

TECHNICAL EXHIBIT
AMENDMENT TO APPLICATION FOR
DTV CONSTRUCTION PERMIT
STATION WPXQ-DT (FACILITY ID 50063)
BLOCK ISLAND, RHODE ISLAND

JULY 23, 2003

CH 17 1000 KW-DA 228 M

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Technical Narrative

This Technical Exhibit supports a minor change amendment to the application for a digital television (DTV) construction permit (CP) for station WPXQ-DT at Block Island, Rhode Island (Facility ID 50063). Station WPXQ-DT currently has an application pending for its DTV operation (BPCDT-19991022AAT) to operate on channel 17 with a non-directional (ND) antenna system. The proposed DTV effective radiated power (ERP) is 200 kilowatts (kW). The proposed antenna height above average terrain (HAAT) is 223 meters. The proposed transmitter site coordinates are 41-34-22, 71-37-55 (NAD-27).

Proposed DTV Facilities

This minor change application proposes to amend the pending application. It is proposed to relocate the WPXQ-DT facilities to the site of WPXQ's analog (NTSC) operation on channel 69. The proposed site coordinates are 41-29-41, 71-47-06 (NAD-27). The FCC antenna structure registration number is 1022425. It is proposed to mount a Dielectric TFU-15JTH-R-CT170SP directional antenna system on the structure with the center of radiation at 179.5 meters above ground level (AGL), and 298.1 meters above mean sea level (AMSL). The proposed antenna HAAT will be 228 meters. The major lobe of the cardioid shaped antenna pattern will be oriented toward 50 degrees True (northeast), the same direction as the WPXQ analog antenna pattern. The proposed maximum DTV ERP is 1000 kW.

The proposed WPXQ-DT transmitter site is approximately 391 kilometers from the closest point of the Canadian border. The proposed WPXQ-DT operation is considered a Class VU assignment for purposes of the US/Canada Letter of Understanding (LOU) concerning DTV. The proposed WPXQ-DT operation meets the separation requirements to pertinent Canadian analog (NTSC) and DTV allotments.

The proposed WPXQ-DT site is more than 2600 kilometers from the closest point of the Mexican border. The closest FCC monitoring station is at Belfast, Maine, approximately 394 kilometers to the northeast. The closest point of the National Radio Quiet Zone (VA/WV) is more than 600 kilometers to the southwest. The closest point of the Table Mountain Radio Quiet Zone (CO) is more than 2700 kilometers to the west. The closest radio astronomy site operating on TV channel 37 is at Hancock, New Hampshire, approximately 160 kilometers to the north. These separations are considered sufficient to not be a coordination concern.

The proposed WPXQ-DT transmitter site is also used for the WPXQ(TV) analog operation on channel 69. There are no known FM stations within 5 kilometers of the proposed site. There are no known AM stations within 4 kilometers (2.5 miles) of the proposed WPXQ-DT site. No adverse electromagnetic interaction is expected. The applicant recognizes that it is responsible to remedy prohibited electromagnetic problems that its proposed operation may create.

Figure 3 is a map showing the predicted 48 dBu F(50,90) principal city contour and 41 dBu F(50,90) service contour for the proposed WPXQ-DT operation. The limits of Block Island, as defined in the 2000 US Census for Rhode Island, are identified. The predicted 48 dBu contour encompasses the Block Island limits as required by the FCC rules. The estimated population (2000 Census) within the predicted 41 dBu contour is 2,821,686 people.

Allocation Study

Interference calculations have been made using the procedures outlined in the FCC's OET-69 Bulletin and a 2 kilometer grid. The proposed WPXQ-DT operation complies

with the FCC's 2%/10% interference standards with respect to pertinent surrounding analog (NTSC) full service TV assignments and DTV assignments and allotments.

Pertinent low power television (LPTV) stations that qualify for Class A consideration and are operating within the FCC's core band (ie, 2-51) have been examined. No adverse interference problems to Class A TV assignments are predicted.

Land Mobile Radio Service (LMRS)

The proposed WPXQ-DT site is the same as the DTV allotment site. The separation to the adjacent channel 16 LMRS reservation at Boston, Massachusetts is 113.2 kilometers. Section 73.623(e) of the FCC rules normally requires a minimum separation of 176 kilometers between a DTV station and an adjacent channel LMRS reservation.

The FCC rules state that applications for modifications to DTV allotments will be considered where all affected land mobile licensees consent to the requested action. Research of LMRS operations on channel 16 within 50 miles of the Boston reference site revealed more than 1800 LMRS records. It is believed this magnitude of LMRS records precludes any practical expectation of receiving consent letters from all affected LMRS station to comply with the FCC rule. Informal discussions with the FCC staff indicate that implementation of this provision of the FCC rule is likely to be impractical and unworkable given the number of consent letters that would be required. Station WPXQ-DT respectfully requests a waiver of Section 73.623(e) to the extent necessary to allow the acceptance of an alternative showing to demonstrate interference protection to pertinent LMRS operations on channel 16.

There is evidence to indicate that DTV operations on first adjacent channels to LMRS reservations will be able to provide sufficient interference protection to LMRS stations. In paragraph 93 of the FCC's Sixth Further Notice of Proposed Rule Making (MM Docket No. 87-269, released August 14, 1996, 11 FCC Rcd 10968), the FCC stated "...we believe that there are engineering solutions available to handle any adjacent channel

interference concerns between land mobile and DTV.” This statement was made prior to the FCC’s adoption of a strict DTV emission mask that requires the first adjacent channel emissions to be attenuated at least 47 dB at band edge down to at least 110 dB 6 MHz removed from the band edge (Section 73.622(h)(1) of FCC rules). The strict DTV emission requirement reduces the likelihood of DTV interference to LMRS operations. The addition of high pass, low pass or band pass filtering is an option for DTV transmitters to further reduce the emissions. Filtering has been proven compatible with DTV transmissions when systems are properly engineered.

Interference calculations have been made which show the lack of interference to LMRS operations. The analysis generally relies on information provided in the Comments of Motorola in MM Docket No. 87-268, “Advanced Television Systems and Their Impact Upon Existing Television Broadcast Service, dated November 22, 1996. The Motorola comments indicate the LMRS base station receivers are the most sensitive elements of the system and are the most susceptible to interference (Comments of Motorola, Appendix B, page 5). Section 90.305(a) of the FCC rules requires LMRS base stations on channel 16 in the Boston area to be located within 80.5 kilometers (50 miles) of the Boston reference site. With the proposed WPXQ-DT site being 113.2 kilometers from the Boston reference site, this results in a minimum separation of 32.7 kilometers to the closest LMRS base station. A search of the FCC master frequency database reveals the closest LMRS base station to be 39.7 kilometers from the proposed WPXQ-DT site.

A separation of 32 kilometers has been employed as the basis for LMRS base station protection. Free space propagation has been assumed for a worst-case estimate for the potential of interference. The proposed WPXQ-DT antenna is horizontally polarized and the LMRS antennas are vertically polarized. A level of 20 dB for cross polarization discrimination is generally accepted as a conservative value. The coupling loss into a LMRS receiver intermediate frequency (IF) stage is based on a LMRS bandwidth of 25 kHz and a DTV occupied bandwidth of 5.38 MHz. The following is a summary of the interference calculations.

Proposed WPXQ-DT nominal EIRP	+92.2 dBm	(ERP of 1000 kW)
Cross polarization discrimination	-20.0 dB	
Free space path loss (32 km)	-116.0 dB	(note closest LMRS is 39.7 km)
DTV mask filter	-47.0 dB	(worst-case band edge)
Coupling into LMRS receiver IF stage	-23.3 dB	
LMRS antenna gain	+9.0 dB	
LMRS line loss	<u>-2.0 dB</u>	
Received DTV interference power	-107.1 dBm	
Estimated noise floor	<u>-115.0 dBm</u>	
Required additional attenuation	-7.9 dB	

Station WPXQ-DT proposes to install filtering after the DTV transmitter to provide an additional 11 dB of attenuation at the lower band edge above that required by the DTV mask. This additional filtering is approximately 3.1 dB greater than the value calculated above, and is believed to provide a conservative margin to avoid LMRS interference. The applicant expresses its intent to cooperate to eliminate objectionable interference, should it unexpectedly occur, to LMRS facilities on channel 16 in the Boston area.

Based on the above, it is believed that the proposed WPXQ-DT operation on channel 17 will not cause objectionable interference to the Boston LMRS operations on channel 16. A waiver of the FCC rules with regard to LMRS is respectfully requested based on the above showing.

Radiofrequency Electromagnetic Field Exposure

The proposed WPXQ-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 179.5 meters above ground level. The proposed maximum DTV ERP is 1000 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 0.0239 mW/cm^2 . This is less than 8% of the FCC's recommended limit of 0.33 mW/cm^2 for channel 17 for an "uncontrolled" environment. The calculated power density is less than 2% 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 WPXQ-DT operation appears to be otherwise categorically excluded from environmental processing.

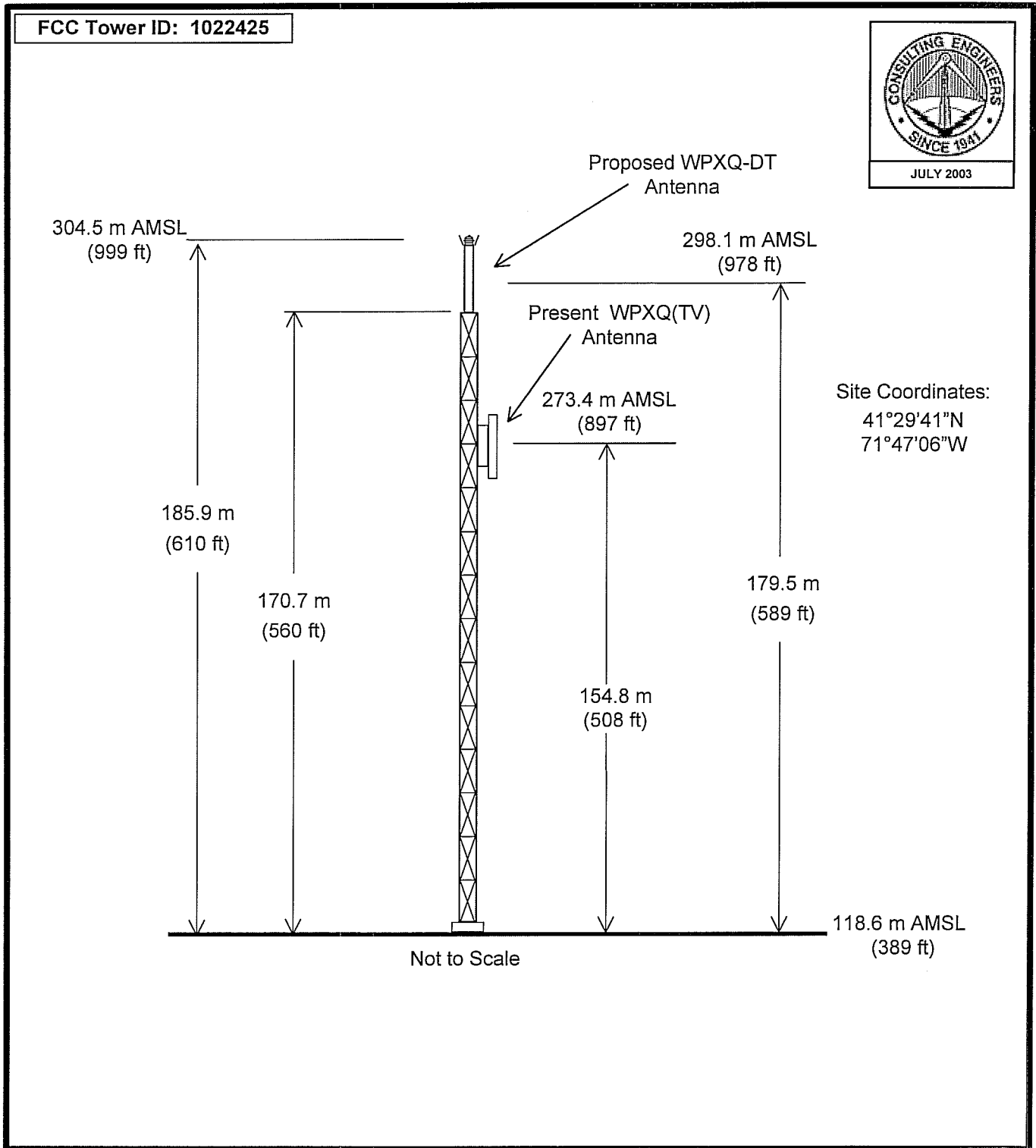
If there are questions concerning the technical portion of this application, please contact the office of the undersigned.

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July 23, 2003

Figure 1



PROPOSED ANTENNA AND SUPPORTING STRUCTURE

STATION WPXQ-DT
BLOCK ISLAND, RHODE ISLAND
CH 17 1000 KW-DA 228 M

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

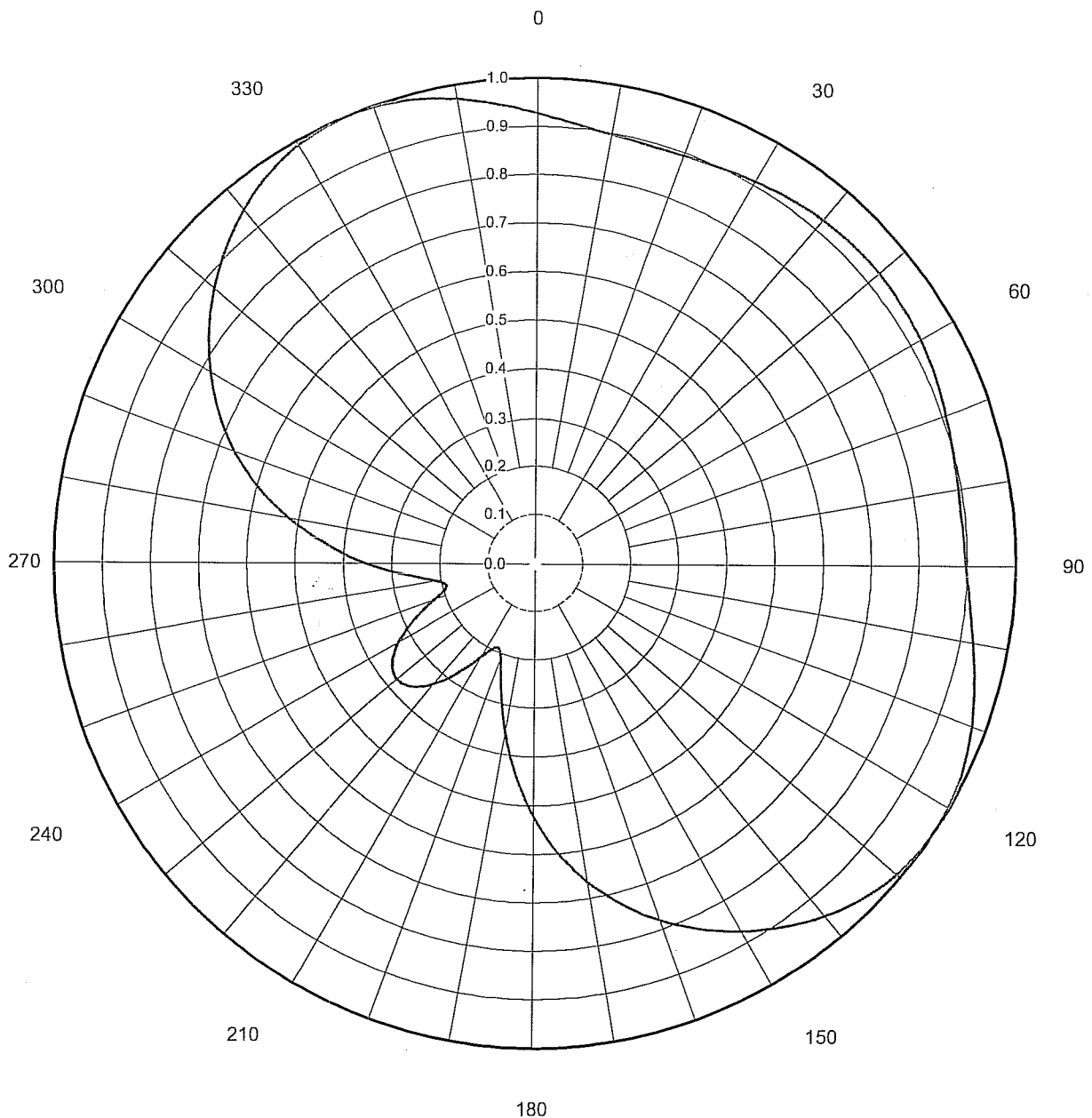


Proposal Number	DCA-10265	Revision:	1
Date	22-Jul-03		
Call Letters	WPXQ	Channel	17
Location	Block Island, RI		
Customer	Paxson		
Antenna Type	TFU-15JTH-R CT170		

AZIMUTH PATTERN

Gain 1.70 (2.30 dB)
Calculated / Measured Calculated

Frequency 491.00 MHz
Drawing # TFU-CT170-4910

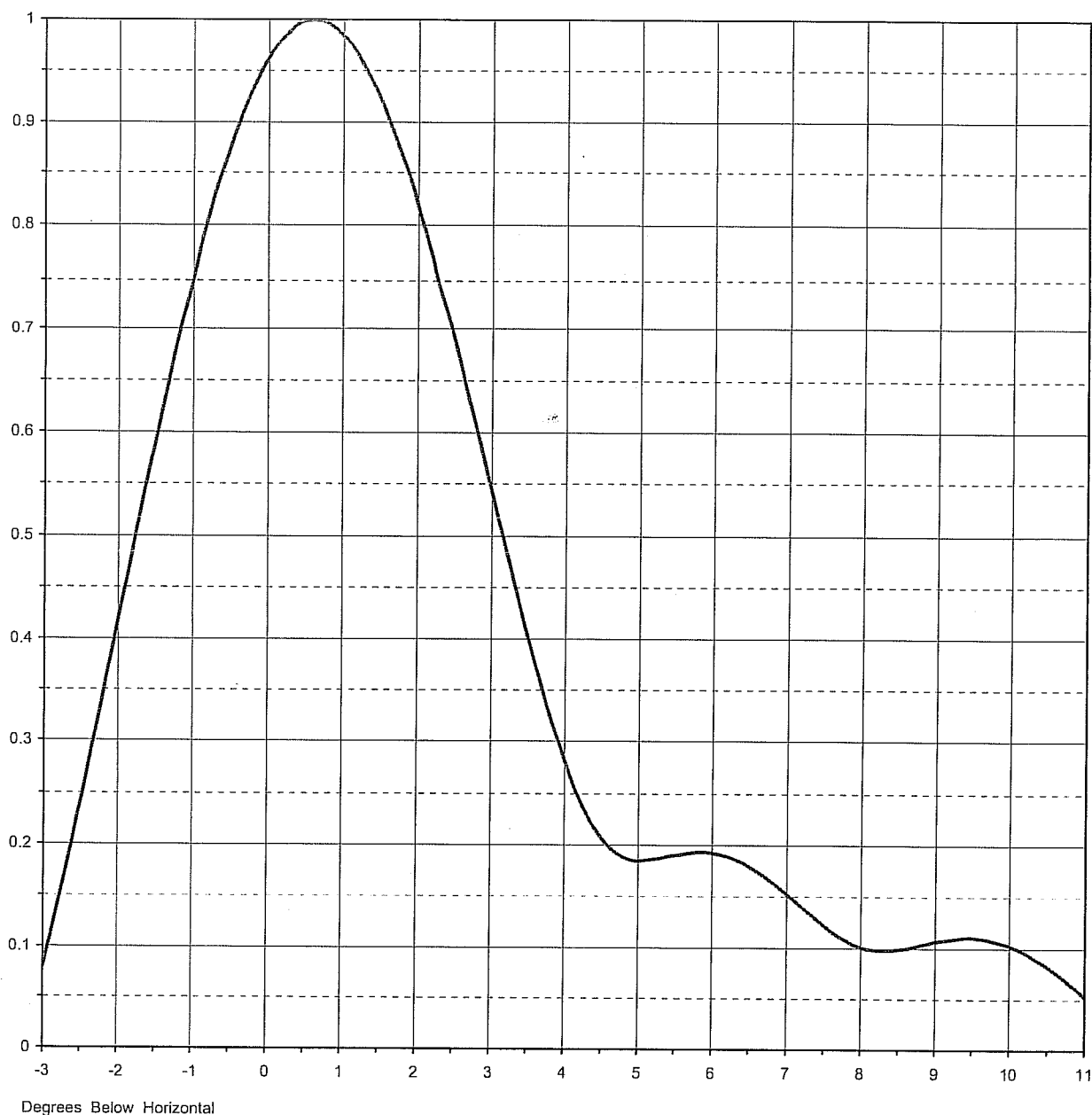




Proposal Number **DCA-10265**
 Date **23-Jun-03**
 Call Letters **WPXQ** Channel **17**
 Location **Block Island, RI**
 Customer **Paxson**
 Antenna Type **TFU-15JTH-R CT170**

ELEVATION PATTERN

RMS Gain at Main Lobe	15.00 (11.76 dB)	Beam Tilt	0.60 deg
RMS Gain at Horizontal	13.90 (11.43 dB)	Frequency	491.00 MHz
Calculated / Measured	Calculated	Drawing #	15J150060

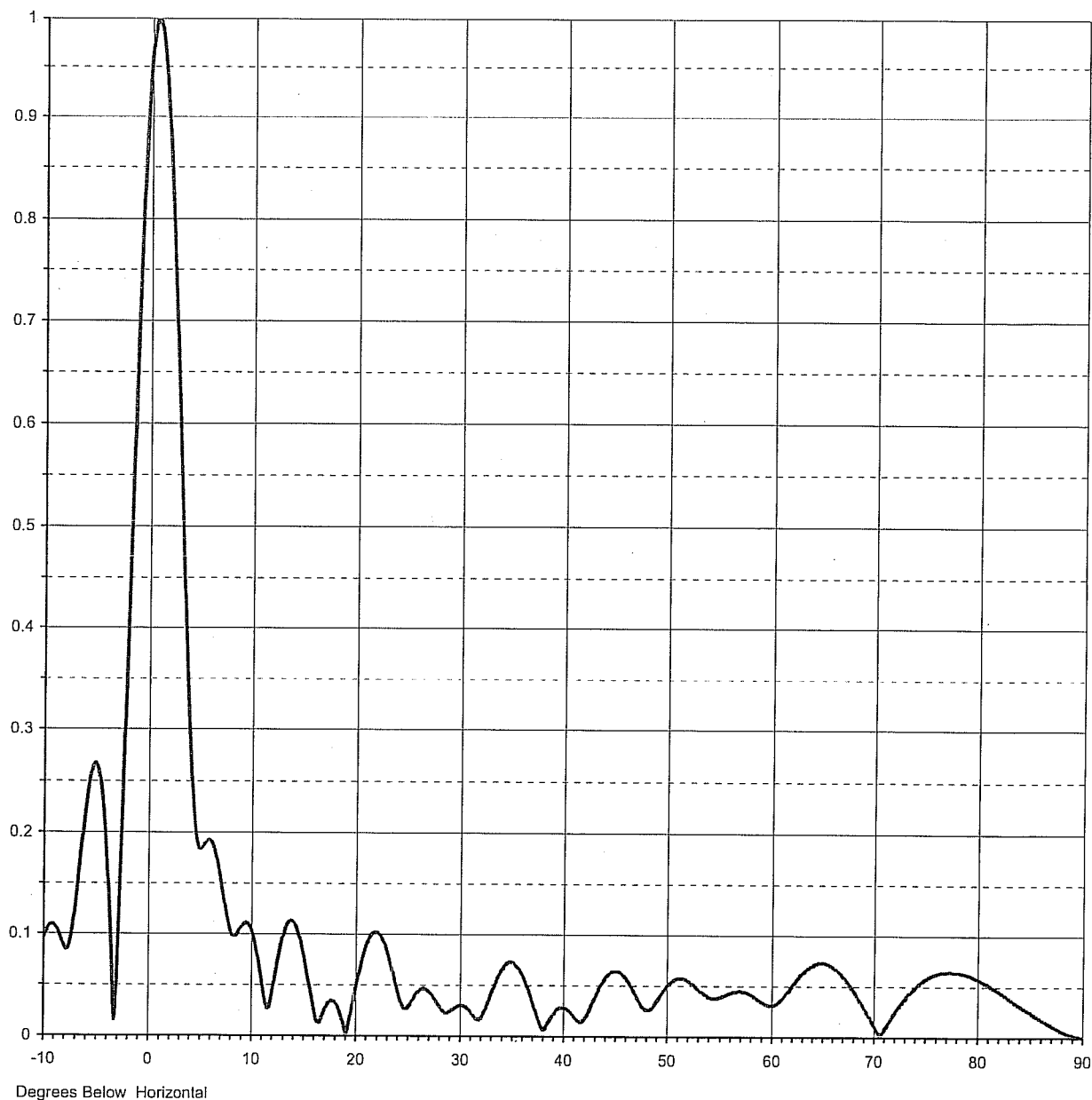




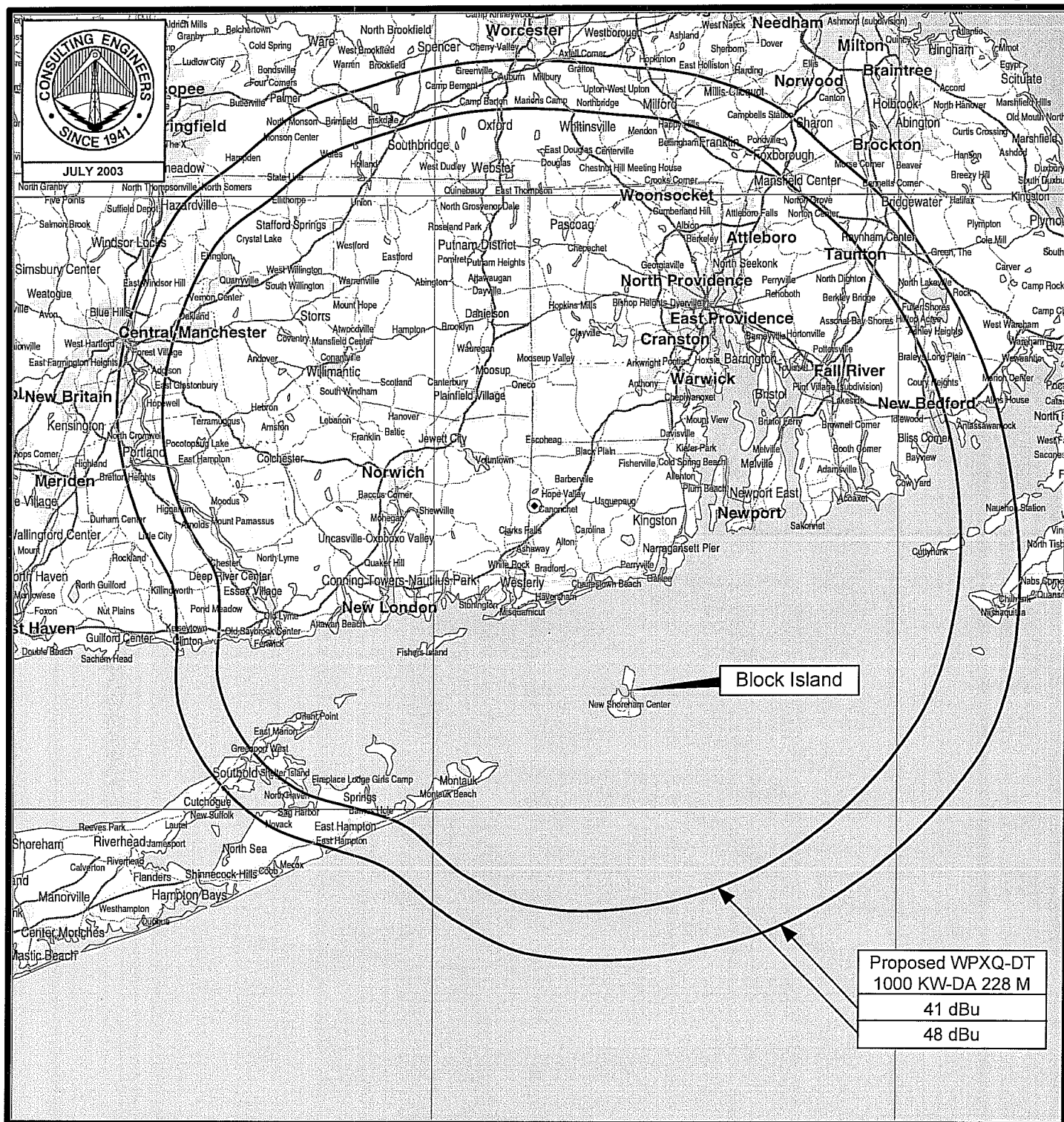
Proposal Number **DCA-10265**
 Date **23-Jun-03**
 Call Letters **WPXQ** Channel **17**
 Location **Block Island, RI**
 Customer **Paxson**
 Antenna Type **TFU-15JTH-R CT170**

ELEVATION PATTERN

RMS Gain at Main Lobe	15.00 (11.76 dB)	Beam Tilt	0.60 deg
RMS Gain at Horizontal	13.90 (11.43 dB)	Frequency	491.00 MHz
Calculated / Measured	Calculated	Drawing #	15J150060-90



Degrees Below Horizontal



PREDICTED COVERAGE CONTOURS

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

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Technical Specifications For Proposed DTV Operation

Channel	17
Frequency	488-494 MHz
Proposed Site Coordinates (NAD 27)	41° 29' 41" North Latitude 71° 47' 06" West Longitude
Site Elevation above mean sea level	118.6 m
Average elevation above mean sea level of 8 equally spaced radials, 3-16 kilometers	70.3 m
Overall height of antenna structure (#1022425)	
Above ground	185.9 m
Above mean sea level	304.5 m
Height of antenna radiation center	
Above ground	179.5 m
Above mean sea level	298.1 m
Above average terrain	228 m
Transmitter rated power output (average)	50 kW
Transmission line	Dielectric 6-1/8", 75 Ohm, rigid coax
Length	(700 ft) 213.4 m
Efficiency	84.1%
Antenna	Dielectric TFU-15JTH-R-CT170SP
Polarization	Horizontal
Peak Power Gain	25.5
Beam Tilt (electrical)	0.6°

Proposed Operation

Transmitter output power (average)	46.6 kW
Transmission line	7.4 kW
Antenna input power (average)	39.2 kW
Maximum DTV Effective Radiated Power	1000 kW