

TECHNICAL EXHIBIT
LPTV MINOR CHANGE APPLICATION
FOR CONSTRUCTION PERMIT
STATION WBWP-LP (FACILITY ID 56130)
WEST PALM BEACH, FLORIDA

FEBRUARY 17, 2003

CH 57(+) 150 KW-DA

TECHNICAL EXHIBIT
LPTV MINOR CHANGE APPLICATION
FOR CONSTRUCTION PERMIT
STATION WBWP-LP (FACILITY ID 56130)
WEST PALM BEACH, FLORIDA
CH 57(+) 150 KW-DA

Table of Contents

	Technical Narrative
Figure 1	Sketch of Antenna
Figure 2	Antenna Pattern
Figure 3	NTSC OET-69 Interference Study
Figure 4	LPTV OET-69 Interference Study
Figure 5	DTV OET-69 Interference Study

TECHNICAL EXHIBIT
LPTV MINOR CHANGE APPLICATION
FOR CONSTRUCTION PERMIT
STATION WBWP-LP (FACILITY ID 56130)
WEST PAM BEACH, FLORIDA
CH 57(+) 150 KW-DA

Technical Narrative

This technical exhibit supports a minor change application to modify low power television (LPTV) station WBWP-LP on channel 57 at West Palm Beach, Florida (Facility ID 56130). Station WBWP-LP is currently authorized to operate on channel 57 with a plus (+) carrier offset. An Antenna Concepts ACS16E directional antenna (DA) system is employed. The maximum visual effective radiated power (ERP) is 9 kilowatts (kW). The antenna center of radiation is 140.2 meters (460 feet) above ground level (AGL), and 145.4 meters (477 feet) above mean sea level (AMSL). The transmitter site coordinates are 26-45-42, 80-04-42 (NAD-27). The Federal Communications Commission (FCC) tower registration number for the WBWP-LP supporting structure is 1031315.

Proposed Facilities

Station WBWP-LP proposes to modify its operation by increasing the antenna height and maximum visual ERP. There will be no proposed change in channel (57), carrier offset (plus, +), transmitter site (26-45-42, 80-04-42, #1031315), directional antenna system (Antenna Concepts ACS16E), antenna pattern orientation (180 degrees True), or city of assignment (West Palm Beach, FL). The antenna center of radiation will be 148.1 meters (486 feet) AGL, and 153.3 meters (503 feet) AMSL (see Figure 1). The proposed maximum visual ERP will be 150 kW.

NTSC Allocation Considerations

A study has been conducted using the pertinent provisions of the FCC rules to assure that the proposal will not create prohibited interference with other authorized or pending analog (NTSC) full service TV, LPTV, Class A TV, and land mobile radio service (LMRS) stations. There are no LMRS reservations on pertinent channels in the area for protection from the proposed WBWP-LP channel 57 operation. The proposed WBWP-LP operation complies with the FCC's allocation standards with respect to all known analog assignments, except for those listed below.

WXEL-TV, License, Ch.42, West Palm Beach, FL

WPXP-TV, PRM, Ch.56, Lake Worth, FL

WFGC(TV), Lic-CP-App, Ch.61, Palm Beach, FL

W57DM, License, Ch.57(0), Vero Beach, FM

W55BV, CP & App, Ch.57(-), Homestead-Miami, FL

With respect to station WXEL-TV on channel 42, interference calculations have been made using the procedures outlined in the FCC's OET-69 Bulletin and a 1 kilometer grid. Figure 3 shows the proposed WBWP-LP operation causes no calculated interference to WXEL-TV analog service. A waiver of the FCC rules is requested based on use of the OET-69 procedures.

Although the petition for rule making (PRM) filed by station WPXP-TV to change its analog channel from 67 to 56 at Lake Worth (BPRM-20020328ABF) does not require protection at this time, consideration has been given. Interference calculations using OET-69 show that the proposed WBWP-LP operation does not cause interference to the proposed WPXP-TV channel 56 operation (see Figure 3).

With respect to full service television station WFGC on channel 61, the proposed WBWP-LP channel 57 operation will involve a short-spacing. The separation to the WFGC license and CP site is 12.6 kilometers, and the separation to the WFGC application site is 23.2 kilometers. The FCC's normal minimum separation requirement is 32 kilometers

between LPTV stations with an ERP more than 50 kW and a TV station operating 4 channels apart. The FCC's OET-69 Bulletin does not consider an interference condition for the situation between the proposed WBWP-LP operation and WFGC (ie, N-4).

Consideration has also been given to the intermodulation possibility between the proposed WBWP-LP operation on channel 57 and the full service operations of WFGC on channel 61. The channels impacted by the intermodulation combination of channels 57 and 61 (ie, 2 X F1 – F2), are 52, 53, 54, 64, 65 and 66. The following is a list of the closest full service analog TV stations on the potentially intermodulation impacted channels. The bearing and distance from the WBWP-LP site are provided.

<u>TV Station</u>	<u>Channel</u>	<u>Bearing</u>	<u>Distance</u>
WTGL-TV, Cocoa, FL	52	335 deg.	190.1 km
WGFL(TV), High Springs, FL	53	323	401.3
WFXG(TV), Augusta, GA	54	348	756.9
WGNM(TV), Macon, GA	64	334	745.6
WRBW(TV), Orlando, FL	65	334	224.3
WXPX(TV), Bradenton, FL	66	289	227.0

All of the analog TV stations are adequately spaced so that there would be no intermodulation interference impact to their service areas. A waiver of the FCC rules is requested based on the above showing with respect to the intermodulation separations to WFGC.

With respect to the 2 LPTV assignments noted above (W57DM & W55BV), interference calculations have been made using the procedures outlined in the FCC's OET-69 Bulletin and a 1 kilometer grid. Figure 4 shows the proposed WBWP-LP operation causes no interference to these 2 LPTV assignments. A waiver of the FCC rules is requested based on use of the OET-69 procedures.

The WBWP-LP site is more than 1600 kilometers from the nearest point of the US/Canada border, and more than 900 kilometers from the closest point of the Mexican border. The WBWP-LP site is 108 kilometers south-southeast of the FCC's closest monitoring station at Vero Beach, Florida. The WBWP-LP site is more than 1100 kilometers south of the National Radio Quiet Zone in Virginia/West Virginia. It is more than 2700 kilometers southeast of the Table Mountain Radio Quiet Zone in Colorado. The closest radio astronomy site operating on channel 37 is at Green Bank, West Virginia, approximately 1297 kilometers north of the WBWP-LP site. These distances are sufficient to not be a coordination concern.

DTV Allocation Considerations

Pertinent digital television (DTV) allotments and assignments on channels 56, 57 and 58 have been examined using the procedures outlined in the FCC's OET-69 Bulletin.¹ The petition for rule making (PRM) filed by Pappas Telecasting of America for a new DTV allotment on channel 57 at Boynton Beach, Florida (BPRM-20000914AAV) has been ignored. The PRM is not part of the DTV transition with a paired analog (NTSC) channel. Furthermore, the FCC has not issued a notice of proposed rule making (NPRM) for the proposed DTV allotment, and it is questionable whether the FCC will issue a NPRM since the requested DTV allotment channel is outside the TV core band (2-51). Therefore, the proposed WBWP-LP low power television operation is not required to protect the proposed co-channel Boynton Beach DTV allotment at this time. It is recognized that WBWP-LP is a secondary service and may be subject to impact from full service analog and DTV assignments.

Figure 5 shows the calculated interference caused by the proposed WBWP-LP operation to pertinent DTV allotments and assignments. As shown on Figure 5, the proposed WBWP-LP operation causes no calculated interference to pertinent DTV assignments and

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. An Alpha 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.

allotments, and complies with the FCC's 0.5% acceptable interference threshold. 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 with respect to DTV assignments and allotments.

Radiofrequency Electromagnetic Field Exposure

The proposed WBWP-LP facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. A visual ERP of 150 kW with 20% aural power was assumed. A conservative relative field value of 0.2 (-14 dB) was assumed for the antenna's downward radiation (see Figure 2B). The calculated power density at a point 2 meters (6.6 feet) above ground level is 0.0056 mW/cm^2 . This is less than 2% of the FCC's recommended limit of 0.49 mW/cm^2 for channel 57 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. The proposed WBWP-LP operation appears to be otherwise categorically excluded from environmental processing as it complies with all the criteria for such an exclusion in Section 1.1306.

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

John A. Lundin

du Treil, Lundin & Rackley, Inc.

201 Fletcher Avenue

Sarasota, Florida 34237

(941) 329-6000 voice

(941) 329-6030 fax

john@DLR.com e-mail

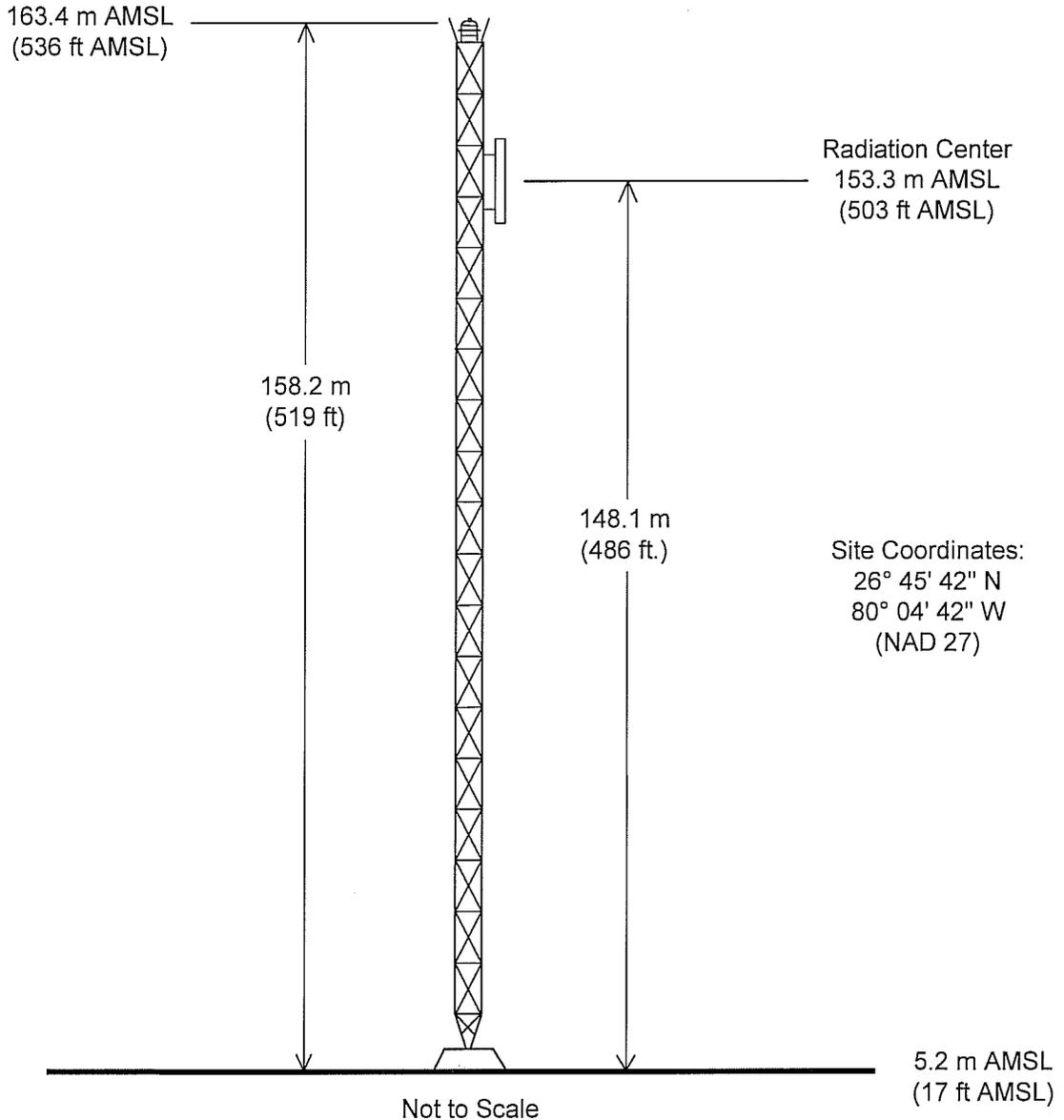
February 17, 2003

Figure 1



FEBRUARY 2003

Tower Registration No.:1031315



PROPOSED ANTENNA AND SUPPORTING STRUCTURE

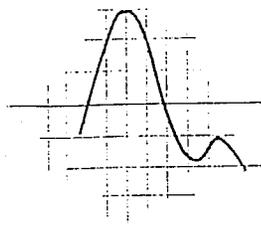
STATION WBWP-LP

WEST PALM BEACH, FLORIDA

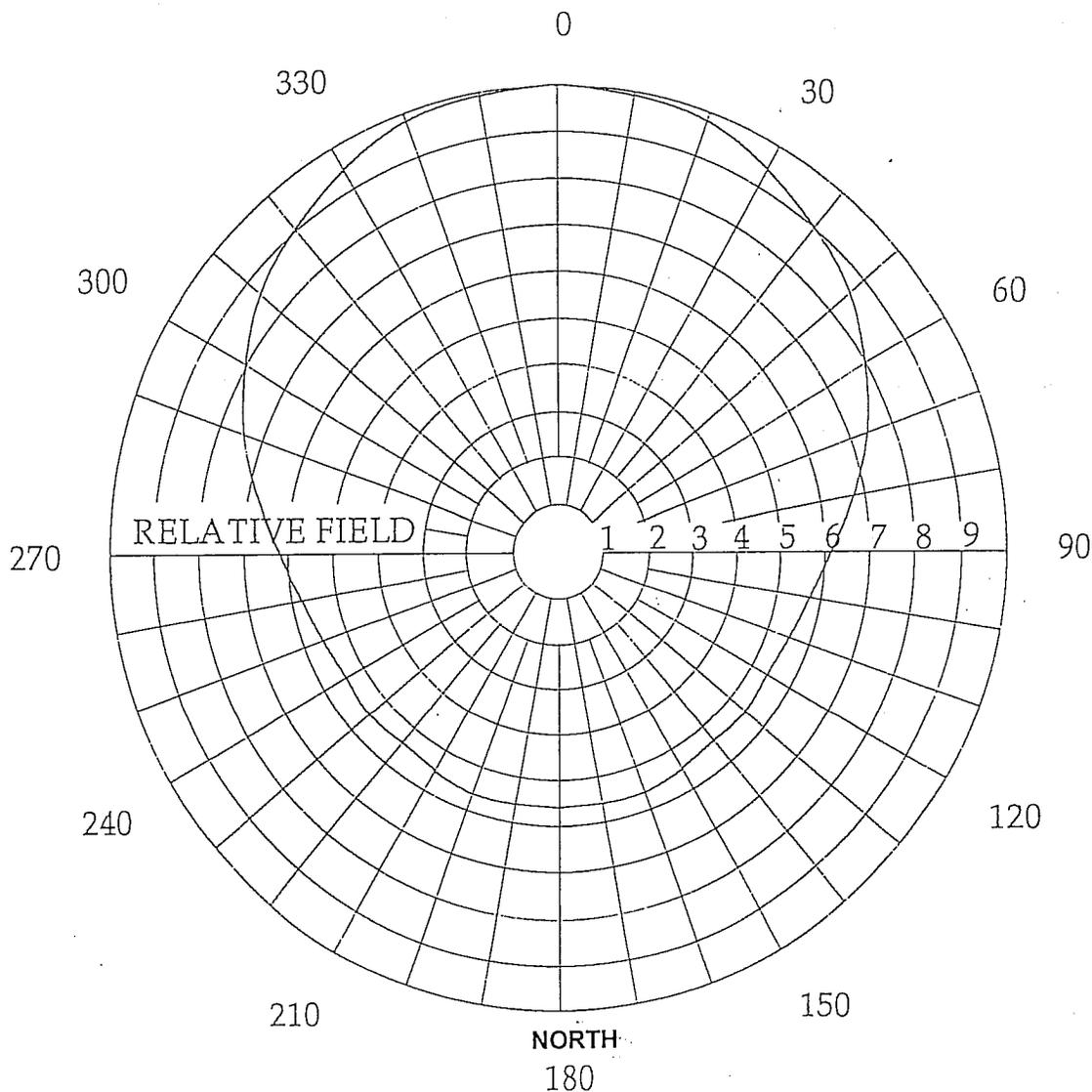
CH 57 150 KW (MAX-DA)

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

ANTENNA CONCEPTS INC.

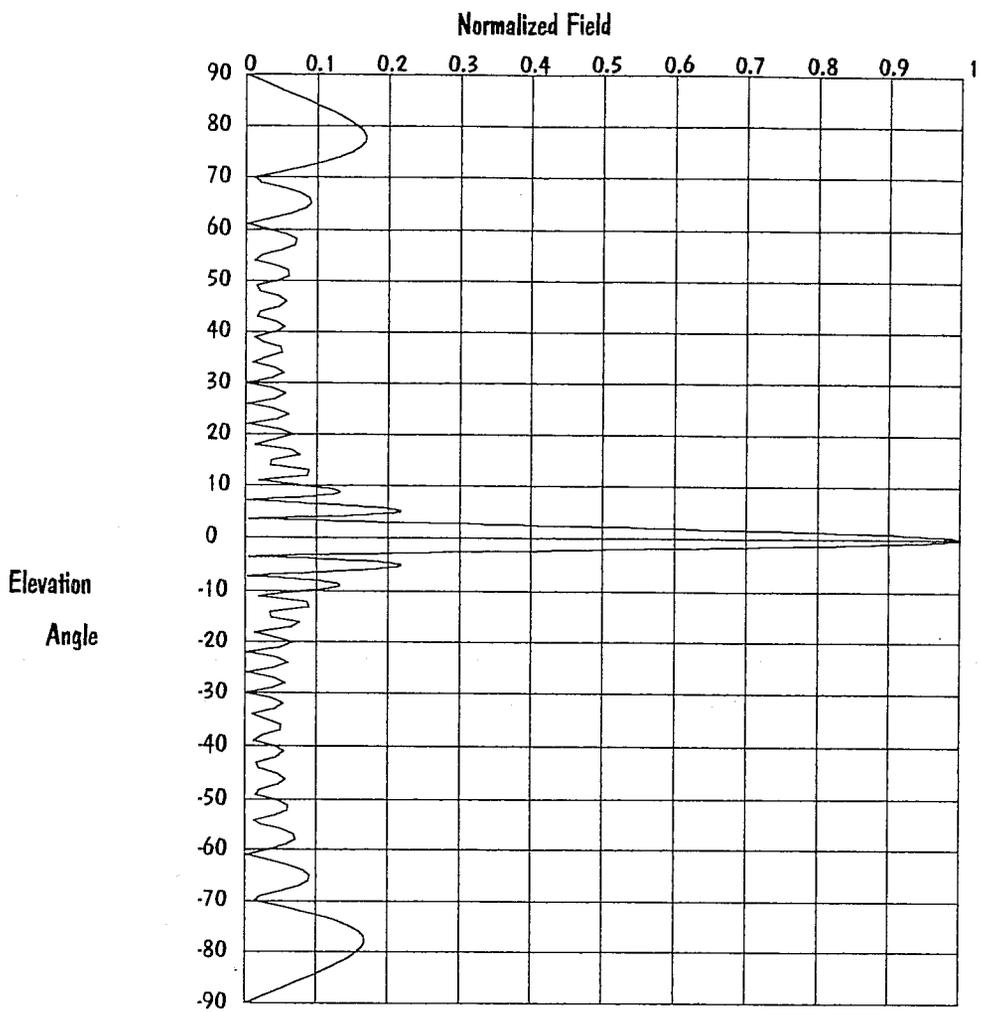


180°T PATTERN E



MODEL NO.	POWER GAIN
AC04E-0	10.0 (10.0dB)
AC08E-0	20.0 (13.0dB)
AC016E-0	40.0 (16.0dB)
AC024E-0	60.0 (17.8dB)
AC032E-0	80.0 (19.0dB)

AZIMUTH DIR.: OMNI



Elevation Pattern

Scale: Linear
Units: Absolute

Antenna Concepts Inc.

CLIENT: *du Treil, Lundin & Rackley, Inc.*
 ANTENNA TYPE: *ACS 16 bay Low Power slot*
 FREQUENCY: *UHF*
 PATTERN POL: *Horizontal*
 Elev. DIRECTIVITY: *18.539/ 12.681dBd*

Date: 4/13/1998

Beam Tilt (Deg.) : *0*
 Null Fill (%) : *, ,*

Study Date: 20030212
 Study Start: 13:32:40

INTERFERENCE CAUSED TO NTSC ASSIGNMENTS FROM PROPOSED WBWP-LP

CELL SIZE : 1.0 km

Using offset in determining thresholds

Using MOD1

WXEL-TV 26-34-37 080-14-32 42(+) 2140.0 kW-DA 444 m AMSL 50.0 % 64.3 dBu
 WEST PALM BEACH FL 19157 2452 FCC NTSC BL: 2451799 FCC IX POP%: 0.0

LIC BLET-19820625KF

1.00	1.00	0.99	0.97	0.94	0.92	0.89	0.86	0.81	0.75	0.67	0.58
0.47	0.37	0.30	0.31	0.37	0.42	0.44	0.42	0.37	0.31	0.28	0.34
0.44	0.57	0.66	0.73	0.80	0.84	0.87	0.90	0.93	0.96	0.98	0.99

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	19165.23 sq km	2453591
not affected by terrain losses	19165.3	2453591

WBWP-P 26-45-42 080-04-42 57(+) 150.0 kW-DA 153.3 m AMSL 10.0 % 74.0
 WEST PALM BEACH FL

PROPOSAL

1.00	0.99	0.98	0.94	0.90	0.86	0.80	0.74	0.68	0.62	0.58	0.56
0.54	0.54	0.54	0.55	0.56	0.56	0.56	0.56	0.56	0.55	0.54	0.54
0.54	0.56	0.58	0.62	0.68	0.74	0.80	0.86	0.90	0.94	0.98	0.99

Ref Az: 180.0

Using DEFAULT vertical antenna pattern

D/U Baseline: -9.0 dB

	Area	Pop
Interference	0 sq km	0 (0.0%)

WPXP-PRM 26-35-20 080-12-44 56(Z) 5000.0 kW-DA 387.7 m AMSL 50.0 % 65.4 dBu

LAKE WORTH

FL

PRM BPRM-20020328ABF

1.00	0.96	0.84	0.68	0.52	0.42	0.42	0.48	0.54	0.57	0.54	0.48
0.42	0.42	0.52	0.68	0.84	0.96	1.00	0.96	0.84	0.68	0.52	0.42
0.42	0.48	0.54	0.57	0.54	0.48	0.42	0.42	0.52	0.68	0.84	0.96

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	19476.4 sq km	3181152
not affected by terrain losses	19476.4	3181152

WBWP-P 26-45-42 080-04-42 57(+) 150.0 kW-DA 153.3 m AMSL 10.0 % 74.0

WEST PALM BEACH FL

PROPOSAL

1.00	0.99	0.98	0.94	0.90	0.86	0.80	0.74	0.68	0.62	0.58	0.56
0.54	0.54	0.54	0.55	0.56	0.56	0.56	0.56	0.56	0.55	0.54	0.54
0.54	0.56	0.58	0.62	0.68	0.74	0.80	0.86	0.90	0.94	0.98	0.99

Ref Az: 180.0

Using DEFAULT vertical antenna pattern

D/U Baseline: -13.0 dB

	Area	Pop
Interference	0 sq km	0 (0.0%)

Study end time: 13:34:23

Study Date: 20030212
Study Start: 13:27:23

INTERFERENCE CAUSED TO LPTV ASSIGNMENTS FROM PROPOSED WBWP-LP

CELL SIZE : 1.0 km

Using offset in determining thresholds

Using MOD1

W57DM 27-36-05 080-23-32 57(Z) 2.0 kW-DA 110 m AMSL 50.0 % 74.0 dBu

VERO BEACH FL

LIC BLTTL-20010315ACT

0.36	0.39	0.39	0.38	0.36	0.43	0.62	0.83	0.96	1.00	0.96	0.80
0.60	0.40	0.29	0.23	0.20	0.20	0.21	0.20	0.20	0.23	0.29	0.40
0.60	0.80	0.96	1.00	0.96	0.83	0.62	0.43	0.36	0.38	0.39	0.39

Ref Az: 80.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	169.0 sq km	63726
not affected by terrain losses	169.0	63726

WBWP-P 26-45-42 080-04-42 57(+) 150.0 kW-DA 153.3 m AMSL 10.0 % 74.0

WEST PALM BEACH FL

PROPOSAL

1.00	0.99	0.98	0.94	0.90	0.86	0.80	0.74	0.68	0.62	0.58	0.56
0.54	0.54	0.54	0.55	0.56	0.56	0.56	0.56	0.56	0.55	0.54	0.54
0.54	0.56	0.58	0.62	0.68	0.74	0.80	0.86	0.90	0.94	0.98	0.99

Ref Az: 180.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 28.0 dB

	Area	Pop
Interference	0 sq km	0 (0.0%)

W55BV-P 25-32-24 080-28-06 57(-) 147.0 kW-DA 452 m AMSL 50.0 % 74.0 dBu

MIAMI FL

APP BPTTL-20030127ADY

0.67	0.83	0.92	0.98	0.98	0.90	0.75	0.57	0.43	0.31	0.25	0.28
0.35	0.45	0.56	0.72	0.88	0.97	0.97	0.92	0.83	0.69	0.53	0.36
0.19	0.07	0.01	0.04	0.08	0.09	0.07	0.04	0.06	0.16	0.31	0.50

(175.0 0.99)

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	4145.2 sq km	1607636
not affected by terrain losses	4093.7	1604959

WBWP-P 26-45-42 080-04-42 57(+) 150.0 kW-DA 153.3 m AMSL 10.0 % 74.0

WEST PALM BEACH FL

PROPOSAL

1.00	0.99	0.98	0.94	0.90	0.86	0.80	0.74	0.68	0.62	0.58	0.56
0.54	0.54	0.54	0.55	0.56	0.56	0.56	0.56	0.56	0.55	0.54	0.54
0.54	0.56	0.58	0.62	0.68	0.74	0.80	0.86	0.90	0.94	0.98	0.99

Ref Az: 180.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 28.0 dB

	Area	Pop
Interference	0 sq km	0 (0.0%)

W55BV-CP 25-32-24 080-28-06 57(-) 147.0 kW-DA 452 m AMSL 50.0 % 74.0 dBu

HOMESTEAD FL

CP MOD BMPTTL-20020129ABR

0.67	0.83	0.92	0.98	0.98	0.90	0.75	0.57	0.43	0.31	0.25	0.28
0.35	0.45	0.56	0.72	0.88	0.97	0.97	0.92	0.83	0.69	0.53	0.36
0.19	0.07	0.01	0.04	0.08	0.09	0.07	0.04	0.06	0.16	0.31	0.50

(175.0 0.99)

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	4145.2 sq km	1607636
not affected by terrain losses	4093.7	1604959

WBWP-P 26-45-42 080-04-42 57(+) 150.0 kW-DA 153.3 m AMSL 10.0 % 74.0

WEST PALM BEACH FL

PROPOSAL

1.00	0.99	0.98	0.94	0.90	0.86	0.80	0.74	0.68	0.62	0.58	0.56
0.54	0.54	0.54	0.55	0.56	0.56	0.56	0.56	0.56	0.55	0.54	0.54
0.54	0.56	0.58	0.62	0.68	0.74	0.80	0.86	0.90	0.94	0.98	0.99

Ref Az: 180.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 28.0 dB

	Area	Pop
Interference	0 sq km	0 (0.0%)

Study end time: 13:28:04

Study Date: 20030212
Study Start: 13:07:49

INTERFERENCE CAUSED TO DTV ALLOTMENTS & ASSIGNMENTS FROM PROPOSED WBWP-LP

CELL SIZE : 1.0 km

Using offset in determining thresholds
Using MOD1

WTTA-DT 27-50-32 082-15-46 57(N) 1000.0 kW 458 m AMSL 90.0 % 42.5 dBu
ST. PETERSBURG FL 20978 2908 DTVSERVICE: 2908000 NTSCSERVICE: 2918000
CP BPCDT-19991007AAX

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	35320.4 sq km	3376069
not affected by terrain losses	35317.4	3376065

WBWP-P 26-45-42 080-04-42 57(+) 150.0 kW-DA 153.3 m AMSL 10.0 % 74.0
WEST PALM BEACH FL

PROPOSAL

1.00	0.99	0.98	0.94	0.90	0.86	0.80	0.74	0.68	0.62	0.58	0.56
0.54	0.54	0.54	0.55	0.56	0.56	0.56	0.56	0.56	0.55	0.54	0.54
0.54	0.56	0.58	0.62	0.68	0.74	0.80	0.86	0.90	0.94	0.98	0.99

Ref Az: 180.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 2.0 dB

	Area	Pop
Interference	0 sq km	0 (0.0%)

DWTTA 27-50-32 082-15-46 57(0) 52.6 kW-DA 458 m AMSL 90.0 % 42.5 dBu
ST. PETERSBURG FL 20978 2908 DTVSERVICE: 2908000 NTSCSERVICE: 2918000

DTVALT DTV ALLOTMENT

0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.98	0.98	0.98
0.98	0.98	0.98	0.98	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	21448.7 sq km	2921125
not affected by terrain losses	21444.7	2921008

WBWP-P 26-45-42 080-04-42 57(+) 150.0 kW-DA 153.3 m AMSL 10.0 % 74.0

WEST PALM BEACH FL

PROPOSAL

1.00	0.99	0.98	0.94	0.90	0.86	0.80	0.74	0.68	0.62	0.58	0.56
0.54	0.54	0.54	0.55	0.56	0.56	0.56	0.56	0.56	0.55	0.54	0.54
0.54	0.56	0.58	0.62	0.68	0.74	0.80	0.86	0.90	0.94	0.98	0.99

Ref Az: 180.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 2.0 dB

Interference	Area	Pop
	0 sq km	0 (0.0%)

WKMG-DT 28-36-35 081-03-35 58(N) 1000.0 kW-DA 525 m AMSL 90.0 % 42.5 dBu
ORLANDO FL 40976 2471 DTVSERVICE: 2471000 NTSCSERVICE: 2429000

LIC BLCDT-20010515ABB

0.76	0.67	0.64	0.64	0.67	0.70	0.65	0.63	0.65	0.70	0.77	0.81
0.78	0.73	0.76	0.86	0.96	1.00	0.94	0.83	0.78	0.83	0.90	0.94
0.95	0.94	0.95	0.94	0.86	0.83	0.78	0.83	0.94	1.00	0.96	0.86

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	36865.5 sq km	2426730
not affected by terrain losses	36865.5	2426730

WBWP-P 26-45-42 080-04-42 57(+) 150.0 kW-DA 153.3 m AMSL 10.0 % 74.0

WEST PALM BEACH FL

PROPOSAL

1.00	0.99	0.98	0.94	0.90	0.86	0.80	0.74	0.68	0.62	0.58	0.56
0.54	0.54	0.54	0.55	0.56	0.56	0.56	0.56	0.56	0.55	0.54	0.54
0.54	0.56	0.58	0.62	0.68	0.74	0.80	0.86	0.90	0.94	0.98	0.99

Ref Az: 180.0

Using DEFAULT vertical antenna pattern

D/U Baseline: -48.0 dB

Interference	Area	Pop
	0 sq km	0 (0.0%)

DWCPX 28-36-08 081-05-37 58(0) 1000.0 kW-DA 458 m AMSL 90.0 % 42.5 dBu
ORLANDO FL 40976 2471 DTVSERVICE: 2471000 NTSCSERVICE: 2429000

DTVALT DTV ALLOTMENT

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	0.99	0.99	0.99	0.99	0.99	0.99
0.99	0.99	0.99	0.99	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00

Ref Az: 0.0

Using DEFAULT vertical antenna pattern
USING NTSC GRADE B FOR SERVICE AREA

	Area	Pop
within Noise Limited Contour	41942.7 sq km	2589241
not affected by terrain losses	41855.5	2582695

WBWP-P 26-45-42 080-04-42 57(+) 150.0 kW-DA 153.3 m AMSL 10.0 % 74.0
WEST PALM BEACH FL

PROPOSAL

1.00	0.99	0.98	0.94	0.90	0.86	0.80	0.74	0.68	0.62	0.58	0.56
0.54	0.54	0.54	0.55	0.56	0.56	0.56	0.56	0.56	0.55	0.54	0.54
0.54	0.56	0.58	0.62	0.68	0.74	0.80	0.86	0.90	0.94	0.98	0.99

Ref Az: 180.0

Using DEFAULT vertical antenna pattern

D/U Baseline: -48.0 dB

	Area	Pop
Interference	0 sq km	0 (0.0%)

Study end time: 13:13:46