

TECHNICAL EXHIBIT
LPTV DISPLACEMENT APPLICATION FOR
STATION WMPX-LP (FACILITY ID 6477)
DENNIS, MASSACHUSETTS

JULY 12, 2004

CH 33(0) 14.6 KW-DA

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Technical Narrative

This technical exhibit supports a low power television (LPTV) application to modify construction permit (CP) from station WMPX-LP at Dennis, Massachusetts (Facility ID 6477). According to the Federal Communications Commission (FCC) database, station WMPX-LP is currently licensed to operate on channel 67 with a Bogner B24UD directional antenna (DA) system (BLTTL-19830923IA). The major lobe of the antenna pattern is oriented toward 90 degrees True (east). The maximum visual effective radiated power (ERP) is 14.6 kilowatts (kW). The antenna center of radiation is 140 meters above mean sea level (AMSL). The transmitter site coordinates are 41-41-19, 70-20-49.

Station WMPX-LP has a construction permit to operate on channel 33 with a zero (0) carrier offset (BPTTL-20020715ABD). An Antenna Concepts ACS4D directional antenna system is authorized. The major lobe of the antenna pattern is oriented toward 90 degrees True. The maximum visual ERP is 14.6 kW. The antenna center of radiation is 101.2 meters above ground level (AGL), and 139.6 meters AMSL. The FCC antenna structure registration number for the tower is 1231034 and the coordinates are 41-41-20, 70-20-49 (NAD-27).

Proposed Facilities

Station WMPX-LP proposes a modification to the CP by simply reducing the antenna radiation center height to 78.9 meters AGL, and 117.3 meters AMSL (see Figure 1). There is no proposed change in channel (33), offset (0), city of assignment (Dennis, MA), ERP (14.6 kW-DA), antenna system (Antenna Concepts ACS4D oriented at 90 degrees True), antenna structure (#1231034), or site coordinates (41-41-20, 70-20-49).

The power gain for the proposed Antenna Concepts ACS4D antenna system is 27.8. It is proposed to couple the antenna system to the transmitter through approximately 94.5 meters (310 feet) of Andrew LDF7-50A 1-5/8 inch foam Heliac coaxial transmission line. The efficiency of the transmission line on channel 33 is 65%. The proposed transmitter power output (TPO) will be 0.808 kW. The combination of these parameters results in a maximum visual ERP of 14.6 kW.

NTSC Allocation Considerations

A study has been conducted using the provisions of Sections 74.705, 74.707, 74.708 and 74.709 to assure that the proposal will not create prohibited interference with other authorized or pending analog (NTSC) full-power TV, LPTV, Class A TV, and land mobile radio service (LMRS) stations. The proposed WMPX-LP operation complies with the FCC's allocation standards with respect to all known analog assignments. There are no pertinent LMRS stations in the area for protection from the proposed channel 33 operation.

The proposed WMPX-LP channel 33 site is 381 kilometers from the nearest point of the US/Canada border. The proposed 19 dBu F(50,10) and 31.8 dBu F(10,10) interfering contours fall more than 160 kilometers short of the border (ie, do not cross the border). Therefore coordination with Canada should not be an issue.

DTV Allocation Considerations

Pertinent DTV allotments and assignments on channels 32, 33 and 34 have been examined using the procedures outlined in the FCC's OET-69 Bulletin.¹ The proposed WMPX-LP channel 33 operation complies with the FCC's "de minimis" (0.5%) interference policy.

¹ The duTreil, Lundin & Rackley, Inc. DTV interference analysis program is based on the program and procedures outlined by the FCC in the Sixth Report and Order; subsequent Memorandum Opinion and Order; and FCC OET Bulletin No. 69. A nominal grid size resolution of 1 km was employed. A Sun based processor computer system was employed. The results have been found to be in very close agreement with the results of the FCC implementation of OET Bulletin No. 69.

An examination of the Canada DTV allotment table indicates no allocation problems for the proposed WMPX-LP channel 33 operation. The closest Canadian assignment on channel 33 is CIHF-TV-10, a Class B DTV allotment at Yarmouth, Nova Scotia, some 427 kilometers northeast from the WMPX-LP site.

The applicant recognizes the proposal is secondary to authorized full-service analog and DTV operations. The applicant understands that it must correct and/or eliminate prohibited interference that may result from its proposed operation. If necessary, a waiver of the FCC rules is respectfully requested based on use of the procedures outlined in the FCC's OET-69 Bulletin and a 1 kilometer grid.

Radiofrequency Electromagnetic Field Exposure

The proposed WMPX-LP channel 33 facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. A maximum visual ERP of 14.6 kW with 10% aural power was assumed. A relative field value of 0.35 was assumed for the Antenna Concepts ACS4D directional antenna's downward radiation (see Figure 2). The calculated power density at a point 2 meters (6.6 feet) above ground level is 0.0051 mW/cm². This is less than 2% of the FCC's recommended limit of 0.39 mW/cm² for channel 33 for an "uncontrolled" environment. It 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. 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.

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

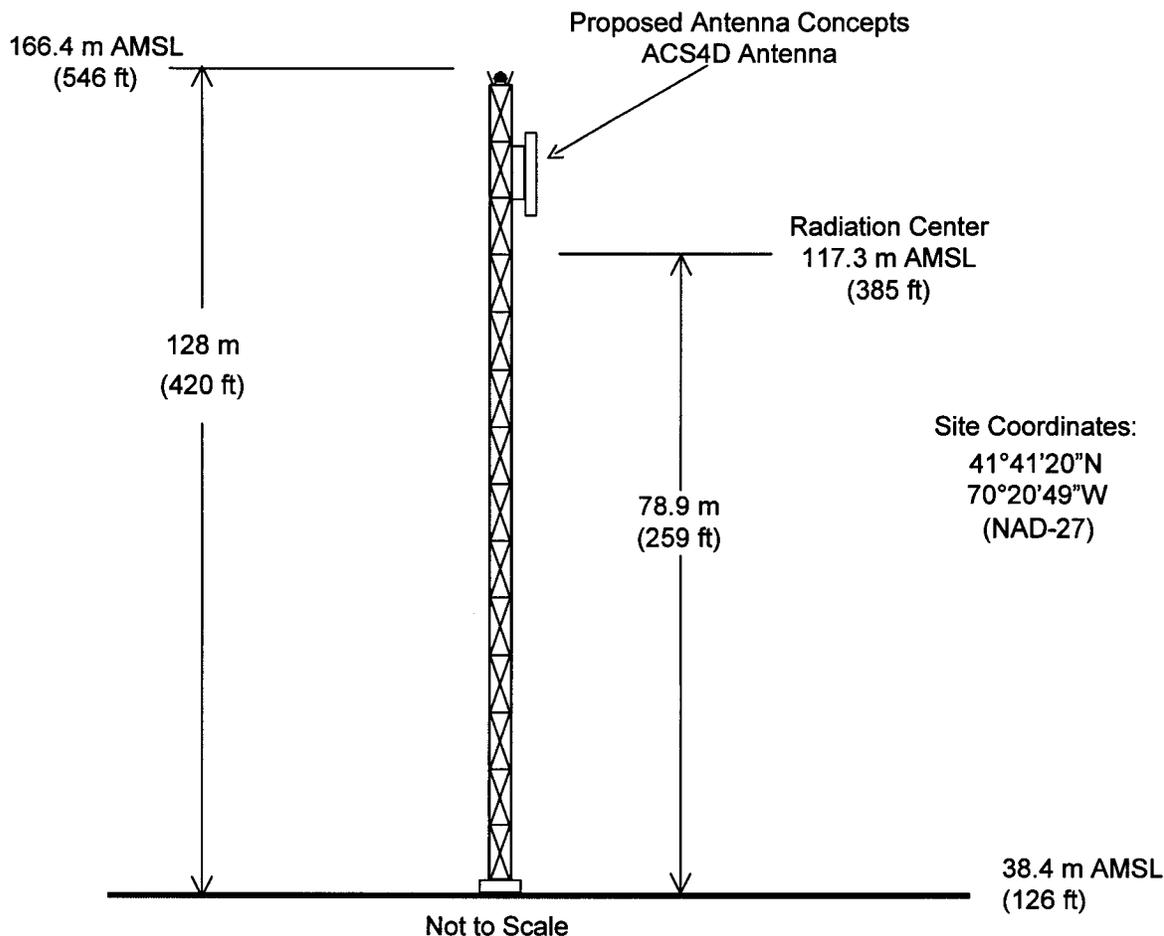
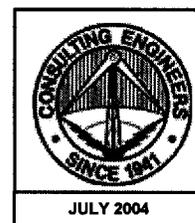
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Figure 1

FCC Registration # 1231034



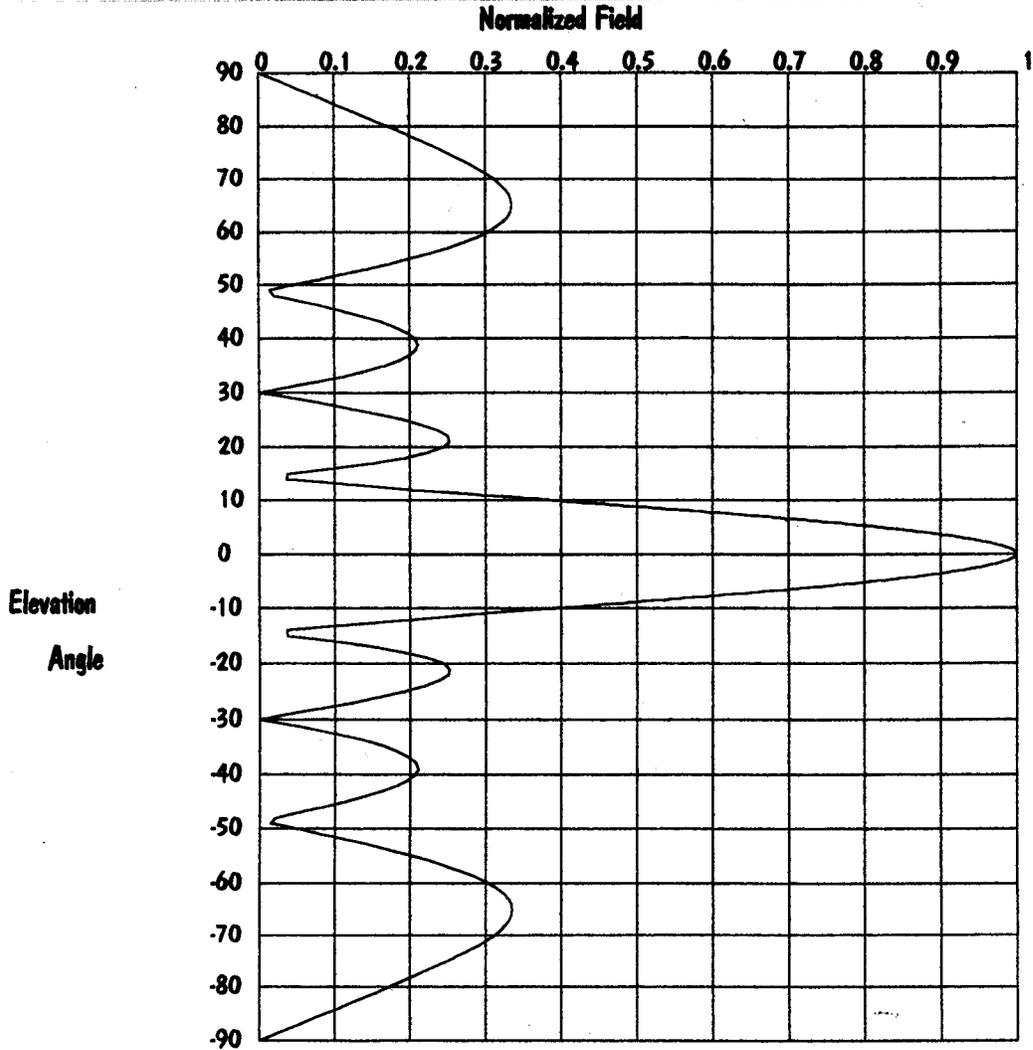
PROPOSED ANTENNA AND SUPPORTING STRUCTURE

STATION WMPX-LP (FACILITY ID 6477)

DENNIS, MASSACHUSETTS

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



Elevation Pattern

Scale: Linear

Units: Absolute

Antenna Concepts Inc.

CLIENT:	<i>du Triol, Landin & Rackley, Inc.</i>	Date:	4/13/1998
ANTENNA TYPE:	<i>ACS4 bay Low Power slot</i>		
FREQUENCY:	<i>UHF</i>		
PATTERN POL.:	<i>Horizontal</i>	Beam Tilt (Deg.):	<i>0</i>
Elev. DIRECTIVITY:	<i>4.2588/ 6.2928dBd</i>	Null Fill (%):	<i>..</i>