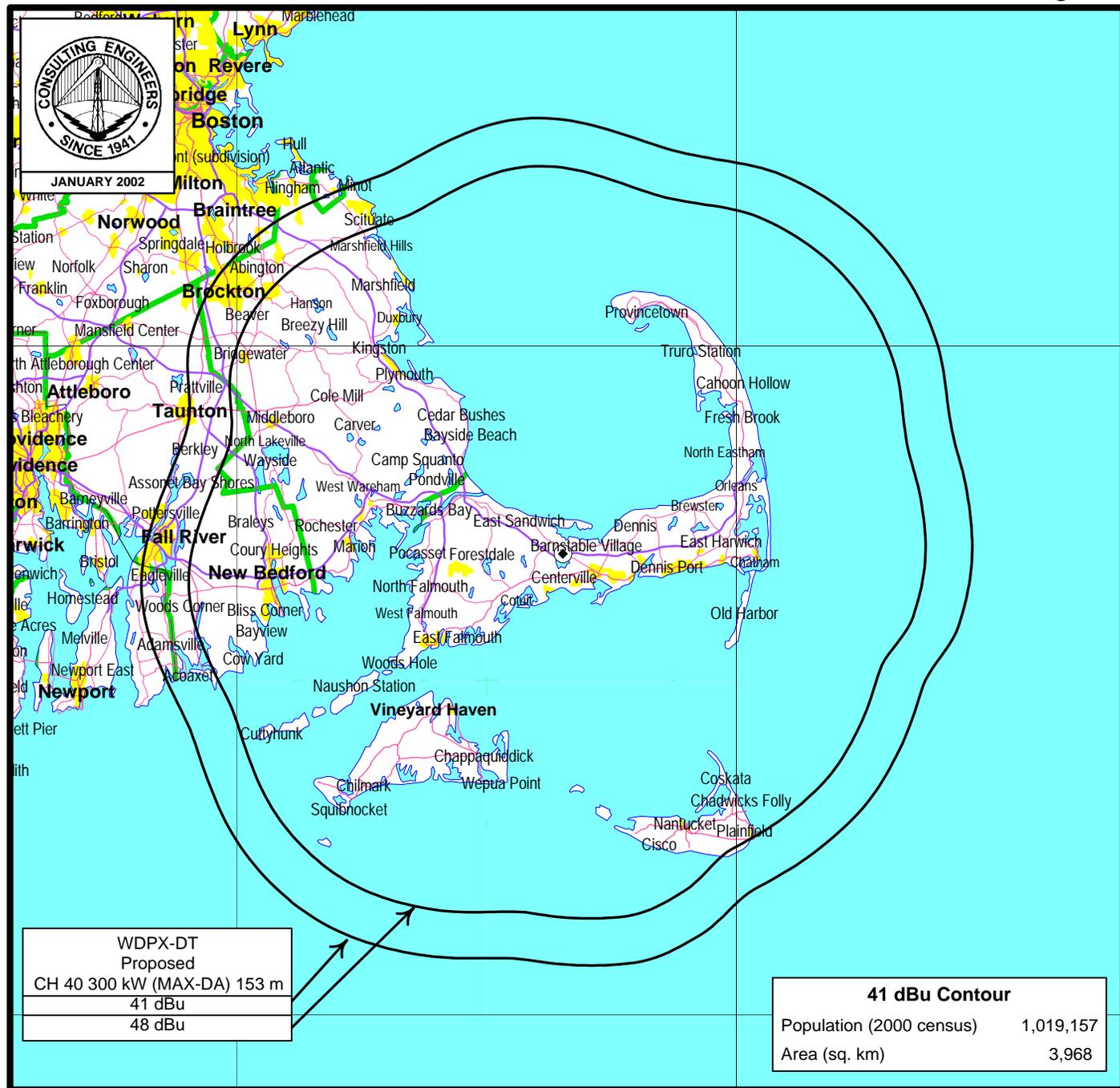
ELEVATION PATTERN

RMS Gain at Main Lobe	14.50 (11.61 dB)	Beam Tilt	0.50 deg
RMS Gain at Horizontal	13.60 (11.34 dB)	Frequency	629.00 MHz
Calculated / Measured	Calculated	Drawing #	06U145050-90



Degrees Below Horizontal

Figure 3



PREDICTED COVERAGE CONTOURS

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

FIGURE 4

CDBS TV/DTV SEPARATION STUDY

Job Title: Proposed WDPX-DT
 Channel: 40
 Class: C
 Type: DT

Separation Buffer: 65 km
 Coordinates: 41-41-20 070-20-49
 Zone: I

Call FID	City St	File Status	Chan. Num	Zone	ERP-kW HAAT-m	DA Id	Latitude Longitude	Bear. deg.	Dist. (km)	Required-min	km-max
WFXT 6463	BOSTON MA	BMLCT LIC-C	19911001LV	25 (+) I	1950.0 357	DA 20560	42-18-12 071-13-08	313.8	99.4	24.1	80.5 Clear
WSBE-TV 56092	PROVIDENCE RI	BLET LIC-C	19860926KP	36 (Z) I	1230.0 182	ND	41-48-18 071-28-24	278.2	94.6	24.1	80.5 Clear
WSBK-TV 73982	BOSTON MA	BLCT LIC-C	19910619KG	38 (Z) I	2340.0 354	ND	42-18-12 071-13-08	313.8	99.4	24.1	80.5 Clear
DWSBK	BOSTON MA	DTV Allotment		39 I	70.8 354	DA	42-18-12 071-13-08	313.8	99.4	24.0 10.61	110.0 Short
WSBK-DT 73982	BOSTON MA	BPCDT APP-C	19991029AE	39 I	135.0 390	ND	42-18-37 071-14-14	313.5	101.0	24.0 8.98	110.0 Short
DWDPX	VINEYARD HAVEN MA	DTV Allotment		40 I	50.0 155	DA	41-41-19 070-20-49	176.4	0.0		
WDPX-DT 6476	VINEYARD HAVEN MA	BPCDT APP-C	19991101AF	40 I	300.0 159	DA 29643	41-41-19 070-20-49	177.5	0.0		
WGGB-TV 25682	SPRINGFIELD MA	BLCT LIC-C	19990429KH	40 (Z) I	4270.0 324	DA 17192	42-14-30 072-38-57	288.7	200.5	217.3 16.82	Short
WLVI-DT 73238	CAMBRIDGE MA	BPCDT APP-C	19990909AA	41 I	450.0 391	ND	42-18-12 071-13-08	313.8	99.4	24.0 10.61	110.0 Short
DWLVI	CAMBRIDGE MA	DTV Allotment		41 I	50.0 360	DA	42-18-12 071-13-08	313.8	99.4	24.0 10.61	110.0 Short
WGBX-TV 72098	BOSTON MA	BLET LIC-C	19820413KF	44 (Z) I	1510.0 329	ND	42-18-37 071-14-14	313.5	101.0	24.1	80.5 Clear
WGBX-TV 72098	BOSTON MA	BPET CP-C	19981209KE	44 (Z) I	1100.0 374	ND	42-18-37 071-14-14	313.5	101.0	24.1	80.5 Clear

*** End of DTV Separation Study ***

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Technical Specifications

Channel	40
Frequency	626-632 MHz
Proposed Site Coordinates (NAD 27)	41° 41' 20" North Latitude 70° 20' 49" West Longitude
Site Elevation above mean sea level	38.4 m
Average elevation above mean sea level of 8 equally spaced radials, 3-16 kilometers	8.8 m
Overall height of antenna structure (#1231034)	
Above ground	128.0 m
Above mean sea level	166.4 m
Height of antenna radiation center	
Above ground	123.1 m
Above mean sea level	161.5 m
Above average terrain	153 m
Transmitter rated power output (average)	15 kW
Transmission line	6", 50 Ohm, rigid coax
Length	(500 ft) 152.4 m
Efficiency (including combiner)	82.1%
Antenna	Dielectric TUP-C4-6-1
Polarization	Horizontal
Peak Power Gain	26.1
Beam Tilt (electrical)	0.5°
Main Lobes	42, 220 & 310° T

Proposed Operation

Transmitter output power (average)	14.00 kW
Transmission line/combiner loss	2.50 kW
Antenna input power	11.50 kW
Maximum Effective Radiated Power (MAX-DA)	300 kW