

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.

KG&A

507 N.W. 60th Street, Suite C
Gainesville, Florida 32607



Kessler and Gehman Associates, Inc.

Telecommunications Consulting Engineers

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.

<i>Facility ID</i>	<i>State</i>	<i>City</i>	<i>Call Sign</i>	<i>DTV Chan</i>	<i>DTV ERP (kW)</i>	<i>DTV HAAT (m)</i>	<i>DTV Antenna ID</i>	<i>DTV Latitude (DDMMSS)</i>	<i>DTV Longitude (DDMMSS)</i>
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Final DTV Table of Allotments (Appendix B) Parameters:

23937	GA	WRENS	WCES	6	30.0	436.0	74332	331533	821709
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Authorized Parameters (BPEDT-20080409AAA):

23937	GA	WRENS	WCES	6	45.0	429.4	85933	331533	821709
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Proposed Maximized Parameters:

23937	GA	WRENS	WCES	6	7.9	429.4	OMNI	331533	821709
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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 PTCD10P1-*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



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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.

A handwritten signature in blue ink that reads 'William T. Godfrey, Jr.' The signature is written over a horizontal line.

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

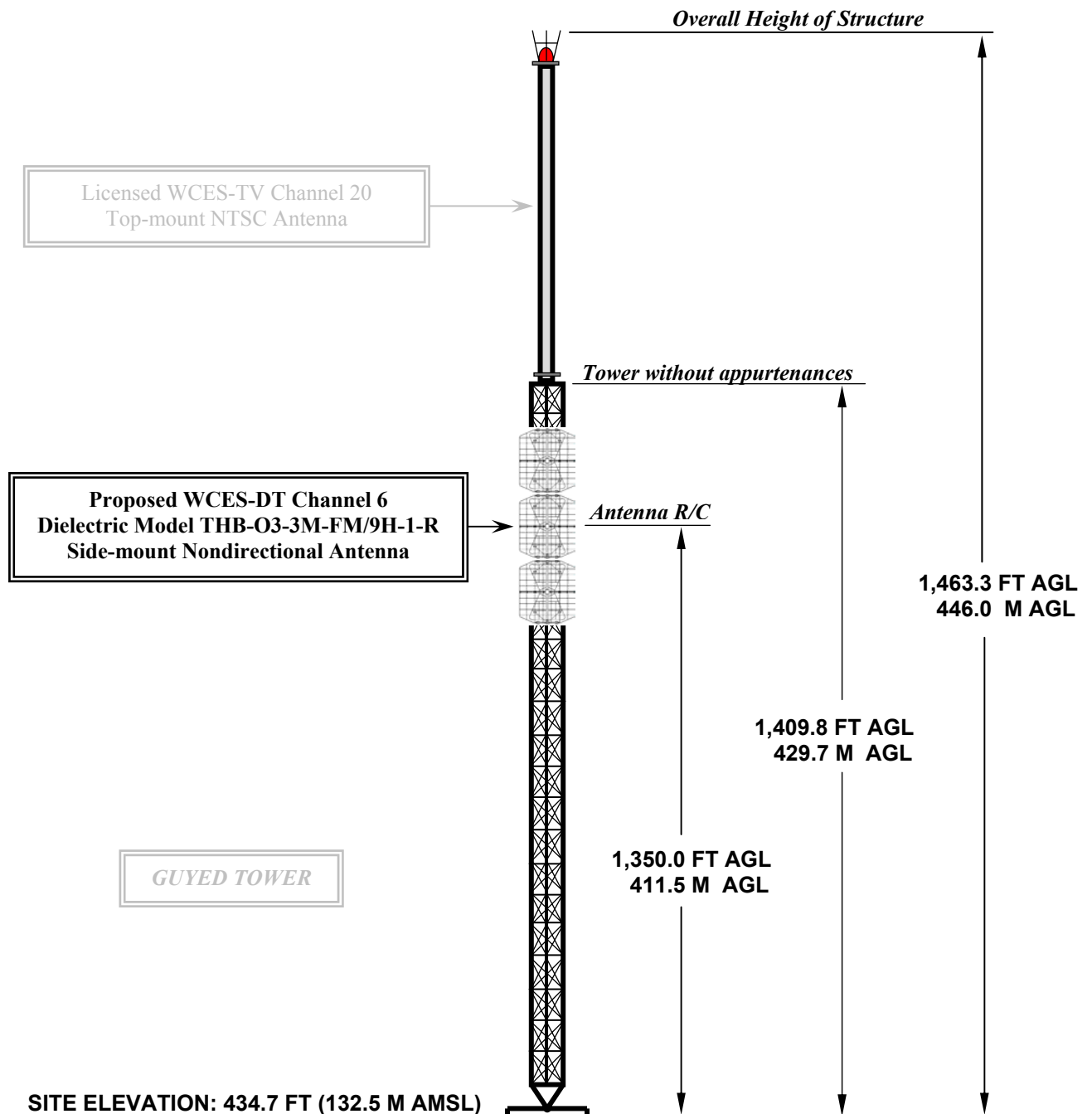
PELHAM, GEORGIA

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.

<u>Peak Gain</u>	<u>Horizontal Polarization</u>
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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TELECOMMUNICATIONS CONSULTING ENGINEERS

507 N.W. 60th Street, Suite C
Gainesville, Florida 32607

WCES-DT CHANNEL 6

WRENS, GEORGIA

20080613

EXHIBIT 3

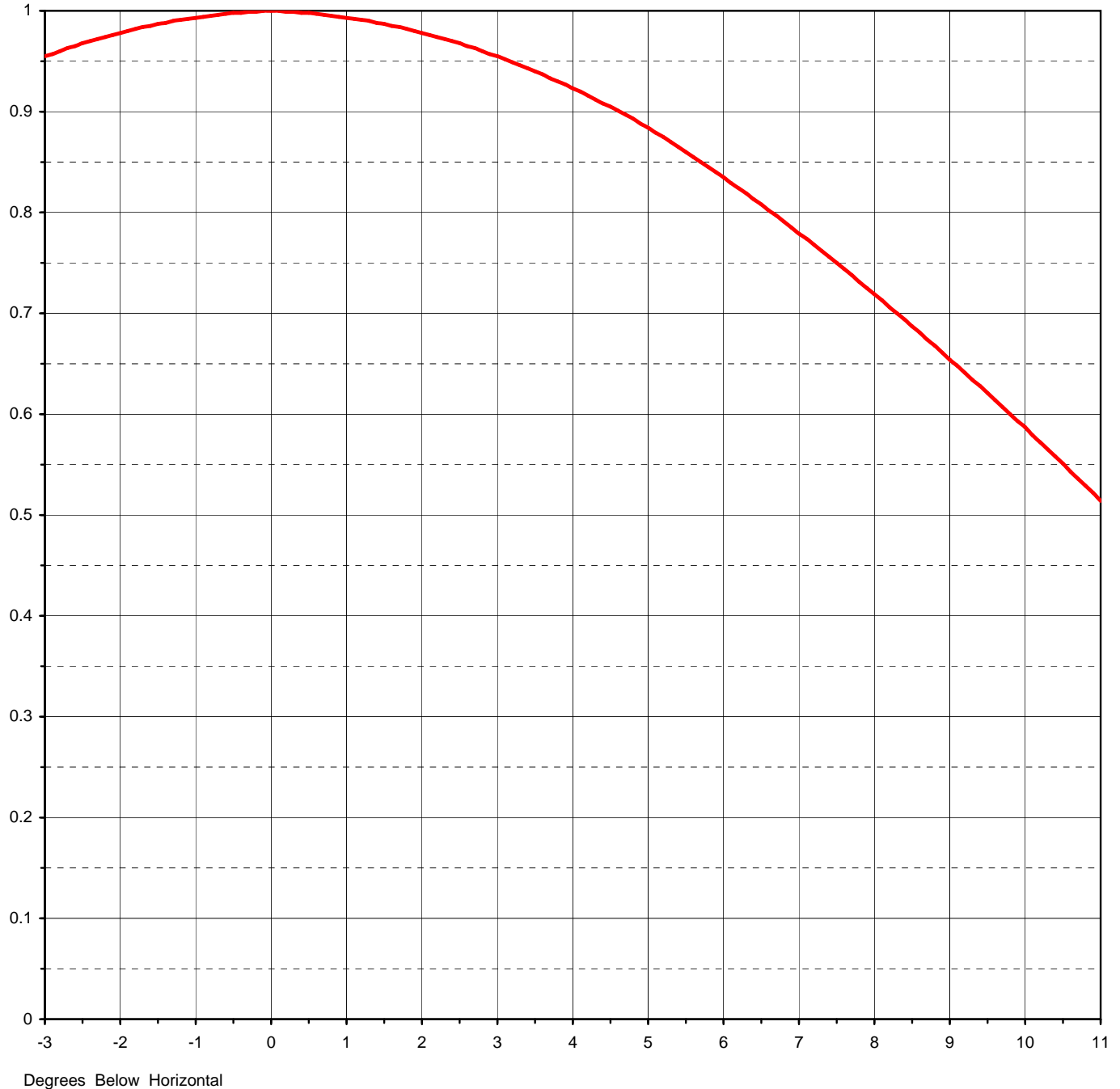


Proposal Number	C-01266		
Date	11-Apr-07		
Call Letters	WCES-DT	Channel	6
Location	Wrens, GA		
Customer	GA Public Broadcasting		
Antenna Type	THB-O3-3M-FM/9H-1-R		

ELEVATION PATTERN

RMS Gain at Main Lobe	3.40	(5.31 dB)
RMS Gain at Horizontal	3.40	(5.31 dB)
Calculated / Measured	Calculated	

Beam Tilt	0.00 deg
Frequency	85.00 MHz
Drawing #	03H034000



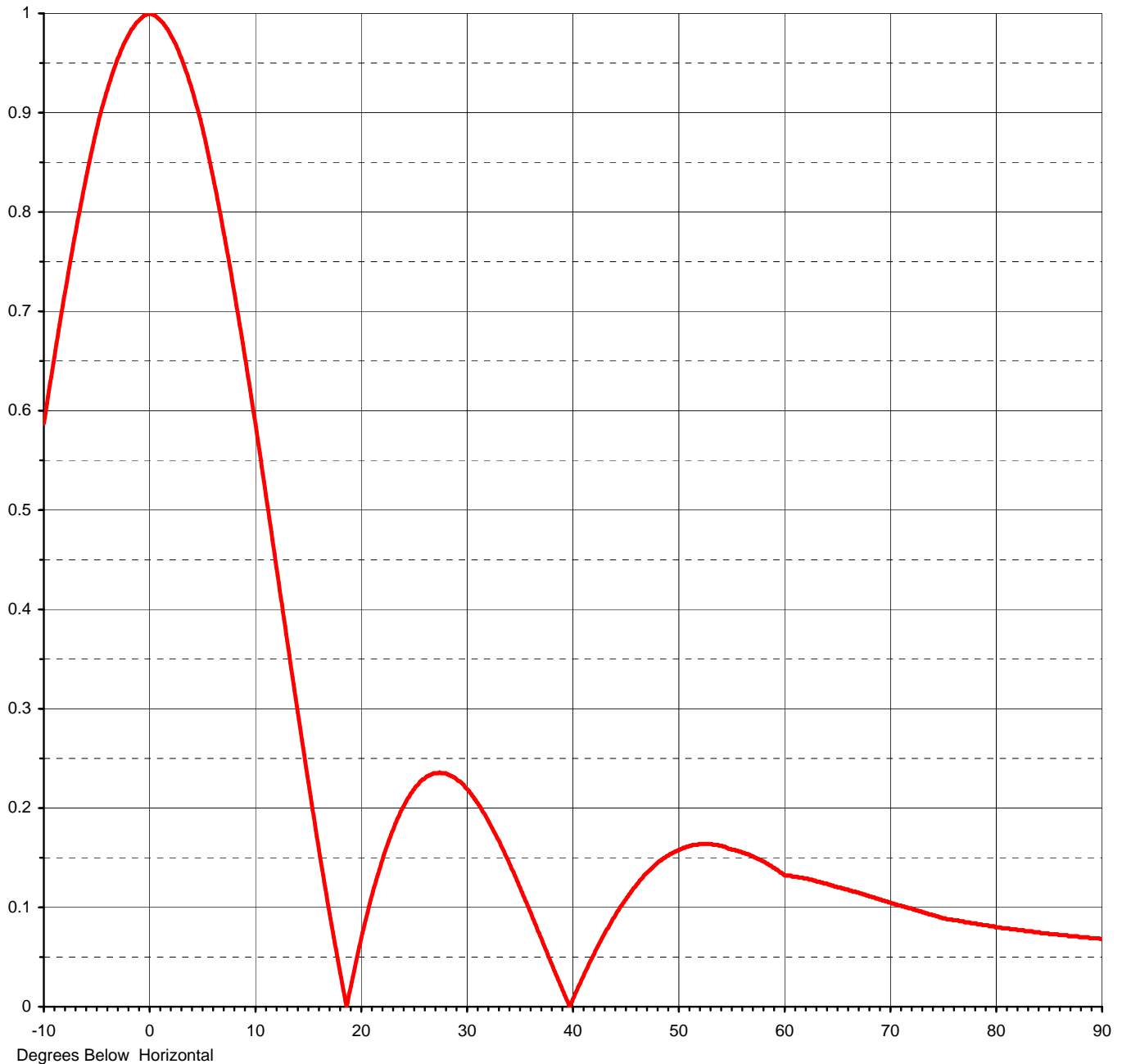


Proposal Number	C-01266	
Date	11-Apr-07	
Call Letters	WCES-DT	Channel 6
Location	Wrens, GA	
Customer	GA Public Broadcasting	
Antenna Type	THB-O3-3M-FM/9H-1-R	

ELEVATION PATTERN

RMS Gain at Main Lobe	3.40 (5.31 dB)
RMS Gain at Horizontal	3.40 (5.31 dB)
Calculated / Measured	Calculated

Beam Tilt	0.00 deg
Frequency	85.00 MHz
Drawing #	03H034000-90





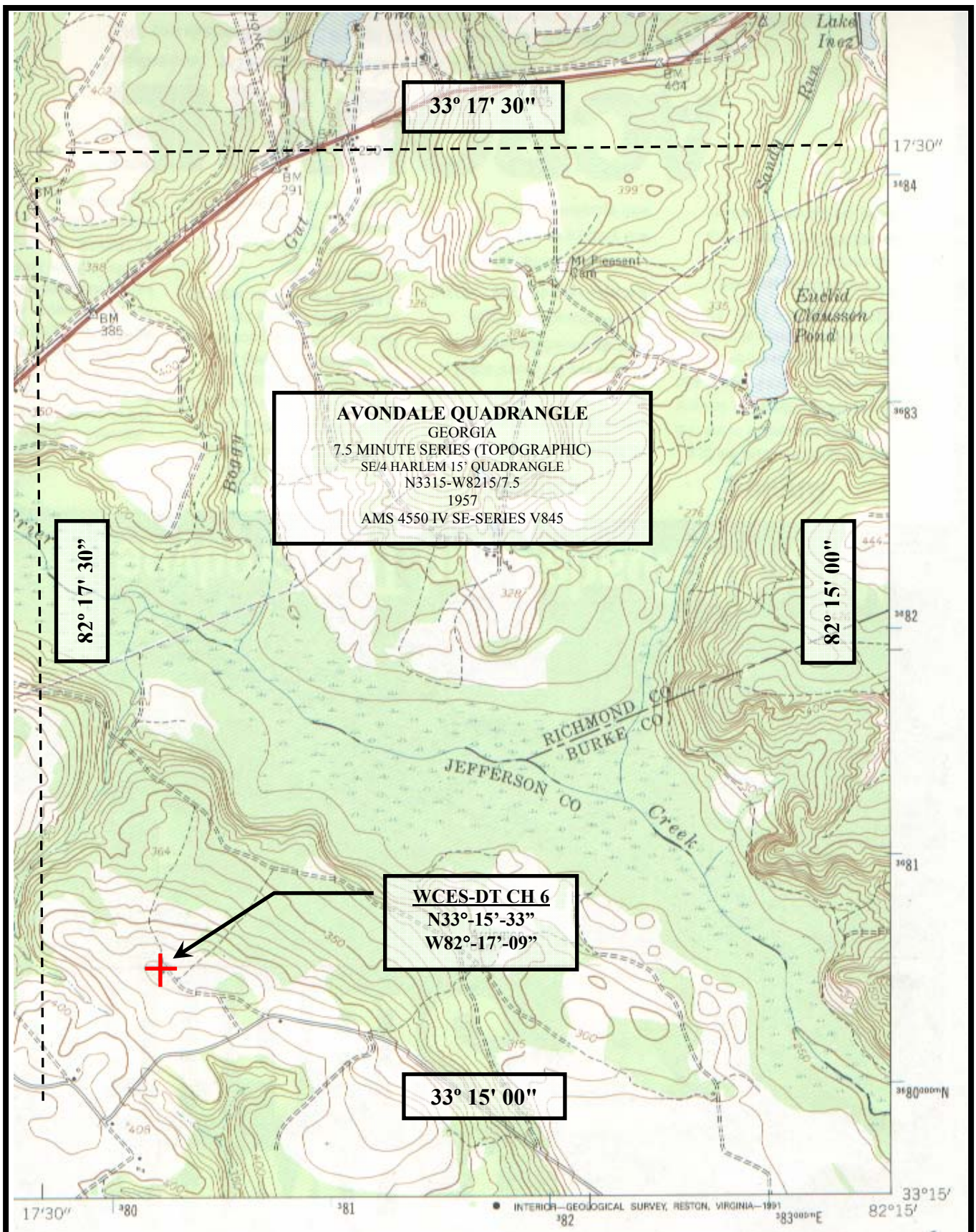
Proposal Number **C-01266**
 Date **11-Apr-07**
 Call Letters **WCES-DT** Channel **6**
 Location **Wrens, GA**
 Customer **GA Public Broadcasting**
 Antenna Type **THB-O3-3M-FM/9H-1-R**

TABULATION OF ELEVATION PATTERN

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

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	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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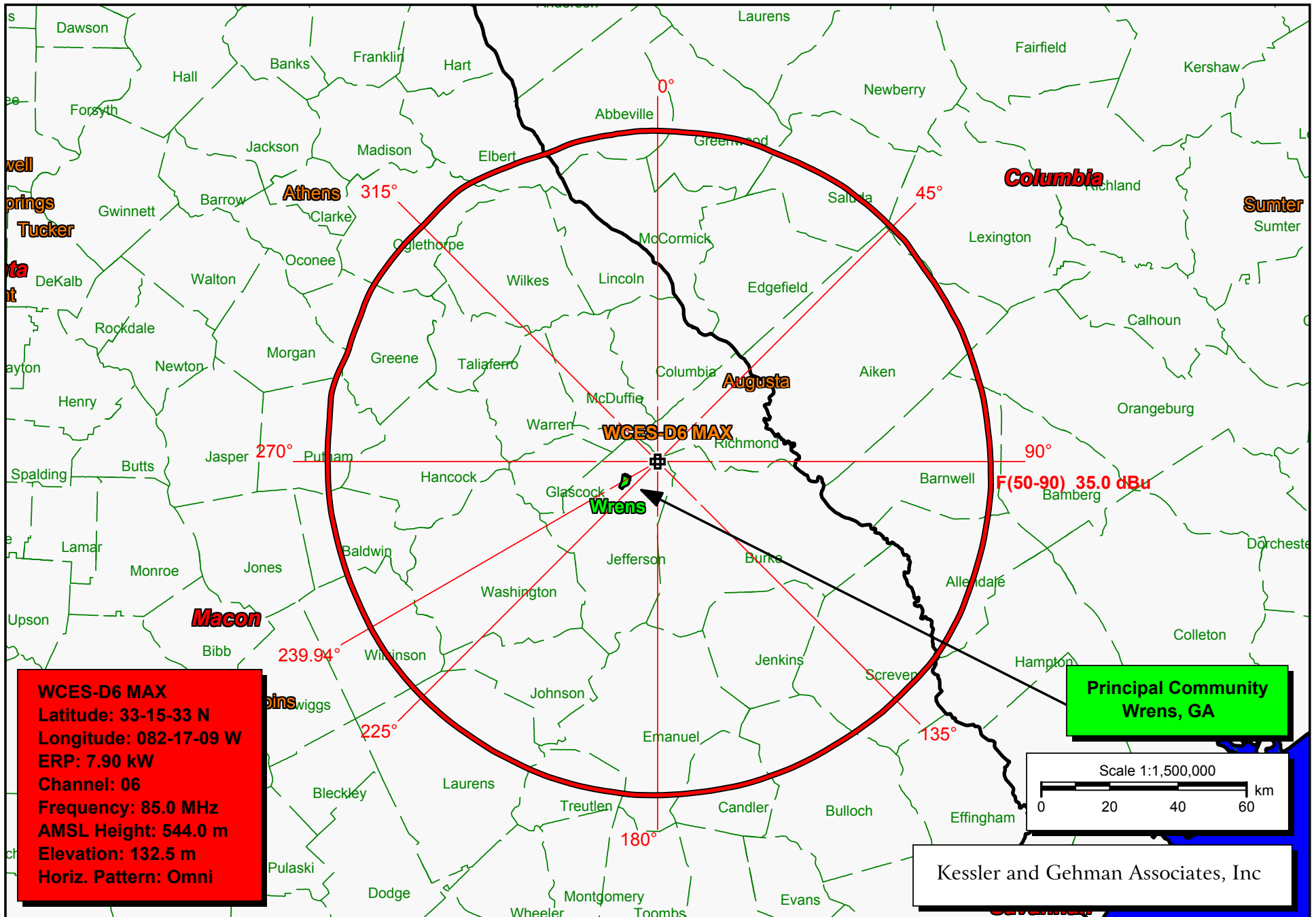


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507 N.W. 60th Street, Suite C
Gainesville, Florida 32607

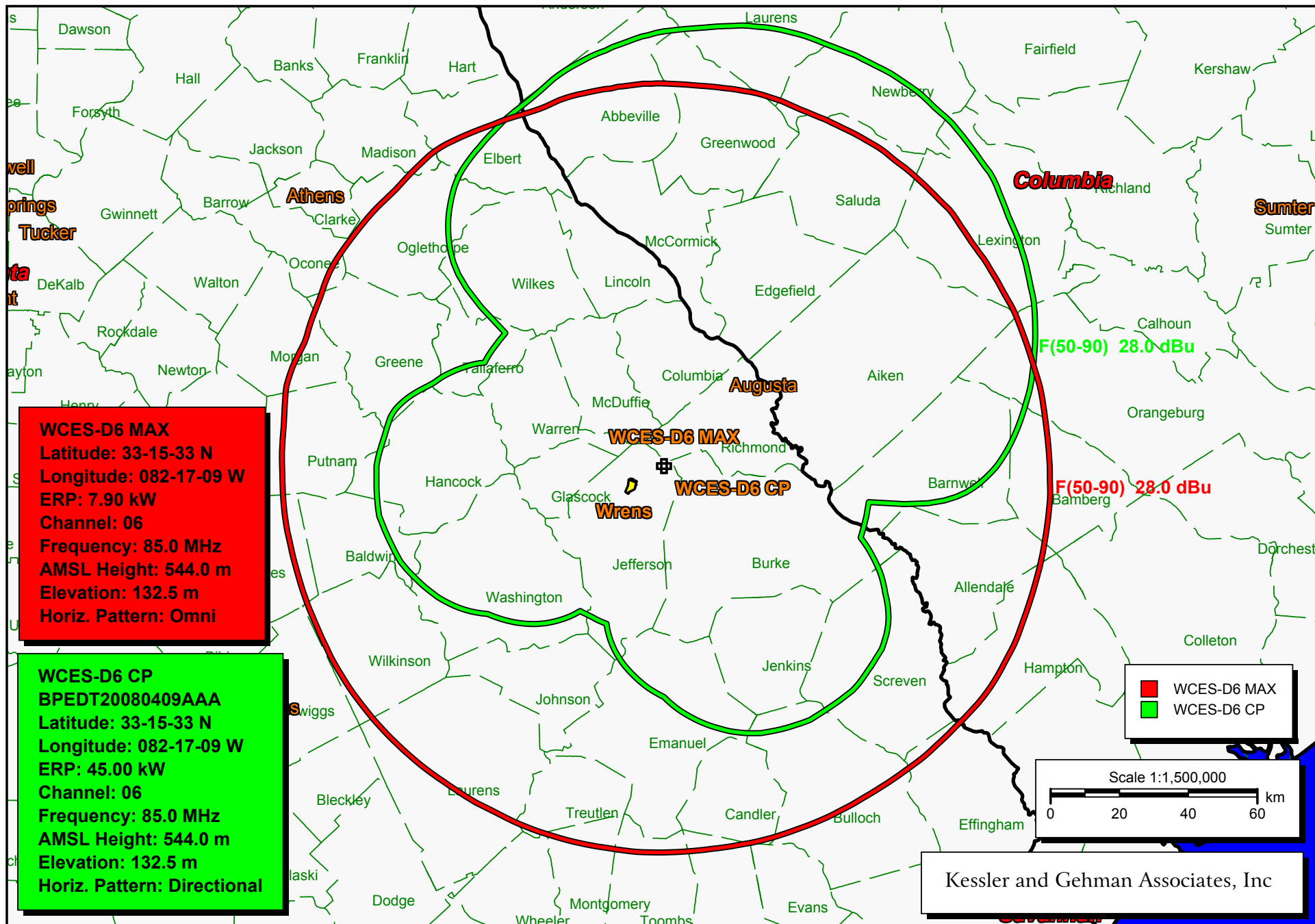
WCS-DT CHANNEL 6
WRENS, GEORGIA

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

Channel	Proposed Station 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

#####

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

Channel	Proposed Station 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

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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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