

WCES-DT CHANNEL 6 MINOR
MODIFICATION OF CONSTRUCTION
PERMIT APPLICATION FOR MAXIMIZED
POST-TRANSITION DTV OPERATION
WRENS, GEORGIA
(Georgia Public Telecommunications Commission)

KESSLER AND GEHMAN ASSOCIATES, INC.
TELECOMMUNICATIONS CONSULTING ENGINEERS

20080619

Prepared by William T. Godfrey, Jr.

KGGA

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Gainesville, Florida 32607



ENGINEERING TECHNICAL STATEMENT PREPARED BY WILLIAM T. GODFREY, JR. OF THE FIRM KESSLER AND GEHMAN ASSOCIATES, INC., TELECOMMUNICATIONS CONSULTING ENGINEERS IN CONNECTION WITH A MINOR MODIFICATION OF CONSTRUCTION PERMIT APPLICATION (BPEDT-20080409AAA) REQUESTING A CONSTRUCTION PERMIT FOR AUTHORIZATION TO OPERATE THE GEORGIA PUBLIC TELECOMMUNICATION COMMISSION (GPTC) DIGITAL TELEVISION BROADCAST FACILITY, WCES-DT CHANNEL 6, WITH MAXIMIZED PARAMETERS ON ITS POST-TRANSITION DIGITAL CHANNEL AS ADOPTED IN APPENDIX B.

The firm Kessler and Gehman Associates, Inc. has been retained by Georgia Public Telecommunications Commission (GPTC), Atlanta, GA to prepare engineering studies and the engineering portion of a minor modification of construction permit application (BPEDT-20080409AAA) requesting authorization to maximize the WCES-DT Channel 6 post-transition DTV facility pursuant to the procedures outlined in the Third Periodic Review Report and Order (MB Docket No. 07-91) and the Public Notice released on May 30, 2008 lifting the freeze on maximization application filings (DA-08-1213). The following table depicts the allotted (Appendix B), authorized (CP) and proposed (maximization) parameters respectively for the WCES-DT post-transition DTV facility.

| Facility ID | State | City | Call Sign | DTV Chan | DTV ERP (kW) | DTV HAAT (m) | DTV Antenna ID | DTV Latitude (DDMMSS) | DTV Longitude (DDMMSS) |
|-------------|-------|------|-----------|----------|--------------|--------------|----------------|-----------------------|------------------------|
|-------------|-------|------|-----------|----------|--------------|--------------|----------------|-----------------------|------------------------|

Final DTV Table of Allotments (Appendix B) Parameters:

| | | | | | | | | | |
|-------|----|-------|------|---|------|-------|-------|--------|--------|
| 23937 | GA | WRENS | WCES | 6 | 30.0 | 436.0 | 74332 | 331533 | 821709 |
|-------|----|-------|------|---|------|-------|-------|--------|--------|

Authorized Parameters (BPEDT-20080409AAA):

| | | | | | | | | | |
|-------|----|-------|------|---|------|-------|-------|--------|--------|
| 23937 | GA | WRENS | WCES | 6 | 45.0 | 429.4 | 85933 | 331533 | 821709 |
|-------|----|-------|------|---|------|-------|-------|--------|--------|

Proposed Maximized Parameters:

| | | | | | | | | | |
|-------|----|-------|------|---|-----|-------|------|--------|--------|
| 23937 | GA | WRENS | WCES | 6 | 7.9 | 429.4 | OMNI | 331533 | 821709 |
|-------|----|-------|------|---|-----|-------|------|--------|--------|



Accordingly, GPTC proposes to maximize operation of the WCES-DT Channel 6 post-transition DTV facility by making the following modifications to its existing post-transition DTV Channel 6 construction permit:

- 1) Change from a side-mounted directional antenna (Antenna ID: 85933) to a side-mounted nondirectional antenna.
- 2) Decrease maximum Effective Radiated Power (ERP) from 45.0 kW to 7.9 kW.

All other operating parameters shall remain as authorized in the underlying post-transition DTV construction permit (BPEDT-20080409AAA).

Interference Acceptance

The proposed WCES-DT Channel 6 maximized facility is predicted to cause interference to the WABW-DT Channel 6 CP (BPEDT-20080327AAM) and the pending WABW-DT maximization application (BMPEDT-20080619AKP). The WABW-DT facility is licensed to GPTC. Accordingly, GPTC hereby accepts the interference from its proposed WCES-DT maximized facility to its WABW-DT Channel 6 CP and its pending WABW-DT Channel 6 maximization application.

Post-Transition Interference Protection

The proposed facility satisfies the post-transition interference protection provisions of §73.616 of the FCC Rules. Exhibits 10 (Part1) and 11 (Part2) are Longley-Rice interference studies that were computed using a Sun Microsystems SPARC 5 computer work station loaded with the FCC's DTV analysis software. The interference percentages are exactly the same as the FCC calculations since the studies were performed using the same type computers and the same interference analysis software. Exhibit 10 was run to determine the interference predicted to each desired station from the proposed WCES-DT Channel 6 post-transition DTV maximized facility. The FCC program recognized a mutually exclusive situation between the proposed WCES-DT



maximized facility and the allotted WCES-DT Appendix B facility because they both had the same community of license (Wrens) and they both were assigned Channel 6. As a result, the program threw out the allotted Channel 6 facility in the “Before” studies and used the proposed Channel 6 maximized facility in the “After” studies. Therefore, only the populations in the “After” studies are used in Exhibit 10 to identify the population predicted to receive interference from the proposed maximized facility. Exhibit 11 is the exact same study as Exhibit 10 except the community of license was purposely changed from “Wrens” to “Wrens_2” for the proposed maximized facility so that the program would not throw out the allotted Channel 6 facility. Referring to Exhibit 11, it can be seen that the “Before” studies now contain the allotted Channel 6 facility so that the interference predicted to be received within the desired stations protected noise limited contour from the allotted Channel 6 facility can be calculated for masking purposes. The interference studies demonstrate that the proposed facility is predicted to cause no more than 0.1% new interference, to all post-transition DTV stations considered in the culling list, which is well below the 0.5% new interference standard. Accordingly, the 0.5% new interference standard, pursuant to §V.F. (¶155) of the Third Periodic Review Report and Order, has been satisfied.

GPTC proposes to operate the WCES-DT Channel 6 maximized facility using a Harris model PTC10P1-*i* solid state transmitter which has a maximum transmitter power output of 3.5 kW (average power). Therefore, GPTC is requesting an ERP of 7.9 kW based on the maximum transmitter power output available from its transmitter.

Exhibits

Exhibits 1 and 2 represent WCES’s administration data, antenna and antenna structure specifications.

Exhibit 3 depicts the profile view of the proposed antenna on the antenna structure with all the appropriate elevations.



Exhibits 4 (11 deg) and 5 (90 deg) display the elevation pattern and Exhibit 6 displays the elevation pattern tabulation.

Exhibit 7 depicts the location of the WCES-DT transmitter site on a USGS 7.5-Minute (Series) Topographic map.

Exhibit 8 is a principal community contour map demonstrating that the proposed (maximized) WCES-DT Channel 6 post-transition DTV facility's F(50,90) 35.0 dBuV/m Principal Community contour would completely encompass the principal community of Wrens, GA.

Exhibit 9 is a contour map comparing the authorized WCES-DT Channel 6 F(50,90) 28.0 dBuV/m contour (green) and the proposed (maximized) WCES-DT Channel 6 F(50,90) 28.0 dBuV/m contour (red).

Exhibits 10 and 11 are Longley-Rice interference studies that were computed using a Sun Microsystems SPARC 5 computer work station loaded with the FCC's DTV analysis software. The exhibits demonstrate compliance with the 0.5% new interference standard.

Environmental Impact

The proposed construction would have no significant environmental impact as defined in §1.1307 of the FCC Rules. The digital transmitter, 3 inch transmission line and antenna system shall produce an ERP of 7.9 kW (horizontal polarization). Assuming the maximum lobe of radiation were oriented toward the base of the tower, the proposed WCES-DT Channel 6 post-transition DTV facility's power density six feet above the ground would be 0.0016 mW/cm^2 which equates to only 0.16% of the Maximum Permissible Exposure (MPE) limits for Occupational/Controlled Exposure and only 0.79% of the MPE limits for General Population/Uncontrolled Exposure authorized by the American National Standards Institute (ANSI). Since operation of the proposed WCES-DT Channel 6 post-transition DTV facility would not exceed 5.0% of the MPE limit for Occupational/Controlled Exposure or General



Population/Uncontrolled Exposure at any point on the ground, the proposed WCES-DT Channel 6 facility would not be considered a “significant contributor” to the RF exposure environment pursuant to OET Bulletin 65, Edition 97-01. Therefore, contributions of exposure from other sources were not accounted for in this analysis. It is safe to conclude that the emissions would be insignificant and well within the maximum allowable requirements.

If other antennas are placed on the tower in the future, the licensee will cooperate with those users by reducing or completely terminating the power to the antenna when maintenance workers are in danger from the electromagnetic radiation emanating from the antenna. It is also understood that additional antennas on the support structure could increase the overall RF exposure levels and it is the responsibility of each licensee to ensure that the total RF exposure resulting from the operation of all antennas on the support structure do not exceed the maximum permissible exposure level at any point on the ground.

Certification

This technical statement was prepared by William T. Godfrey, Telecommunications Consultant with Kessler and Gehman Associates, Inc. having offices in Gainesville, Florida and has been working in the field of radio and television broadcast consulting since 1998. He graduated from the University of North Florida with a Bachelor of Arts degree in Criminal Justice and a minor in Mathematics in 1993. As a Professional in the field of Telecommunications he states under penalty of perjury that the information contained in this report is true and correct to the best of his knowledge and belief.



KESSLER AND GEHMAN ASSOCIATES, INC.

WILLIAM T. GODFREY, JR.
Telecommunications Technical Consultant

26 September, 2008

WCES-DT CHANNEL 6 MAXIMIZED DTV FACILITY

WRENS, GEORGIA

ENGINEERING SPECIFICATIONS

A. Transmitter Site:

Geographic coordinates (NAD27):

| | |
|----------------------|--------------------|
| North Latitude | 33° 15' 33" |
| West Longitude | 82° 17' 09" |

Transmitter Site Address: **2316 Miller Place Road
Wrens, GA**

B. Main Studio Site Address: 260 14th Street N.W., Atlanta, GA 30318.

C. Post-Transition Facility:

| | | |
|-------------|-----------------|------------------|
| DTV Channel | Number | 6 |
| | Frequency | 82-88 MHz |
| | Offset | N/A |

D. Antenna Height:

| | |
|--|----------------|
| Height of Site Above Mean Sea Level (AMSL) | 132.5 M |
| Overall Height of Structure Above Ground | 446.0 M |
| (including all appurtenances) | |
| Overall Height of Structure Above Mean Sea Level | 578.5 M |
| (including all appurtenances) | |
| Height of Site Above Average Terrain | 17.9 M |
| Antenna Height Radiation Center (R/C) Above Ground | 411.5 M |
| Antenna Height R/C Above Mean Sea Level | 544.0 M |
| Average of All Non-Odd Radials | 114.6 M |
| Antenna Height R/C Above Average Terrain | 429.4 M |

E. System Parameters – Horizontal Polarization:

| | |
|--|-----------------|
| Transmitter Power Required | 3.5 kW |
| Maximum Power Input to Antenna | 2.3 kW |
| Total System Loss | 1.78 dB |
| Transmission Line Efficiency | 66.4% |
| Maximum Antenna Gain in Beam Maximum | 5.31 dB |
| Maximum Antenna Gain in Horizontal Plane | 5.31 dB |
| Maximum Effective Radiated Power | 8.97 dBk |
| In Beam Maximum | 7.9 kW |
| Maximum Effective Radiated Power | 8.97 dBk |
| In Horizontal Plane | 7.9 kW |

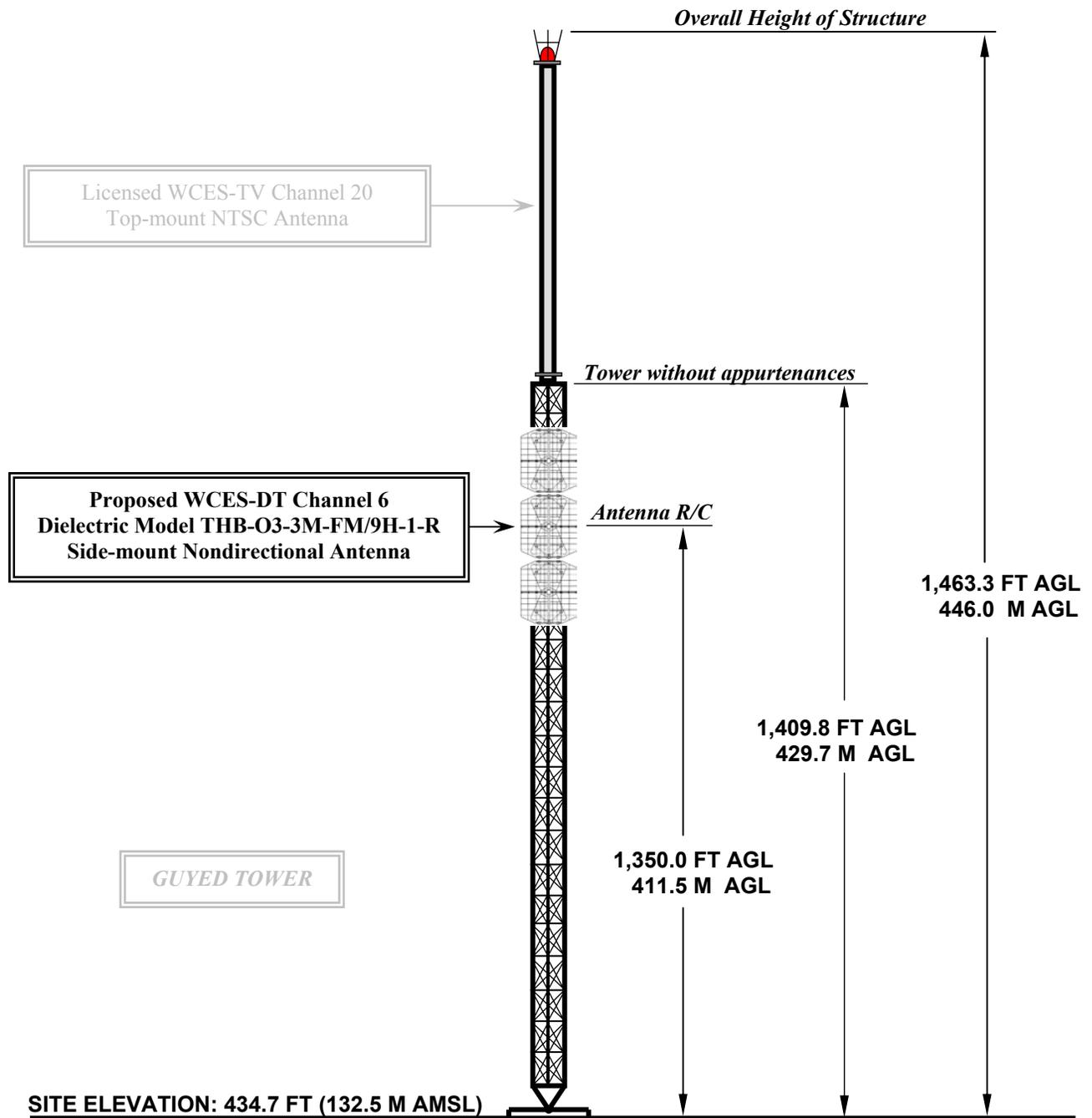
WCES-DT CHANNEL 6 MAXIMIZED DTV FACILITY

PELHAM, GEORGIA

DATA FOR PROPOSED NONDIRECTIONAL TRANSMITTING ANTENNA

- A. **Antenna:** Dielectric Model THB-O3-3M-FM/9H-1-R horizontally polarized, nondirectional side-mount panel antenna.
- B. **Electrical Beam Tilt:** None
- C. **Mechanical Beam Tilt:** None
- D. **Peak Gain** **Horizontal Polarization**
Maximum: 3.4 (5.31 dB)
Horizontal: 3.4 (5.31 dB)
- E. **Length:** 32.6 feet (9.9 meters) without appurtenances
- F. **Transmitter Power Output (TPO):** 3.5 kW
- G. **Transmission Line:** 3" 50-ohm FLEXLine®
- H. **Transmission Line Efficiency:** 66.4%
- I. **Transmission Line Length:** 1,380 feet
- J. **Transmission Line Attenuation:** 0.129 dB/100 ft
- K. **Transmission Line Loss:** 1.78 dB

PROPOSED WCES-DT CHANNEL 6 TOWER ELEVATION VIEW



| | |
|------------------------------------|----------------|
| OVERALL HEIGHT AGL: | 446.0 M |
| OVERALL HEIGHT AMSL: | 578.5 M |
| RADIATION CENTER AGL: | 411.5 M |
| RADIATION CENTER AMSL: | 544.0 M |
| RADIATION CENTER HAAT: | 429.4 M |
| AVG OF ALL NON-ODD RADIALS: | 114.6 M |
| SITE HAAT: | 17.9 M |

COORDINATES (NAD 27):
N. LATITUDE 33° 15' 33"
W. LONGITUDE 82° 17' 09"
Antenna Structure Registration Number:
 1018796

NOTE: NOT TO SCALE

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WCES-DT CHANNEL 6
WRENS, GEORGIA

20080613

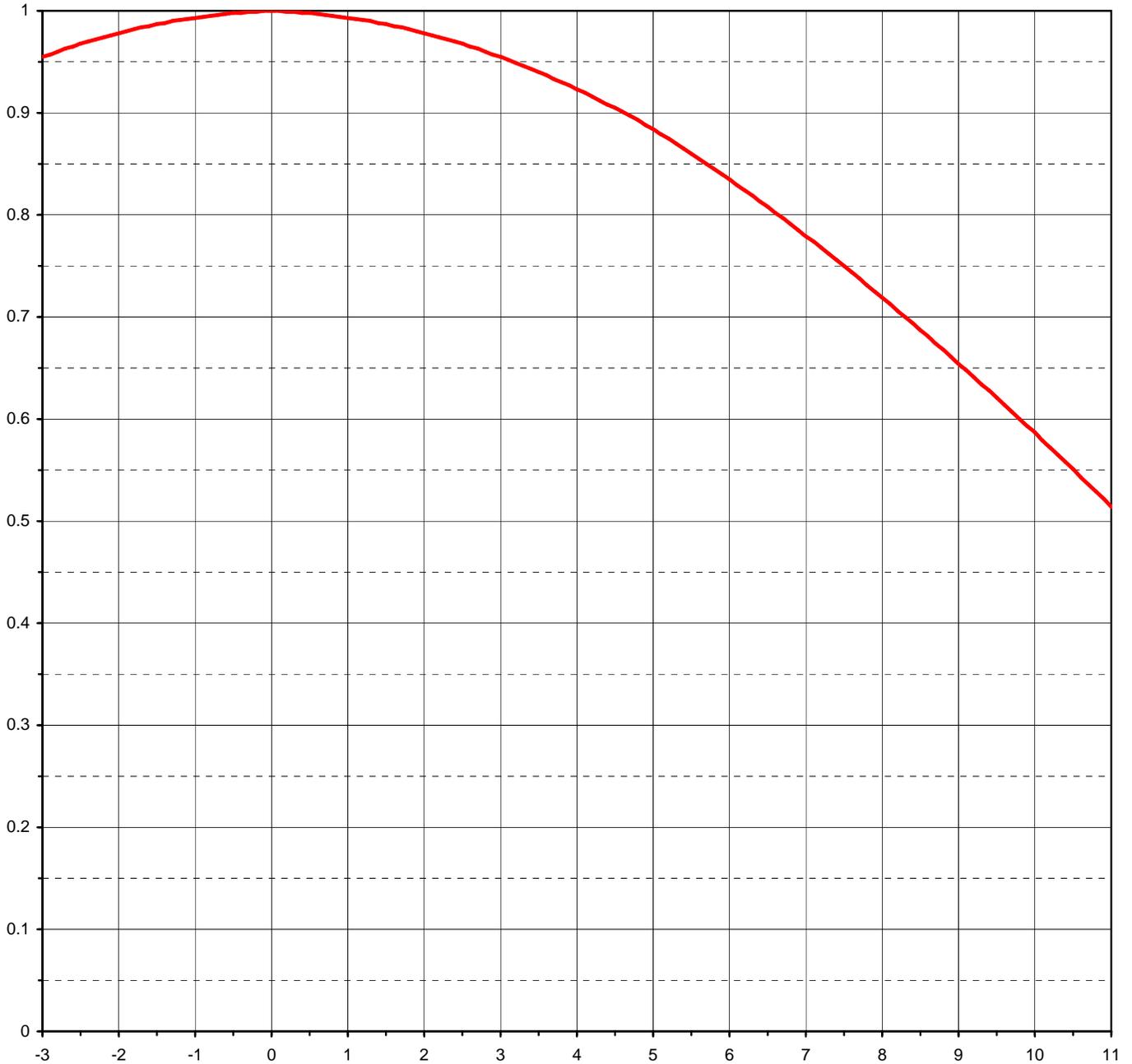
EXHIBIT 3



Proposal Number **C-01266**
Date **11-Apr-07**
Call Letters **WCES-DT** Channel **6**
Location **Wrens, GA**
Customer **GA Public Broadcasting**
Antenna Type **THB-O3-3M-FM/9H-1-R**

ELEVATION PATTERN

| | | | |
|------------------------|-------------------------|-----------|------------------|
| RMS Gain at Main Lobe | 3.40 (5.31 dB) | Beam Tilt | 0.00 deg |
| RMS Gain at Horizontal | 3.40 (5.31 dB) | Frequency | 85.00 MHz |
| Calculated / Measured | Calculated | Drawing # | 03H034000 |



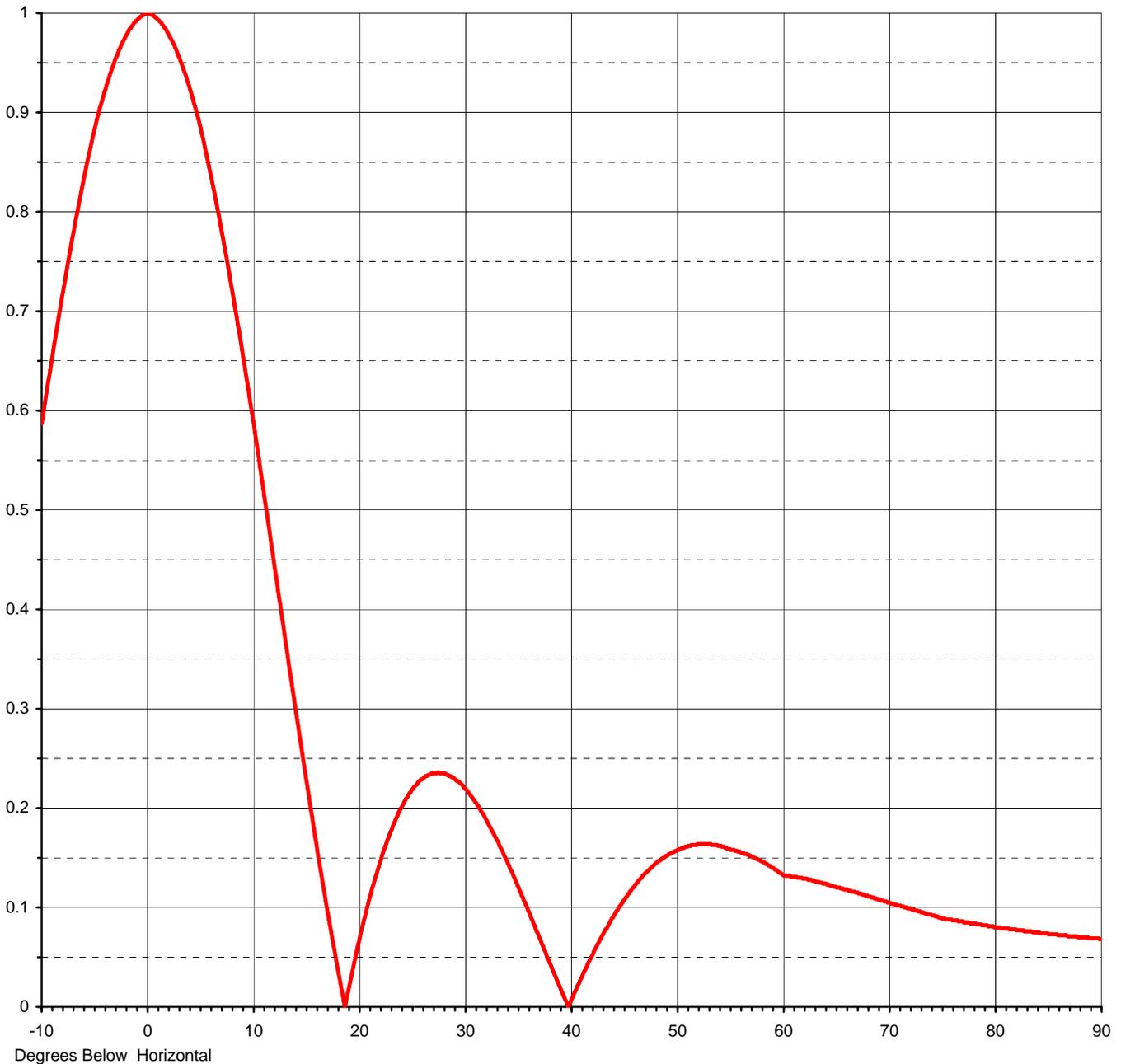
Degrees Below Horizontal



Proposal Number **C-01266**
Date **11-Apr-07**
Call Letters **WCES-DT** Channel **6**
Location **Wrens, GA**
Customer **GA Public Broadcasting**
Antenna Type **THB-O3-3M-FM/9H-1-R**

ELEVATION PATTERN

| | | | |
|------------------------|-----------------------|-----------|---------------------|
| RMS Gain at Main Lobe | 3.40 (5.31 dB) | Beam Tilt | 0.00 deg |
| RMS Gain at Horizontal | 3.40 (5.31 dB) | Frequency | 85.00 MHz |
| Calculated / Measured | Calculated | Drawing # | 03H034000-90 |



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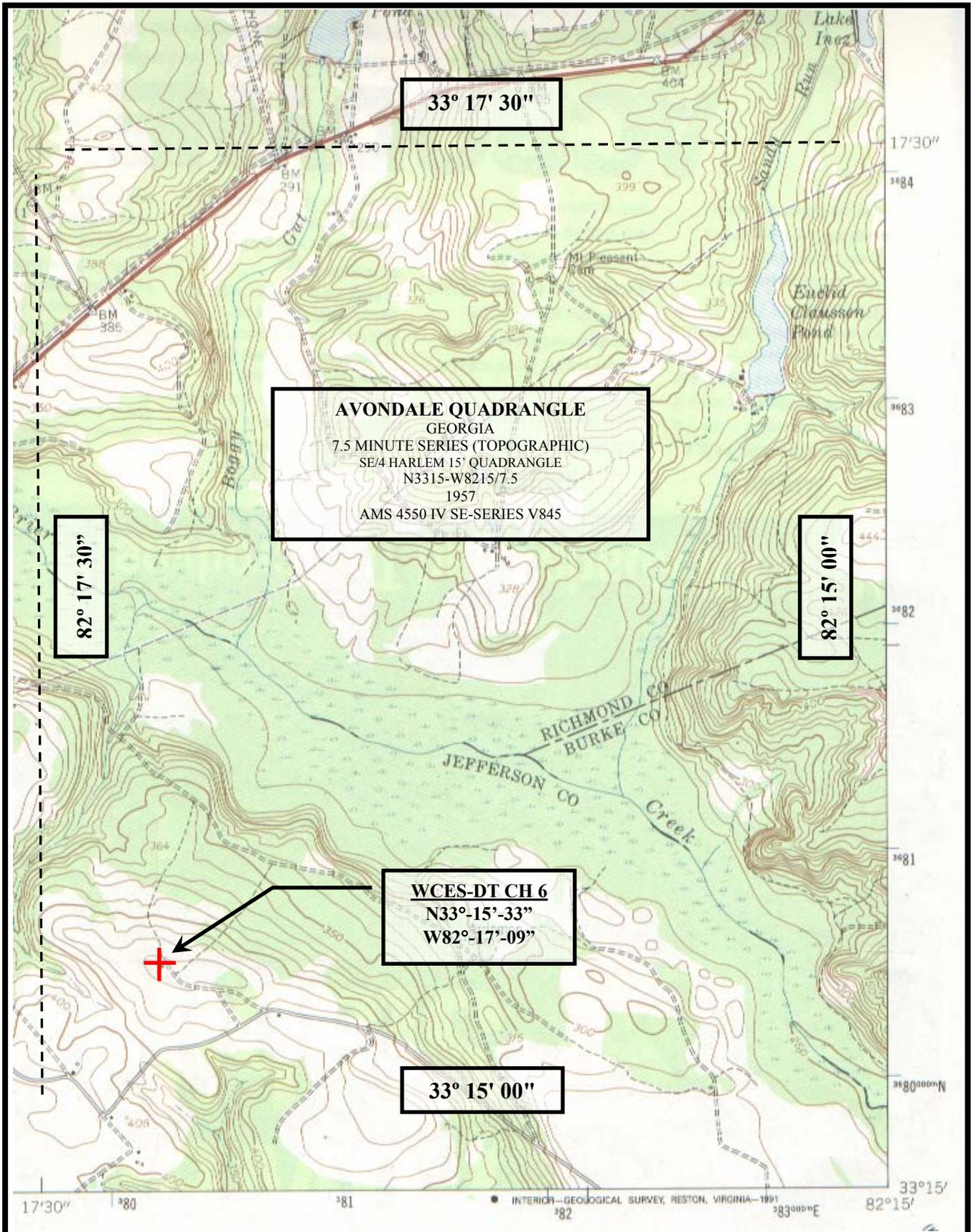
Proposal Number **C-01266**
 Date **11-Apr-07**
 Call Letters **WCES-DT** Channel **6**
 Location **Wrens, GA**
 Customer **GA Public Broadcasting**
 Antenna Type **THB-O3-3M-FM/9H-1-R**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **03H034000-90**

| Angle | Field |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| -10.0 | 0.587 | 2.4 | 0.970 | 10.6 | 0.551 | 30.5 | 0.214 | 51.0 | 0.161 | 71.5 | 0.100 |
| -9.5 | 0.621 | 2.6 | 0.965 | 10.8 | 0.536 | 31.0 | 0.206 | 51.5 | 0.163 | 72.0 | 0.099 |
| -9.0 | 0.654 | 2.8 | 0.960 | 11.0 | 0.522 | 31.5 | 0.198 | 52.0 | 0.164 | 72.5 | 0.097 |
| -8.5 | 0.687 | 3.0 | 0.955 | 11.5 | 0.485 | 32.0 | 0.189 | 52.5 | 0.164 | 73.0 | 0.095 |
| -8.0 | 0.719 | 3.2 | 0.949 | 12.0 | 0.448 | 32.5 | 0.179 | 53.0 | 0.164 | 73.5 | 0.094 |
| -7.5 | 0.750 | 3.4 | 0.943 | 12.5 | 0.412 | 33.0 | 0.169 | 53.5 | 0.163 | 74.0 | 0.092 |
| -7.0 | 0.779 | 3.6 | 0.937 | 13.0 | 0.375 | 33.5 | 0.158 | 54.0 | 0.162 | 74.5 | 0.091 |
| -6.5 | 0.808 | 3.8 | 0.930 | 13.5 | 0.339 | 34.0 | 0.147 | 54.5 | 0.161 | 75.0 | 0.089 |
| -6.0 | 0.835 | 4.0 | 0.923 | 14.0 | 0.303 | 34.5 | 0.135 | 55.0 | 0.159 | 75.5 | 0.088 |
| -5.5 | 0.860 | 4.2 | 0.916 | 14.5 | 0.268 | 35.0 | 0.122 | 55.5 | 0.157 | 76.0 | 0.087 |
| -5.0 | 0.884 | 4.4 | 0.908 | 15.0 | 0.233 | 35.5 | 0.110 | 56.0 | 0.156 | 76.5 | 0.086 |
| -4.5 | 0.905 | 4.6 | 0.901 | 15.5 | 0.198 | 36.0 | 0.097 | 56.5 | 0.154 | 77.0 | 0.085 |
| -4.0 | 0.923 | 4.8 | 0.893 | 16.0 | 0.165 | 36.5 | 0.084 | 57.0 | 0.152 | 77.5 | 0.085 |
| -3.5 | 0.940 | 5.0 | 0.884 | 16.5 | 0.132 | 37.0 | 0.071 | 57.5 | 0.149 | 78.0 | 0.084 |
| -3.0 | 0.955 | 5.2 | 0.875 | 17.0 | 0.100 | 37.5 | 0.058 | 58.0 | 0.147 | 78.5 | 0.083 |
| -2.8 | 0.960 | 5.4 | 0.865 | 17.5 | 0.070 | 38.0 | 0.045 | 58.5 | 0.144 | 79.0 | 0.082 |
| -2.6 | 0.965 | 5.6 | 0.855 | 18.0 | 0.040 | 38.5 | 0.032 | 59.0 | 0.140 | 79.5 | 0.081 |
| -2.4 | 0.970 | 5.8 | 0.845 | 18.5 | 0.012 | 39.0 | 0.020 | 59.5 | 0.137 | 80.0 | 0.080 |
| -2.2 | 0.974 | 6.0 | 0.835 | 19.0 | 0.015 | 39.5 | 0.007 | 60.0 | 0.133 | 80.5 | 0.079 |
| -2.0 | 0.978 | 6.2 | 0.824 | 19.5 | 0.040 | 40.0 | 0.005 | 60.5 | 0.132 | 81.0 | 0.079 |
| -1.8 | 0.982 | 6.4 | 0.813 | 20.0 | 0.064 | 40.5 | 0.017 | 61.0 | 0.131 | 81.5 | 0.078 |
| -1.6 | 0.985 | 6.6 | 0.802 | 20.5 | 0.087 | 41.0 | 0.029 | 61.5 | 0.130 | 82.0 | 0.077 |
| -1.4 | 0.988 | 6.8 | 0.791 | 21.0 | 0.108 | 41.5 | 0.040 | 62.0 | 0.129 | 82.5 | 0.077 |
| -1.2 | 0.991 | 7.0 | 0.779 | 21.5 | 0.127 | 42.0 | 0.051 | 62.5 | 0.128 | 83.0 | 0.076 |
| -1.0 | 0.993 | 7.2 | 0.768 | 22.0 | 0.145 | 42.5 | 0.062 | 63.0 | 0.127 | 83.5 | 0.075 |
| -0.8 | 0.995 | 7.4 | 0.756 | 22.5 | 0.161 | 43.0 | 0.072 | 63.5 | 0.125 | 84.0 | 0.075 |
| -0.6 | 0.997 | 7.6 | 0.744 | 23.0 | 0.176 | 43.5 | 0.081 | 64.0 | 0.124 | 84.5 | 0.074 |
| -0.4 | 0.998 | 7.8 | 0.731 | 23.5 | 0.189 | 44.0 | 0.090 | 64.5 | 0.122 | 85.0 | 0.073 |
| -0.2 | 0.999 | 8.0 | 0.719 | 24.0 | 0.200 | 44.5 | 0.099 | 65.0 | 0.120 | 85.5 | 0.073 |
| 0.0 | 1.000 | 8.2 | 0.706 | 24.5 | 0.210 | 45.0 | 0.107 | 65.5 | 0.119 | 86.0 | 0.072 |
| 0.2 | 0.999 | 8.4 | 0.694 | 25.0 | 0.218 | 45.5 | 0.114 | 66.0 | 0.118 | 86.5 | 0.072 |
| 0.4 | 0.998 | 8.6 | 0.681 | 25.5 | 0.224 | 46.0 | 0.121 | 66.5 | 0.116 | 87.0 | 0.071 |
| 0.6 | 0.997 | 8.8 | 0.668 | 26.0 | 0.229 | 46.5 | 0.128 | 67.0 | 0.115 | 87.5 | 0.071 |
| 0.8 | 0.995 | 9.0 | 0.654 | 26.5 | 0.233 | 47.0 | 0.134 | 67.5 | 0.113 | 88.0 | 0.070 |
| 1.0 | 0.993 | 9.2 | 0.641 | 27.0 | 0.235 | 47.5 | 0.139 | 68.0 | 0.111 | 88.5 | 0.070 |
| 1.2 | 0.991 | 9.4 | 0.628 | 27.5 | 0.236 | 48.0 | 0.144 | 68.5 | 0.110 | 89.0 | 0.069 |
| 1.4 | 0.988 | 9.6 | 0.614 | 28.0 | 0.235 | 48.5 | 0.148 | 69.0 | 0.108 | 89.5 | 0.069 |
| 1.6 | 0.985 | 9.8 | 0.607 | 28.5 | 0.233 | 49.0 | 0.152 | 69.5 | 0.106 | 90.0 | 0.068 |
| 1.8 | 0.982 | 10.0 | 0.593 | 29.0 | 0.230 | 49.5 | 0.155 | 70.0 | 0.105 | | |
| 2.0 | 0.978 | 10.2 | 0.579 | 29.5 | 0.226 | 50.0 | 0.157 | 70.5 | 0.103 | | |
| 2.2 | 0.974 | 10.4 | 0.565 | 30.0 | 0.220 | 50.5 | 0.160 | 71.0 | 0.102 | | |

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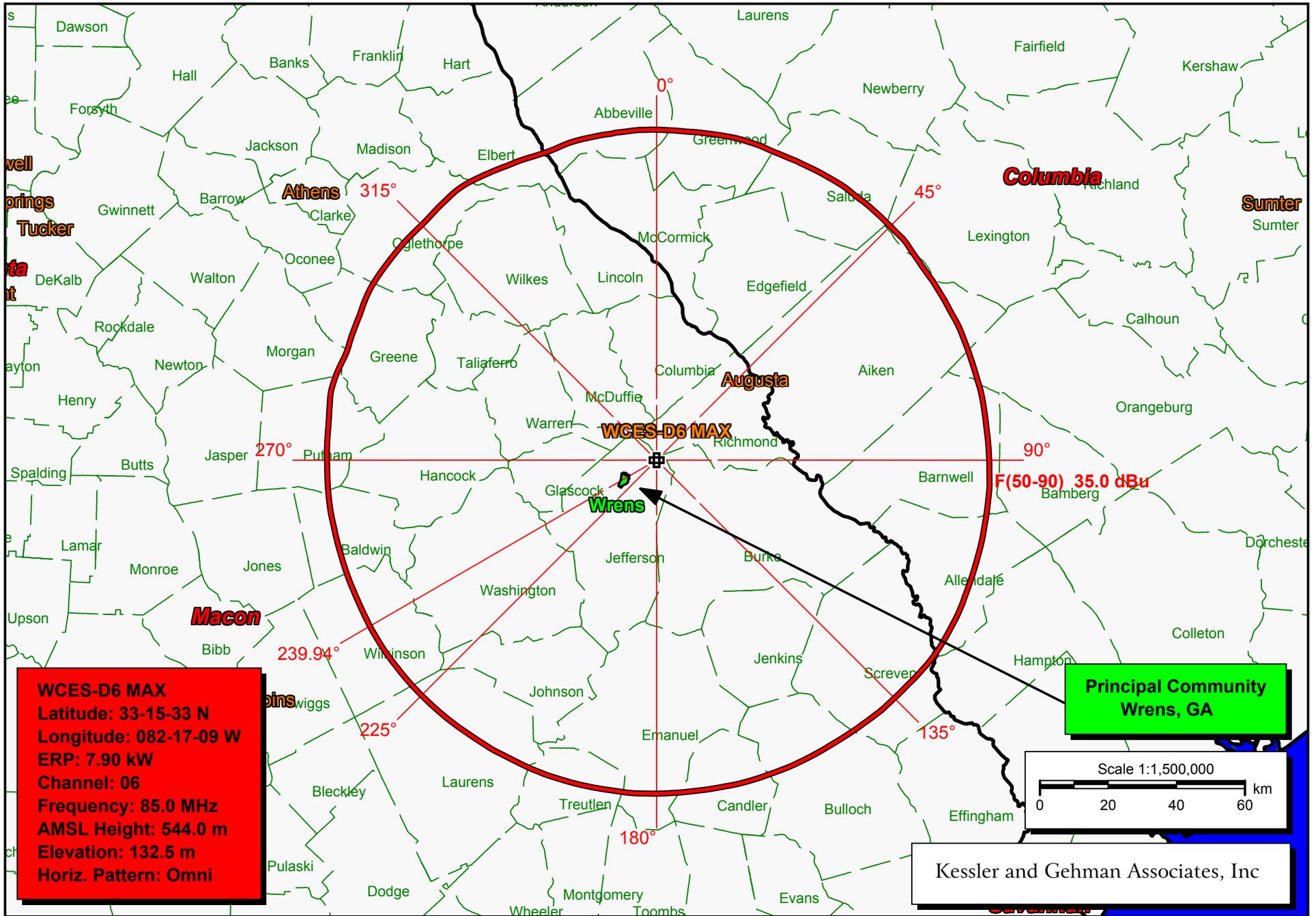


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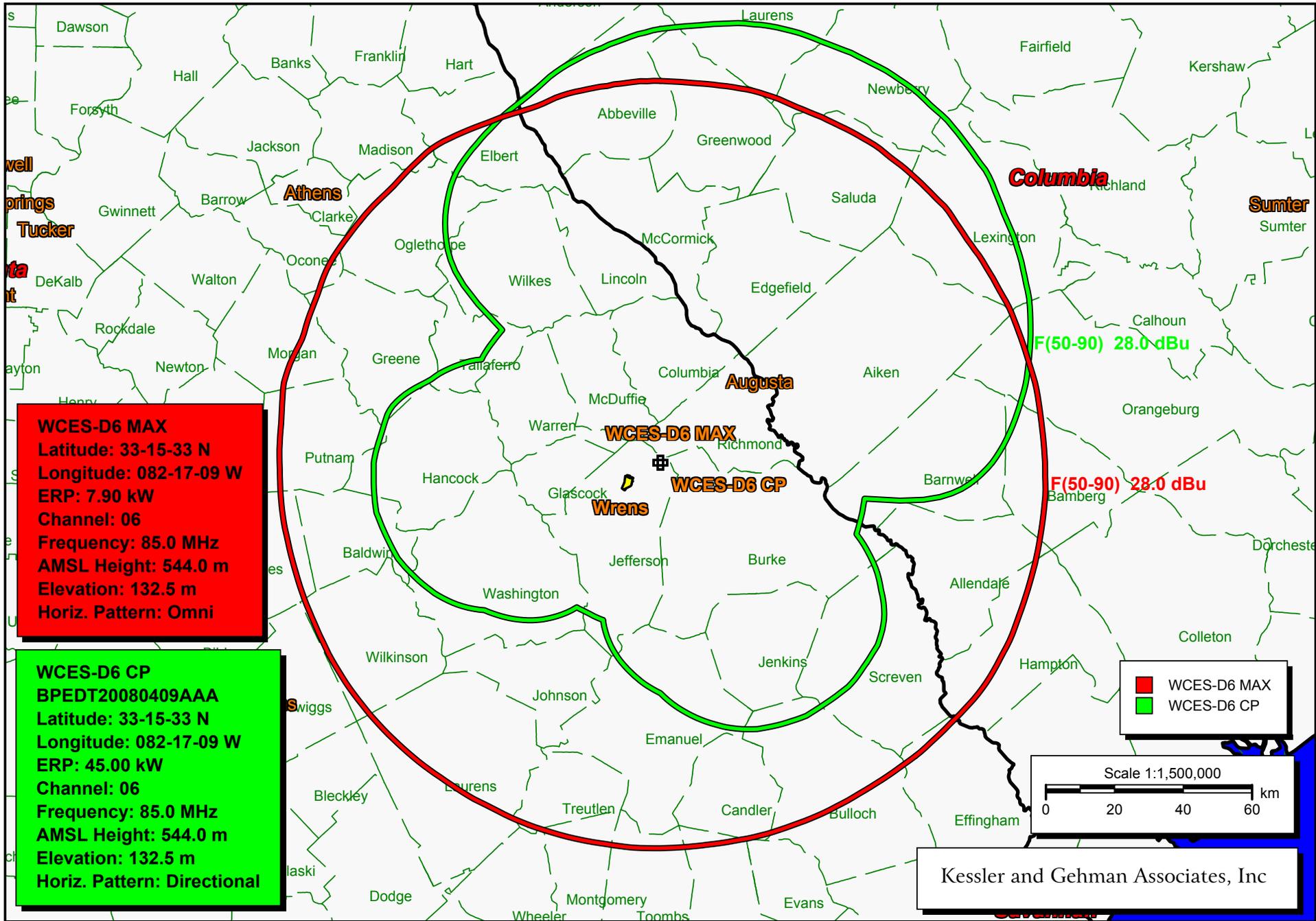
WCES-DT CHANNEL 6
WRENS, GEORGIA

20080619

EXHIBIT 7



WCES-DT Channel 6 F(50,90) 35.0 dBuV/m Principal Community Contour



WCES-D6 CP (green) vs. WCES-D6 Proposed (red)

TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 06-12-2008 Time: 11:03:49

Record Selected for Analysis

WCES-D6 USERRECORD-01 WRENS GA US
Channel 06 ERP 8.1 kW HAAT 429. m RCAMSL 00544 m
Latitude 033-15-33 Longitude 0082-17-09
Status APP Zone 2 Border
Dir Antenna Make usr Model USRPAT01 Beam tilt N Ref Azimuth 0.
Last update Cutoff date Docket
Comments
Applicant

Cell Size for Service Analysis 2.0 km/side

Distance Increments for Longley-Rice Analysis 1.00 km

Facility meets maximum height/power limits

| Azimuth (Deg) | ERP (kW) | HAAT (m) | 28.0 dBu F(50,90) (km) |
|------------------|-------------|-------------|---------------------------|
| 0.0 | 8.100 | 419.8 | 111.2 |
| 45.0 | 8.100 | 421.3 | 111.3 |
| 90.0 | 8.100 | 432.3 | 112.1 |
| 135.0 | 8.100 | 449.2 | 113.4 |
| 180.0 | 8.100 | 433.9 | 112.2 |
| 225.0 | 8.100 | 430.3 | 111.9 |
| 270.0 | 8.100 | 416.5 | 110.9 |
| 315.0 | 8.100 | 429.9 | 111.9 |

Evaluation toward Class A Stations

No Spacing violations or contour overlap to Class A stations

Class A Evaluation Complete

SPACING VIOLATION FOUND BETWEEN STATION

WCES-D6 06 WRENS GA USERRECORD01

and station

SHORT TO: WCES-TV 06 WRENS GA BDTV 0430
 33 -15-33 082 -17-09
 Req. separation 273.6 Actual separation 0.0 Short 273.6 km

Proposed facility OK to FCC Monitoring Stations
 Proposed facility OK toward West Virginia quite zone
 Proposed facility OK toward Table Mountain
 Proposed facility is beyond the Canadian coordination distance
 Proposed facility is beyond the Mexican coordination distance
 Proposed station is OK toward AM broadcast stations

 Start of Interference Analysis

| | | | | |
|---------|------------------|------------|--|--------------|
| | Proposed Station | | | |
| Channel | Call | City/State | | ARN |
| 06 | WCES-D6 | WRENS GA | | USERRECORD01 |

Stations Potentially Affected by Proposed Station

| Chan | Call | City/State | Dist(km) | Status | Application Ref. No. |
|------|---------|------------|----------|--------|----------------------|
| 06 | WABW-TV | PELHAM GA | 327.3 | LIC | BDTV -0419 |

%%%

Analysis of Interference to Affected Station 1

Analysis of current record

| Channel | Call | City/State | Application Ref. No. |
|---------|---------|------------|----------------------|
| 06 | WABW-TV | PELHAM GA | BDTV -0419 |

Stations Potentially Affecting This Station

| Chan | Call | City/State | Dist(km) | Status | Application Ref. No. |
|------|---------|------------|----------|--------|----------------------|
| 06 | WCES-D6 | WRENS GA | 327.3 | APP | USERRECORD-01 |

Total scenarios = 1

Result key: 1
 Scenario 1 Affected station 1
 Before Analysis

Results for: 6A GA PELHAM BDTV 0419 LIC
 HAAT 474.0 m, ATV ERP 3.8 kW
 POPULATION 844381 AREA (sq km) 30555.6
 within Noise Limited Contour

| | | |
|--------------------------------|--------|---------|
| not affected by terrain losses | 844281 | 30535.6 |
| lost to NTSC IX | 0 | 0.0 |
| lost to additional IX by ATV | 0 | 0.0 |
| lost to ATV IX only | 0 | 0.0 |
| lost to all IX | 0 | 0.0 |

Potential Interfering Stations Included in above Scenario 1

After Analysis

Results for: 6A GA PELHAM BDTV 0419 LIC
 HAAT 474.0 m, ATV ERP 3.8 kW

| | POPULATION | AREA (sq km) |
|--------------------------------|------------|--------------|
| within Noise Limited Contour | 844381 | 30555.6 |
| not affected by terrain losses | 844281 | 30535.6 |
| lost to NTSC IX | 0 | 0.0 |
| lost to additional IX by ATV | 1046 | 79.9 |
| lost to ATV IX only | 1046 | 79.9 |
| lost to all IX | 1046 | 79.9 |

Potential Interfering Stations Included in above Scenario 1

6A GA WRENS USERRECORD01 APP
 *Percent Service lost without proposal: 0.0 to BDTV 0419
 *Percent Service lost with proposal: 0.1 to BDTV 0419

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Analysis of Interference to Affected Station 2

Analysis of current record

| Channel | Call | City/State | Application Ref. No. |
|---------|---------|------------|----------------------|
| 06 | WCES-D6 | WRENS GA | USERRECORD-01 |

Stations Potentially Affecting This Station

| Chan | Call | City/State | Dist(km) | Status | Application Ref. No. |
|------|---------|------------|----------|--------|----------------------|
| 06 | WABW-TV | PELHAM GA | 327.3 | LIC | BDTV -0419 |

Total scenarios = 1

Result key: 2
 Scenario 1 Affected station 2
 Before Analysis

Results for: 6A GA WRENS USERRECORD01 APP
 HAAT 429.0 m, ATV ERP 8.1 kW

| | POPULATION | AREA (sq km) |
|--------------------------------|------------|--------------|
| within Noise Limited Contour | 1023102 | 39311.5 |
| not affected by terrain losses | 1021483 | 39151.9 |
| lost to NTSC IX | 0 | 0.0 |
| lost to additional IX by ATV | 1339 | 79.8 |

| | | |
|---------------------|------|------|
| lost to ATV IX only | 1339 | 79.8 |
| lost to all IX | 1339 | 79.8 |

Potential Interfering Stations Included in above Scenario 1

| | | | |
|--------------|------|------|-----|
| 6A GA PELHAM | BDTV | 0419 | LIC |
|--------------|------|------|-----|

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TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 06-12-2008 Time: 11:06:25

Record Selected for Analysis

WCES-D6 USERRECORD-01 WRENS_2 GA US
 Channel 06 ERP 8.1 kW HAAT 429. m RCAMSL 00544 m
 Latitude 033-15-33 Longitude 0082-17-09
 Status APP Zone 2 Border
 Dir Antenna Make usr Model USRPAT01 Beam tilt N Ref Azimuth 0.
 Last update Cutoff date Docket
 Comments
 Applicant

Cell Size for Service Analysis 2.0 km/side

Distance Increments for Longley-Rice Analysis 1.00 km

Facility meets maximum height/power limits

| Azimuth (Deg) | ERP (kW) | HAAT (m) | 28.0 dBu F(50,90) (km) |
|------------------|-------------|-------------|---------------------------|
| 0.0 | 8.100 | 419.8 | 111.2 |
| 45.0 | 8.100 | 421.3 | 111.3 |
| 90.0 | 8.100 | 432.3 | 112.1 |
| 135.0 | 8.100 | 449.2 | 113.4 |
| 180.0 | 8.100 | 433.9 | 112.2 |
| 225.0 | 8.100 | 430.3 | 111.9 |
| 270.0 | 8.100 | 416.5 | 110.9 |
| 315.0 | 8.100 | 429.9 | 111.9 |

Evaluation toward Class A Stations

No Spacing violations or contour overlap to Class A stations

Class A Evaluation Complete

SPACING VIOLATION FOUND BETWEEN STATION

WCES-D6 06 WRENS_2 GA USERRECORD01

and station

SHORT TO: WCES-TV 06 WRENS GA BDTV 0430
 33 -15-33 082 -17-09
 Req. separation 273.6 Actual separation 0.0 Short 273.6 km

Proposed facility OK to FCC Monitoring Stations
 Proposed facility OK toward West Virginia quite zone
 Proposed facility OK toward Table Mountain
 Proposed facility is beyond the Canadian coordination distance
 Proposed facility is beyond the Mexican coordination distance
 Proposed station is OK toward AM broadcast stations

 Start of Interference Analysis

| | | | |
|---------|------------------|------------|--------------|
| | Proposed Station | | |
| Channel | Call | City/State | ARN |
| 06 | WCES-D6 | WRENS_2 GA | USERRECORD01 |

Stations Potentially Affected by Proposed Station

| Chan | Call | City/State | Dist(km) | Status | Application | Ref. No. |
|------|---------|------------|----------|--------|-------------|----------|
| 06 | WABW-TV | PELHAM GA | 327.3 | LIC | BDTV | -0419 |
| 06 | WCES-TV | WRENS GA | 0.0 | LIC | BDTV | -0430 |

%%%

Analysis of Interference to Affected Station 1

Analysis of current record

| | | | | |
|---------|---------|------------|-------------|----------|
| Channel | Call | City/State | Application | Ref. No. |
| 06 | WABW-TV | PELHAM GA | BDTV | -0419 |

Stations Potentially Affecting This Station

| Chan | Call | City/State | Dist(km) | Status | Application | Ref. No. |
|------|---------|------------|----------|--------|---------------|----------|
| 06 | WCES-TV | WRENS GA | 327.3 | LIC | BDTV | -0430 |
| 06 | WCES-D6 | WRENS_2 GA | 327.3 | APP | USERRECORD-01 | |

Total scenarios = 2

Result key: 1
 Scenario 1 Affected station 1
 Before Analysis

Results for: 6A GA PELHAM BDTV 0419 LIC
 HAAT 474.0 m, ATV ERP 3.8 kW

| | POPULATION | AREA (sq km) |
|--------------------------------|------------|--------------|
| within Noise Limited Contour | 844381 | 30555.6 |
| not affected by terrain losses | 844281 | 30535.6 |
| lost to NTSC IX | 0 | 0.0 |
| lost to additional IX by ATV | 0 | 0.0 |
| lost to ATV IX only | 0 | 0.0 |
| lost to all IX | 0 | 0.0 |

Potential Interfering Stations Included in above Scenario 1

After Analysis

| Results for: 6A GA PELHAM | BDTV | 0419 | LIC |
|--------------------------------|------------|--------------|-----|
| HAAT 474.0 m, ATV ERP 3.8 kW | | | |
| | POPULATION | AREA (sq km) | |
| within Noise Limited Contour | 844381 | 30555.6 | |
| not affected by terrain losses | 844281 | 30535.6 | |
| lost to NTSC IX | 0 | 0.0 | |
| lost to additional IX by ATV | 1046 | 79.9 | |
| lost to ATV IX only | 1046 | 79.9 | |
| lost to all IX | 1046 | 79.9 | |

Potential Interfering Stations Included in above Scenario 1

| | | | |
|---|--------------|---------|------|
| 6A GA WRENS_2 | USERRECORD01 | APP | |
| *Percent Service lost without proposal: | 0.0 | to BDTV | 0419 |
| *Percent Service lost with proposal: | 0.1 | to BDTV | 0419 |

Result key: 2
 Scenario 2 Affected station 1
 Before Analysis

| Results for: 6A GA PELHAM | BDTV | 0419 | LIC |
|--------------------------------|------------|--------------|-----|
| HAAT 474.0 m, ATV ERP 3.8 kW | | | |
| | POPULATION | AREA (sq km) | |
| within Noise Limited Contour | 844381 | 30555.6 | |
| not affected by terrain losses | 844281 | 30535.6 | |
| lost to NTSC IX | 0 | 0.0 | |
| lost to additional IX by ATV | 0 | 0.0 | |
| lost to ATV IX only | 0 | 0.0 | |
| lost to all IX | 0 | 0.0 | |

Potential Interfering Stations Included in above Scenario 2

After Analysis

| Results for: 6A GA PELHAM | BDTV | 0419 | LIC |
|--------------------------------|------------|--------------|-----|
| HAAT 474.0 m, ATV ERP 3.8 kW | | | |
| | POPULATION | AREA (sq km) | |
| within Noise Limited Contour | 844381 | 30555.6 | |
| not affected by terrain losses | 844281 | 30535.6 | |
| lost to NTSC IX | 0 | 0.0 | |
| lost to additional IX by ATV | 1046 | 79.9 | |
| lost to ATV IX only | 1046 | 79.9 | |

lost to all IX 1046 79.9

Potential Interfering Stations Included in above Scenario 2

6A GA WRENS_2 USERRECORD01 APP
*Percent Service lost without proposal: 0.0 to BDTV 0419
*Percent Service lost with proposal: 0.1 to BDTV 0419

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Analysis of Interference to Affected Station 2

Analysis of current record

Channel Call City/State Application Ref. No.
06 WCES-TV WRENS GA BDTV -0430

Stations Potentially Affecting This Station

Chan Call City/State Dist(km) Status Application Ref. No.
06 WABW-TV PELHAM GA 327.3 LIC BDTV -0419
06 WCES-D6 WRENS_2 GA 0.0 APP USERRECORD-01

Total scenarios = 2

Result key: 3
Scenario 1 Affected station 2
Before Analysis

Results for: 6A GA WRENS BDTV 0430 LIC
HAAT 436.0 m, ATV ERP 30.0 kW
POPULATION AREA (sq km)
within Noise Limited Contour 786164 25692.4
not affected by terrain losses 782612 25571.5
lost to NTSC IX 0 0.0
lost to additional IX by ATV 0 0.0
lost to ATV IX only 0 0.0
lost to all IX 0 0.0

Potential Interfering Stations Included in above Scenario 1

After Analysis

Results for: 6A GA WRENS BDTV 0430 LIC
HAAT 436.0 m, ATV ERP 30.0 kW
POPULATION AREA (sq km)
within Noise Limited Contour 786164 25692.4
not affected by terrain losses 782612 25571.5
lost to NTSC IX 0 0.0
lost to additional IX by ATV 716679 23596.1
lost to ATV IX only 716679 23596.1
lost to all IX 716679 23596.1

Potential Interfering Stations Included in above Scenario 1

6A GA WRENS_2 USERRECORD01 APP

The following station failed the de minimis interference criteria.

6D GA WRENS_2 USERRECORD01
ERP 8.10 kW HAAT 429.0 m RCAMSL 544.0 m
Antenna usr USRPAT01

Due to interference to the following station and scenario: 1

6D GA WRENS BDTV 0430
ERP 30.00 kW HAAT 436.0 m RCAMSL 551.0 m
Antenna CDB 00000000074332

Percent Service lost without proposal: 0.0 to BDTV 0430
Percent Service lost with proposal: 91.6 to BDTV 0430

Result key: 4
Scenario 2 Affected station 2
Before Analysis

Results for: 6A GA WRENS BDTV 0430 LIC
HAAT 436.0 m, ATV ERP 30.0 kW
POPULATION AREA (sq km)
within Noise Limited Contour 786164 25692.4
not affected by terrain losses 782612 25571.5
lost to NTSC IX 0 0.0
lost to additional IX by ATV 0 0.0
lost to ATV IX only 0 0.0
lost to all IX 0 0.0

Potential Interfering Stations Included in above Scenario 2

After Analysis

Results for: 6A GA WRENS BDTV 0430 LIC
HAAT 436.0 m, ATV ERP 30.0 kW
POPULATION AREA (sq km)
within Noise Limited Contour 786164 25692.4
not affected by terrain losses 782612 25571.5
lost to NTSC IX 0 0.0
lost to additional IX by ATV 716679 23596.1
lost to ATV IX only 716679 23596.1
lost to all IX 716679 23596.1

Potential Interfering Stations Included in above Scenario 2

6A GA WRENS_2 USERRECORD01 APP

The following station failed the de minimis interference criteria.

6D GA WRENS_2 USERRECORD01
ERP 8.10 kW HAAT 429.0 m RCAMSL 544.0 m
Antenna usr USRPAT01

Due to interference to the following station and scenario: 2

6D GA WRENS BDTV 0430
ERP 30.00 kW HAAT 436.0 m RCAMSL 551.0 m
Antenna CDB 00000000074332

Percent Service lost without proposal: 0.0 to BDTV 0430
Percent Service lost with proposal: 91.6 to BDTV 0430

Proposed station is MX
6A GA WRENS_2 USERRECORD01 APP

Proposal MX with group in scenario 2 of station 2

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Analysis of Interference to Affected Station 3

Analysis of current record

| Channel | Call | City/State | Application Ref. No. |
|---------|---------|------------|----------------------|
| 06 | WCES-D6 | WRENS_2 GA | USERRECORD-01 |

Stations Potentially Affecting This Station

| Chan | Call | City/State | Dist(km) | Status | Application Ref. No. |
|------|---------|------------|----------|--------|----------------------|
| 06 | WABW-TV | PELHAM GA | 327.3 | LIC | BDTV -0419 |
| 06 | WCES-TV | WRENS GA | 0.0 | LIC | BDTV -0430 |

Total scenarios = 1

Result key: 5
Scenario 1 Affected station 3
Before Analysis

Results for: 6A GA WRENS_2 USERRECORD01 APP

| | | |
|--------------------------------|------------|--------------|
| HAAT 429.0 m, ATV ERP 8.1 kW | | |
| | POPULATION | AREA (sq km) |
| within Noise Limited Contour | 1023102 | 39311.5 |
| not affected by terrain losses | 1021483 | 39151.9 |
| lost to NTSC IX | 0 | 0.0 |
| lost to additional IX by ATV | 793992 | 24712.8 |
| lost to ATV IX only | 793992 | 24712.8 |
| lost to all IX | 793992 | 24712.8 |

Potential Interfering Stations Included in above Scenario 1

| | | | |
|--------------|------|------|-----|
| 6A GA PELHAM | BDTV | 0419 | LIC |
| 6A GA WRENS | BDTV | 0430 | LIC |

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