TECHNICAL EXHIBIT
DISPLACEMENT RELIEF
APPLICATION FOR CONSTRUCTION PERMIT
LOW POWER TV STATION W39BZ
FACILITY ID 19690
LAKE CITY, FLORIDA
CH 33 150 KW (MAX-DA)

Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of a displacement relief application for construction permit for Low Power TV (LPTV) station W39BZ at Lake City, Florida (Facility ID: 19690; File No. BLTTL-19970403JE).

Station W39BZ currently is licensed to operate on NTSC channel 39 with a non-directional antenna maximum effective radiated power (ERP) of 1 kW and an antenna radiation center height above mean sea level (RCAMSL) of 191 meters. Studies indicate that W39BZ is located 242.3 km from the channel 39 DTV allotment for WFTV at Orlando, FL and 261.8 km from the channel 39 DTV allotment for WSAV at Savannah, GA. Pursuant to Section 73.3572(a)(4)(iv)(A)(1) of the FCC's rules, LPTV stations located within 265 kilometers of co-channel DTV facilities or allotments "qualify for displacement relief". Therefore, W39BZ proposes to relocate transmitter site and change from channel 39 to channel 33.

Proposed Operation

Operation on channel 33 is proposed with a "zero" carrier frequency offset using an Andrew model ALP16L2-HSH-33 "peanut" directional antenna (Antenna ID 16365) with a maximum ERP of 150 kW. The antenna will be mounted at the 150 meter level on an existing tower (tower registration number 1030225) resulting in an RCAMSL of 192 meters. Figure 2 is a graph of the vertical plane relative field pattern for the Andrew ALP16L2-HSH-33 directional antenna.

Response to Paragraph 13(a) – TV Broadcast Analog Protection

A study has been conducted using the provisions of Section 74.705 which indicates that the proposed W39BZ operation will not create prohibited interference to other existing, authorized or proposed NTSC full-power stations.

Response to Paragraph 13(b) – DTV Station Protection

Calculations based on OET Bulletin No. 69 indicate that the proposed W39BZ operation on channel 33 will comply with the FCC's 0.5% interference threshold to all allotted, proposed or actual DTV operating facilities on channels 32, 33 or 34. Specifically, calculations have been made using the procedures outlined in the FCC's OET-69 Bulletin and a 2 square kilometer grid. Figure 1 provides the output of the study based on OET-69 Bulletin which demonstrates that the proposed W39BZ operation complies with the FCC's DTV interference criteria.[1]

Response to Paragraph 13(c) – LPTV/Class A Protection

A study has been conducted using the provisions of Section 74.707 which indicates that the proposal will not create prohibited interference to other existing, authorized or proposed LPTV/Class A stations with the exception of the licensed (BLTTL-19960415IC) co-channel operation of W33BL at Chiefland, Florida, the authorized (BPTTL-20010710AAL) co-channel operation of WBXG-CA at Gainesville, Florida, and the pending application (BMPTTA-20020510AAK) of co-channel WBXG-CA at Gainesville, Florida. However, based on the provisions of the OET-69 Bulletin as permitted by FCC rules [Section 74.707(e)] it is believed that W39BZ's proposed operation complies with the FCC's interference criteria towards these

[1]The du Treil, 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 2 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.

stations. Specifically, calculations have been made using the procedures outlined in the FCC's OET-69 Bulletin and a 2 square kilometer grid. The results of the OET Bulletin No. 69 study are tabulated on Figure 1 and, as indicated, the proposal complies with the FCC's 0.5% interference threshold with respect to these facilities.

Minor Change Application

Figure 3 depicts the licensed and herein proposed 74 dBu contours for W39BZ. As indicated, the proposed 74 dBu contour encompasses a portion of the licensed 74 dBu contour. Therefore, the proposed modification is considered a "minor" change in facilities pursuant to Section 73.3572.

Response to Paragraph 14 - Environmental Protection Act

The proposed W39BZ facilities were evaluated in terms of potential radiofrequency radiation exposure at ground level in accordance with OST Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation." The calculated power density at 2 meters above ground level at the base of the tower was calculated using the appropriate equation on Page 13 of the Bulletin. Figure 2 shows the vertical pattern for the proposed directional antenna. Using a "worst-case" vertical relative field value of 0.2, a peak visual effective radiated power of 150 kW, 22 percent aural power, and an antenna center of radiation height above ground level of 150 meters, the calculated power density at 2 meters above ground level at the base of the tower is 0.0057 milliwatts per square centimeter (mW/cm^2), or 1.45 percent of the Commission's recommended limit for an "uncontrolled" environment (0.39 mW/cm^2 for TV channel 33). Therefore, based on the responsibility threshold of 5%, the proposal will comply with the new RF emission rules.

Access to the transmitting site will be restricted and appropriately marked with warning signs. Furthermore, as this is a multi-user site, an agreement will be in place to ensure that 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.

In addition, it appears that the proposal is otherwise excluded from environmental processing as it complies with all the criteria for such exclusion in Section 1.1306.

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June 20, 2003

OET-69 DTV AND LPTV INTERFERENCE CAUSED STUDY

CELL SIZE : 2.00
Using offset in determining thresholds
Using Census 2000

****
WBXG-2 29-38-37 082-25-11 33(+) 23.600 kw 134.9 m DA 50.0 % 73.6 dBu
GAINESVILLE FL
CP BPTTL20010710AAL
1.00 0.97 0.91 0.81 0.71 0.61 0.52 0.44 0.37 0.32 0.27 0.22
0.17 0.12 0.09 0.10 0.15 0.20 0.24 0.20 0.15 0.10 0.09 0.12
0.17 0.22 0.27 0.32 0.37 0.44 0.52 0.61 0.71 0.81 0.91 0.97
Ref Az: 102.0
Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	456.4726	168478
not affected by terrain losses	456.4726	168478

****
W39BZ 30-14-38 082-40-13 33(Z) 150.000 kw 192 m DA 10.0 % 73.6
LAKE CITY FL
PROPOSED
0.24 0.24 0.24 0.30 0.43 0.60 0.76 0.89 0.97 1.00 0.97 0.90
0.78 0.62 0.45 0.32 0.26 0.25 0.26 0.25 0.26 0.32 0.45 0.62
0.78 0.90 0.97 1.00 0.97 0.89 0.76 0.60 0.43 0.30 0.24 0.24
Ref Az: 0.0
Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00

	Area	**Pop**
Interference	**0**	**0**

****
WBXG-C 29-37-55 082-25-08 33(+) 32.000 kw 111.7 m DA 50.0 % 73.6 dBu
GAINESVILLE FL
APP BMPTTA20020510AAK
1.00 0.97 0.91 0.81 0.71 0.61 0.52 0.44 0.37 0.32 0.27 0.22
0.17 0.12 0.09 0.10 0.15 0.20 0.24 0.20 0.15 0.10 0.09 0.12
0.17 0.22 0.27 0.32 0.37 0.44 0.52 0.61 0.71 0.81 0.91 0.97
Ref Az: 103.0
Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	399.9671	156116
not affected by terrain losses	399.9671	156116

****
W39BZ 30-14-38 082-40-13 33(Z) 150.000 kw 192 m DA 10.0 % 73.6
LAKE CITY FL
PROPOSED
0.24 0.24 0.24 0.30 0.43 0.60 0.76 0.89 0.97 1.00 0.97 0.90
0.78 0.62 0.45 0.32 0.26 0.25 0.26 0.25 0.26 0.32 0.45 0.62
0.78 0.90 0.97 1.00 0.97 0.89 0.76 0.60 0.43 0.30 0.24 0.24
Ref Az: 0.0
Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00

	Area	**Pop**
Interference	**0**	**0**

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W33BL    29-28-12 082-48-20  33(N)   22.700 kw 67      m DA   50.0 % 73.6 dBu
CHIEFLAND           FL
LIC     BLTTL19960415IC
1.00  1.00  0.98  0.95  0.91  0.87  0.82  0.76  0.71  0.66  0.63  0.61
0.60  0.60  0.62  0.64  0.66  0.67  0.67  0.67  0.66  0.64  0.62  0.60
0.60  0.61  0.63  0.66  0.71  0.76  0.82  0.87  0.91  0.95  0.98  1.00
Ref Az: 325.0
Using DEFAULT vertical antenna pattern
                                Area              Pop
within Noise Limited Contour    411.1461             6685
not affected by terrain losses  411.1461             6685
************
W39BZ    30-14-38   082-40-13  33(Z)    150.000 kw 192     m DA   10.0 % 73.6
LAKE CITY           FL
PROPOSED
0.24  0.24  0.24  0.30  0.43  0.60  0.76  0.89  0.97  1.00  0.97  0.90
0.78  0.62  0.45  0.32  0.26  0.25  0.26  0.25  0.26  0.32  0.45  0.62
0.78  0.90  0.97  1.00  0.97  0.89  0.76  0.60  0.43  0.30  0.24  0.24
Ref Az:   0.0
Using DEFAULT vertical antenna pattern


D/U Baseline:   45.00
                                Area              Pop
Interference                    0                 0
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WCEU     28-36-35 081-03-35  33(N)  500.000 kw 500     m DA   90.0 % 40.6 dBu
NEW SMYRNA BEAC FL 10158     659   DTVSERVICE:  659000   NTSCSERVICE:  659000
CP      BPEDT20000412AAQ
0.96  0.87  0.72  0.54  0.41  0.37  0.37  0.38  0.37  0.37  0.41  0.54
0.72  0.87  0.96  0.99  1.00  0.99  0.96  0.87  0.72  0.54  0.41  0.37
0.37  0.38  0.37  0.37  0.41  0.54  0.72  0.87  0.96  0.99  1.00  0.99
Ref Az:   0.0
Using DEFAULT vertical antenna pattern
                                Area              Pop
within Noise Limited Contour    30936.98          2777773
not affected by terrain losses  30936.98          2777773
************
W39BZ    30-14-38   082-40-13  33(Z)    150.000 kw 192     m DA   10.0 % 73.6
LAKE CITY           FL
PROPOSED
0.24  0.24  0.24  0.30  0.43  0.60  0.76  0.89  0.97  1.00  0.97  0.90
0.78  0.62  0.45  0.32  0.26  0.25  0.26  0.25  0.26  0.32  0.45  0.62
0.78  0.90  0.97  1.00  0.97  0.89  0.76  0.60  0.43  0.30  0.24  0.24
Ref Az:   0.0
Using DEFAULT vertical antenna pattern


D/U Baseline:    2.00
                                Area              Pop
Interference                    0                 0
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*****************************
DWCEU    29-10-24 081-09-24  33(0)   50.000 kw 185     m DA   90.0 % 40.6 dBu
NEW SMYRNA BEAC FL 10158     659   DTVSERVICE:  659000   NTSCSERVICE:  659000
DTVALT  DTV ALLOTMENT
0.29  0.29  0.32  0.38  0.47  0.58  0.70  0.80  0.88  0.93  0.97  0.99
0.99  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.99  0.97  0.94
0.88  0.80  0.70  0.59  0.48  0.38  0.32  0.30  0.29  0.30  0.30  0.30
Ref Az:   0.0
Using DEFAULT vertical antenna pattern
USING NTSC GRADE B FOR SERVICE AREA
                                Area              Pop
within Noise Limited Contour    10170.30           822130
not affected by terrain losses  10170.30           822130
************
W39BZ    30-14-38   082-40-13  33(Z)    150.000 kw 192     m DA   10.0 % 73.6
LAKE CITY           FL
PROPOSED
0.24  0.24  0.24  0.30  0.43  0.60  0.76  0.89  0.97  1.00  0.97  0.90
0.78  0.62  0.45  0.32  0.26  0.25  0.26  0.25  0.26  0.32  0.45  0.62
0.78  0.90  0.97  1.00  0.97  0.89  0.76  0.60  0.43  0.30  0.24  0.24
Ref Az:   0.0
Using DEFAULT vertical antenna pattern


D/U Baseline:    2.00
                                Area              Pop
Interference                    0                 0
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*****************************
WDFX-T   31-12-29 085-36-51  33(N) 1000.000 kw 250     m DA   90.0 % 40.6 dBu
OZARK           AL  8785     229   DTVSERVICE:  229000   NTSCSERVICE:  228000
CP      BPCDT19991018AAK
1.00  0.96  0.87  0.75  0.62  0.53  0.49  0.53  0.62  0.75  0.87  0.96
1.00  0.96  0.87  0.75  0.62  0.53  0.49  0.53  0.62  0.75  0.87  0.96
1.00  0.96  0.87  0.75  0.62  0.53  0.49  0.53  0.62  0.75  0.87  0.96
Ref Az:   0.0
Using DEFAULT vertical antenna pattern
                                Area              Pop
within Noise Limited Contour    18915.29           397178
not affected by terrain losses  18774.38           396463
************
W39BZ    30-14-38   082-40-13  33(Z)    150.000 kw 192     m DA   10.0 % 73.6
LAKE CITY           FL
PROPOSED
0.24  0.24  0.24  0.30  0.43  0.60  0.76  0.89  0.97  1.00  0.97  0.90
0.78  0.62  0.45  0.32  0.26  0.25  0.26  0.25  0.26  0.32  0.45  0.62
0.78  0.90  0.97  1.00  0.97  0.89  0.76  0.60  0.43  0.30  0.24  0.24
Ref Az:   0.0
Using DEFAULT vertical antenna pattern


D/U Baseline:    2.00
                                Area              Pop
Interference                        4.03            0( 0.0 FCC -  0.0)
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DWDFXT 31-12-29 085-36-51 33(0) 50.000 kw 219 m DA 90.0 % 40.6 dBu
OZARK AL 8785 229 DTVSERVICE: 229000 NTSCSERVICE: 228000
DTVALT DTV ALLOTMENT
0.86 0.78 0.72 0.66 0.64 0.66 0.71 0.77 0.85 0.93 0.99 1.00
0.98 0.90 0.78 0.63 0.48 0.33 0.23 0.17 0.18 0.21 0.23 0.22
0.19 0.19 0.25 0.36 0.48 0.62 0.76 0.88 0.96 1.00 0.99 0.94
Ref Az: 0.0
Using DEFAULT vertical antenna pattern
USING NTSC GRADE B FOR SERVICE AREA

	Area	Pop
within Noise Limited Contour	8829.096	246139
not affected by terrain losses	8800.913	245465

****
W39BZ 30-14-38 082-40-13 33(Z) 150.000 kw 192 m DA 10.0 % 73.6
LAKE CITY FL
PROPOSED
0.24 0.24 0.24 0.30 0.43 0.60 0.76 0.89 0.97 1.00 0.97 0.90
0.78 0.62 0.45 0.32 0.26 0.25 0.26 0.25 0.26 0.32 0.45 0.62
0.78 0.90 0.97 1.00 0.97 0.89 0.76 0.60 0.43 0.30 0.24 0.24
Ref Az: 0.0
Using DEFAULT vertical antenna pattern

D/U Baseline: 2.00

	Area	**Pop**
Interference	**0**	**0**

****
WJWB 30-16-36 081-33-47 34(N) 1000.000 kw 288 m DA 90.0 % 40.7 dBu
JACKSONVILLE FL 21158 1047 DTVSERVICE: 1047000 NTSCSERVICE: 1045000
CP BPCDT19991025AEM
0.71 0.85 0.96 1.00 0.96 0.85 0.71 0.58 0.49 0.47 0.49 0.58
0.71 0.85 0.96 1.00 0.96 0.85 0.71 0.58 0.49 0.47 0.49 0.58
0.71 0.85 0.96 1.00 0.96 0.85 0.71 0.58 0.49 0.47 0.49 0.58
Ref Az: 0.0
Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	24709.94	1309345
not affected by terrain losses	24709.94	1309345

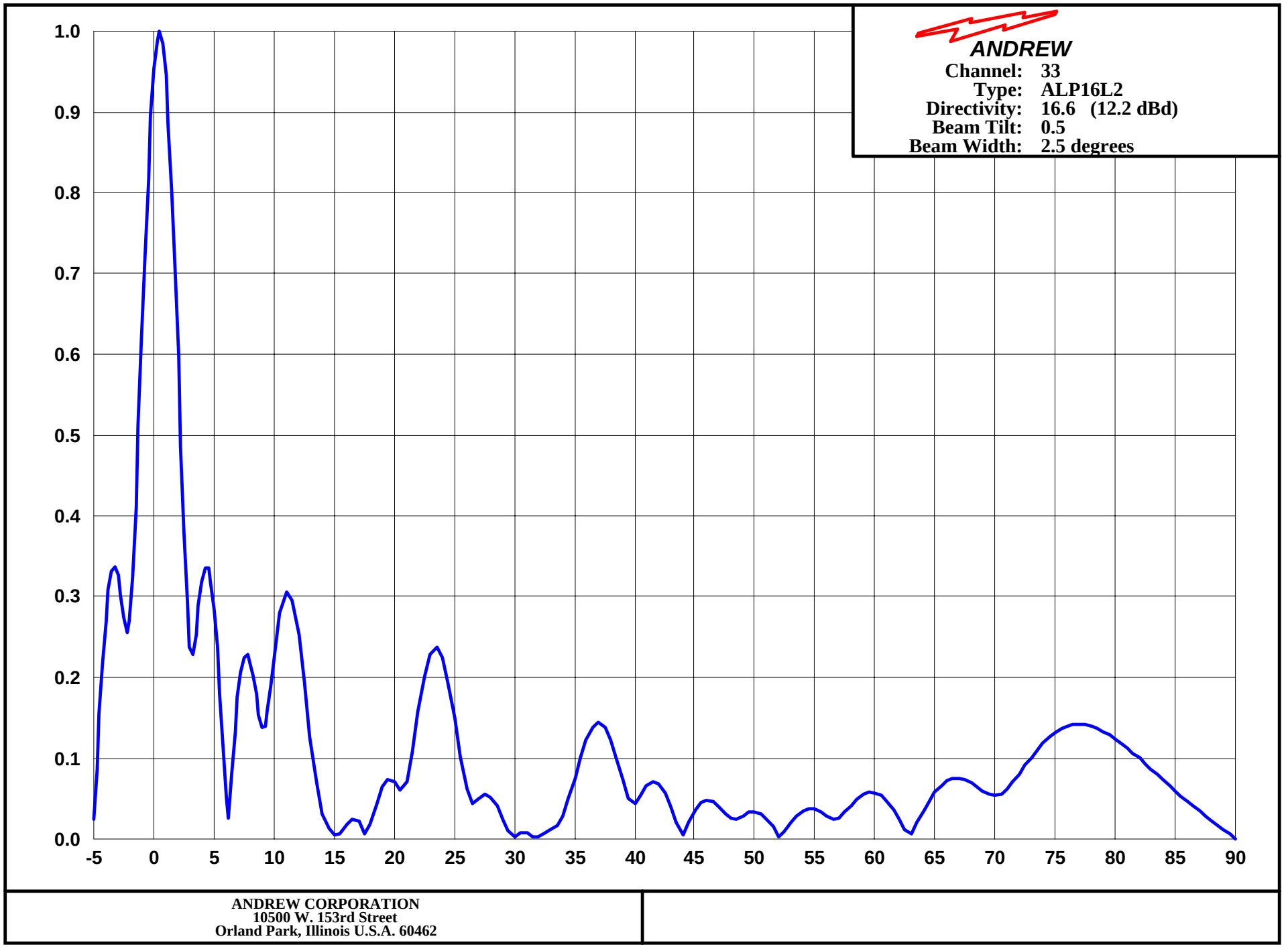
****
W39BZ 30-14-38 082-40-13 33(Z) 150.000 kw 192 m DA 10.0 % 73.6
LAKE CITY FL
PROPOSED
0.24 0.24 0.24 0.30 0.43 0.60 0.76 0.89 0.97 1.00 0.97 0.90
0.78 0.62 0.45 0.32 0.26 0.25 0.26 0.25 0.26 0.32 0.45 0.62
0.78 0.90 0.97 1.00 0.97 0.89 0.76 0.60 0.43 0.30 0.24 0.24
Ref Az: 0.0
Using DEFAULT vertical antenna pattern

D/U Baseline: -48.00

	Area	**Pop**
Interference	**0**	**0**

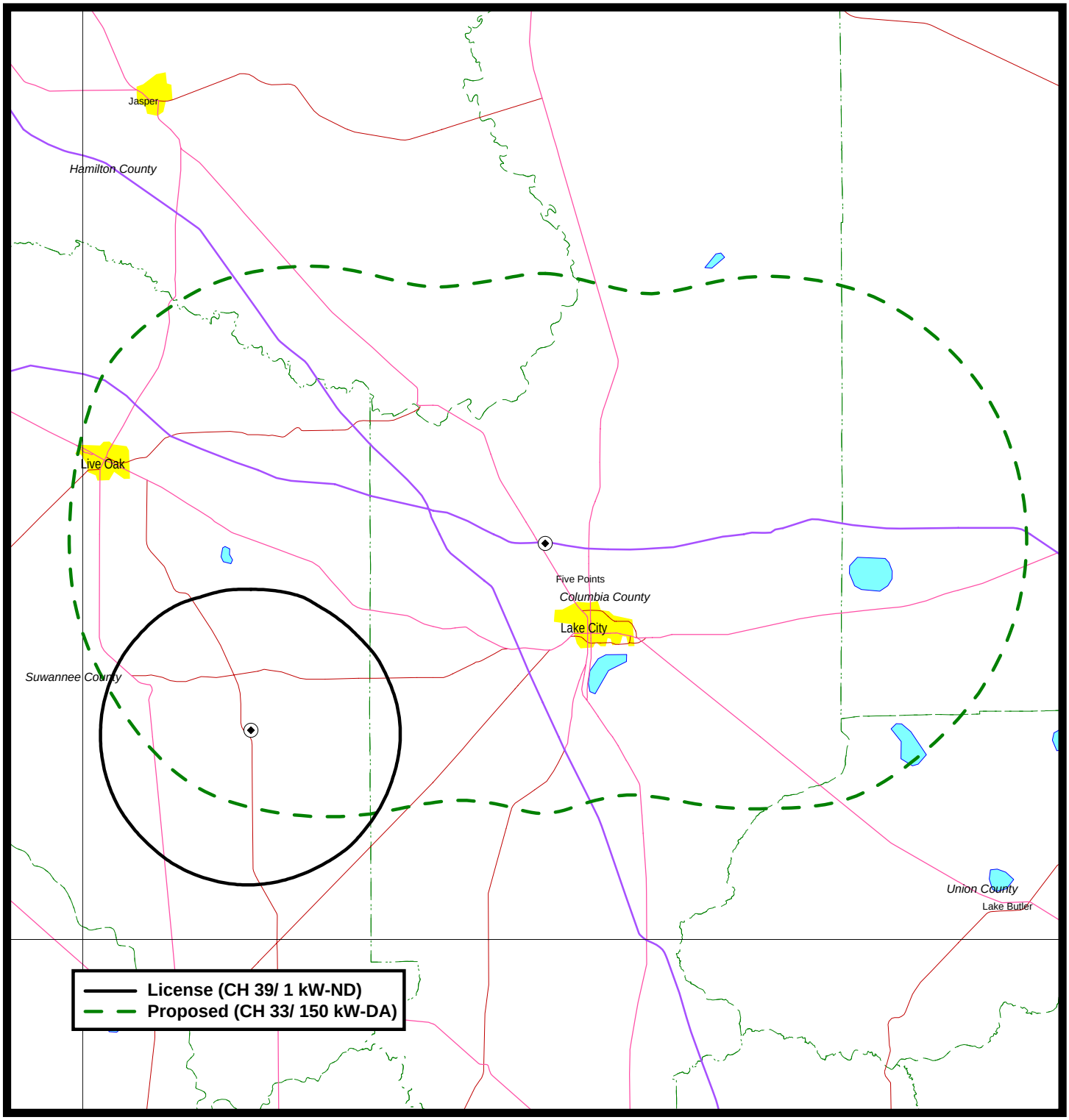
SUMMARY OF CALCULATIONS

Facility	Channel	Type	Baseline	Permissible	IX	%Base
WBXG-2, GAINESVILLE, FL	33	TV	168478	0.5	0	0.00
WBXG-C, GAINESVILLE, FL	33	TV	156116	0.5	0	0.00
W33BL, CHIEFLAND, FL	33	TV	6685	0.5	0	0.00
WCEU, NEW SMYRNA BEACH,	33	DTV	659000	0.5	0	0.00
DWCEU, NEW SMYRNA BEAC,	33	DTV	659000	0.5	0	0.00
WDFX-T, OZARK, AL	33	DTV	229000	0.5	0	0.00
DWDFXT, OZARK, AL	33	DTV	229000	0.5	0	0.00
WJWB, JACKSONVILLE, FL	34	DTV	1047000	0.5	0	0.00



ANDREW CORPORATION
10500 W. 153rd Street
Orland Park, Illinois U.S.A. 60462

Figure 2



-10 0 10 20 30

Miles

PREDICTED GRADE A COVERAGE

LPTV STATION W39BZ
LAKE CITY, FLORIDA
CHANNEL 33

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