

TECHNICAL EXHIBIT
MINOR AMENDMENT TO PENDING APPLICATION
STATION WPXD-DT (FACILITY ID 5800)
ANN ARBOR, MICHIGAN

JUNE 28, 2001

CH 33 110 KW (MAX-DA) 328 M

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Technical Narrative

This Technical Exhibit supports a minor amendment to the pending application for digital television (DTV) station WPXD-DT on channel 33 at Ann Arbor, Michigan. The pending WPXD-DT application proposes to operate with a directional antenna maximum effective radiated power (ERP) of 190 kW and an antenna height above average terrain (HAAT) of 328 meters (BPCDT-19990812KH).

Proposed Facilities

This minor amendment proposes only to reduce ERP from the application on file. No other changes are proposed. It is understood that Canada has objected to the currently pending application because of excessive interference being caused to channel 33 at Chatham, Ontario. This ERP reduction amendment intends to reduce the excessive interference to the above-mentioned Canadian station. Operation at the current transmitter site (coordinates: 42-22-25 N, 84-04-10 W) with a directional antenna maximum ERP of 110 kW and antenna HAAT of 328 meters is hereby proposed (*tower registration no. 1000278*).

Allocation Study

Since this minor amendment proposes only to reduce ERP, no domestic allocation studies or OET-69 interference calculations have been made. The purpose of this minor amendment is only to achieve compliance with the Canadian Letter of Understanding

(LOU). The proposed WPXD-DT ERP decrease is not expected to adversely impact any domestic NTSC, DTV or LPTV/Class A station over that of the currently pending WPXD-DT application. Therefore, it is believed that this proposal complies with the FCC's 2%/10% interference standard to domestic stations and allotments.

Canadian Study

The proposed transmitter site is approximately 79 kilometers from the closest point of the Canadian border. The proposed WPXD-DT operation does not meet the minimum separation requirement towards Canadian station CICO-TV (DTV-33) at Chatham, Ontario. The required minimum separation distance is 344 km. The actual separation distance is 164 kilometers. Therefore, the proposed WPXD-DT operation is "short" by 180 kilometers. Interference calculations using the Longley-Rice propagation model (2 km grid) and procedures contained in the LOU indicate that interference will be caused to 1,574 people (Canadian) within the CICO-TV 39 dBu F(90,90) noise-limited contour (see Figure 3). This represents 1.2% of the CICO-TV service population (130,672 people). This population figure (1,574, 1.2%) has been determined as the unique interference caused to station CICO-TV by the proposed WPXD-DT operation, when other domestic (U.S.) stations are considered for "masking" purposes (i.e., other U.S. stations that already cause interference to CICO-TV). The three U.S. stations used in the masking analysis are listed below.

WPXD-DT, DTV-33 allotment, Ann Arbor, MI (50 kW)
WYTV, NTSC-33, Youngstown, OH (912 kW)
WGRZ-TV, DTV-33 allotment, Buffalo, NY (1000 kW)

If coordination with Canada is required, it is respectfully requested that the proposal be given consideration based on use of the Longley-Rice propagation model and the masking analysis detailed above, with respect to CICO-TV.

Radiofrequency Electromagnetic Field Exposure

The proposed WPXD-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 307.9 meters above ground level. The maximum DTV ERP is 110 kW. A conservative relative field value of 0.1 was used for the calculation (see Figure 1B). Therefore, the "worst-case" calculated power density at a point 2 meters above ground level is 0.0004 mW/cm^2 . This is less than 1% of the FCC's recommended limit of 0.39 mW/cm^2 for channel 33 for an "uncontrolled" environment.

Access to the transmitting site 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. The proposed WPXD-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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June 28, 2001

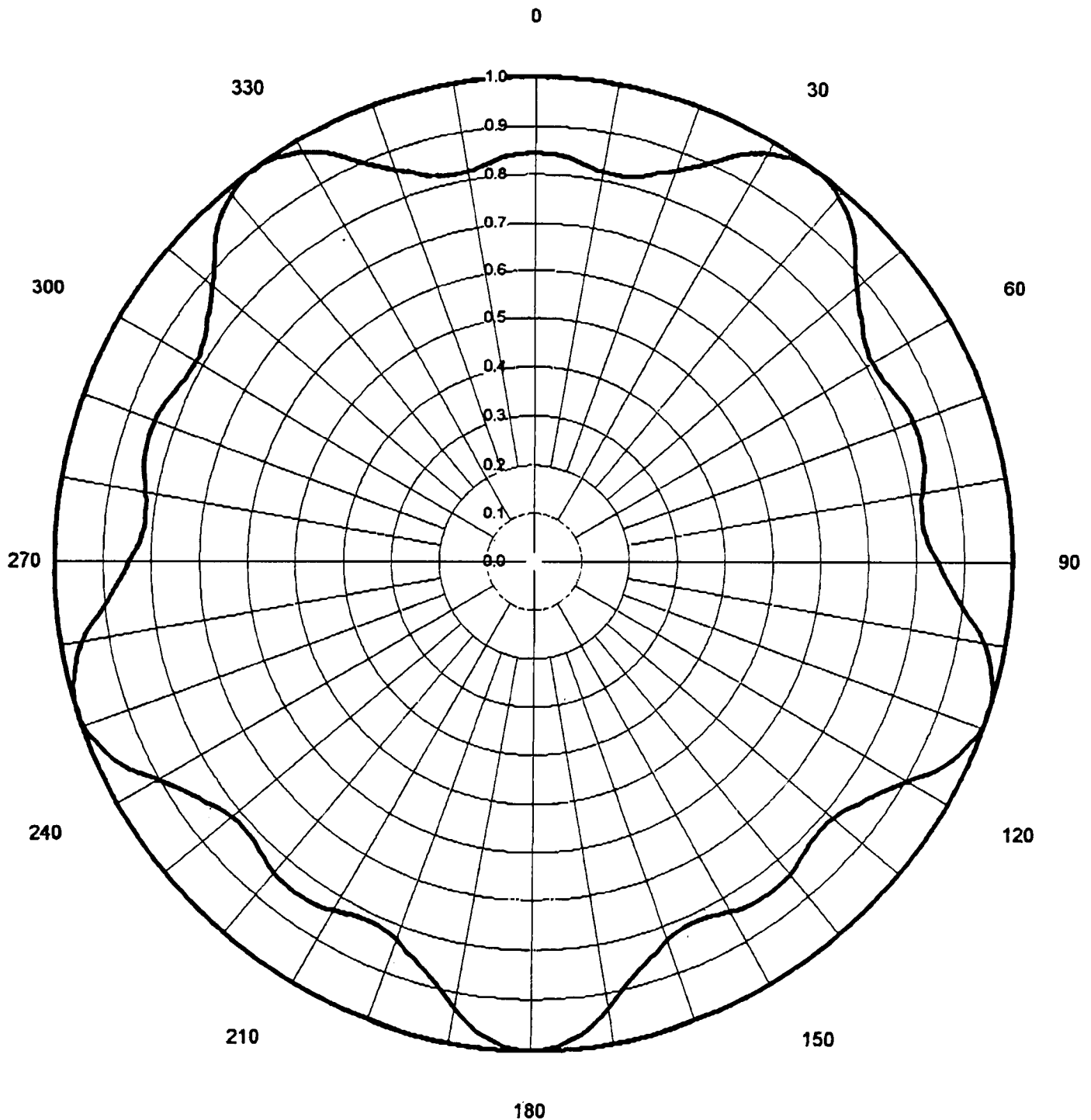
Dielectric

Proposal Number	DCA-8302	
Date	17-Jun-99	
Call Letters	WPXD-DT	Channel 33
Location	Ann Arbor, MI	
Customer		
Antenna Type	TUP-O5-16-1	

AZIMUTH PATTERN

Gain	1.30	(1.14 dB)
Calculated / Measured	Calculated	

Frequency	587.00 MHz
Drawing #	TUP-O5-33



Dielectric

Proposal Number	DCA-8302	
Date	17-Jun-99	
Call Letters	WPXD-DT	Channel 33
Location	Ann Arbor, MI	
Customer		
Antenna Type	TUP-O5-16-1	

ELEVATION PATTERN

RMS Gain at Main Lobe	32.30 (15.09 dB)	Beam Tilt	0.50 deg
RMS Gain at Horizontal	24.30 (13.86 dB)	Frequency	587.00 MHz
Calculated / Measured	Calculated	Drawing #	16U323050-90

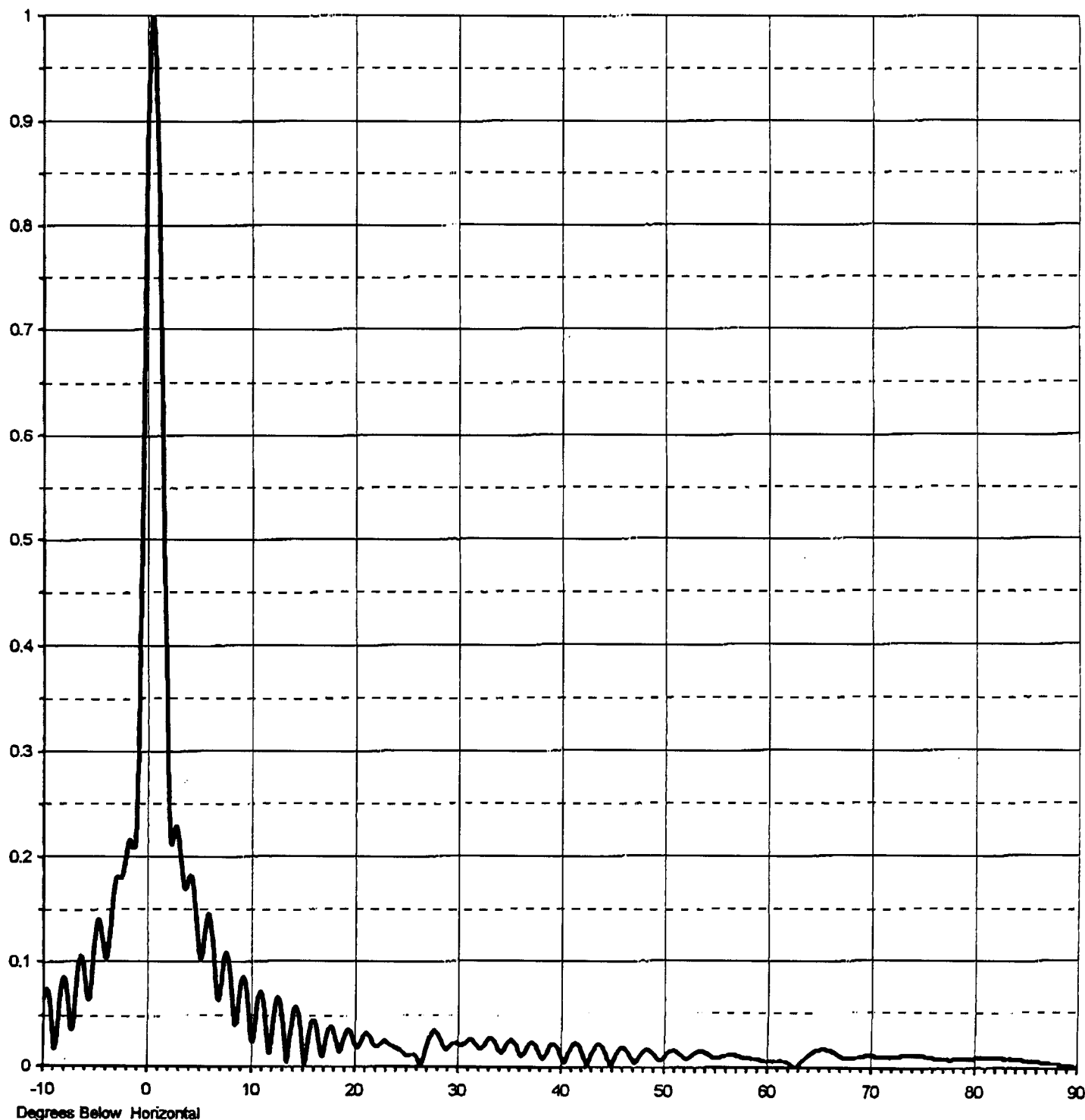
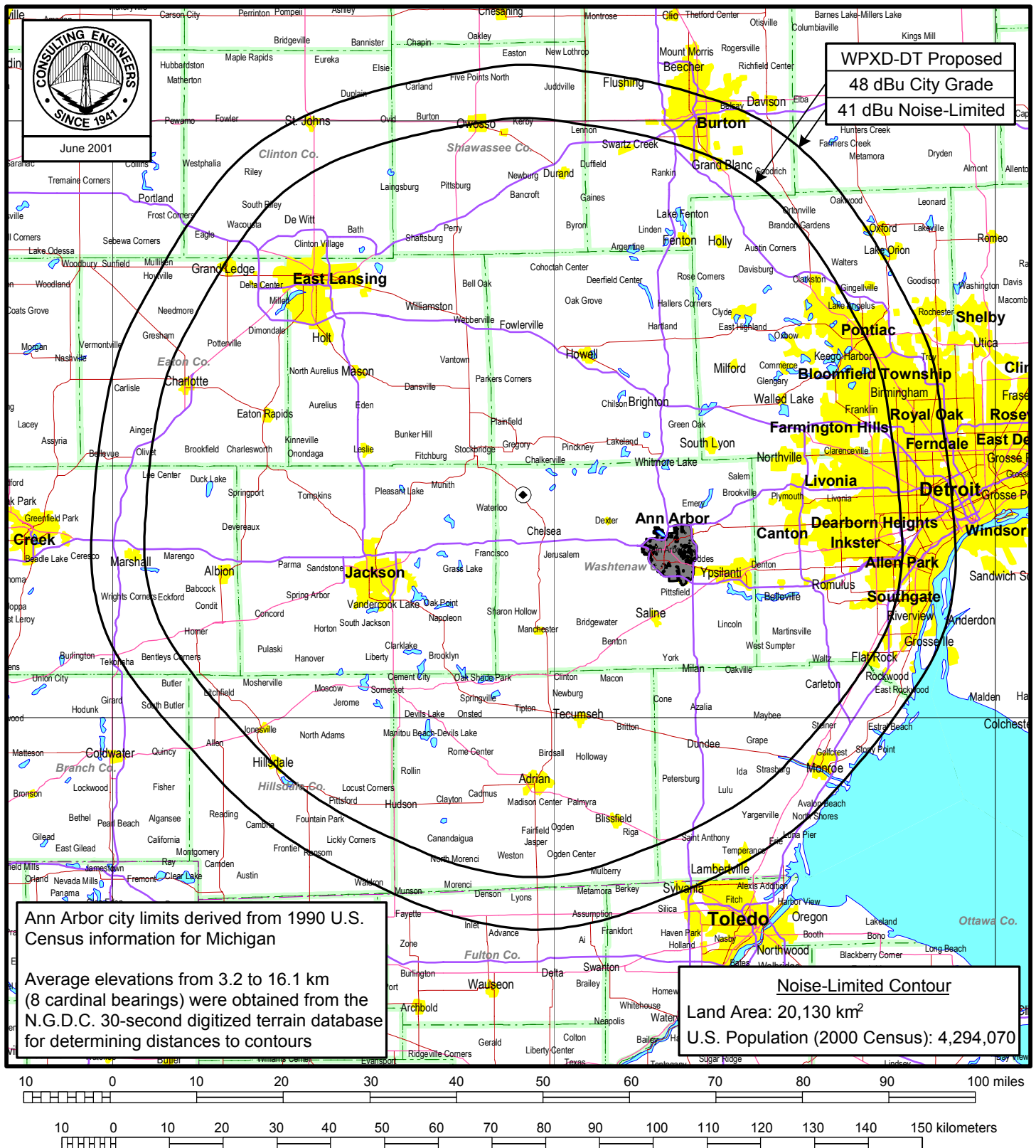


Figure 2



PREDICTED F(50,90) COVERAGE CONTOURS

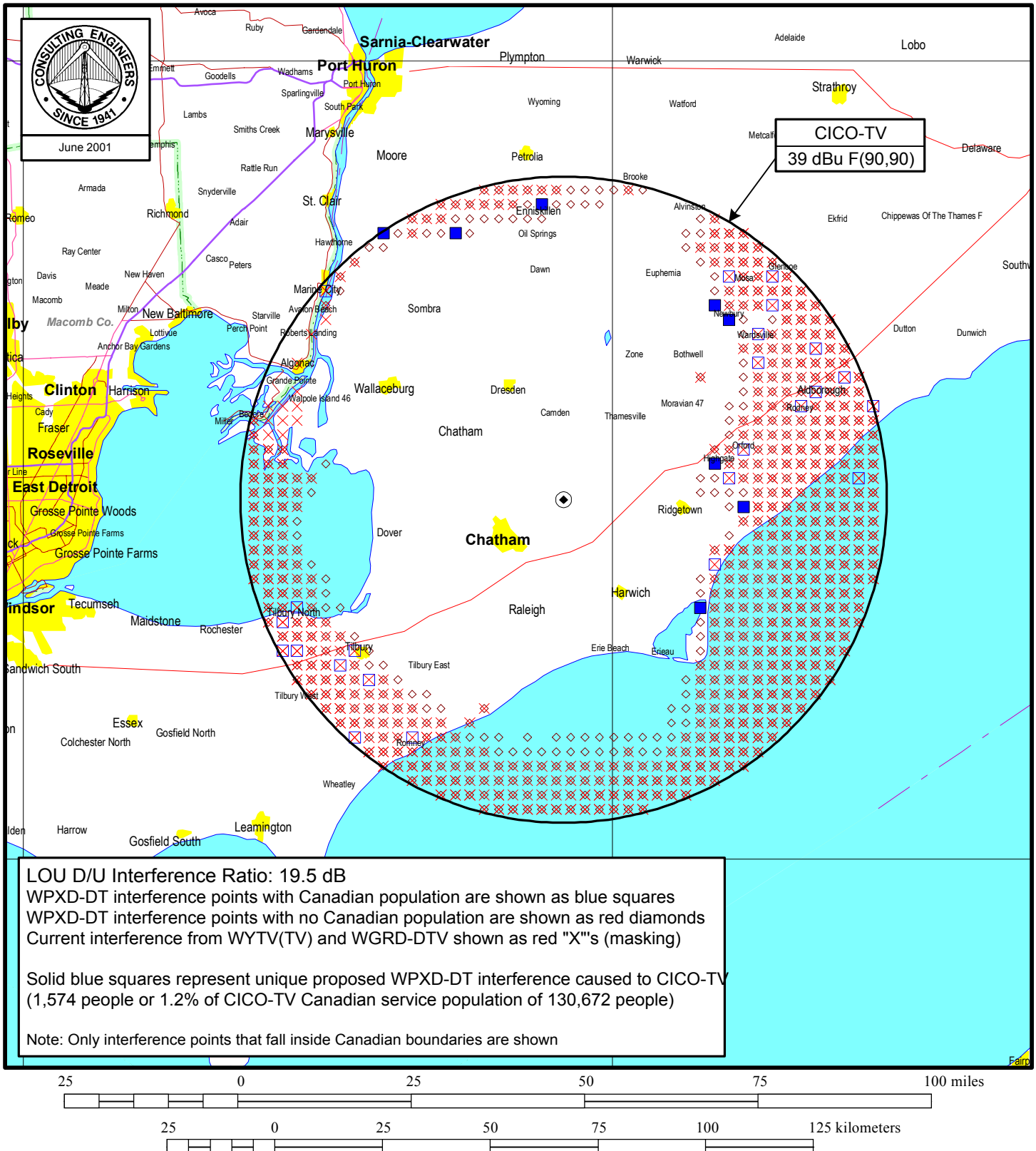
STATION WPXD-DT

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Figure 3A



PREDICTED INTERFERENCE TO STATION CICO-TV

STATION WPXD-DT

ANN ARBOR, MICHIGAN

CH 33 110 KW (MAX-DA) 328 M

du Treil, Lundin & Rackley, Inc Sarasota, Florida

Study Date: 20010628

INTERFERENCE RECEIVED BY CICO-TV

CELL SIZE : 2.000000

Using DTV->DTV service params

Using circles for service area

CICO-TV 42-27-00 82-05-00 33(N) 4.0 kw 337.0 m AMSL 90.0 % 39.0 dBu
 CHATHAM ON
 CANTAB CLASS B
 Calculated RCAMSL with HAAT of 150
 %loc = 90.00000 %time = 90.00000

	Area	Pop
within Noise Limited Contour	6316.658	130672
not affected by terrain losses	6316.658	130672

WPXD-D 42-22-25 84-04-10 33(N) 110.0 kw-DA 614.2 m AMSL 90.0 % 39.0 dBu
 ANN ARBOR MI 17256 3197 DTVSERVICE: 3197000 NTSCSERVICE: 2248000
 APP CLASS B
 0.85 0.82 0.86 0.97 0.99 0.88 0.82 0.84 0.82 0.85 0.96 1.00
 0.90 0.82 0.84 0.83 0.83 0.93 1.00 0.93 0.83 0.83 0.84 0.82
 0.90 1.00 0.96 0.85 0.82 0.84 0.82 0.88 0.99 0.97 0.86 0.82
 Ref Az: 0.0

D/U Baseline: 19.50000
 %loc = 10.00000 %time = 10

	Area	Pop
Interference	2635.29	20663

DWPXD 42-22-25 84-04-14 33(0) 50.0 kw-DA 614 m AMSL 90.0 % 39.0 dBu
 ANN ARBOR MI 17256 3197 DTVSERVICE: 3197000 NTSCSERVICE: 2248000
 DTVALT DTV ALLOTMENT CLASS C
 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 1.00 1.00 1.00 1.00 0.99 0.99 0.99 0.99 0.99 0.98 0.98 0.98
 0.99 0.99 0.99 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Ref Az: 0.0

D/U Baseline: 19.50000
 %loc = 10.00000 %time = 10

	Area	Pop
Interference	2168.59	17463

WYTV 41-03-43 80-38-07 33(Z) 912.0 kw 502 m AMSL 90.0 % 64.0 dBu
 YOUNGSTOWN OH 11212 1190 FCC NTSC BL: 1218781 FCC IX POP%: 4.9
 LIC BLCT2210 CLASS VL

D/U Baseline: 7.200000
 %loc = 10.00000 %time = 10

	Area	Pop
Interference	1251.26	8281

Figure 3C

DWGRZTV 42-43-06 78-33-48 33(0) 1000.0 kw-DA 688 m AMSL 90.0 % 39.0 dBu
 BUFFALO NY 31314 2191 DTVSERVICE: 2191000 NTSCSERVICE: 1718000
 DTVALT DTV ALLOTMENT CLASS VL
 0.81 0.82 0.83 0.85 0.87 0.88 0.90 0.92 0.94 0.97 0.97 0.96
 0.96 0.96 0.96 0.97 0.98 0.98 0.99 0.99 0.99 1.00 1.00 0.99
 0.95 0.92 0.89 0.86 0.84 0.83 0.82 0.81 0.81 0.81 0.81 0.81
 (225.0 1.00) (226.0 1.00)
 Ref Az: 0.0

D/U Baseline: 19.50000
 %loc = 10.00000 %time = 10

	Area	Pop
Interference	1375.99	9393

lost to NTSC IX	1251.26	8281
lost to additional IX by DTV	1601.29	15727
total lost to DTV IX	2699.67	22079

CallSign	No.cells	Unq Area	Unq Pop
WPXD-D	83	333.9380	1574
WYTV	38	152.8873	1929
DWGRZTV	12	48.28019	190

lost to all IX	2852.55	24008
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Total SERVICE	3464.10	106664
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Technical Specifications

Channel	33
Frequency	584-590 MHz
Proposed Site Coordinates (NAD 27)	42° 22' 25" North Latitude 84° 04' 10" West Longitude
Site Elevation above mean sea level	306.3 m
Average elevation above mean sea level of 8 equally spaced radials, 3-16 kilometers	286.2 m
Overall height of antenna structure	
Above ground	318.2 m
Above mean sea level	624.5 m
Height of antenna radiation center	
Above ground	307.9 m
Above mean sea level	614.2 m
Above average terrain	328 m
Transmitter rated power output (average)	5 kW
Transmission line	Dielectric 562179
Length	(1075 ft) 328 m
Efficiency (0.81 dB loss)	82.9%
Antenna	Dielectric TUP-O5-16-1
Polarization	Horizontal
Peak Power Gain	42.0
Beam Tilt (electrical)	0.5±
Main Lobes	35°, 107°, 179°, 251° & 323° T

Proposed Operation

Transmitter output power (average)	3.16 kW
Transmission line loss	0.54 kW
Antenna input power	2.62 kW
Maximum Effective Radiated Power (MAX-DA)	110 kW